



Bergvesenet

Postboks 3021, 7002 Trondheim

Rapportarkivet

Bergvesenet rapport nr BV 1066	Intern Journal nr	Internt arkiv nr	Rapport lokalisering Trondheim	Gradering Åpen
Kommer fra ..arkiv USB	Ekstern rapport nr	Oversendt fra	Fortrolig pga	Fortrolig fra dato:
Tittel Report over the work in Ørdsalen 1981				
Forfatter P. Nyegaard		Dato oktober 1981	Bedrift Norske Fina A/S	
Kommune Bjerkreim	Fylke Rofaland	Bergdistrikt Vestlandske	1: 50 000 kartblad 13123	1: 250 000 kartblad Mandal
Fagområde Geologi Diamantboring		Dokument type Rapport	Forekomster Ørdsalen gruver	
Råstofftype Malm/metall		Emneord W, Mo		
Sammendrag The drillings this year have partly showed the extension of the previously located mineralization in DDH nos 228 & 229 in vertical and SE direction. The drill cores do not seem to have intersected extensive mineralizations (new) but it is now more clear, that amphibolite plays an important role in the mineralization history of the area, as ore minerals is normally observed in or close to this rock type. The geological work in the area has showed, that the structure is more complicated than previously thought, but I have now the impression, that the mineralizations at Wolfram Synk/Wolfram Strosse, Strossekrater and Schaanings Grube is associated with quartz veins.				

REPORT OVER THE WORK IN
ØRSDALEN 1981

P. NYEGAARD

CONTENTS

	page
1 . GENERAL INFORMATION	4
2 . WORKING PROGRAMME	5
3 . DRILL CORES	6
4 . GEOLOGICAL PROFILES	8
5 . SHORT DESCRIPTIONS OF OLD WORKINGS	35
6 . GEOLOGICAL MAP IN 1:100	72
7 . CONCLUSION	73
8 . PROPOSALS TO FUTURE WORK AT THE PLATEAU	74
9 . FOTOS	75
10. APPENDIX - DRILL CORE DESCRIPTIONS	82



1. GENERAL INFORMATION

After a briefing in Oslo, I went to Ørdsdalen the 25th of June, and started the work along the mountain slope in the bottom of the valley. The 10th of July the drilling equipment was transported to the mountain plateau by helicopter, and the drilling was started up. The first hole was finished the 18th of July and the equipment moved to a new drill site the 20th. The drilling crew was on holliday from the 22-nd July to the 11th of August, and the drilling was then continued to the 5th of September. In total three holes were drilled (no. 231 - 220 m, no. 232 - 224 m and no. 233 - 307 metres). The 8th of September the direction and inclination of all the drill holes (seven) was measured. The work at the mountain plateau was ended the 22nd September, and the hut closed down for the winter periode.

During my stay at the plateau, the drill cores were mapped, the old workings were seached out and described, geological profiles covering the "ore zone" measured and a geological map of the area around the Wolfram Strosse was made. The drill cores were cut and one-metre samples packed and made ready for shipment.



2. WORKING PROGRAMME

ØRSDALEN PROSJEKT

Arbeidsprogram for
Geolog Per Nyegaard
Sommeren 1981.

1. Logging av borkjerner.
2. Splitting og pakking av kjerneprøver.
3. Lithologiske profiler ved:

hull nr. 228-229
233
227
230

ved fjellfoten 200 m øst for stoll 1 og
200 m vest for stoll 2.

4. Beskrivelse og lokalisering av mineraliseringer og gamle skjerp på fjellplatået.
5. Tegninger og rapporter vedr. pkt. 1, 3 og 4.

Bemerkning.

Borhullene må ikke stoppes før en har nådd planlagt dyp.
Boringen må ikke avsluttes før en har boret gjennom 9 m med
gråfjell etter siste mineralisering.

Per Nyegaard



3. DRILL CORES

The drill cores were mapped at a scale of approx. 1:6,25 at sheets corresponding with a corebox. The result of this work is shown in the Appendix. This way of mapping the drill cores proved to be time-saving, practical and gives a better general picture of the very banded geology.

Usually bands have been mapped down to 3-5 cm in width. The angle between contacts and drill core direction was measured.

The findings of scheelite are marked with red at the sheets and molybdenite with blue. Wolframite was not observed. It must be strongly emphasized that the size of the red and blue marks do not indicate anything about the amount of W and Mo in the core. The size of the mineralizations vary from tiny dots to thin bands. The ore minerals are normally associated with quartz veins and leucocratic veins in nearly all rock types, but mainly in connection with amphibolite. Disseminated ore minerals are also observed in the amphibolite and molybdenite in granulite (DDH no. 233).

The strong mineralization previously located in DDH nos. 228 & 229 was also intersected in DDH no. 231, but not in DDH no. 233. Apart from this location, the general impression is only weak mineralizations in the drill cores, but this must be confirmed or rejected by the analyses.

Generalized cross sections combined with generalized

geological profiles from all the drill holes have been made. The numbers correspond to the following rock types :

- 1 - hornblende-biotite gneiss
- 2 - biotite gneiss
- 3 - biotite-hyperstene^h gneiss
- 4 - garnet-biotite-hyperstene gneiss
- 5 - amphibolite
- 6 - granulite
- 7 - quartz veins/pegmatites

Correlation of geology between the drill holes is very poor due to the extensive banding, which may be caused by isoclinal folding.

4. GEOLOGICAL PROFILES

In total 11 profiles have been surveyed in the area - 10 profiles at the plateau and 1 in the valley. The main part of the profiles has been made in two (or three) steps. To simplify the work, the measurements have usually followed the terrain.

The profiles are not straight lines. Deviations may be caused by degree of exposure and of the terrain.

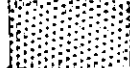
As the gneisses may be very banded, it was necessary to make generalizations. Bands under half a meter have usually not been separated as a unit, and the contacts have not been measured more exact than a quarter of a meter.

The following abbreviations have been used in the description of the profiles :

hbl-bio gn	hornblende-biotite gneiss
bio gn	biotite gneiss
bio-hyp gn	biotite-hypersthene gneiss
gn-bio-hyp gn	garnet-biotite-hypersthene gneiss
amf	amphibolite
leuco vein	leucocratic vein
qz vein	quartz vein
mo	molybdenite
fine-g	fine-grained
homog	homogeneous
inhomog	inhomogeneous

Generalized profiles in 1:1000 have been made on

transparent topographic maps with the following signature
legend :

	hornblende-biotite gneiss
	biotite gneiss
	biotite-hyperstene ^h gneiss
	garnet-biotite-hyperstene gneiss
	amphibolite
	granulite

The correlation between the profiles is normally
poor.

Profile no. 1 :

This profile is going close to the side of the mountain. The profile was made in two steps . The starting point is lying over Schaanings Gruben.

Part one - from SW to NE.

metres	geology
0	Zero metres is at the contact between hbl-bio gn and bio-hyp gn
0-13	bio-hyp gn with leuco veins. Foliation : 132° -73-NE
13-24 $\frac{1}{2}$	hbl-bio gn - homog
24 $\frac{1}{2}$ -26	bio-hyp gn
26-33 $\frac{1}{2}$	hbl-bio gn - homog
33 $\frac{1}{2}$ -36 $\frac{1}{2}$	bio gn
36 $\frac{1}{2}$ -40 $\frac{1}{4}$	hbl-bio gn - homog
40 $\frac{1}{4}$ -49	bio gn - homog
49-51	hbl-bio gn - inhomog with bands of fine-g gneisses, amf and qz veins with mo
51-56 $\frac{1}{2}$	bio gn - fairly homog (few leuco veins) Foliation : 142° -73-NE
56 $\frac{1}{2}$ -58	hbl-bio gn
58-62 $\frac{1}{2}$	no exposures
62 $\frac{1}{2}$ -70	hbl-bio gn with few bands of bio-hyp gn
70-75 $\frac{1}{2}$	gn-bio-hyp gn with leuco and qz veins. mo observed
75 $\frac{1}{2}$ -76 $\frac{3}{4}$	hbl-bio gn
76 $\frac{3}{4}$ -82	bio-hyp gn + leuco veins
82-100	hbl-bio gn - inhomog with bio-hyp gn + amf bands. Badly exposed
100-104	bio gn - badly exposed
104-106	hbl-bio gn
106-108 $\frac{3}{4}$	bio gn + leuco veins
108 $\frac{3}{4}$ -112 $\frac{1}{2}$	hbl-bio gn with amf bands
112 $\frac{1}{2}$ -114 $\frac{1}{4}$	bio gn
114 $\frac{1}{4}$ -116 $\frac{1}{2}$	hbl-bio gn
116 $\frac{1}{2}$ -122	bio-hyp gn + leuco veins. Foliation: 146° -62-NE
122-133	hbl-bio gn
133	steep slope

Part two - from NE to SW

metres	geology
0	Same as in part one
0-59	hbl-bio gn with little fine-g gneisses + amf - but fairly homog
59-62 $\frac{3}{4}$	bio gn - homog
62 $\frac{3}{4}$ -63 $\frac{1}{4}$	amf
63 $\frac{1}{4}$ -64 $\frac{3}{4}$	bio gn - homog
64 $\frac{3}{4}$ -69	hbl-bio gn. Foliation : 124° -66-NE

Profile no. 1 cont.

metres	geology
69-70	bio gn
70-70 $\frac{1}{4}$	hbl-bio gn
70 $\frac{1}{4}$ -72	bio gn
72-73 $\frac{1}{2}$	hbl-bio gn
73 $\frac{1}{2}$ -80	bio-hyp gn (+/+ garnets) + qz veins with mo
80-90	hbl-bio gn with little amf
90-94	no exposures
94-100	bio-hyp gn + leuco veins, amf bands
100-109	hbl-bio gn - homog
109-113 $\frac{1}{2}$	bio gn + little amf
113 $\frac{1}{2}$ -114 $\frac{1}{2}$	amf
114 $\frac{1}{2}$ -117	bio gn
117-122 $\frac{1}{4}$	hbl-bio gn - homog
122 $\frac{1}{4}$ -131	bio gn + leuco veins
131-136 $\frac{1}{4}$	hbl-bio gn - homog
136 $\frac{1}{4}$ -145	bio gn. Foliation : 129°-74-NE
145-160	hbl-bio gn - homog
160-165	bio-hyp gn + amf bands
165-(180)	hbl-bio gn - homog

Profile no. 2 :

This profile is passing over the old drill hole no. 1 and a little NW for drill holes nos. 228, 229 & 231. The profile was made in two steps. The starting point is lying at the same contact as in profile no. 1.

Part one - from SW to NE

metres	geology
0-10 $\frac{1}{2}$	bio-hyp gn . Foliation : 128°-63-NE
10 $\frac{1}{2}$ -14	amf with late pegmatites (local)
14-42 $\frac{1}{2}$	bio gn + leuco veins - homog
42 $\frac{1}{2}$ -50	hbl-bio gn - homog
50-51	bio gn with few amf bands. Foliation : 110°-68-NE
51-86 $\frac{1}{4}$	hbl-bio gn - rather homog, but with a little amf and bio gn. Pegmatites and qz veins occurs
86 $\frac{1}{4}$ -96 $\frac{1}{4}$	bio gn with some bands of amf and leuco veins. Foliation : 114°-69-NE
96 $\frac{1}{4}$ -98 $\frac{1}{2}$	hbl-bio gn + leuco veins
98 $\frac{1}{2}$ -100	bio gn with few bands of hbl-bio gn and bio-hyp gn
100-100 $\frac{3}{4}$	hbl-bio gn

Profile no. 2 cont.

metres	geology
100 $\frac{1}{4}$ -104 $\frac{3}{4}$	bio gn - homog. Foliation : 133°-76-NE
104 $\frac{3}{4}$ -109 $\frac{3}{4}$	hbl-bio gn - inhomog (amf + bio-hyp gn + leuco veins)
109 $\frac{3}{4}$ -110 $\frac{1}{4}$	bio gn - homog
110 $\frac{1}{4}$ -115	hbl-bio gn - inhomog (amf, fine-g gneisses and leuco veins)
115-118 $\frac{1}{2}$	bio gn - homog
118 $\frac{1}{2}$ -123 $\frac{1}{2}$	hbl-bio gn - inhomog
123 $\frac{1}{2}$ -126 $\frac{1}{2}$	bio gn - homog
126 $\frac{1}{2}$ -127	amf
127-(128)?	hbl-bio gn
128-135	no exposures
(135)-136	hbl-bio gn
136-150	bio gn - homog
150-151 $\frac{1}{2}$	hbl-bio gn
151 $\frac{1}{2}$ -153	bio gn and amf bands. Foliation : 145°-76-NE
153-160	hbl-bio gn - homog
160-162 $\frac{1}{4}$	bio-gn - homog
162 $\frac{1}{4}$ -172 $\frac{1}{2}$	hbl-bio gn
172-(177)	granulite(qz-feldspar gneiss)
177	steep slope

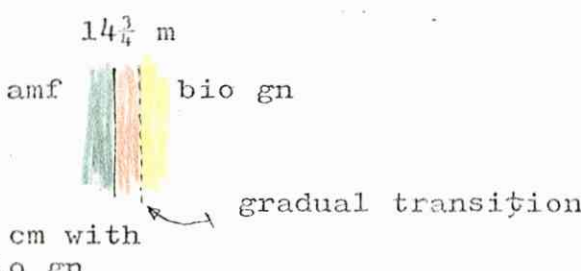
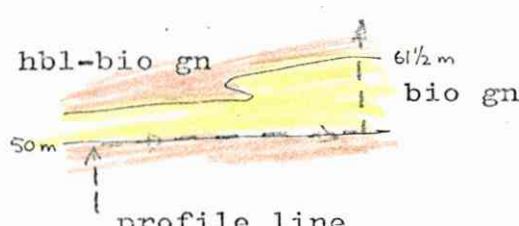
Part two - from NE to SW

metres	geology
0-13	hbl-bio gn - fairly homog
13-22	no exposures
22-57 $\frac{1}{2}$	hbl-bio gn- fairly homog. At 45 and 48 metres are seen two $\frac{1}{2}$ m bio-hyp gn bands
57 $\frac{1}{2}$ -62 $\frac{1}{2}$	gn-bio-hyp gn with leuco veins. Foliation: 152°-78-NE
62 $\frac{1}{2}$ -73	bio gn + leuco veins
73-74	amf
74-77	bio gn + leuco veins
77-84	no exposures
84-88	bio gn + leuco veins
88-92 $\frac{1}{2}$	hbl-bio gn
92 $\frac{1}{2}$ -100	bio gn with a little amf in the beginning
100-(103)	hbl-bio gn. Foliation : 138°-82-NE
103	From 103 metres are very few exposures

Profile no. 3 :

The profile pass the northwestern end of lake 775.5 and drill holes nos. 228, 229 & 231 from where is goes to drill hole no. 233. The profile is made in four steps.

Part one - from SW to NE

metres	geology
o	The starting point is at the contact between hbl-bio gn and amf.
o- $\frac{1}{2}$	amf
$\frac{1}{2}$ - $3\frac{1}{2}$	bio gn with leuco veins and late pegmatites and a little hbl.bio gn. Foliation: 130° -68-NE
$3\frac{1}{2}$ -7	bio-hyp gn with leuco veins
7- $13\frac{1}{4}$	bio gn with leuco veins
$13\frac{1}{4}$ - $14\frac{3}{4}$	amf-rich zone
$14\frac{3}{4}$ - $42\frac{1}{2}$	bio gn with leuco veins - fairly homog. Around $25\frac{1}{4}$ a little amf. Foliation: 126° -78-NE
	
$42\frac{1}{2}$ -50	hbl-bio gn
50- $61\frac{1}{2}$?	bio gn with leuco veins - homog. At 50 m the profile line is moved 15 metres to the SE. The area around 60 m is bad exposed.
	
$61\frac{1}{2}$?- $83\frac{1}{2}$	hbl-bio gn - inhomog with bands of amf and fine-g gn and pegmatites. Foliation: 121° -66-NE
$83\frac{1}{2}$ - $87\frac{1}{2}$	no exposures
$87\frac{1}{2}$ - $89\frac{1}{2}$	hbl-bio gn
$89\frac{1}{2}$ -90	amf
90- $92\frac{1}{2}$	hbl-bio gn
$92\frac{1}{2}$ -96	bio gn with leuco veins - homog
96- $98\frac{3}{4}$	hbl-bio gn - fairly homog
$98\frac{3}{4}$ - $99\frac{1}{4}$	bio gn. Foliation: 128° -76-NE
$99\frac{1}{4}$ -100	hbl-bio gn
100-105	no exposures
105-112	bio gn - homog
112- $112\frac{3}{4}$	hbl-bio gn
$112\frac{3}{4}$ - $113\frac{1}{2}$	bio gn with leuco veins
$113\frac{1}{2}$ - $116\frac{1}{4}$	hbl-bio gn - homog
$116\frac{1}{4}$ -117	bio gn. Foliation: 140° -72-NE

Profile no. 3 cont.

metres	geology
117-120 $\frac{1}{2}$	hbl-bio gn - inhomog with bio gn and leuco veins
120 $\frac{1}{2}$ -123 $\frac{3}{4}$	bio gn - homog
123 $\frac{3}{4}$ -125 $\frac{1}{2}$	bio-hyp gn
125 $\frac{1}{2}$ -131	bio gn - homog
131-138	no exposures
138-141	hbl-bio gn with amf and fine-g gn
141-153	bio gn - homog but with a few amf bands. Foliation : 140°-80-NE
153-163	no exposures
163-164 $\frac{3}{4}$	bio gn
164 $\frac{3}{4}$ -165 $\frac{1}{4}$	hbl-bio gn
165 $\frac{1}{4}$ -165 $\frac{3}{4}$	bio gn
165 $\frac{3}{4}$	Drill hole no. 231

Part two - from SW to NE

metres	geology
0	Drill hole no. 231
0-1 $\frac{3}{4}$	hbl-bio gn
1 $\frac{3}{4}$ -2	bio-hyp gn
2-5 $\frac{1}{2}$	hbl-bio gn
5 $\frac{1}{2}$ -8	granulite
8-12 $\frac{1}{2}$	hbl-bio gn - inhomog
12 $\frac{1}{2}$	steep slope

Part three - from NE to SW

metres	geology
0	Drill hole no. 233
0-3	bio gn
3-7 $\frac{1}{4}$	hbl-bio gn
7 $\frac{1}{4}$ -7 $\frac{1}{2}$	bio gn
7 $\frac{1}{2}$ -17 $\frac{1}{4}$	no exposures
17 $\frac{1}{4}$ -17 $\frac{3}{4}$	bio gn
17 $\frac{3}{4}$ -18 $\frac{1}{4}$	amf
18 $\frac{1}{4}$ -19 $\frac{1}{2}$	bio gn
19 $\frac{1}{2}$ -20	hbl-bio gn
20-21	no exposures
21-24	granulite
24-33	no exposures
33-34	bio gn
34-36 $\frac{3}{4}$	hbl-bio gn
36 $\frac{3}{4}$ -40	no exposures
40-	steep slope up to the end of part two

Profile no. 3 cont.

Part four - from NE to SW

metres	geology
0	same point as in part one
0-1	hbl-bio gn
1-10	no exposures
10-37	hbl-bio gn - homog
37-38 $\frac{1}{4}$	amf with leuco veins. Foliation : 130°-80-NE
38 $\frac{1}{4}$ -57	hbl-bio gn - fairly homog
57-80	bio gn with leuco veins
80-81 $\frac{1}{2}$	amf
81 $\frac{1}{2}$ -85 $\frac{1}{2}$	hbl-bio gn - homog
85 $\frac{1}{2}$ -95	bio gn with leuco veins. Foliation : 160°-75-NE
95-100	hbl-bio gn
100-104	bio gn with leuco veins
104-125	hbl-bio gn - homog
125	hbl-bio gn continue after point 125 m

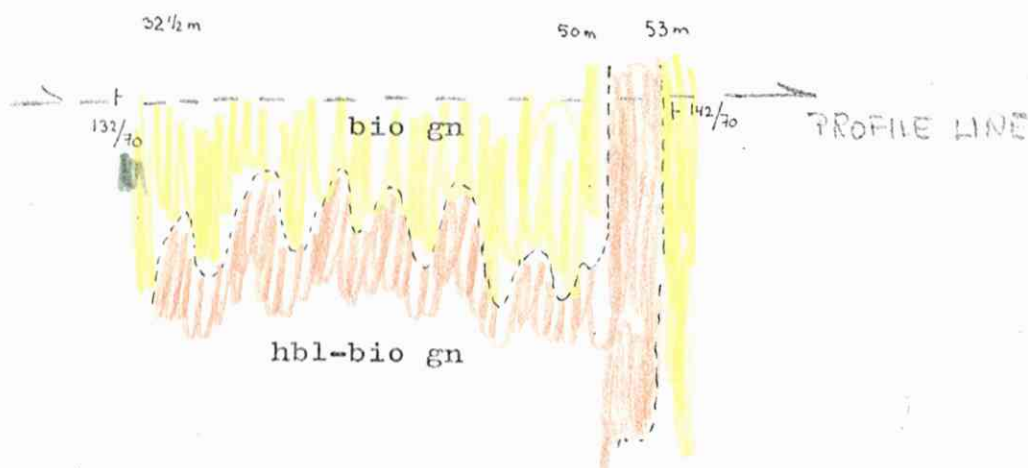
Profile no. 4

This profile pass from the western end of lake 778.0 m to the northwestern end of the lake and to tachymetric point no. 034, where it continue in profile no. 5. The profile is made in two steps.

Part one - from SW to NE

metres	geology
0	The starting point is lying at the contact hbl-bio gn (SW) and bio-hyp gn (NE)
0-3 $\frac{3}{4}$	bio-hyp gn with numerous leucocratic veins. amf is seen in the contact to the east. Foliation : 122°-66-NE
3 $\frac{1}{4}$ -16 $\frac{1}{2}$	hbl-bio gn with few bands of fine-g gn
16 $\frac{1}{2}$ -(32 $\frac{1}{2}$)	bio-hyp gn with leuco veins with some bio gn in the eastern part with amf. Foliation : 134°-70-NE
(32 $\frac{1}{2}$ -51)	This area is badly exposed, but to the NW is biotite gneiss and to the SE is hbl-bio gn . A fold is possibly the reason for this pattern.

Profile no. 4 cont.



metres	geology
51-53	hbl-bio gn - fairly homog. Foliation : 142°-70-NE
53-61 1/2	bio gn with leuco veins- fairly homog
61 1/2-74 1/4	hbl-bio gn with many bands of fine-g gn, amf and leuco and qz veins
74 1/4-75	bio gn
75-75 3/4	hbl-bio gn
75 3/4-76	bio gn
76-77	hbl-bio gne
77-77 1/2	amf
77 1/2-80	hbl-bio gn - inhomog. Foliation : 136°-55-NE
80-81	qz vein - barren
81-85 1/4	hbl-bio gn with leuco veins and bands of fine-g gn
85 1/4-87	bio gn - homog
87	tachymetric point no. 034

Part two - from NE to SW

metres	geology
0	zero meter is at the same locality as in part one.
0-1 1/2	bio-hyp gn with leuco veins
1 1/2-10 1/2	hbl-bio gn - homog
10 1/2-11 1/2	bio gn
11 1/2-47	hbl-bio gn - fairly homog, but with some bands of fine-g gn and amf
47-48	bio-hyp gn/bio gn with leuco veins . Foliation : 135°-65-NE. The band is narrow to SE and wider to NW (fold)
48-58	hbl-bio gn - homog
58-65	bio gn/bio-hyp gn with leuco veins and a little amf
65-78	hbl-bio gn - homog (a little amf)

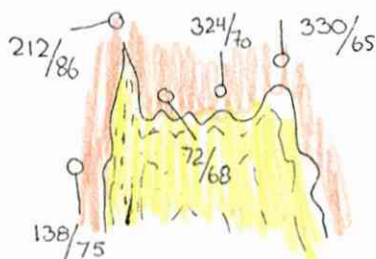
Profile no. 4 cont.

metres	geology
78-79	bio gn, which is narrow to the SE (fold)
79-79 $\frac{1}{2}$	hbl-bio gn
79 $\frac{1}{2}$ -84 $\frac{1}{2}$	bio gn and leuco veins
84 $\frac{1}{2}$ -89 $\frac{1}{4}$	hbl-bio gn - homog
89 $\frac{1}{4}$ -97	bio gn + leuco veins. Foliation : 145°-78-NE
97-116 $\frac{1}{2}$	hbl-bio gn with bands of fine-g gn and amf
116 $\frac{1}{2}$	western end of lake 778.0

Profile no. 5

The profile starts at lake 778.0, pass over the tachymetric point 034 and goes to drill hole no 232. The profile is made in one step, and the numbers are corrected for terrain effect.

metres	geology
0-4 $\frac{1}{2}$	bio-hyp gn - strongly banded by leuco veins (folded) and bands of hbl-bio gn and amf. Foliation : 134°-68-NE
4 $\frac{1}{2}$ -5 $\frac{1}{4}$	amf with leuco veins
5 $\frac{1}{4}$ -5 $\frac{1}{2}$	bio-hyp gn
5 $\frac{1}{2}$ -6 $\frac{3}{4}$	hbl-bio gn - homog
	
6 $\frac{3}{4}$ -7 $\frac{3}{4}$	bio-hyp gn with leuco veins
7 $\frac{3}{4}$ -10	hbl-bio gn - homog with an amf band in the SW contact. Folded, foldaxis : 320-12
10-11 $\frac{1}{2}$	bio-hyp gn with leuco veins. Foliation : 134°-60-NE
11 $\frac{1}{2}$ -17	bio gn - homog, a few leuco veins
17-18	amf with leuco veins
18-21	hbl-bio gn - fairly homog wit a few bands of bio-hyp gn
21-21 $\frac{1}{2}$	fold with biotite gn



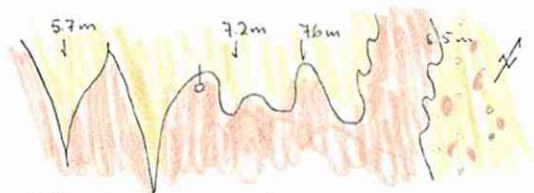
Profile no. 5 cont.

metres	geology
21 $\frac{1}{2}$ -23 $\frac{1}{2}$	hbl-bio gn
23 $\frac{1}{2}$ -27	gn-bio-hyp gn with many qz and leuco veins with mo and scheelite
27-29 $\frac{1}{2}$	bio-hyp gn with leuco veins
29 $\frac{1}{2}$ -30 $\frac{1}{2}$	hbl-bio gn with a few bands of bio-hyp gn
30 $\frac{1}{2}$ -32	bio-hyp gn
32-33 $\frac{1}{4}$	amf and with strongly folded leuco veins
33 $\frac{1}{4}$ -35	hbl-bio gn
35-50	no exposures
50-52	hbl-bio gn with bands of amf and bio-hyp gn
52-53	amf-rich zone with some fine-g gn
53-56	hbl-bio gn with bands of amf and bio-hyp gn
56-57 $\frac{1}{4}$	bio-hyp gn
57 $\frac{1}{4}$ -59	hbl-bio gn with bands of amf and with leuco veins
59-59 $\frac{3}{4}$	bio-hyp gn with bands of amf and with qz veins
59 $\frac{3}{4}$ -63	hbl-bio gn with many qz veins and bands of bio-hyp gn and amf with leuco veins
63-65 $\frac{1}{2}$	bio gn
65 $\frac{1}{2}$	at this point the profile is moved approx. 15 metres to the NW to tachymetric point n. 034 (65 $\frac{3}{4}$ m)
65 $\frac{1}{2}$ -67 $\frac{3}{4}$	hbl-bio gn
67 $\frac{3}{4}$ -68 $\frac{3}{4}$	bio gn
68 $\frac{3}{4}$ -69 $\frac{3}{4}$	hbl-bio gn with amf bands
69 $\frac{3}{4}$ -71 $\frac{1}{2}$	bio gn with leuco veins
71 $\frac{1}{2}$ -73 $\frac{1}{2}$	hbl-bio gn - homog
73 $\frac{1}{2}$ -87 $\frac{1}{2}$	bio gn with leuco veins
87 $\frac{1}{2}$ -92	hbl-bio gn
92-95 $\frac{1}{2}$	bio gn with amf bands
95 $\frac{1}{2}$ -100 $\frac{1}{2}$	hbl-bio with bands of amf and bio-hyp gn and qz veins
100 $\frac{1}{2}$ -103	bio gn - homog
103-112 $\frac{1}{4}$	hbl-bio gn with bands of amf and bio-hyp gn
112 $\frac{1}{4}$ -114	bio gn
114-116	hbl-bio gn
116-120	bio gn
120-121 $\frac{1}{4}$	hbl-bio gn
121 $\frac{1}{4}$ -126	bio gn
126-132	no exposures
132-133	bio gn
133-136	hbl-bio gn
136	drill hole no 232

Profile no. 6

The profile cross the terrain just NW of Wolfram Synken and Strossen and go to drill hole no. 227. The profile is made in two steps.

Part one - from SW to NE

metres	geology
0-3 $\frac{3}{4}$	gn-bio-hyp gn with leuco and qz veins. Strong isoclinal folded. Scheelite and mo observed
3 $\frac{3}{4}$ -8 $\frac{1}{2}$	hbl-bio gn - homog with folds of bio-hyp gn. Flat-lying foldaxis
	
8 $\frac{1}{2}$ -16 $\frac{1}{4}$	gn-bio-hyp gn with many leuco and qz veins. Isoclinal folded. Scheelite and mo observed
16 $\frac{1}{4}$ -17	hbl-bio gn - homog. Foliation : 144°-90
17-18	bio-hyp gn with leuco veins
18-26	hbl-bio gn with bands/lenses of amf and bio-hyp gn and leuco veins
26-29 $\frac{1}{2}$	bio gn with leuco veins
29 $\frac{1}{2}$ -44	hbl-bio gn with bands og bio-hyp gn and amf
44-45 $\frac{1}{2}$	bio gn with some hbl-bio gn
45 $\frac{1}{2}$ -46	hbl-bio gn and amf bands
46-47	amf with leuco veins
47-54 $\frac{1}{2}$	hbl-bio gn with bio gn, amf bands and veins of leuco
54 $\frac{1}{2}$ -55 $\frac{1}{4}$	bio gn - homog
55 $\frac{1}{4}$ -56 $\frac{1}{2}$	hbl-bio gn with bands of amf and bio gn
56 $\frac{1}{2}$ -58 $\frac{1}{2}$	bio gn - homog
58 $\frac{1}{2}$ -61 $\frac{1}{2}$	hbl-bio gn with bands of amf
61 $\frac{1}{2}$ -70	bio gn with bands of amf and leuco/qz veins
70-73	hbl-bio gn - homog
73-75 $\frac{1}{4}$	bio gn - homog
75 $\frac{1}{4}$ -76 $\frac{1}{2}$	hbl-bio gn and bands of amf
76 $\frac{1}{2}$ -77 $\frac{1}{2}$	amf with leuco veins
77 $\frac{1}{2}$ -80	bio gn with leuco veins
80-81 $\frac{1}{4}$	hbl-bio gn with minor bio gn
81 $\frac{1}{4}$ -82 $\frac{1}{4}$	bio gn with qz veins at a little hbl-bio gn
82 $\frac{1}{4}$ -83 $\frac{1}{4}$	hbl-bio gn with little bio-hyp gn
83 $\frac{1}{4}$ -85	bio gn with some hbl-bio gn
85-89	hbl-bio gn with bio gn, amf and leuco veins
89-92	bio gn - fairly homog

Profile no. 6 cont.

metres	geology
92-95 $\frac{1}{4}$	hbl-bio gn - fairly homog
95 $\frac{1}{4}$ -95 $\frac{1}{2}$	bio gn
95 $\frac{1}{2}$ -98 $\frac{3}{4}$	hbl-bio gn
98 $\frac{3}{4}$ -100	bio gn
100-105 $\frac{1}{2}$	hbl-bio gn
105 $\frac{1}{2}$ -110	no exposures
110-116 $\frac{1}{2}$	bio gn
116 $\frac{1}{2}$	drill hole no. 227

Part two - form NE to SW

metres	geology
0-1 $\frac{1}{4}$	hbl-bio gn
1 $\frac{1}{4}$ -3 $\frac{1}{4}$	bio-hyp gn
3 $\frac{1}{4}$ -6 $\frac{1}{4}$	hbl-bio gn
6 $\frac{1}{4}$ -13	bio-hyp gn with leuco veins a few bands of amf
13-18 $\frac{1}{4}$	hbl-bio gn with few fine-g gn bands. Foliation : 136°-74-NE
18 $\frac{1}{4}$ -20 $\frac{1}{4}$	bio-hyp gn
20 $\frac{1}{4}$ -35 $\frac{1}{4}$	hbl-bio - homog
35 $\frac{1}{4}$	lake 778.0 m

Profile no. 7

The profile pass to northeast of lake 782.0 to Wolfram Strossen and from here to tachymetric point no. 057. The profile is made in two steps.

Part one - NE to SW

metres	geology
0-4 $\frac{1}{2}$	hbl-bio gn with bands of amf and fine-g gn. Foliation : 146°-72-NE
4 $\frac{1}{2}$ -6 $\frac{1}{4}$	bio gn
6 $\frac{1}{4}$ -7 $\frac{1}{4}$	hbl-bio gn
7 $\frac{1}{4}$ -8 $\frac{1}{4}$	bio gn
8 $\frac{1}{4}$ -14	hbl-bio gn - inhomog with fine-g gn
14-21 $\frac{1}{2}$	no exposures
21 $\frac{1}{2}$ -24 $\frac{1}{2}$	hbl-bio gn - inhomog
24 $\frac{1}{2}$ -26 $\frac{1}{4}$	bio-hyp gn - inhomog with bands of hbl-bio gn. Leuco veins
26 $\frac{1}{4}$ -29 $\frac{1}{2}$	no exposures
29 $\frac{1}{2}$ -32 $\frac{1}{2}$	hbl-bio gn - inhomog with amf, fine-g gn and leuco veins
32 $\frac{1}{2}$ -36 $\frac{1}{2}$	bio gn - inhomog with amf, hbl-bio gn and leuco veins

Profile no. 7 cont.

metres	geology
36 $\frac{1}{2}$ -37 $\frac{1}{4}$	hbl-bio gn
37 $\frac{1}{4}$ -40	bio gn - inhomog with many bands of hbl-bio gn and with qz and leuco veins
40-46 $\frac{1}{4}$	hbl-bio gn - inhomog with bands of amf and fine-g gn and with leuco veins
46 $\frac{1}{4}$ -49	bio-hyp gn with leuco veins
49-50	amf
50-51	hbl-bio gn
51-52	amf
52-53 $\frac{1}{2}$	hbl-bio gn
53 $\frac{1}{2}$ -54	bio-hyp gn
54-55	amf
55-60	very inhomog section dominated by hbl-bio gn with leuco veins, fine-g gn and amf. Foliation : 140°-76-NE
60-62	no exposures
62-67	hbl-bio gn - inhomog with amf and fine-g gn
67-69 $\frac{1}{2}$	bio-hyp gn with leuco veins
69 $\frac{1}{2}$ -71	hbl-bio gn
71-71 $\frac{3}{4}$	bio gn
71 $\frac{3}{4}$ -72	amf
72-73 $\frac{1}{4}$	bio-hyp gn with leuco veins and few bands of hbl-bio gn
73 $\frac{1}{4}$ -75	bio gn - homog
75-77	no exposures
77-78	bio-hyp gn
78-83	hbl-bio gn - very inhomog with bands of amf and bio-hyp gn
83-87	bio-hyp gn with leuco veins. Foliation : 147°-82-NE
87-89 $\frac{1}{2}$	amf
89 $\frac{1}{2}$ -92	bio gn
92-92 $\frac{1}{2}$	amf
92 $\frac{1}{2}$ -97	bio-hyp gn
97-99	amf
99-102	hbl-bio gn with few bands of amf and bio-hyp gn
102-103	bio-hyp gn with leuco veins
103-111	hbl-bio gn
111-115	bio gn
115-	The profile line is moved to the SE-side of the "pit"

Part two - from NE to SW

metres	geology
0-2	bio gn
2-3	amf
3-8 $\frac{3}{4}$	hbl-bio gn
8 $\frac{3}{4}$ -23 $\frac{1}{2}$	bio gn - homog

Profile no. 7 cont.

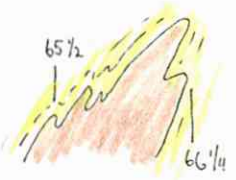
metres	geology
23 $\frac{1}{2}$ -27	bio-hyp gn with qz veins and few bands of hbl-bio gn
27-33	no exposures
33-35 $\frac{1}{2}$	bio gn
35 $\frac{1}{2}$ -37 $\frac{3}{4}$	amf with leuco veins - strongly folded. Few bands of bio-hyp gn
37 $\frac{3}{4}$ -50	bio gn with leuco veins. Foliation : 136°-77-NE
50-61	hbl-bio gn - homog
61-65	no exposures
65-72	hbl-bio gn - homog
72-73	bio gn
73-96 $\frac{1}{2}$	hbl-bio gn - homog
96 $\frac{1}{2}$ -97 $\frac{3}{4}$	amf
97 $\frac{3}{4}$ -105 $\frac{1}{2}$	hbl-bio gn
105 $\frac{1}{2}$ -107 $\frac{3}{4}$	no exposures
107 $\frac{3}{4}$ -108 $\frac{1}{4}$	bio gn
108 $\frac{1}{4}$ -113	hbl-bio gn - a little inhomog
113-114	amf
114-121 $\frac{1}{2}$	hbl-bio gn with little fine-g gn
121 $\frac{1}{2}$ -129	bio gn with leuco veins
129-131 $\frac{1}{2}$	hbl-bio gn
131 $\frac{1}{2}$ -132 $\frac{1}{2}$	bio gn with leuco veins
132 $\frac{1}{2}$ -135	hbl-bio gn
133 $\frac{1}{4}$	tachymetric point no 057
135-138 $\frac{1}{2}$	bio gn with leuco veins
138 $\frac{1}{2}$ -142	hbl-bio gn with bands of fine-g gn
142-150	no exposures

Profile no. 8

This profile follow lake 782.0 and continue nearly to lake 777.5. The profile has been made in one step. The figures have been corrected for terrain effect.

metres	geology
0	approx. 5 metres NW of drill hole 230
0-3	bio gn/bio-hyp gn with amf and some hbl-bio gn
3-5 $\frac{1}{2}$	hbl-bio gn with leuco veins and bands of amf and fine-g gn
5 $\frac{1}{2}$ -6 $\frac{1}{2}$	bio gn with veins of leuco
6 $\frac{1}{2}$ -12 $\frac{1}{2}$	hbl-bio gn with bands of bio-hyp gn and amf and leuco veins
12 $\frac{1}{2}$ -15 $\frac{1}{4}$	bio gn with leuco veins
15 $\frac{1}{4}$ -16 $\frac{1}{4}$	hbl-bio gn
16 $\frac{1}{4}$ -18	bio gn with little amf

Profile no. 8 cont.

metres	geology
18-19	hbl-bio gn
19-22 $\frac{1}{2}$	bio gn and bio-hyp gn. Strongly folded
22 $\frac{1}{2}$ -31 $\frac{1}{2}$	hbl-bio gn - very banded by fine-g gn and amf. With leuco veins
31 $\frac{1}{2}$ -33	bio gn with leuco veins
33-34	hbl-bio gn
34-36 $\frac{1}{2}$	bio gn
36 $\frac{1}{2}$ -42 $\frac{1}{2}$	hbl-bio gn - strongly banded by fine-g gn and with leuco veins
42 $\frac{1}{2}$ -43	bio gn
43-48 $\frac{1}{4}$	amf
48 $\frac{1}{4}$ -49 $\frac{1}{4}$	hbl-bio gn
49 $\frac{1}{4}$ -49 $\frac{1}{2}$	bio gn
49 $\frac{1}{2}$ -51 $\frac{3}{4}$	hbl-bio gn with lenses of amf
51 $\frac{3}{4}$ -55	bio gn with some hbl-bio gn. Contact at 51 $\frac{3}{4}$ folded
	
55-56	amf-rich zone
56-57 $\frac{1}{2}$	hbl-bio gn
57 $\frac{1}{2}$ -60	bio gn and bio-hyp gn - strongly isoclinal folded. Veins of leuco and lenses of amf
60-60 $\frac{1}{2}$	hbl-bio gn
60 $\frac{1}{2}$ -62 $\frac{1}{2}$	bio gn with bands/lenses of amf
62 $\frac{1}{2}$ -63 $\frac{1}{4}$	amf-rich zone
63 $\frac{1}{4}$ -64 $\frac{1}{4}$	hbl-bio gn
64 $\frac{1}{4}$ -72 $\frac{1}{2}$	very banded serie of bio-hyp gn and bio gn with some hbl-bio gn
	
72 $\frac{1}{2}$ -74	amf - W contact folded
74-91 $\frac{1}{2}$	banded serie with bio-hyp gn and amf. Strongly tight to isoclinal folded
91 $\frac{1}{2}$ -91 $\frac{3}{4}$	amf
91 $\frac{3}{4}$ -95 $\frac{1}{4}$	bio gn - strongly folded
95 $\frac{1}{4}$ -96 $\frac{1}{2}$	amf-rich zone
96 $\frac{1}{2}$ -100	bio gn
100-102 $\frac{1}{4}$	hbl-bio gn
102 $\frac{1}{4}$ -103	bio gn - fold in hbl-bio gn
103-103 $\frac{3}{4}$	amf-rich zone in hbl-bio gn
103 $\frac{3}{4}$ -105 $\frac{1}{2}$	hbl-bio gn
105 $\frac{1}{2}$ -106	bio gn
106-107	amf-rich zone
107-108 $\frac{1}{2}$	hbl-bio gn
108 $\frac{1}{2}$ -117 $\frac{1}{4}$	bio gn - homog
117 $\frac{1}{4}$ -120 $\frac{1}{4}$	hbl-bio gn
	

Profile no. 8 cont.

metres	geology
120 $\frac{1}{4}$ -124 $\frac{1}{2}$	bio gn and bio-hyp gn with amf. Leuco veins and qz veins, few band og hbl-bio gn
124 $\frac{1}{2}$ -128 $\frac{3}{4}$	hbl-bio gn - contact at 128 $\frac{3}{4}$ strongly folded
	
128 $\frac{3}{4}$ -141	bio gn with bands/lenses of amf
141-147	hbl-bio gn
147-149	bio gn with leuco veins
149-151 $\frac{1}{2}$	hbl-bio gn
151 $\frac{1}{2}$ -155 $\frac{1}{4}$	bio gn
155 $\frac{1}{4}$ -172 $\frac{3}{4}$	hbl-bio gn
172 $\frac{3}{4}$ -177 $\frac{1}{4}$	bio gn
177 $\frac{1}{4}$ -187 $\frac{1}{2}$	hbl-bio gn
187 $\frac{1}{2}$ -187 $\frac{3}{4}$	bio gn
187 $\frac{3}{4}$ -198 $\frac{3}{4}$	hbl-bio gn with little bio gn
198 $\frac{3}{4}$ -201	bio gn
201-208 $\frac{1}{2}$	hbl-bio gn
208 $\frac{1}{2}$ -220	bio gn - folded
220-222 $\frac{1}{2}$	hbl-bio gn
222 $\frac{1}{2}$ -227	bio gn
227-228 $\frac{1}{4}$	hbl-bio gn
228 $\frac{1}{4}$ -231	bio gn
231-233 $\frac{3}{4}$	hbl-bio gn
233 $\frac{3}{4}$ -235 $\frac{1}{2}$	bio gn
235 $\frac{1}{2}$ - ?	hbl bio gn

The last 100 m fairly homoh bands.

Profile no. 9

This profile starts close to the house and goes nearly to lake 777.5. The profile is made in one step, and it goes from NE to SW.

metres	geology
0	at the contact hbl-bio gn / fine-g gn. Foliation : 142 $\frac{0}{0}$ -65-NE
0-11 $\frac{1}{2}$	hbl-bio gn - inhomog with bands of amf and fine-g gn. Leuco veins.
11 $\frac{1}{2}$ -15	bio gn with bio-hyp gn, amf and leuco veins
15-25 $\frac{1}{2}$	hbl-bio gn - inhomog
25 $\frac{1}{2}$ -30	bio gn with leuco veins. Foliation : 150 $\frac{0}{0}$ -65-NE

Profile no. 9 cont.

metres	geology
30-49	hbl-bio gn - inhomog with amf and fine-g gn and with qz and leuco veins
49-51	amf
51-71 $\frac{1}{4}$	hbl-bio gn - inhomog with fine-g gn and amf. Leuco veins
71 $\frac{1}{4}$ - 73	bio gn with leuco veins
73-73 $\frac{1}{4}$	hbl-bio gn
73 $\frac{1}{4}$ -80	bio gn - inhomog with bio-hyp gn, little amf and hbl-bio gn and leuco veins. Foliation : 150°-63°-NE
80- 81	amf with leuco veins
81-81 $\frac{1}{4}$	bio gn
81 $\frac{1}{4}$ -84	hbl-bio gn
84-86 $\frac{1}{2}$	bio gn and bio-hyp gn
86 $\frac{1}{2}$ -93	hbl-bio gn - inhomog
93-106 $\frac{1}{4}$	bio-hyp gn and bio gn with bands of hbl- bio gn and amf. Leuco veins
106 $\frac{1}{4}$ -110	hbl-bio gn - inhomog with fine-g gn and amf
110-112	bio gn
112-115 $\frac{1}{2}$	hbl-bio gn - inhomog with amf. Leuco veins and qz veins
115 $\frac{1}{2}$ -117 $\frac{1}{2}$	amf-rich zone with hbl-bio gn
117 $\frac{1}{2}$ -122	hbl-bio gn- inhomog
122-130 $\frac{1}{2}$	bio gn
130 $\frac{1}{2}$ -154 $\frac{1}{2}$	very inhomog zone with hbl-bio gn, bio-hyp gn, bio gn, amf and leuco & qz veins
154 $\frac{1}{2}$ -162	bio gn - homog
162-169	hbl-bio gn - inhomog with fine-g gn
169-171	bio gn with some bio-hyp gn, amf and leuco veins. Foliation : 142°80'-NE
171-186	hbl-bio gn - homog
186-189	bio-hyp gn with bands of bio gn and amf
189-208 $\frac{1}{2}$	hbl-bio gn - homog
208 $\frac{1}{2}$ -233	hbl-bio gn - inhomog
233-236 $\frac{1}{2}$	bio gn - homog
236 $\frac{1}{2}$ -242	hbl-bio gn
242-252	bio gn
252-253	amf
253-254	hbl-bio gn
254-255	amf
255-260	hbl-bio gn
260-261	bio gn. Foliation : 137°-77'-NE
261-275	hbl-bio gn - homog
275	this gneiss type continue.

Profile no. 10

This profile is made in three steps. It goes from
tachymetric point no. 024 over Strossekrateret to the

entrance of the Transport Stolle.

Part one - from SW to NE

metres	geology
0	Tachymetric point no. 034
0-1 $\frac{1}{2}$	hbl-bio gn
1 $\frac{1}{2}$ -5	bio-hyp gn with some amf
5-35 $\frac{1}{2}$	hbl-bio gn - fairly homog
35 $\frac{1}{2}$ -38	amf
38-47	hbl-bio gn - homog, but with a few bands of fine-g gn. Foliation : 150°-80-NE
47-51	bio gn
51-53	hbl-bio gn
53-62	no exposures
62-67	amf with leuco veins
67-76	bio gn is dominating but bands with amf, hbl-bio gn and qz veins are seen. Mo in qz veins. Foliation : 146°-62-NE
76-86	no exposures
86-89	gn-bio-hyp gn with qz and leuco veins. Mo and scheelite in veins
89- ?	hbl-bio gn with qz veins and bands of bio-hyp gn

The profile line moved to the NW.

Part two - from NE to SW

metres	geology
0	Start in tachymetric point no. 030
0-4 $\frac{1}{2}$	amf with leuco veins
4 $\frac{1}{2}$ -15	hbl-bio gn - inhomog with bands of fine-g gn, amf and qz and leuco veins
15-16	amf
16-17 $\frac{1}{2}$	hbl-bio gn with amf
17 $\frac{1}{2}$ -19 $\frac{1}{2}$	amf
19 $\frac{1}{2}$ -22	hbl-bio gn
22	sharft

Part three - from SW to NE

metres	geology
0	Tachymetric point no. 030
0-9	amf with leuco veins
9-16 $\frac{1}{2}$	hbl-bio gn - inhomog with fine-g gn, amf and pegmatites, leuco and qz veins
16 $\frac{1}{2}$ -17	amf
17-19 $\frac{1}{4}$	bio gn. Foliation : 128°-66-NE
19 $\frac{1}{4}$ -23	amf

Profile no. 10 cont.

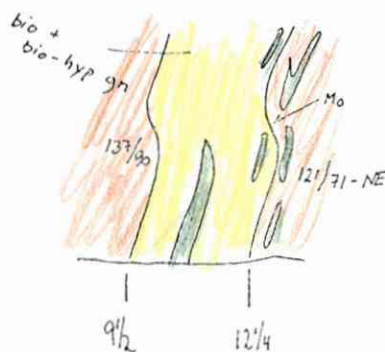
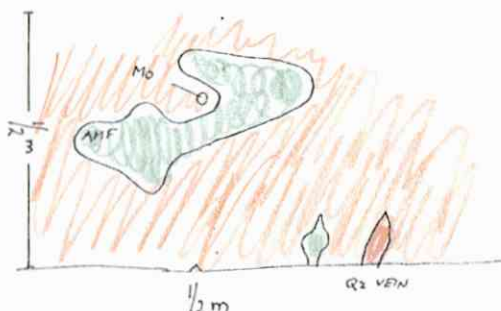
metres	geology
23-29	hbl-bio gn, amf, fine-g gn and leuco veins
29-30 $\frac{1}{2}$	bio gn
30 $\frac{1}{2}$ -74 $\frac{1}{2}$	hbl-bio gn- very inhomog with many bands of fine-g gn and amf.
74 $\frac{1}{2}$ -77	bio-hyp gn with leuco veins and amf. Foliation : 137°-70-NE
77-83 $\frac{1}{2}$	hbl-bio gn - inhomog
83 $\frac{1}{2}$ -85 $\frac{1}{2}$	bio gn with leuco veins
85 $\frac{1}{2}$ -90 $\frac{1}{2}$	hbl-bio gn - inhomog
90 $\frac{1}{2}$ -97	bio gn - inhomog
97-100	hbl-bio gn
100-105 $\frac{1}{2}$	bio gn
105 $\frac{1}{2}$ -110	? bio gn with leuco veins
110-122	hbl-bio gn - inhomog
122-123	bio gn with some amf
123-	no exposures

Profile no. 11

This profile has been made in the bottom of the valley along the southeastern slope. The profile is made in several steps, and parts of the profile were re-mapped. The figures have been corrected for the terrain effect.

Part one - from Ne to SW

metres	geology
0	Entrance to adit I (east)
0-9 $\frac{1}{2}$	hbl-bio gn with some amf in the start of the section. Mo is observed at $\frac{1}{2}$ meter
9 $\frac{1}{2}$ -12 $\frac{1}{4}$	bio-hyp gn and bio gn with some amf. Very banded section. Foliation : 121°-90



Profile no. 11 cont.

metres

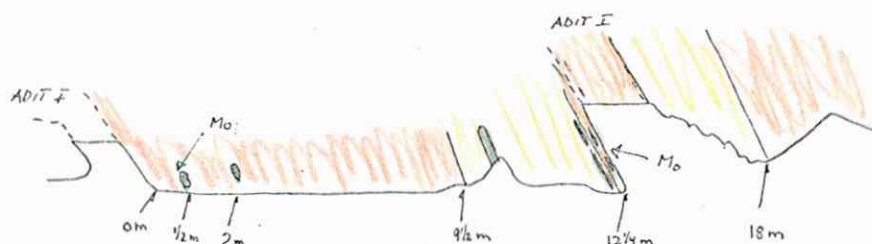
geology

12 $\frac{1}{4}$ -14 $\frac{1}{2}$

hbl-bio gn. At the contact 12 $\frac{1}{4}$ m several amf lenses are seen, and mo is observed in leuco veins. Foliations : 121°-71-NE, 110°-72-NE and 131°-85-NE

14 $\frac{1}{2}$ -18

bio gn and bio-hyp gn - banded. Foliation : 128°-75-NE



18-26

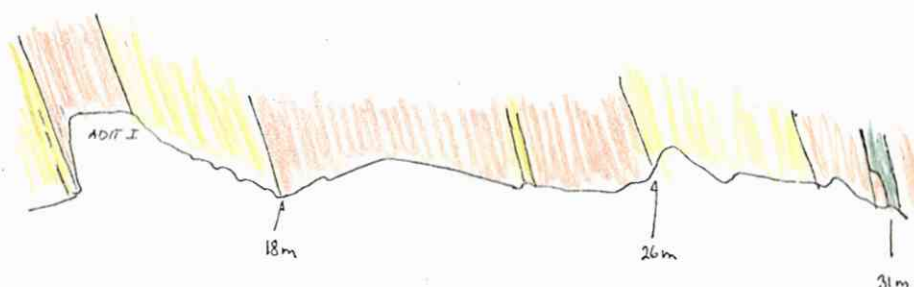
hbl-bio gn - homog. At 24 metres a 1 m band of fine-g gn is seen. Foliation : 118°-90

26-29 $\frac{1}{2}$

bio gn - fairly homog. With Fe-sulphides

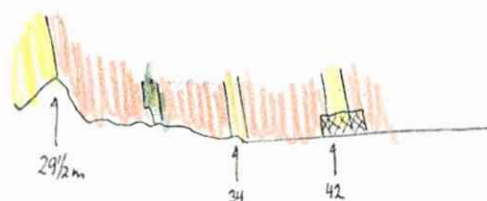
29 $\frac{1}{2}$ -34

hbl-bio gn with some amf. Foliation: 130°-76-NE



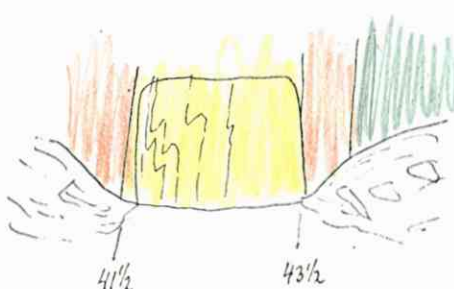
34-35 $\frac{1}{2}$
35 $\frac{1}{2}$ -41 $\frac{1}{2}$

banded bio-hyp gn
hbl-bio gn with little amf



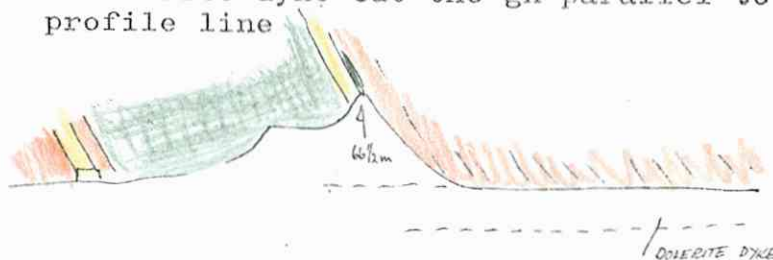
41 $\frac{1}{2}$ -44

fine-g gn with leuco veins- folded.
43 $\frac{1}{2}$ -44m hbl-bio gn



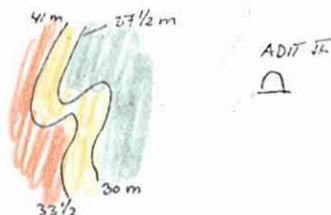
Profile no. 11 cont.

metres	geology
44-64 $\frac{1}{2}$	amf with leuco veins
64 $\frac{1}{2}$ -66 $\frac{1}{2}$	bio-hyp gn - banded by bio gn and with Fe-sulphides
66 $\frac{1}{2}$ - ?	hbl-bio gn with bands/lenses of amf. Foliation : 112°-62-NE A dolerite dyke cut the gn parallel to profile line

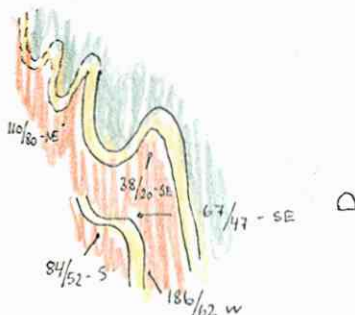


Part two - from SW to NE

metres	geology
0	Entrance to adit II
0-37 $\frac{1}{2}$	amf with leuco veins and pegmatites
37 $\frac{1}{2}$ -41	bio-hyp gn banded with amf and bio gn - with leuco veins, no observed.
41-50	hbl-bio gn with some amf. Foliations : 144°-74-NE, 84°-52-S

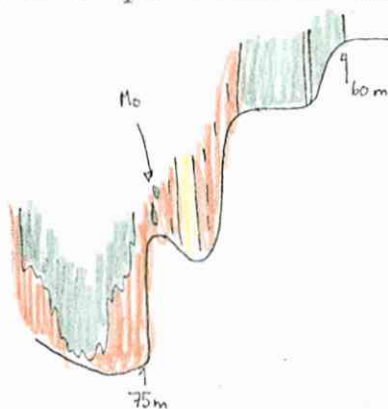


50-51	bio gn
51-60	hbl-bio gn . Foliations : 186°-62-W, 67°-47-SE, 38°-20-SE & 110°-80-NE



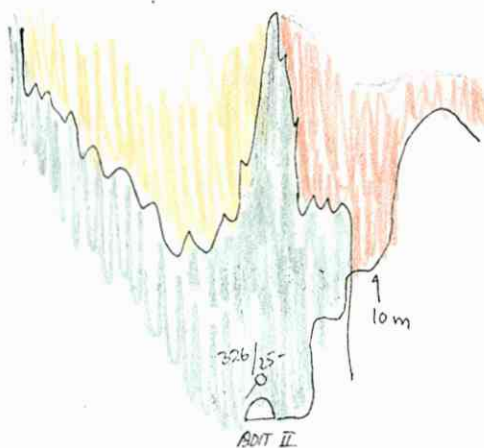
Profile no. 11 cont.

metres	geology
60-70	amf
70-75	bio gn. At 75 m very mixed zone with amf. Mo observed. Foliation : $108^{\circ}-90^{\circ}$.
75-(95)	hbl-bio gn with a fold of amf. The hbl-bio gn cont. along the steep wall to part one of the profile.



Part three - NE to SW

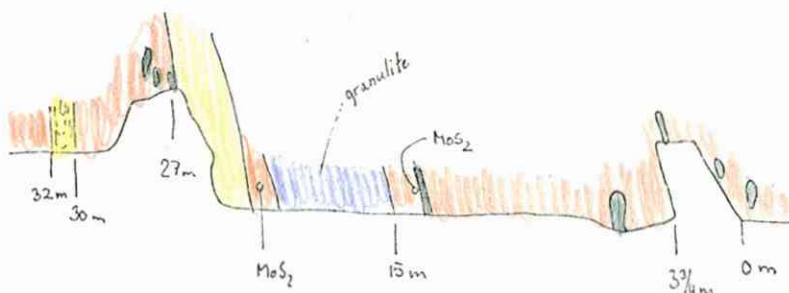
metres	geology
0	Entrance to adit II
0-9	amf with leuco and qz veins and pegmatites. Foldaxis : $326^{\circ}-25^{\circ}$. Foliation : $127^{\circ}-80^{\circ}$ -NE
9- (100)	hbl-bio gn - homog, only few lenses of amf seen. Foliations : $128^{\circ}-25^{\circ}$ -NE, $168^{\circ}-44^{\circ}$ -NE $110^{\circ}-75^{\circ}$ -NE & $130^{\circ}-65^{\circ}$ -NE
100 -	Very few exposures



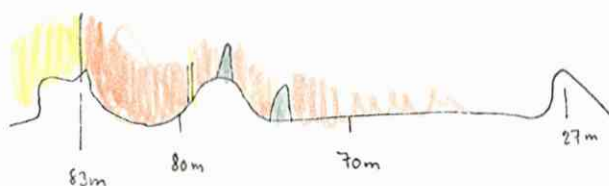
Profile no. 11 cont.

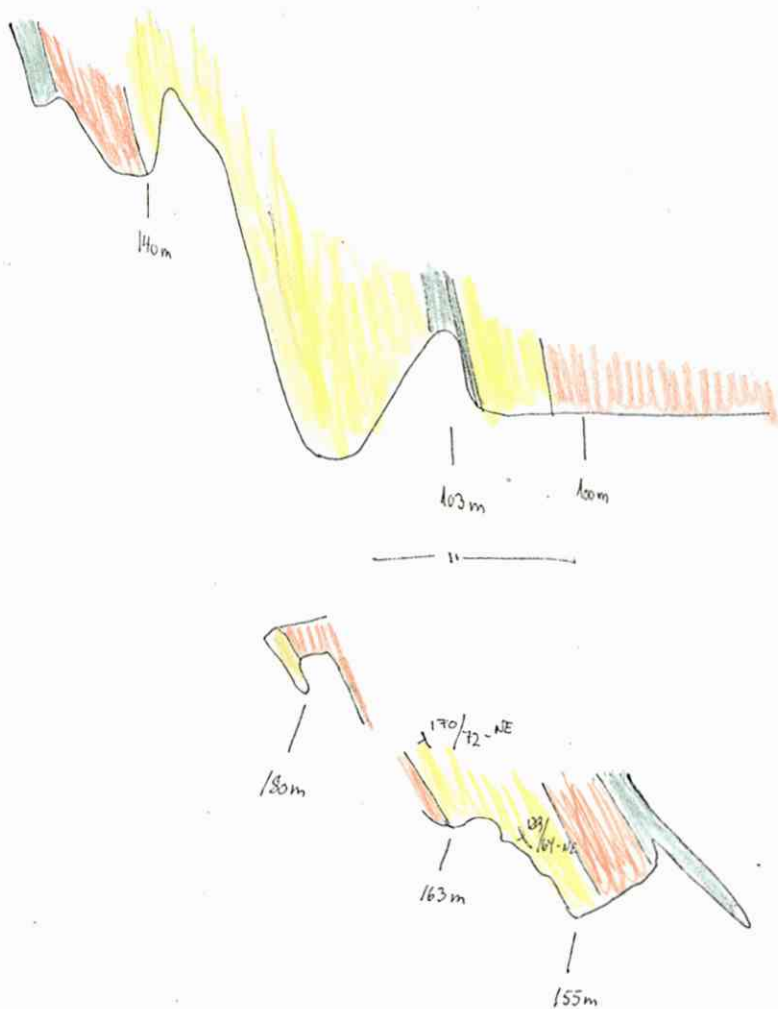
Part four - fom SW to NE

metres	geology
0	Entrance to adit I
0-15	hbl-bio gn with some amf lenses. Few bands of bio-hyp gn. At 13 $\frac{1}{2}$ metres - amf-rich zone with mo. Foliations : 122°-58-NE 133°-52-NE
15-18 $\frac{1}{2}$	granulite (qz-feldspar gn)
18 $\frac{1}{2}$ -21	hbl-bio gn with amf and a few qz veins. Mo observed at 19 m.
21-27	bio-hyp gn banded by bio gn, amf and with qz and leuco veins. Foliation : 133°-82-NE
27-30	hbl-bio gn with lenses of amf. Foliation : 124°-65-NE
30-32	bio gn with amf - isoclinal folded. Foliation : 122°-71-NE



32-83	hbl-bio gn with amf at 74 and 76 m. Few thin bands of bio gn. Foliation : 134°-60-NE
83-91	bio gn with amf and some bio-hyp gn. Foliation : 128°-66-NE
91-102	hbl-bio gn with bands of amf
102-140	bio gn with amf and leuco veins. Bands of bio-hyp gn are seen from 122 m. 103-105 m - amf. Foliation : 134°-48-NE
140-155	hbl-bio gn with approx 2 metres of amf at 150 m. Foliation : 127°-66-NE
155-163	bio gn with few thin bands of hbl-bio gn. Foliation : 129°-64-NE, 171°-72- E
163-180	hbl-bio gn
180- ?	bio gn and bio-hyp gn





Profile no. 11 cont.

Part five - from SW to NE (E)

The terrain is rather steep and it was not possible to use a tape measure. For the rest of the profile the contacts have been located by measuring the height above sea level with an altimeter.

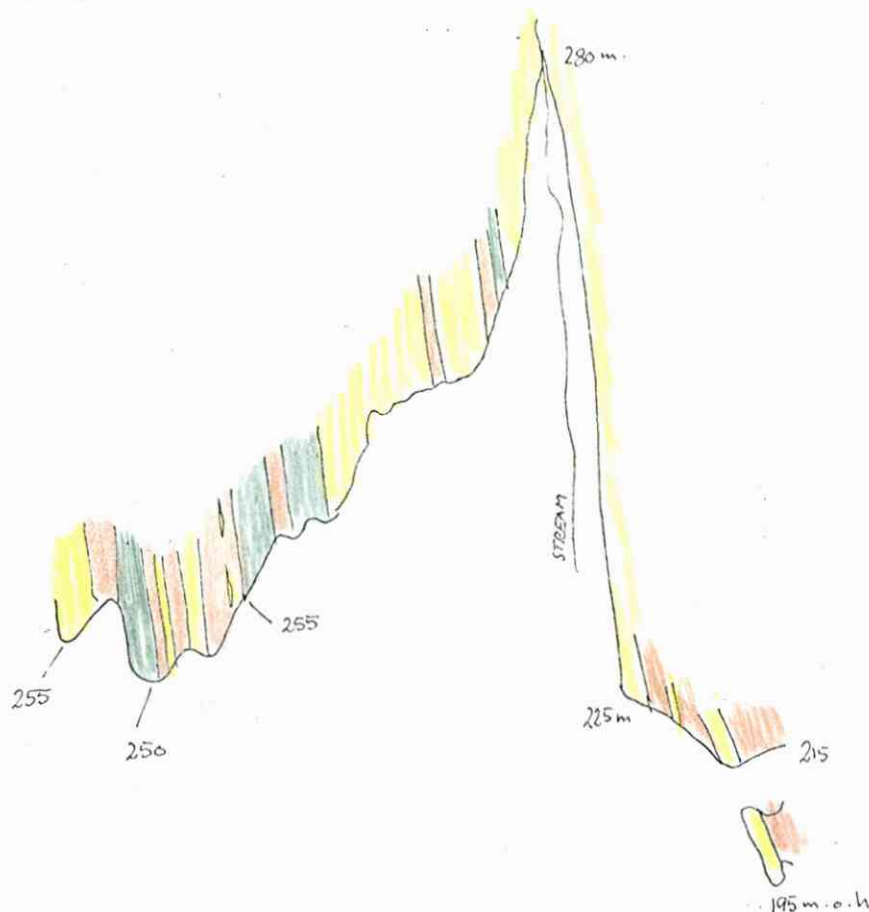
metres a.s.l.	geology
195	start of part five - end of part four
195-215	the fine-g gn are followed to 215 m. The band is 2 metres wide and lying in hbl-bio gn. Foliation : 132°-72-NE.
215-220	hbl-bio gn
220-250	bio gn with leuco veins. Foliation : 148°-75-NE. The gn can be followed up the stream to 280 m.
	NB: Many loose blocks of gn-bio-hyp gn is seen in the stream. Also blocks with

Profile no. 11 cont.

metres
a.s.l

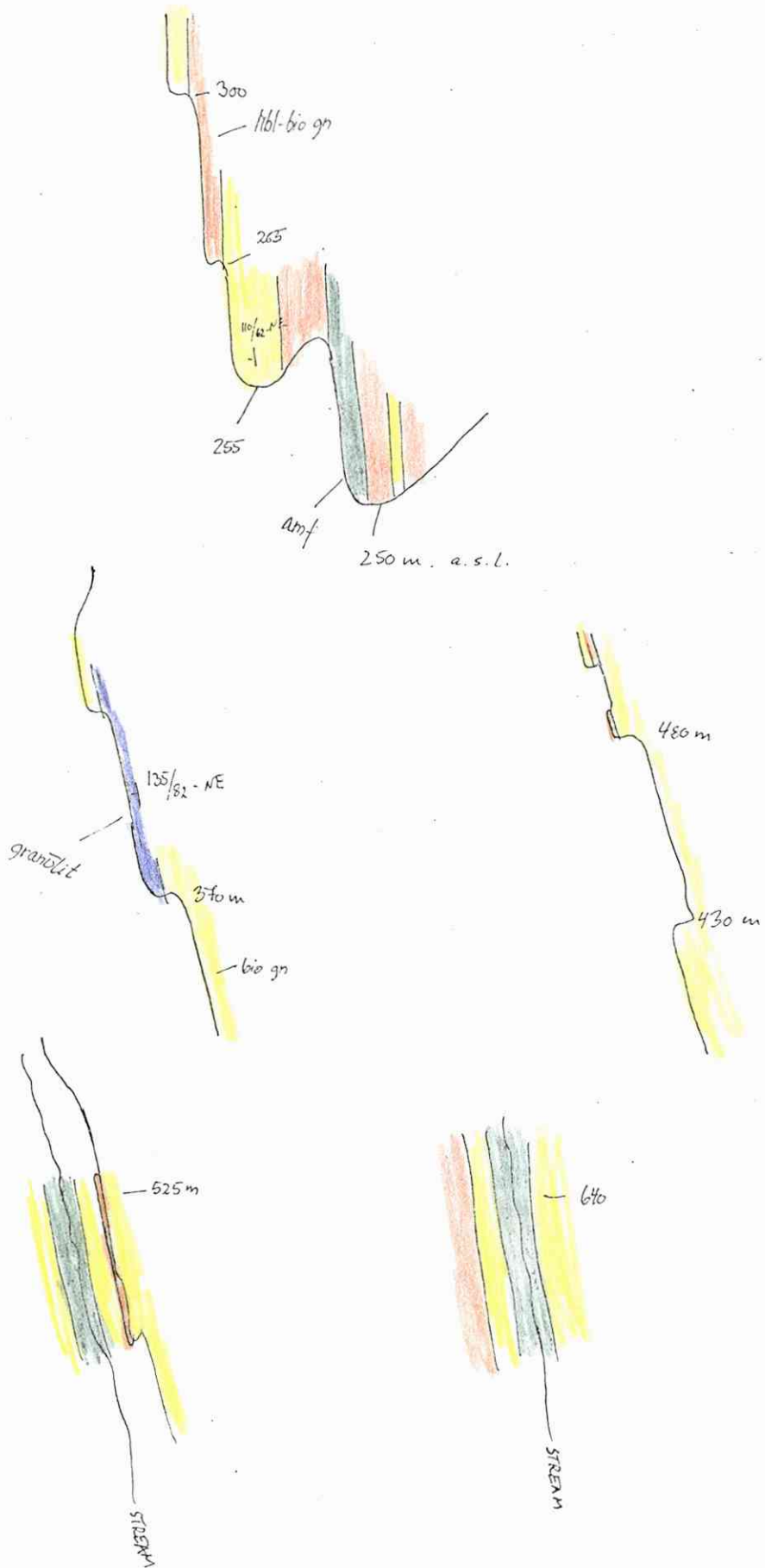
geology

- 280-250 mo in qz veins are observed.
This section is rather overgrown.
The first half of this section is dominated by bio gn with some bands of hbl-bio gne and amf. Foliation : $125^{\circ}-70-NE$
The second half is a mixture of hbl-bio gn, amf and some fine-g gn. Foliation : $137^{\circ}-60-NE$
- 250-255 This section starts with an amf band, and is followed by hbl-bio gn and then at 255 m by fine-g gn . Foliation : $110^{\circ}-62-NE$



- 255-265 fine-g gn
265-300 hbl-bio gn with some amf and fine-g gn.
300-370 bio gn
370-410 granulite . Foliation : $135^{\circ}-82-NE$
410- 480 bio gn
480- $\frac{1}{2}$ -1 m band with hbl-bio gn
480-525 bio gn
525- 3 metres with amp. To the east a thin zone with bio gn followed by a mixed section with bio gn, hbl-bio gn and amf
525-690 the amf band can be followed nearly up to the plateau

Profile no. 11 cont.



5. SHORT DESCRIPTIONS OF OLD WORKINGS

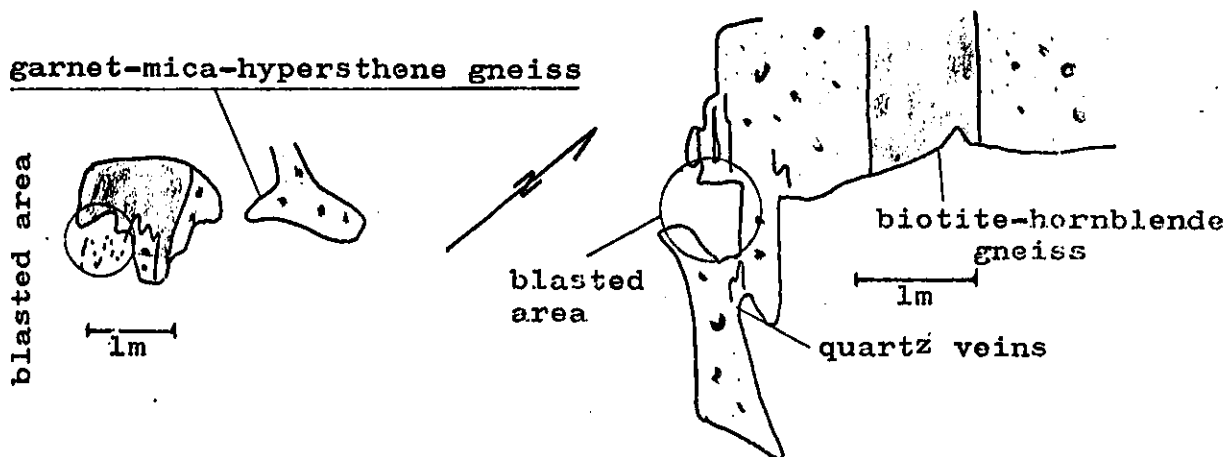
This list of old workings also comprise a few other mineralized localities together with drill holes. Only workings at the mountain plateau are listed, and several localities from the bottom of the valley are lacking in this description.

The workings have been located in the field at a airfoto in approx. 1:2000, and have later been transfered to a orthofotomap in 1:2000 with a coordinate grit (N.G.O. AKSE 1). The coordinates given in this list refer to this grit.

The described localities are showed at plate 1 .

Locality 1 : Y- 22383 , X- 75224

Two small blastings in a garnet-mica-hypersthene gneiss with thin ($\frac{1}{2}$ -1 cm) quartz veins. The veins are folded and parallel with the foliation ($128^{\circ}/90^{\circ}$). No MoS_2 mineralizations are observed. The size of the blastings are approx. $1 \times \frac{1}{2}$ m.



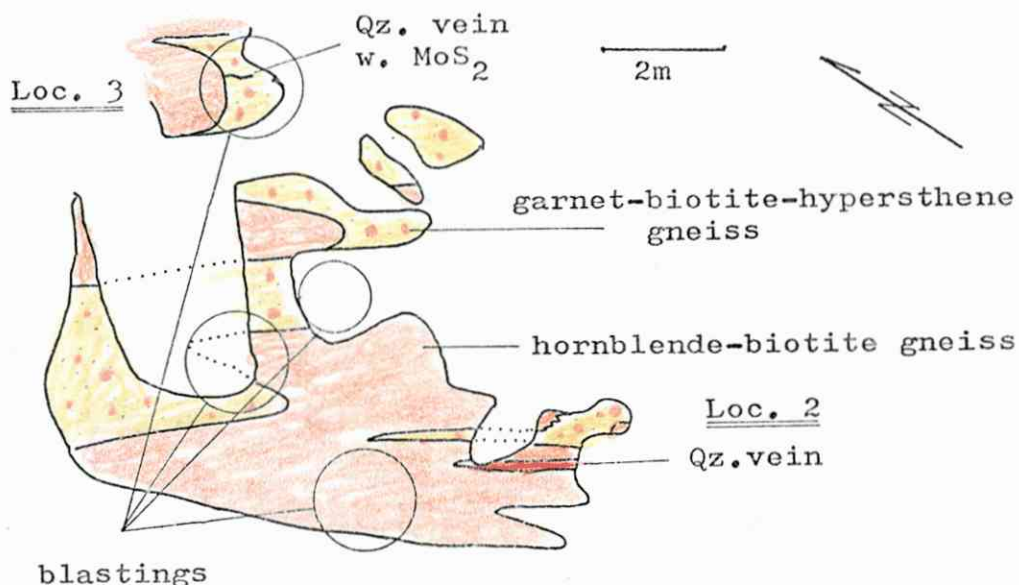
Locality 2 : Y- 22376 , X- 75219

Three small blastings (approx. $1\frac{1}{2} \times 1\frac{1}{2}$ m) in hornblende-biotite gneiss and garnet-biotite-hypersthene gneiss with thin quartz veins. MoS_2 is not observed.

Locality 3 : Y-22375 , X-75226

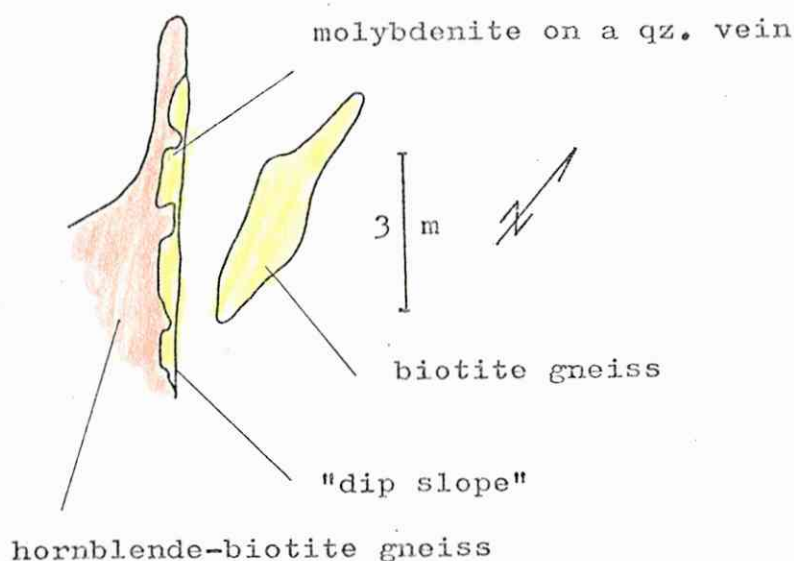
A 1×1 m blasting in garnet-biotite-hypersthene gneiss with quartz veins. Molybdenite is observed in one of the quartz veins.

NB : Samples from locality 1, 2 & 3 have been examined in UW-light, and scheelite is observed in connection with quartz veins.



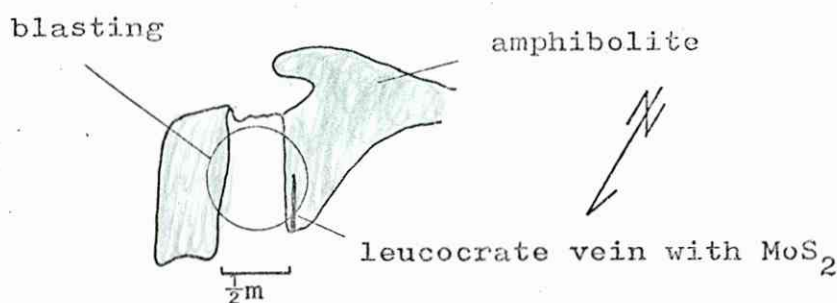
Locality 4 : Y-22365 , X-75211

Small blastings at the contact between hornblende-biotite gneiss and biotite gneiss. Quartz veins (2-5 cm in size) are seen at the contact with scattered molybdenite. The foliation is : $142^\circ / 68$ NE.



Locality 5 : Y-22395 , X-75213

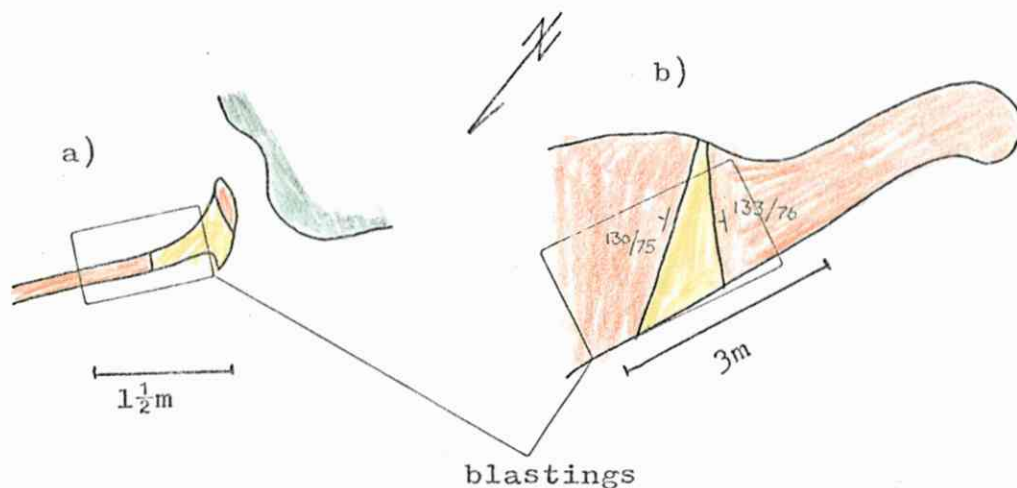
An approx. $\frac{1}{2}$ x 1 m blasting in an amphibolite with leucocratic veins, which are molybdenite-bearing.



Locality 6 : Y-22403 , X-75210

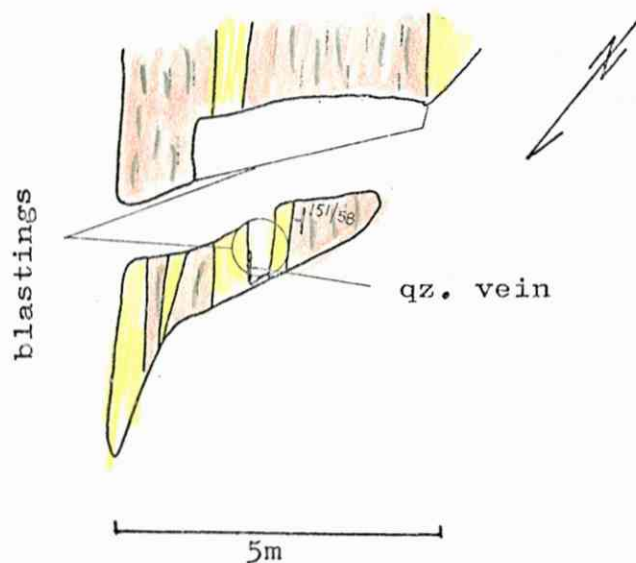
At this locality, two blastings are found. The blasting to northwest is approx. $1 \times 1\frac{1}{2}$ m and cover the contact zone between a hornblende-biotite gneiss and a biotite-hypersthene gneiss. A few quartz veins occurs, but mineralizations have not been observed.

Five metres to southeast and 5 metres higher is a 2×3 metres blasting in hornblende-biotite gneiss with a in-folded biotite-hypersthene gneiss. Mineralizations are not seen at this locality either.



Locality 7 : Y-22431 , X-75228

Here is an approx. 3 x 3 m blasting in hornblende-biotite gneiss with quartz veins. The gneiss is banded by amphibolite and biotite gneiss. No mineralization has been observed at this locality. Foliation : 151°/ 68 NE.



Locality 8 : Y-22430 , X-75204

A bigger area approx. 5 x 3 m has been blasted. The main rock type is hornblende-biotite gneiss with bands of biotite gneiss and amphibolite. Quartz veins occur, but no mineralizations are observed.

Locality 9 : Y-22421 , X-75199

At this locality an $1 \times 1\frac{1}{2}$ m blasted area is seen at the contact between biotite gneiss (SE) and hornblende-biotite gneiss (NW). At the contact a minor quartz vein without mineralizations occurs.

Locality 10 : Y-22438 , X-75192

Here is found a $2 \times \frac{1}{2}$ m blasted area at the contact between hornblende-biotite gneiss (NW) and biotite gneiss (SE) with a quartz vein at the contact. No mineralizations are seen.

Locality 11 : Y-22450 , X- 75172

A 5-10 cm thick quartz vein occurs possibly at the contact between hornblende-biotite gneiss (NW) and biotite gneiss (SE), which is not exposed. No mineralizations are visible. An area of approx. 5×1 m is blasted.

Locality 12 : Y-22457, X-75163

Here a 3×2 m blasted area is seen in a $\frac{1}{2}$ m thick quartz vein surrounded by hornblende-biotite gneiss. No mineralizations are observed.

Locality 13 : Y-22510 , X- 75100

A big volume at approx. $20 \times 2\frac{1}{2} \times 2$ metres has

been excavated following a quartz vein, which is up to 1 meter wide. The vein is surrounded by banded hornblende-biotite gneiss. From the excavation the quartz vein has been followed approx. 20 metres in SW direction. No mineralization is seen, but an old miner from Ørdsalen claimed that gold was found in the vein. The quartz vein follow the general direction of the foliation.

Location 14 : a) Y-22507 , X-75091
 b) Y-22512 , X-75083
 c) Y-22516 , X-75079
 d) Y-22523 , X-75071

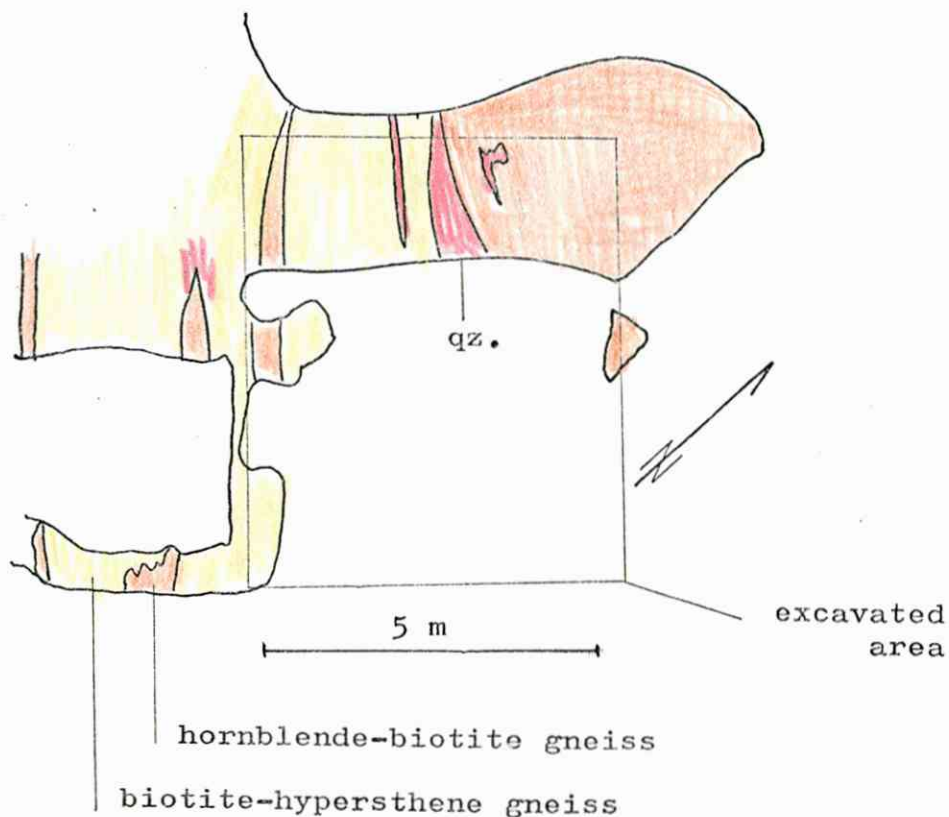
These four small ($1\frac{1}{2}$ - $\frac{1}{2}$ m) blastings follow a 10-15 cm quartz vein in the direction of the foliation. The vein(s) follow a amphibolite-rich zone in the hornblende-biotite gneiss, which is banded by fine-grained gneisses. At locality 14 d the quartz vein has disappeared, but thin leucocratic veins are seen in the amphibolite. In the four blastings molybdenite is observed in connection with the veins, which are rusty caused by alteration of iron-sulphides. Molybdenite is also observed in between the blastings.

Locality 15 : Y-22539 , X-75057

An $1\frac{1}{2}$ x $1\frac{1}{2}$ m blasting has been made in a strongly banded hornblende-biotite gneiss with a number of quartz veins, which seems to be barren.

Locality 16 : Y-22525 , X-75041

Here is seen an excavation, which is approx. 5 x 5 x 5 metres in size. The excavation is lying at the contact between hornblende-biotite gneiss and biotite-hypersthene gneiss. In the contact an up to $\frac{1}{2}$ meter thick quartz vein occurs. Smaller quartz veins are present in the surrounding rocks. The quartz veins are folded. At the contacts between quartz and gneiss molybdenite is observed, and scheelite has also been found. This locality is lying at the same foliation trend as Wolfram-synken (Locality 26).



Locality 17 : a) Y-22512 , X-75044
b) Y-22515 , X-75040

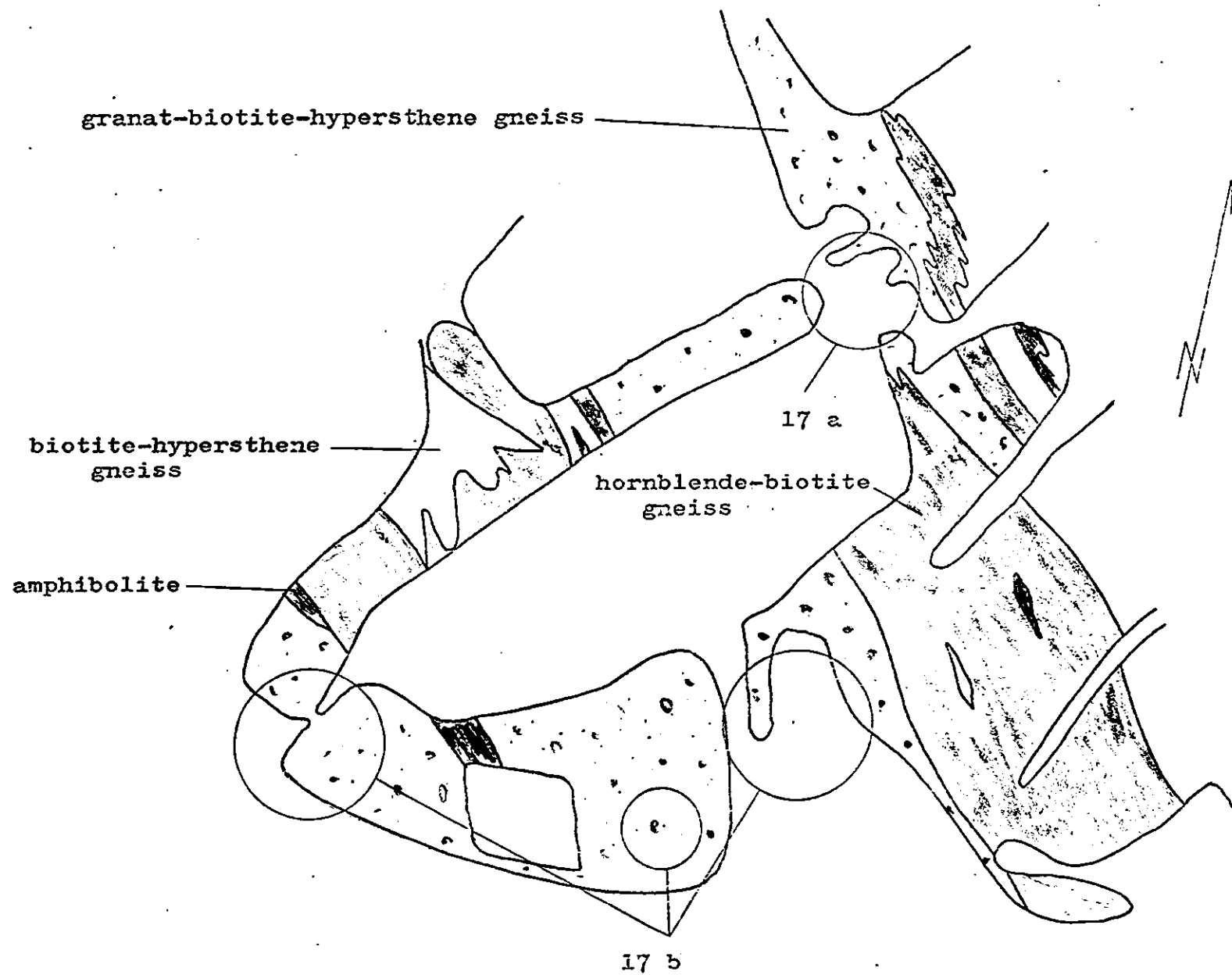
Locality a) is a blasting approx. $3 \times 1\frac{1}{2}$ m in size at the contact between hornblende-biotite gneiss and garnet-biotite-hypersthene gneiss. Numerous quartz veins parallel to the foliation occur in the gneisses. These veins carry molybdenite and scheelite. The quartz veins are isoclinal folded.

Locality b) cover three blasted areas across the garnet-biotite-hypersthene gneiss. The old working to the NE is at the contact between the garnet-bearing gneiss and hornblende-biotite gneiss, and the other workings in the garnet-biotite-hypersthene gneiss. This gneiss type is rich in leucocratic veins/bands, which is intense isoclinal folded. Amphibolite are common. The leucocratic veins are usually molybdenite- and scheelite-bearing.

This locality is lying opposite the entrance to Wolfram-strossen in the general trend of the foliation.

The size of the working to the east is approx. 3×3 m, for the one in the middle approx. 1×1 m and for the working to the west approx. $3 \times 1\frac{1}{2}$ m.

This area resemble the Schaanings Grube.



Loc. 17 a & 17 b.

Locality 18 : Y-22496' , X-75050

Trench blasted in 1975. The width of the trench is $\frac{1}{2}$ meter and the length approx. 30 metres. The geology is described in profile no. 5 and may also be seen partly at the geological map in 1:100 . A part of the trench cross cut garnet-biotite-hypersthene gneiss with many leucocrate veins, which are scheelite- and molybdenite-bearing.

Locality 19 : Y-22408 , X-75107

Trench from 1975, which was never ended. The trench is $\frac{1}{2}$ x 10 metres. The geology is described in profile no. 3 . No mineralizations were observed.

Locality 20 : Y-22398 , X-75115

An $1\frac{1}{2}$ x 1 m blasted area in garnet-biotite-hypersthene gneiss with quartz veins. Mineralizations have not been seen.

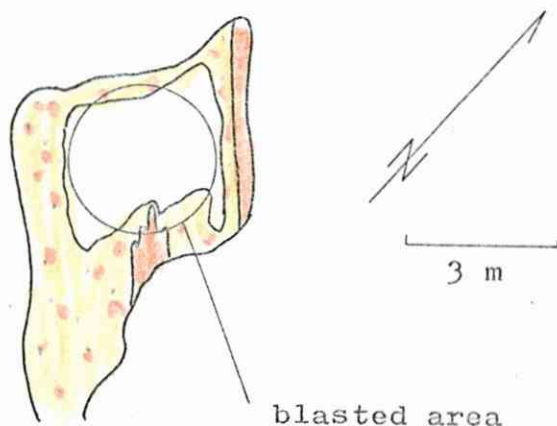
Locality 21 : Y-22384 , X-75127

A block $1\frac{1}{2}$ x $1\frac{1}{2}$ x 1 m has been blasted out in garnet-biotite-hypersthene gneiss with quartz veins. Mineralizations are not observed.

Locality 22 : Y-22334 , X-75112

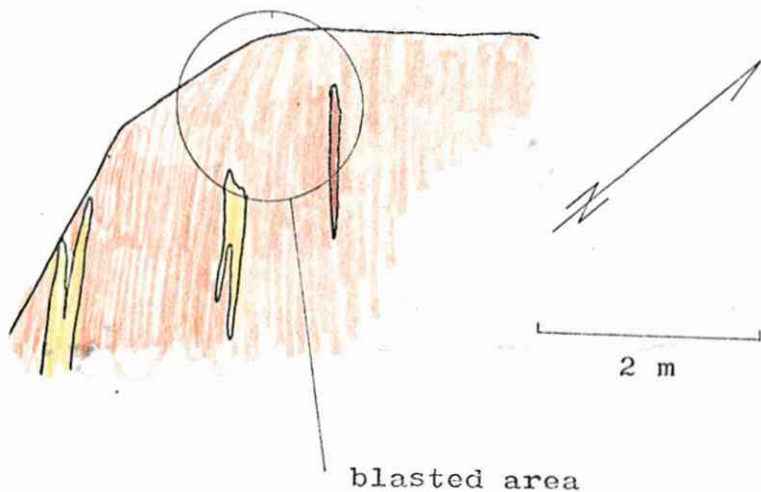
An old working approx 5 x 3 m in size close to

the contact hornblende-biotite gneiss/garnet-biotite-hypersthene gneiss in the latter. Quartz veins with iron-sulphides occur, but molybdenite is not observed.



- Locality 23 :
- a) Y-22311 , X-75195
 - b) Y-22274 , X-75211

Locality a) is a blasted area approx. 2 x 2 m in size, covering a quartz vein (10 x 50 cm) with molybdenite. The vein is in hornblende-biotite gneiss with bands and lenses of biotite-hypersthene gneiss. The locality is situated above the Schaanings Grube.



Locality b) is a 1 x 1 m blasted area in hornblende-biotite gneiss with a molybdenite-bearing quartz vein.

Locality 24 : Y-22241 , X-75187

At this locality molybdenite is seen at the contact to a quartz vein in biotite-hypersthene gneiss. To the SE in the general direction of the foliation is exposed a garnet-biotite-hypersthene gneiss. The distance is about 30 metres.

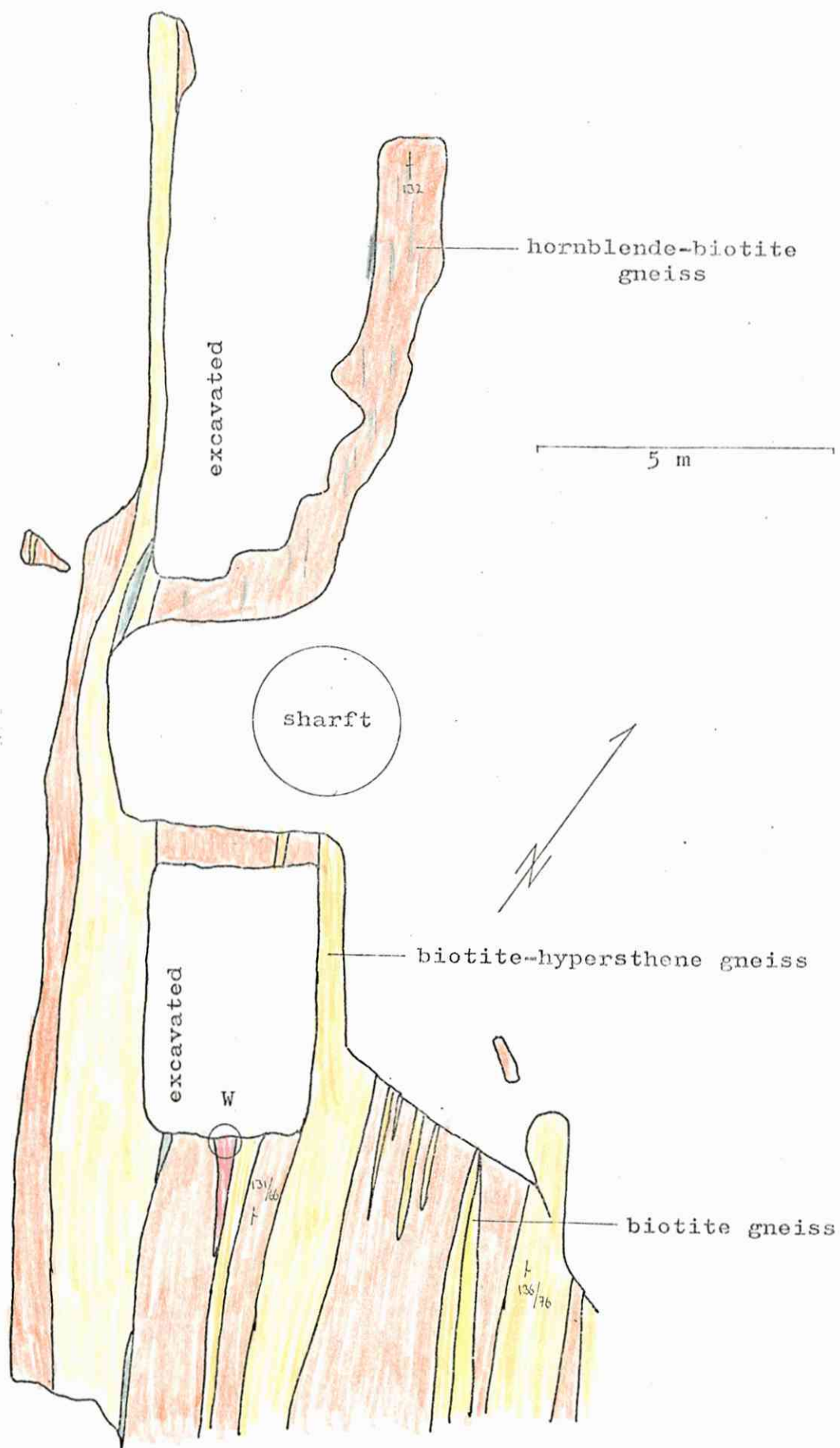
Locality 25 : Y-22280 , X-75265

The Schaanings Grube (Mine). The geology has previously been described and will not be treated further in this report.

Locality 26 : Y-22540 , X-75025

Wolfram-synken. The excavated area is approx. 20 metres long and has a width of approx. 3 metres. The depth of the shaft is unknown. The excavation has followed quartz veins with wolframite and scheelite. Some molybdenite is also present. The quartz vein(s) are lying in a strongly banded hornblende-biotite gneiss. The quartz veins are concordant with the banding. The bands are mainly fine-grained gneisses but also amphibolite bands and lenses are seen. The area is strongly isoclinal folded.

Wolfram-synken (The Tungstenite Sharft).



Locality 27 : Y-22540 , X-74990

Wolfram-strossen. The size of Wolfram-strossen is approx. 18 x 8 x 10 metres and the entrance to the "open pit" is 2-3 metres wide and approx. 15 metres long. In addition to the "open pit", a adit and a sharft have been excavated.

The entrance was excavated in garnet-biotite-hypersthene gneiss with quartz veins, which is scheelite, tungstenite and molybdenite-bearing. Close to the "open pit" the garnet-bearing gneiss disappear possibly in a foldclosure, but the quartz veins continue, and are followed with an adit. The main rock type at the bottom of the pit is hornblende-biotite gneiss with little amphibolite. Around the opning of the pit, the geology is very complex caused by intensive folding. The southern part is dominated by biotite gneiss with amphibolite, and the northern part is dominated by hornblende-biotite gneiss with some bands of biotite and biotite-hypersthene gneiss. For a more detailed geology - see the geological map in 1:100.

Very little scheelite and molybdenite is now observed in the excavation.

Locality 28 : Y-22550 , X-75000

Trench from 1975. It is approx. 20 metres long and $\frac{1}{2}$ meter wide. The geology is very complex, and is described in profile no. 7 and may be seen at the geological map in 1:100.

Locality 29 : Y-22568 , X-74990

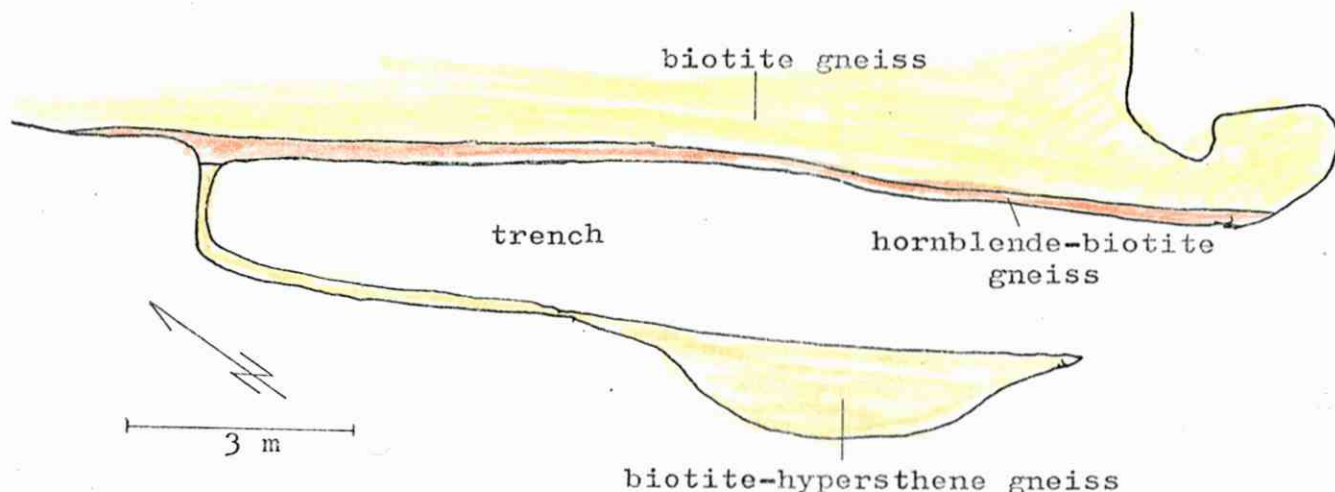
Blasting covering the contact between hornblende-biotite gneiss (NE) and biotite-hypersthene gneiss (SW). In the contact is a pegmatite seen. A few quartz veins (thin) are also observed. No mineralization is seen.

Locality 30 : Y-22562 , X-74955

The working is approx 5 x 5 m. The blasting is carried out in hornblende-biotite gneiss with amphibolite and a few bands of biotite-hypersthene gneiss are seen. In connection with thin quartz veins molybdenite is observed.

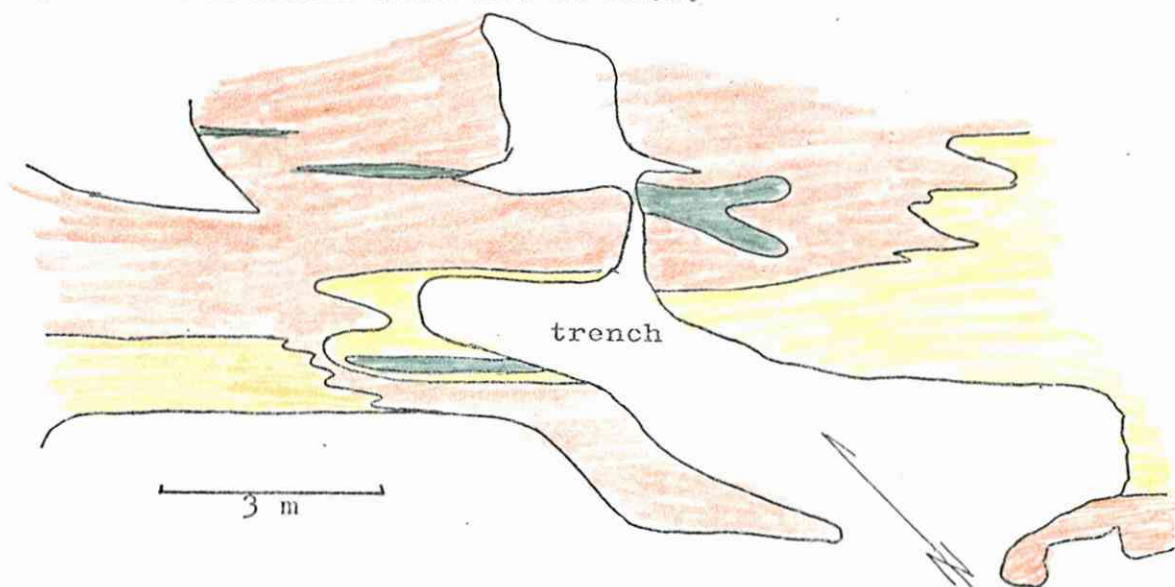
Locality 31 : Y-22535 , X-74970

This locality is a trench approx. 10 x 2 x 5 m in size. The trench was excavated in biotite-hypersthene gneiss possibly following a concordant quartz vein. Mineralizations are not observed.



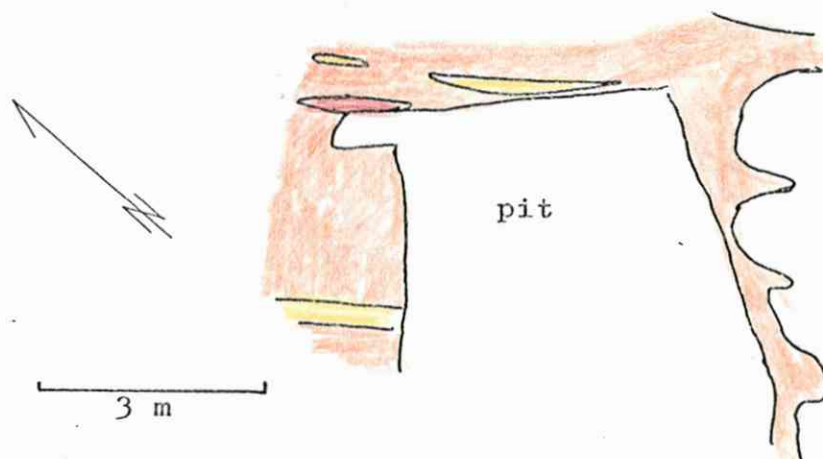
Locality 32 : Y-22523 , X-74995

A trench has her been excavated in biotite gneiss where it has followed a quartz vein. A band of amphibolite is seen. A foldclosure in the biotite gneiss is observed in the northwestern part of the trench, and this rock type is surrounded by hornblende-biotite gneiss. Mineralizations have not be seen.



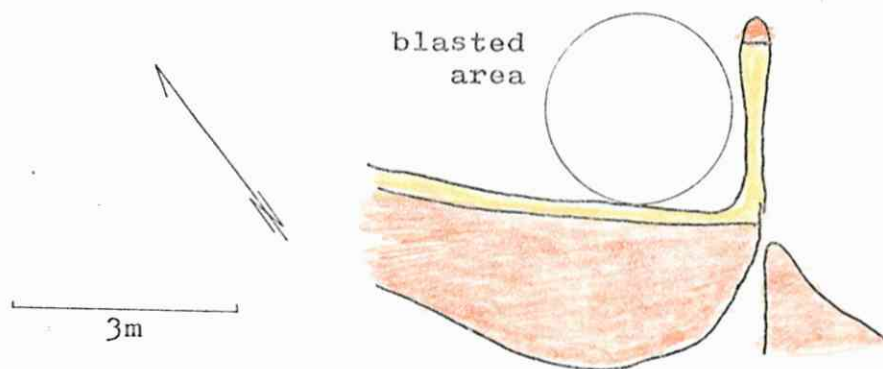
Locality 33 : Y-22500 , X-75000

A pit, with the size 7 x 7 x 3 m has been excavated in hornblende-biotite gneiss. A up to $\frac{1}{2}$ m thich quartz vein in the northern corner has possibly caused the activity, but mineralizations is not seen.



Locality 34 : Y-22514 , X-75016

Approx. 3 x 3 m has been blasted in a biotite-hypersthene gneiss band in hornblende-biotite gneiss. Mineralizations was not observed.



Locality 35 : Y-22594 , X-74969

Dagstrossen. A "trench" approx 30 metres long, 5 metres wide and 3 to 5 metres high has been excavated in different rock types but has followed quartz veins with molybdenite and scheelite. The "trench" has not been mapped, but the general geology is hornblende-biotite gneiss (banded) to the northeast and biotite gneiss, biotite-hypersthene gneiss and amphibolite folded together to the southwest.

Locality 36 : Y-22611 , X-74968

Working approx. 1 x 3 m in 10 cm thick quartz vein with molybdenite. The vein is lying in hornblende-

biotite gneiss, which is strongly banded by fine-grained gneisses and amphibolite.

Locality 37 : Y-22619 , Y-74960

The size of the blasted area is $\frac{1}{2} \times \frac{1}{2}$ m. A 5 cm quartz vein (barren) is seen in banded gneisses hornblende-biotite gneisses, fine-grained gneisses and amphibolite.

Locality 38 : Y-22616 , X-74964

A quartz vein with molybdenite in hornblende-biotite gneiss, fine-grained gneisses and amphibolite. Approx. an 1 x 1 m area is blasted.

Locality 39 : Y-22609 , X-74973

Here a quartz vein with molybdenite is seen at the contact between amphibolite and banded gneiss. The size of the working is approx. $3 \times \frac{1}{2}$ m.

Locality 40 : Y-22597 , X-74973

A quartz vein with molybdenite has been worked over an area approx. 5×0.2 m. Hornblende-biotite gneiss to the northeast and a biotite-hypersthene gneiss to the southwest.

Locality 41 : Y-22604 , X-74980

An 1 x 1½ m working in amphibolite with leucocrate veins. Iron sulphides are common, but the only ore minerals seen.

Locality 42 : Y-22616 , X-74991

An area of 1½ x 1½ m has been blasted in a hornblende-biotite gneiss with bands of amphibolite. Barren quartz veins occurs.

Locality 43 : Y-22637 , X-74969

A small (½ x ½ m) working in a banded hornblende-biotite gneiss with a quartz vein (rusty). Mineralizations are not observed.

Locality 44 : Y-22621 , X-75035

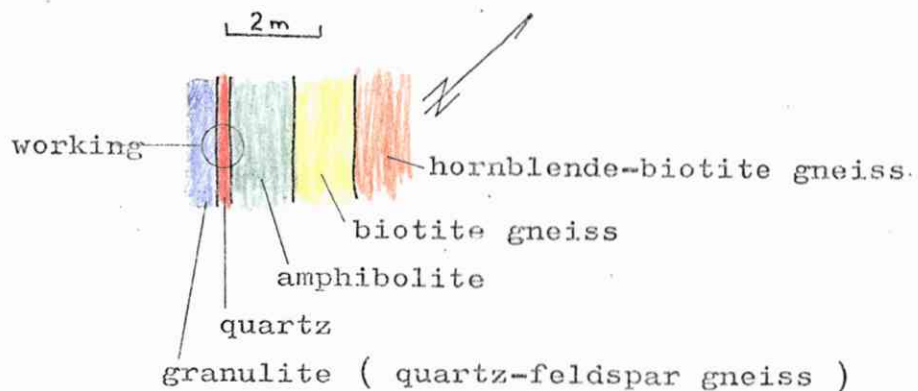
In a fine-grained gneiss with little amphibolite and pegmatitic veins an area of 3 x 1 m has been blasted. Molybdenite is not observed, but a little scheelite occurs.

Locality 45 : Y-22655 , X-75159

At the contact of an amphibolite band and hornblende-biotite gneiss a 30 cm quartz vein is seen. Approx. 3 x 1½ m has been blasted, but no mineralization is observed.

Locality 46 : Y-22656 , X-75131

In a serie of gneisses a 40 cm quartz vein is located at the contact between amphibolite and granulite. Approx. 1 x 1 m is blasted in the vein, which is barren.



Locality 47 : Y-22705 , X-74973

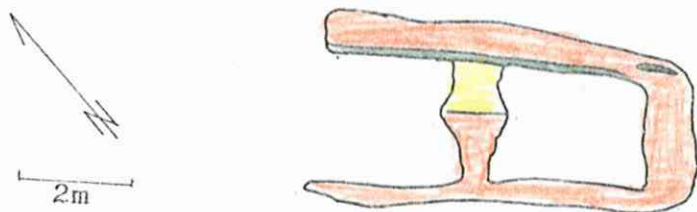
Molybdenite is seen in a 3 cm quartz vein in a banded hornblende-biotite gneiss.

Locality 48 : Y-22685 , X-74985

Scheelite is observed in a leucocratic vein in a 10-15 cm amphibolite band in fine-grained gneiss.

Locality 49 : Y-22535 , X-74908

The locality is a 8 x 2 m trench mainly in hornblende-biotite gneiss with a band of biotite-hypersthene gneiss and a band of amphibolite. The trench has followed quartz veins with molybdenite.

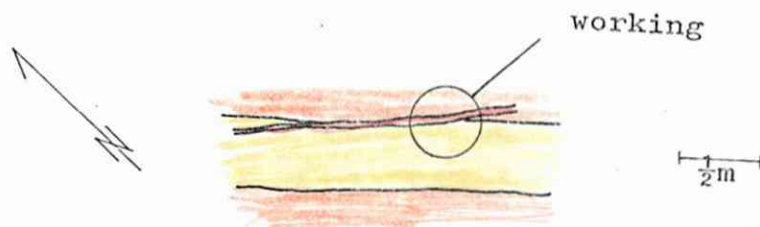


Locality 50 : Y-22543 , X-74898

Here is several small (1 x 1 m) workings in a band of biotite-hypersthene gneiss with amphibolite, where quartz veins with molybdenite and iron-sulphides are traced. The gneiss band is lying in hornblende-biotite gneiss.

Locality 51 : a) Y-22544 , X-74890
b) Y-22550 , X-74893

Locality a) is a blasted area approx $\frac{1}{2} \times \frac{1}{2}$ m in size covering the contact between a band of biotite-hypersthene gneiss and hornblende-biotite gneiss. (NE contact). A thin quartz vein cut the banding (and foliation). The vein is barren.



Locality b) : No reference to this locality in my diary.

Locality 52 : a) Y-22566 , X-74907
b) Y-22568 , X-74903
c) Y-22573 , X-74899
d) Y-22577 , X-74891

Four small (approx. 1 x 1 m) blastings have been carried out in a banded hornblende-biotite gneiss along the foliation following a quartz vein. Rust occurs widespread caused by iron sulphides.

Locality 53 : Y-22558 , X-74942

The size of this working is $1\frac{1}{2}$ x $1\frac{1}{2}$ m and is lying in biotite gneiss with discordant quartz veins, which are barren.

Locality 54 : Y-22566 , X-74947

A 10 x 1 m "trench" has been blasted in connection with quartz veins in a hornblende-biotite gneiss banded by amphibolite. The veins are semiconcordant. Molybdenite and iron sulphides are observed.

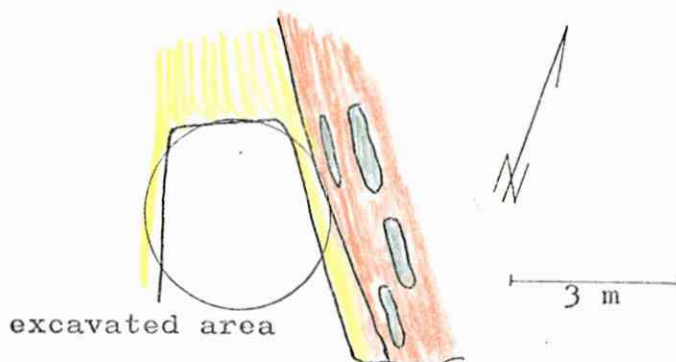
Locality 55 : Y-22587 , X-74957

Two small blastings in a banded hornblende-biotite gneiss with quartz veins. The size is approx. $\frac{1}{2}$ x $\frac{1}{2}$ m. Rust occurs widespread.

Locality 56 : Y-22600 , X-74894

Approx. 7 x 3 metres has been excavated in a biotite

gneiss with several quartz veins. The veins are molybdenite-bearing. To the NE is the contact to hornblende-biotite gneiss with amphibolite. This excavation is lying opposite the entrance to the "Strossekrater" adit.



Locality 57 : Y-22599 , X-74885

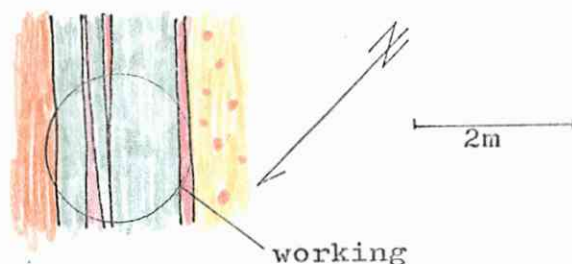
At this location approx. 5 x 1 m has been blasted in a hornblende-biotite gneiss with "inclusions" of amphibolite and a few molybdenite-bearing quartz veins.

Locality 58 : Y-22610 , X-74886

Here the adit leading to Strossekrateret starts. The entrance is at the contact between hornblende-biotite gneiss and biotite-hypersthene gneiss with bands/lenses of amphibolite. Quartz veins with molybdenite and scheelite are common. The veins are up to 40 cm wide. The adit is following the quartz veins and the contact between amphibolite and gneiss. The geological map is shown under locality 61.

Locality 59 : Y-22615 , X-74875

Working over the entrance to Strossekrateret in the general direction of the foliation. The working has a size of 3 x 2 metres and cover an amphibolite band with molybdenite-bearing quartz veins. To the northeast is hornblende-biotite gneiss and to the southwest garnet-biotite-hypersthene gneiss.



Locality 60 : Y-22608 , X-74862

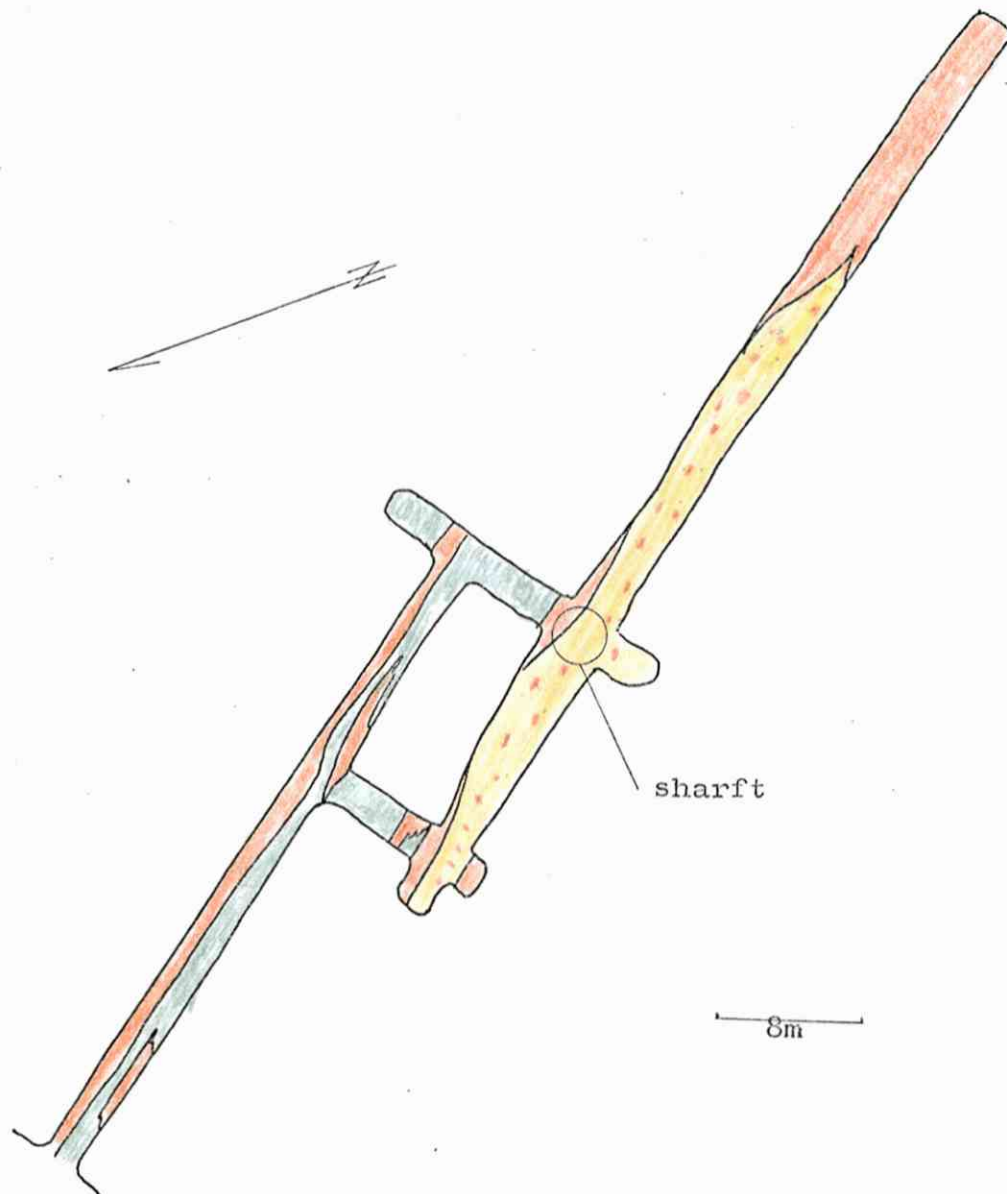
An area of approx 2 x 6 metres has been blasted in garnet-biotite-hypersthene gneiss with leucocratic veins with molybdenite and scheelite.

Locality 61 : Y-22625 , X-74844

A bigger volume has been excavated in connection with a shaft down to transport adit niveau (locality 99). The main part of the excavation is lying in garnet-biotite-hypersthene gneiss with numerous quartz and leucocratic veins with molybdenite, scheelite and possibly also tungstenite. Strossekrateret has primary been mined for molybdenite. The mineralized area is probably lying in a fold-closure, but detailed mapping is necessary.

The shaft is excavated in garnet-bearing gneiss, and most of the western adit follow this gneiss type along the strike. The eastern adit is going in hornblende-biotite gneiss with extensive bands of amphibolite. Scheelite is observed in the amphibolite (disseminated or in leucocratic veins) and in garnet-biotite-hypersthene gneiss. Molybdenite follow the veins.

The east adit is approx. 40 metres long and the western adit approx. 60 metres. The two side adits are 10 and 16 metres long. The cross section is approx. 2 m².



Locality 62 : Y-22639 , X-74838

This locality is an excavation approx. $8\frac{1}{2}$ x $2\frac{1}{2}$ and up to 4 metres high. The working is in hornblende-biotite gneiss with a 30 cm thick quartz vein with molybdenite. Bands and lenses of amphibolite and biotite-hypersthene gneiss are seen.

Locality 63 : Y-22648 , X-74838

An old working approx. 2 x 2 m in size in hornblende-biotite gneiss with molybdenite-bearing quartz veins at the contacts between gneiss and amphibolite.

Locality 64 : a) Y-22673 , X-74837
b) Y-22677 , X-74839

Both localities are old workings in biotite-hypersthene gneiss and amphibolite banded hornblende-biotite gneiss with quartz veins, which are molybdenite-bearing. The size is : a) $3 \times 1\frac{1}{2}$ m and b) 2×2 m.

Locality 65 : Y-22647 , X-74804

A bigger excavation has here been carried out, and the size of the locality is approx. 10×5 and up to 3 metres high. The locality is dominated by biotite-hypersthene gneiss with some biotite gneiss and amphibolite. To the northeast is hornblende-biotite gneiss. The working has followed quartz veins with molybdenite.

The locality is to the southeast of Strossekrateret in the general direction (strike) of the foliation.

Locality 66 : Y-22658 , X-74790

Approx 10 x 3 metres has been excavated in a band of biotite-hypersthene gneiss with quartz veins where little molybdenite is observed. The gneiss band is limited by hornblende-biotite gneiss.

Locality 67 : Y-22735 , X-74628

This is a water filled shaft (depth unknown). The size is approx. 5 x 5 metres. The shaft has probably been named "Myrgruvan", and the exposure is bad . The main rock type is hornblende-biotite gneiss with minor biotite gneiss and amphibolite. In contacts between amphibolite and gneiss, quartz and leucocratic veins are seen. These veins may have grains of molybdenite.

Locality 68 : Y-22749 , X-74627

Molybdenite is observed in quartz veins connected with amphibolite in hornblende-biotite gneiss.

Locality 69 : Y-22773 , X-74616

Several small approx. 1 x 1 m blastings in hornblende-biotite gneiss with bands of biotite gneiss and amphibolite. Molybdenite is located in quartz veins

close to the amphibolite.

Locality 70 : Y-22779 , X-74598

Correspond with locality 69.

Locality 71 : Y-22690 , X-74534

Molybdenite-bearing quartz vein in hornblende-biotite gneiss with amphibolite.

Locality 72 : Y-22695 , X-74538

An area of approx. $5 \times \frac{1}{2}$ m has been blasted. The rock types are hornblende-biotite gneiss with some amphibolite and biotite-hypersthene gneiss. Quartz veins with molybdenite occur.

Locality 73 : Y-22225 , X-75031

Here an area of $1\frac{1}{2} \times 0.3$ m in a rusty biotite gneiss with thin (2-5 cm) quartz veins has been blasted. Mineralizations are not observed.

Locality 74 : Y-22055 , X-75087

This locality was called Glubo skjæringen, and belongs together with locality 75, 76, 77, 78, 79, 80, 81 and 82 to the so-called Hovland Gruber.

This locality is a short adit approx. 15 metres long with a cross section approx. 2 x 2 metres. The main rock type is hornblende-biotite gneiss with little fine-grained gneiss and amphibolite. The adit is lying in an joint zone with extensive alteration. Quartz veins is found in the excavated material, but no mineralizations are seen.

Locality 75 : Y-22078 , X-75069

This working is approx. 4 x $\frac{1}{2}$ meter in size and cover the contact between hornblende-biotite gneiss to the southwest and biotite gneiss to the northeast with quartz veins, which are mineralized with molybdenite.

Locality 76 : a) Y-22090 , X-75065
b) Y-22096 , X-75062

Locality a and b are small - approx. 1 x 1 m, and the blastings have been carried out in hornblende-biotite gneiss with little amphibolite and a few barren quartz veins.

Locality 77 : Y-22111 , Y-75050

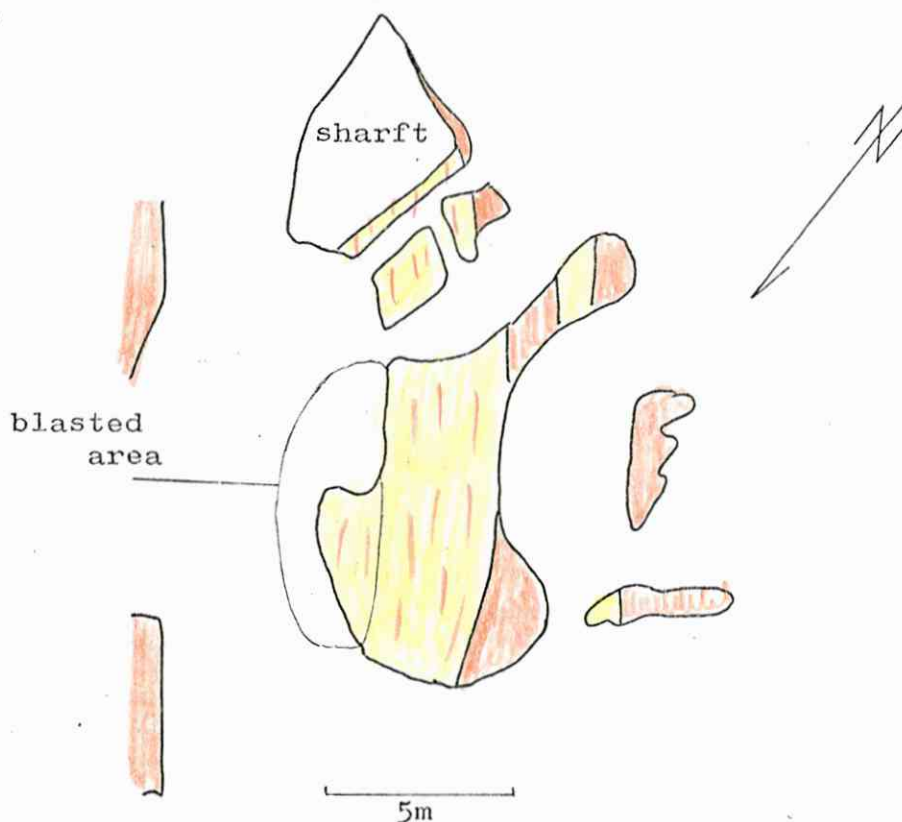
Over the contact hornblende-biotite gneiss and biotite gneiss a $1\frac{1}{2}$ x 1 m area has been blasted. Few quartz veins occure. The locality is very rusty, and some molybdenite may occure.

Locality 78 : Y-22140 , X-75018

The blasted area is $1 \times \frac{1}{2}$ m , and is carried out in connection with molybdenite-bearing quartz veins at the contact between biotite gneiss (NE) and hornblende-biotite gneiss (SW).

Locality 79 : Y-22179 , X-74998

A 5 x 3 metres sharft has here been excavated in biotite gneiss with numerous molybdenite- and scheelite-bearing quartz veins. The sharft is water filled. This locality together with an adit (locality 82) has been called Hovland Grube.



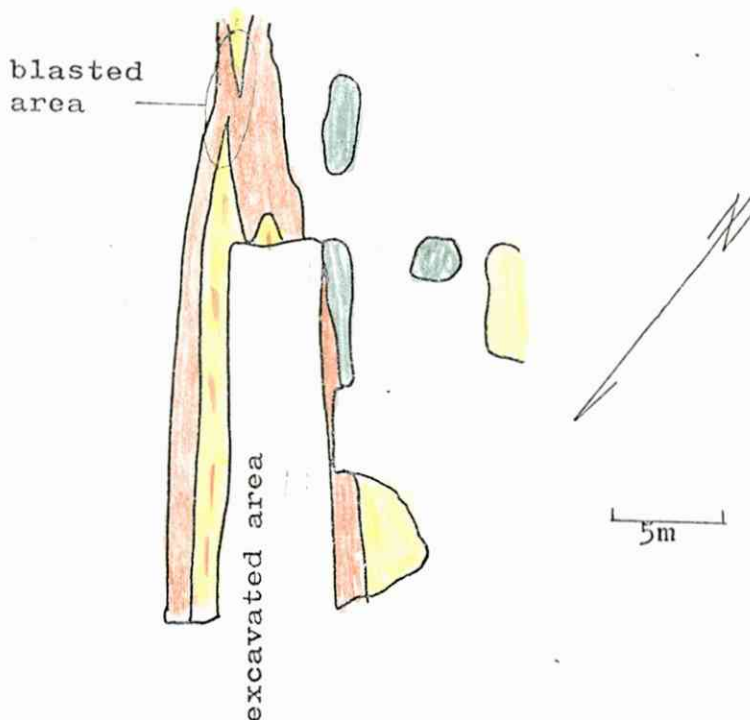
Locality 80 : Y-22194, X-74986

A bigger area has been blasted in a biotite gneiss with quartz veins. Only little molybdenite is observed. The size is approx. 10 x 10 metres.

Locality 81 : Y-22230 , X-74966

A big rock volume has been excavated in a biotite gneiss with quartz veins. The veins are mineralized with scheelite and molybdenite. Molybdenite is also observed in the gneiss. The working is lying in a fold closure.

This mineralization differ from Schaanings Gruben, Wolfram Synken and Strossen and Strossekrateret as a garnet-bearing gneiss is absent.



Locality 82 : Y-22144 , X-74965

Adit going to a position under the sharft (locality 79). The length of the adit is approx. 50 metres and the cross section 2 m^2 . The walls are very dusty and have not been mapped. The major part of the adit go through hornblende-biotite gneiss with minor bands of fine-grained gneisses and amphibolite. Only little scheelite is located in the adit, and it has been in connection with amphibolite. A sharft in the end of the adit is now inaccessible.

Locality 83 : Y-22318 , X-74880

This location is a $2 \times \frac{1}{2}$ m working in a band of biotite gneiss in hornblende-biotite gneiss. The width of the band is $2\frac{1}{2}$ meter. On the southwestern contact quartz veins are seen, and molybdenite occurs. The locality is very rusty.

Locality 84 : Y-22325 , X-74876

In a $2\frac{1}{2}$ meter biotite gneiss band in hornblende-biotite gneiss an area of $1 \times \frac{1}{2}$ meter has been blasted. Quartz veins are seen with molybdenite and iron sulphides. Rust is abundant.

Locality 85 : Y-22335 , X-74868

A small $\frac{1}{2} \times \frac{1}{2}$ m blasted area in biotite gneiss close to hornblende-biotite gneiss (NE). The biotite

gneiss band has a few barren quartz veins, but rust is common.

Locality 86 : Y-22350 , X-74865

This locality is at the eastern contact between a $1\frac{1}{2}$ meter biotite gneiss band in hornblende-biotite gneiss. Quartz veins mineralized with molybdenite occur. The size of the working is 1 x 0.1 m.

Locality 87 : Y-22399 , X-74850

At this locality quartz veins with molybdenite are seen in biotite gneiss. Approx. $3 \times \frac{1}{2}$ metres has been blasted.

Locality 88 : Y-22405 , X-74844

This locality correspond with locality 87, but only $\frac{1}{2} \times \frac{1}{2}$ meter has been blasted.

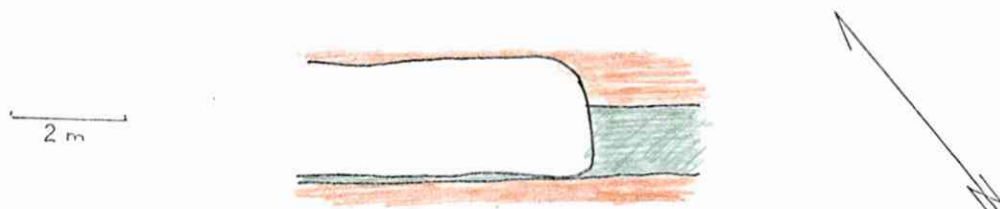
Locality 89 : Y-22413 , X-74836

This old working also correspond to locality 87, and approx. $\frac{1}{4} \times \frac{1}{4}$ has been blasted.

Locality 90 : Y-22150 , X-74819

Locality 90 & 91 have been called Hellern skjerpene. At locality 90 approx. 2 x 4 metres have been excavated

in a amphibolit band with molybdenite-bearing quartz veins. The amphibolite is surrounded by hornblende-biotite gneiss.



Locality 91 : Y-22164 , X-74806

A 35 metres long adit has been excavated here. The cross section is 2 m². The adit follow a band of fine-grained gneiss in hornblende-biotite gneiss. Amphibolite is associated with the gneiss band, and scheelite is located i connection with leucocratic veins in or near the amphibolite. In the excavated material molybdenite in quartz is seen. The mineralized horizon can be followed partly through the adit.

Locality 92 : Y-22083 , X-74653

This locality is called Nyskjerpene. A rock volume of approx 10 x 10 x 3 metres has been excavated. At the locality up to $\frac{1}{2}$ meter thick quartz veins with molybdenite are seen. The veins occurs at the contact between amphibolite and biotite gneiss , in biotite gneiss and in hornblende-biotite gneiss.

Locality 93 : Y-22098 , X-74616

At this locality a quartz veins is seen in biotite gneiss, The vein is barren. Approx $2\frac{1}{2}$ x 1 m is blasted.

Locality 94 : Y-22125 , X-74607

An area of $3 \times \frac{1}{2}$ meter is blasted in an amphibolite with a 30 cm thick quartz vein, which is barren.

Locality 95 : Y-22254 , X-74534

At this locality an approx. 25 x 10 m big lens of garnet-biotite-hypersthene is seen. Leucocratic veins are common, and scheelite is observed. The content of sulphides is low, and molybdenite is not seen. The lens is lying in hornblende-biotite gneiss, which is followed by amphibolite after 2 metres in northern direction. Foliation : $113^{\circ}/44$ - N.

Locality 96 : Y-22248 , X-74734

Approx. $3 \times \frac{1}{2}$ m has been blasted in fine-grained gneiss with molybdenite-bearing leucocratic and quartz veins. Iron sulphides are common. Little amphibolite is seen.

Locality 97 : Y-22214 , X-74744

A small - $\frac{1}{2} \times \frac{1}{2}$ m blasting in biotite gneiss in

hornblende-biotite gneiss. Quartz veins with molybdenite are observed.

Locality 98 : Y-22180 , X-74785

An $1\frac{1}{2}$ meter wide biotite gneiss band with molybdenite-bearing quartz veins surrounded by hornblende-biotite gneiss has been blasted (1 x 1 m). The rocks are rusty, and iron sulphides are observed. Foliation : 140° / 48 - NE.

Locality 99 : Y-22743 , X-74908

This transport adit is approx 140 metres long, and the cross section 2 m^2 . The walls in the adit is very dusty and have therefore not been mapped. The geology is dominated by hornblende-biotite gneiss with minor sections with fine-grained gneisses and amphibolites. In connection with the amphibolite scheelite is observed.

Locality 100 : Y-22631 , X-75038

DDH 230 : Length - 153.8 m , direction - 231° , dip - 50° . 777 m.a.s.l.

Locality 101 : Y-22582 . X-75112

DDH 227 : Length - 137.3 m , direction - 226° , dip - 49° . 784 m a.s.l.

Locality 102 : Y-22565 , X-75144

DDH 232 : Length - 224.0 m , direction - 227° , dip - 55° . 776 m a.s.l.

Locality 103 : Y-22538 , X-75189

DDH 228 : Length - 177.1 m , direction - 234° , dip - 41° . 768 m a.s.l.

DDH 229 : Length - 235.4 m , direction - 234° , dip - 70° . 768 m a.s.l.

DDH 231 : Length - 219.95 m , direction - 223° , dip - 55° . 768 m a.s.l.

Locality 104 : Y-22581 , X-75223

DDH 233 : Length - ³207.0 m , direction - 227° , dip - 65° . 759 m a.s.l.

6. GEOLOGICAL MAP IN 1:100

The geology around Wolfram Synk and Wolfram Strosse is very complicated, and a map in 1:100 was made. A 5 x 5 metre grid was laid out in the area to help in the geological mapping. The accuracy is not very good, but the map gives a reasonable good impression of the very complicated geology and intense folded structure.

The mineralization in this area is connected with thick quartz veins parallel with the general direction of the foliation and with folded leucocratic and thin quartz veins in garnet-biotite-hyperstene gneiss. The thick quartz veins are possibly axialplane veins in a fold-closure.

7. CONCLUSION

The drillings this year have partly showed the extension of the previously located mineralization in DDH nos 228 & 229 in vertical and SE direction.

The drill cores do not seem to have intersected extensive mineralizations (new), but it is now more clear, that amphibolite plays an important role in the mineralization history of the area, as ore minerals is normally observed in or close to this rock type.

The geological work in the area has showed, that the structure is more complicated than previously thought, but I have now the impression, that the mineralizations at Wolfram Synk/ Wolfram Strosse, Strossekrater and Schaanings Grube is associated with quartz veins. These quartz veins have probably an origin as metamorphic mobilations as axialplane veins in foldclosures generally associated with a garnet-bearing rock. As the ore minerals were mobilized and concentrated in the quartz veins, these veins have shown the richest mineralizations in the area.

The more poor mineralizations are mainly associated with amphibolite and (garnet)-biotite-hypersthene gneiss, and have probably a primary volcanogenetic origin with secondary mobilations at leucocratic veins (metamorphic). The hornblende-biotite gneiss was probably an (augen) granite.

I am of the conviction that rich mineralizations may still be located in the area.

8. PROPOSALS TO FUTURE WORK AT THE PLATEAU

The "ore zone" must be mapped in scale 1:1000 and some complicated areas in fx. 1:100 (Strossekrater area). The geology may be used to locate new drill sites.

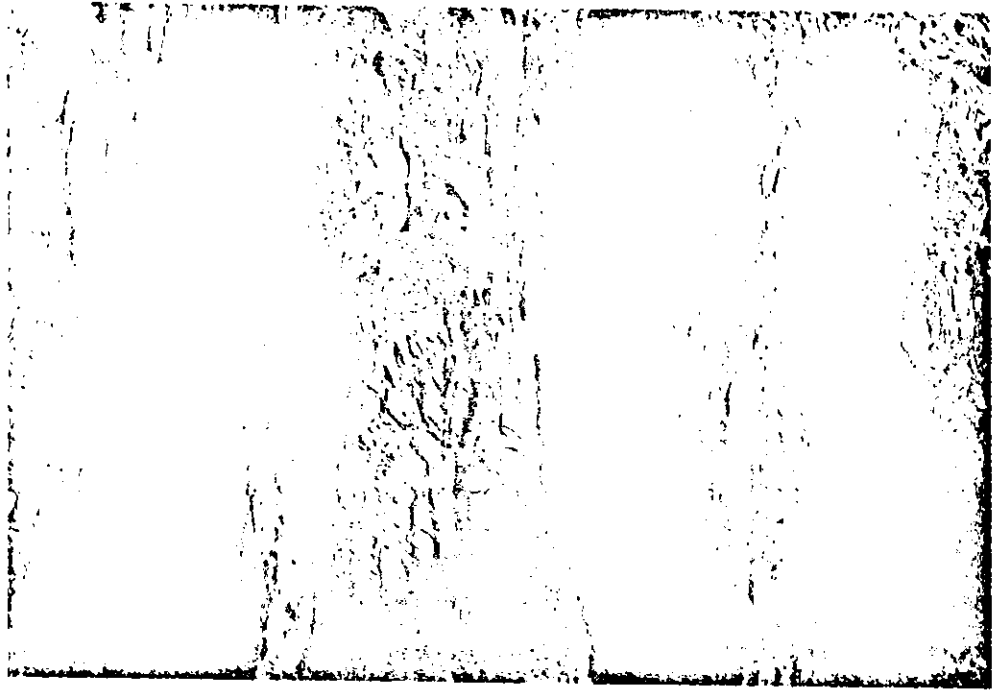
Because of the complicated geology, it may be necessary to drill systematic with drill sites spaced no more than 50 metres at the same line used up to now, combined with a line more to the SW. The 50 metres spacing is proposed as the known mineralizations have an extension of approx 50 x 50 x 3 metres.

Short drill holes to establish the extension and grade of the already known mineralizations is necessary (smaller core diameter may be used than previous).

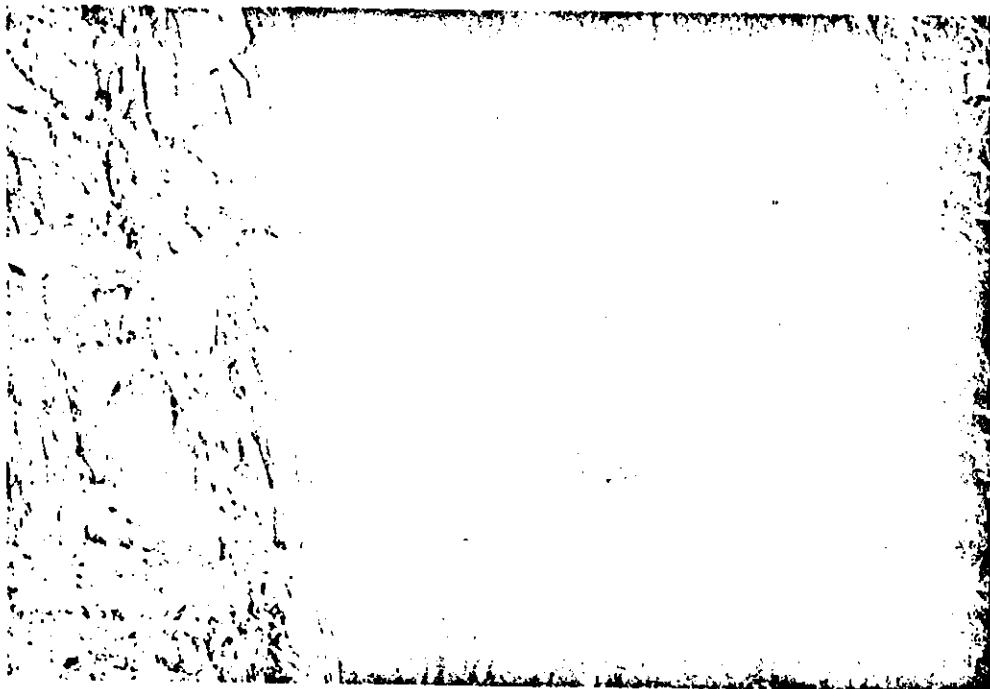
9. FOTOS



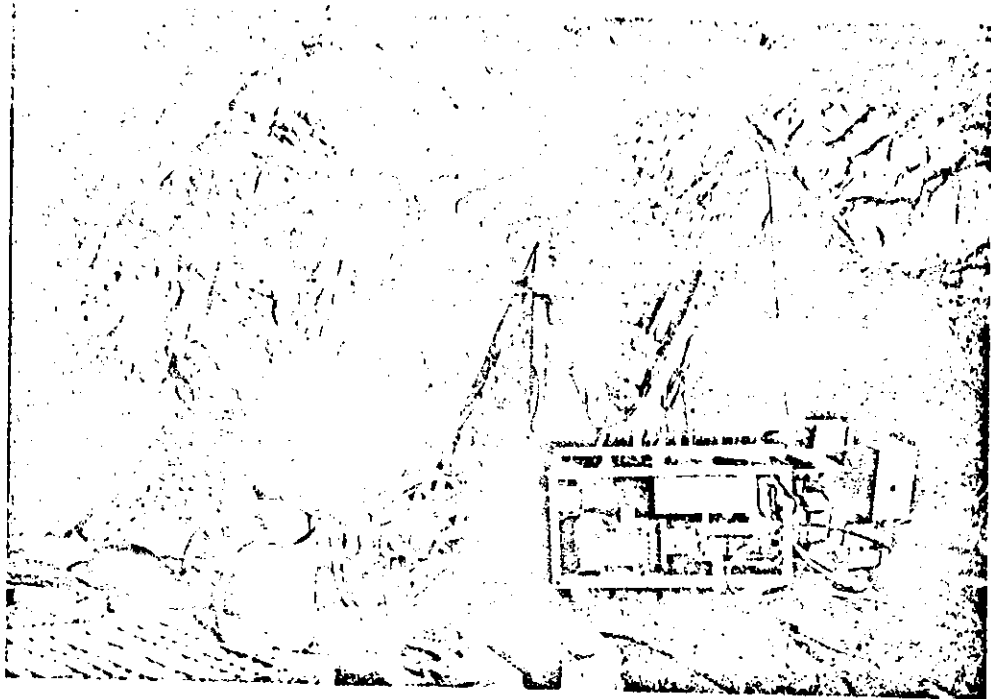
Garnet-biotite-hypersthene gneiss with
leucocratic veins mineralized with
molybdenite - Wolfram Synk area.



Schaanings Gruben seen from a helicopter



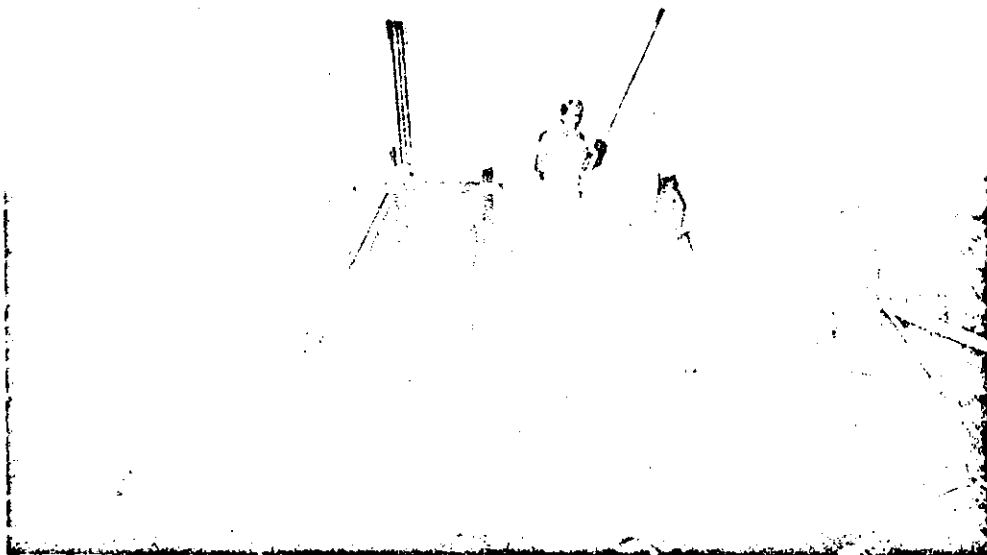
Schaanings Gruben



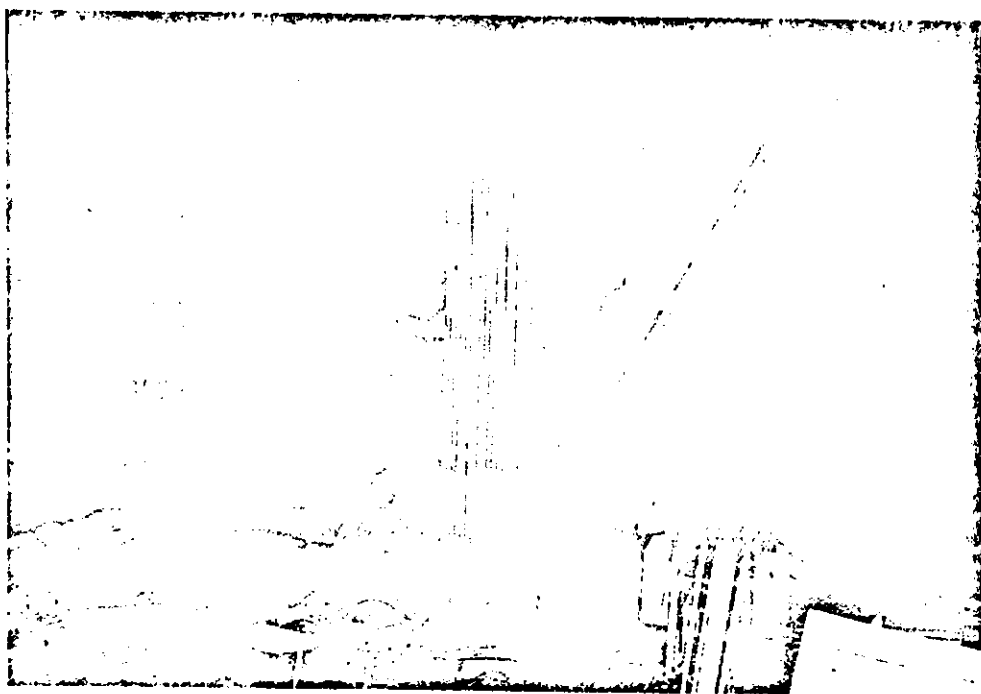
Drill side - Ørdsalen 1981. DDH no. 233.
Equipment - Diamec 251.



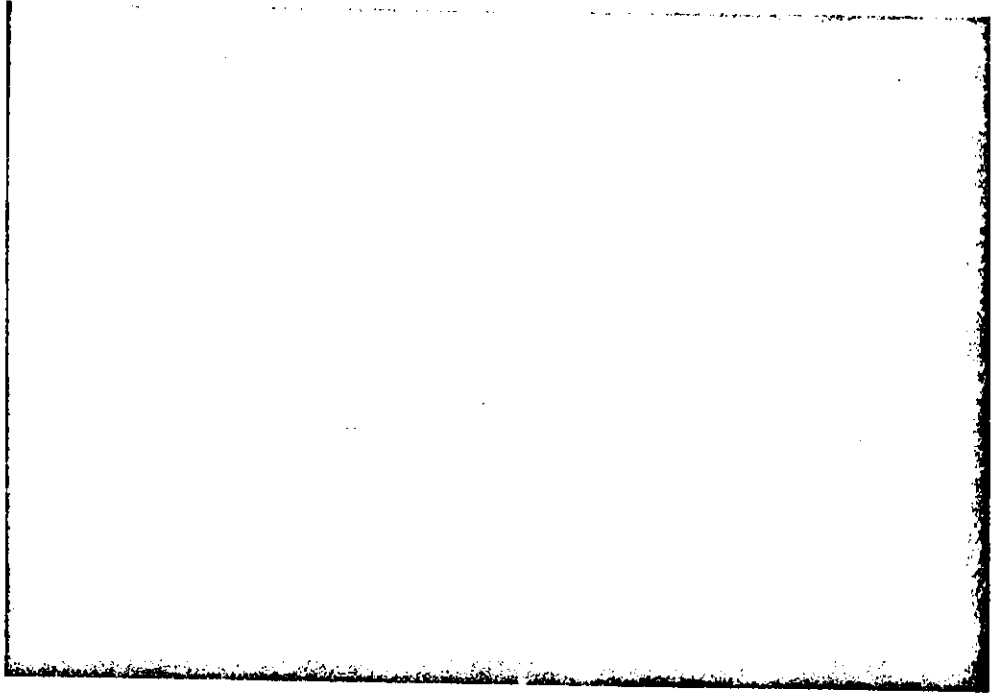
The mountain plateau and the upper part
of the slope to Ørdsalen with the old
mine - Schaanings Gruben. From helicopter.



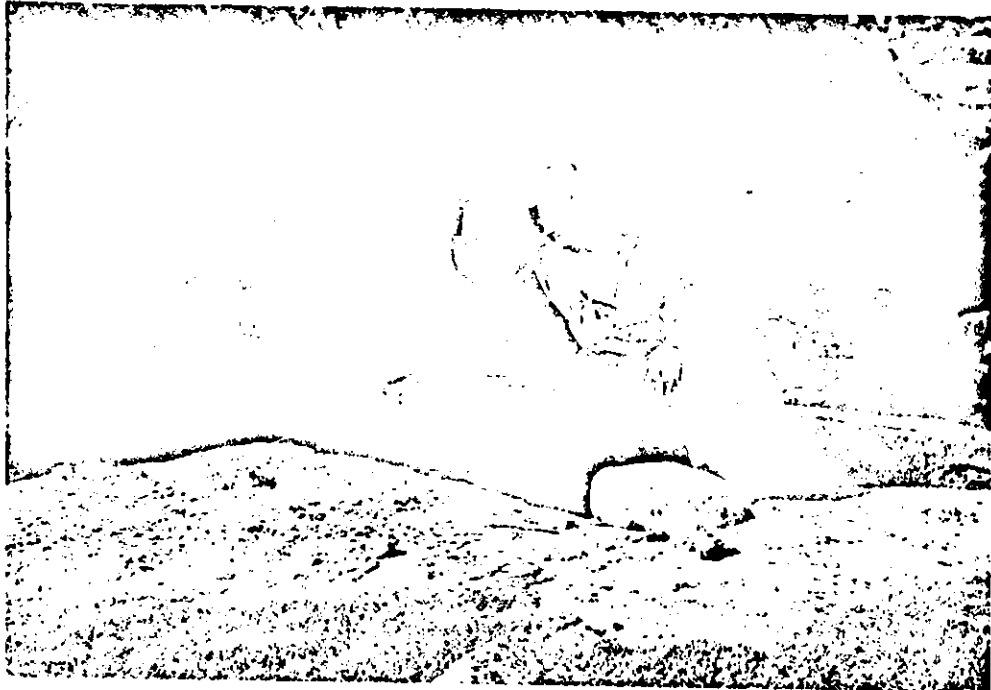
Drill side at the mountain plateau in
Ørsdalen. DDH no. 231 . Equipment -
Diamec 250.



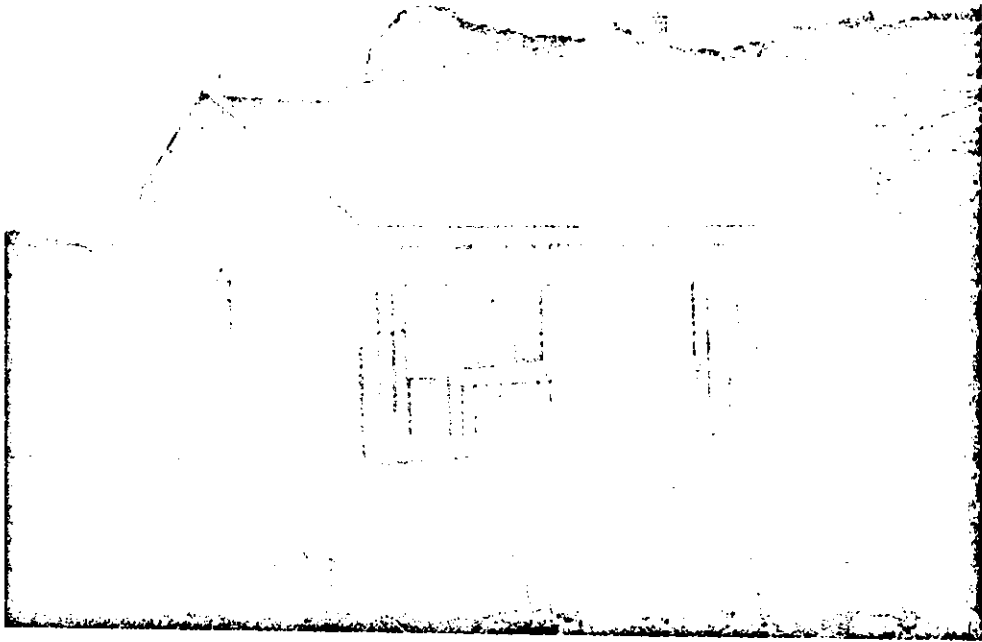
Drill side - Ørsdalen 1981



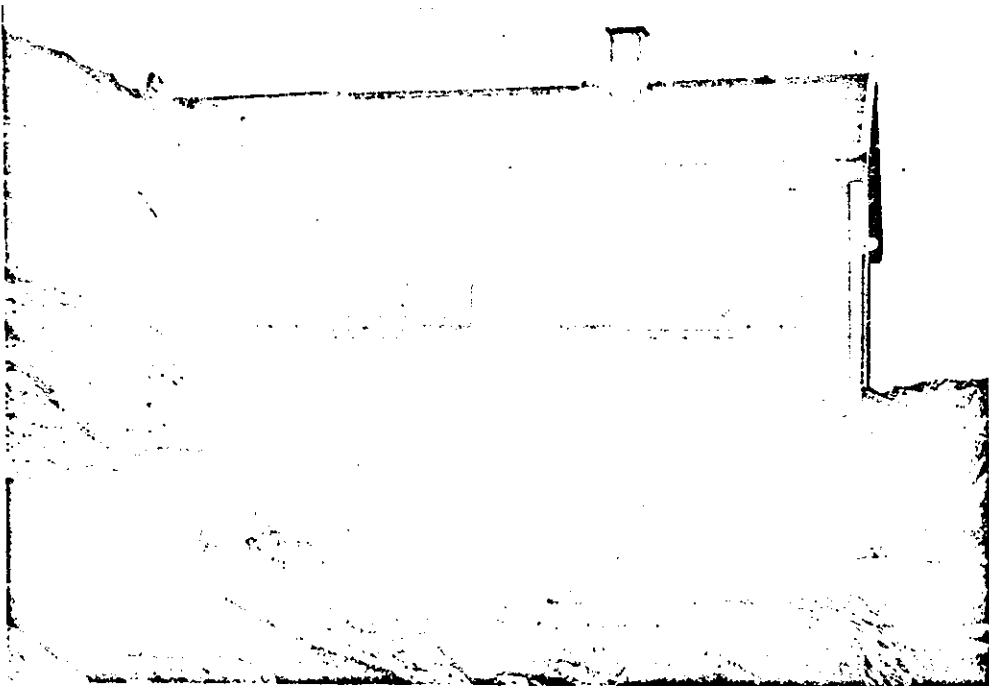
Surveying in rainy weather- "Transportstollen"-
Strossekrateret.



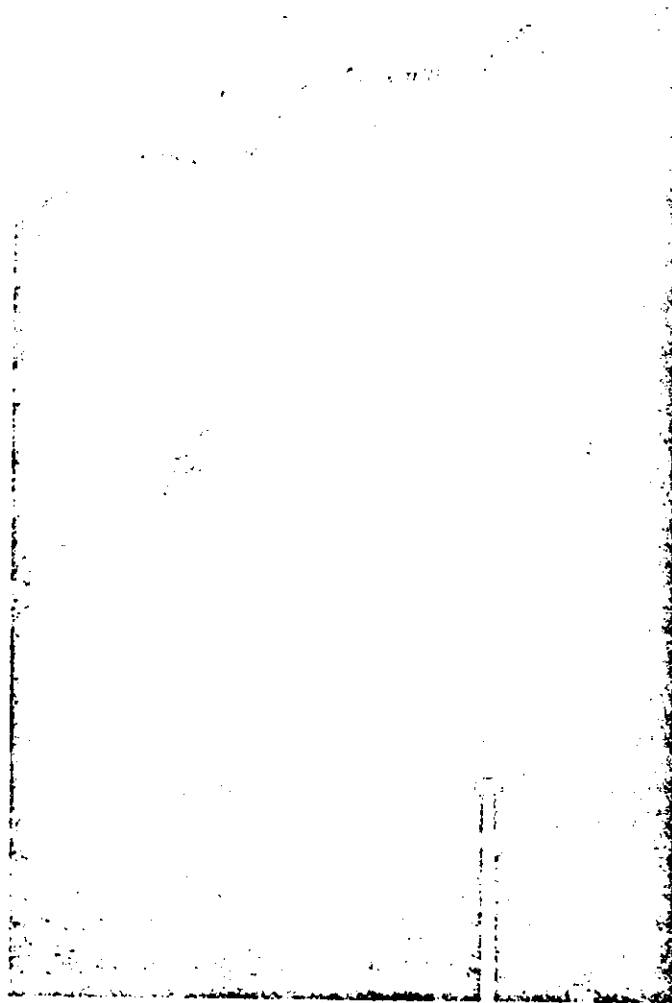
Olav Limyr



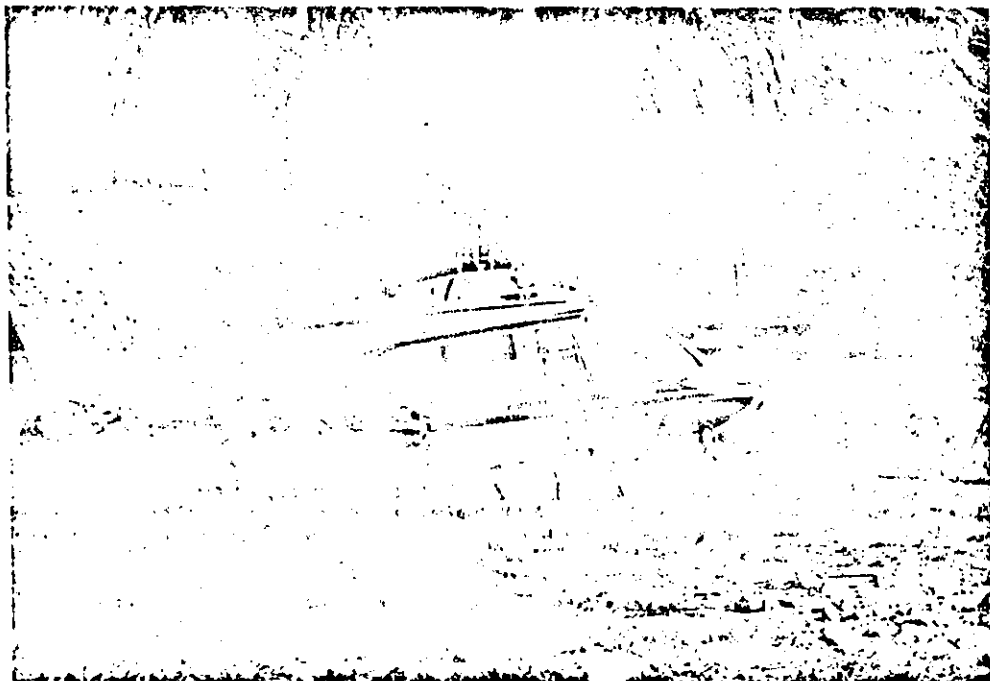
House at the plateau near Wolfram-synken under restoration - from south .



House seen from northwest.



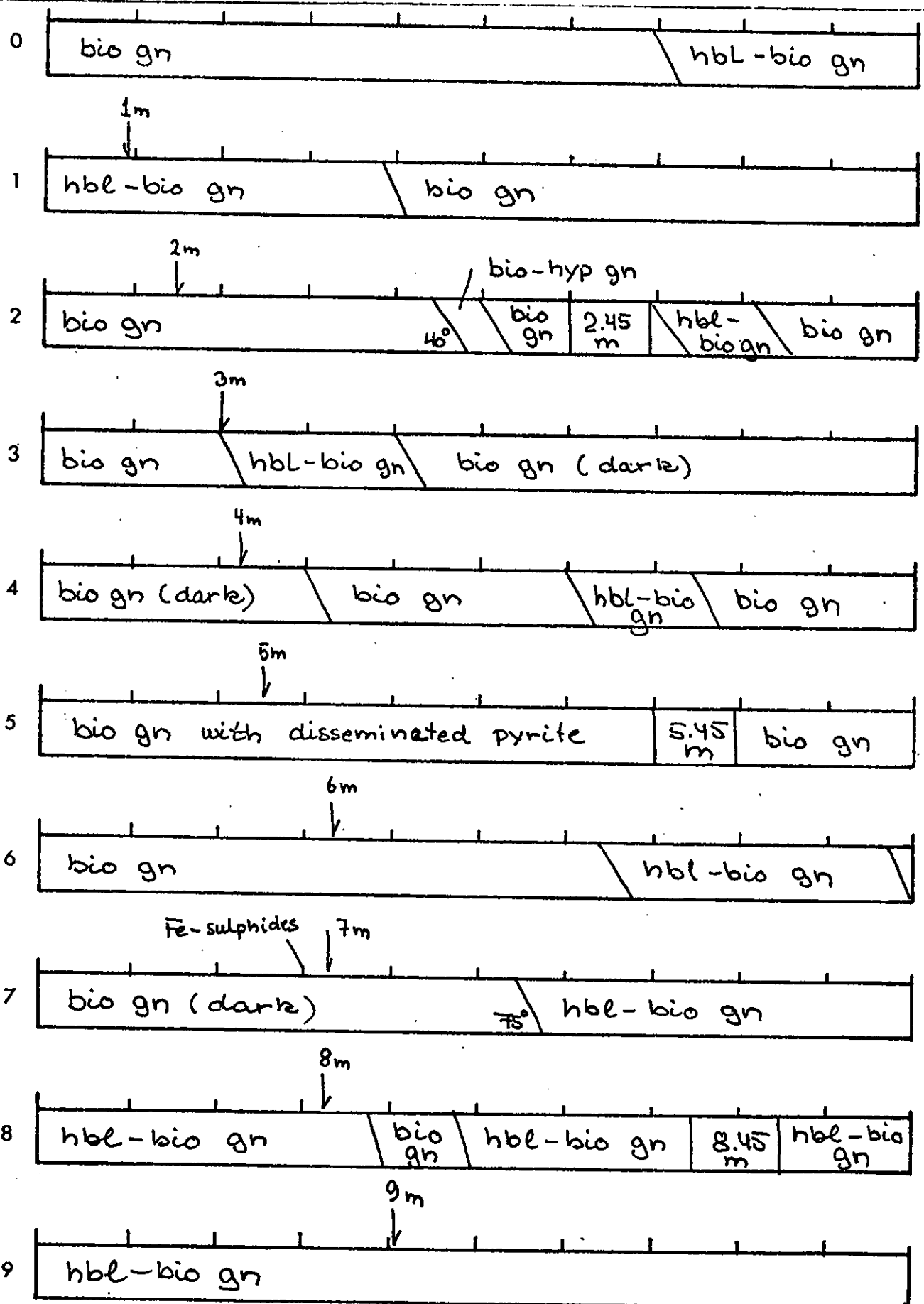
"Gudlen"- Ørsdalen, Norway

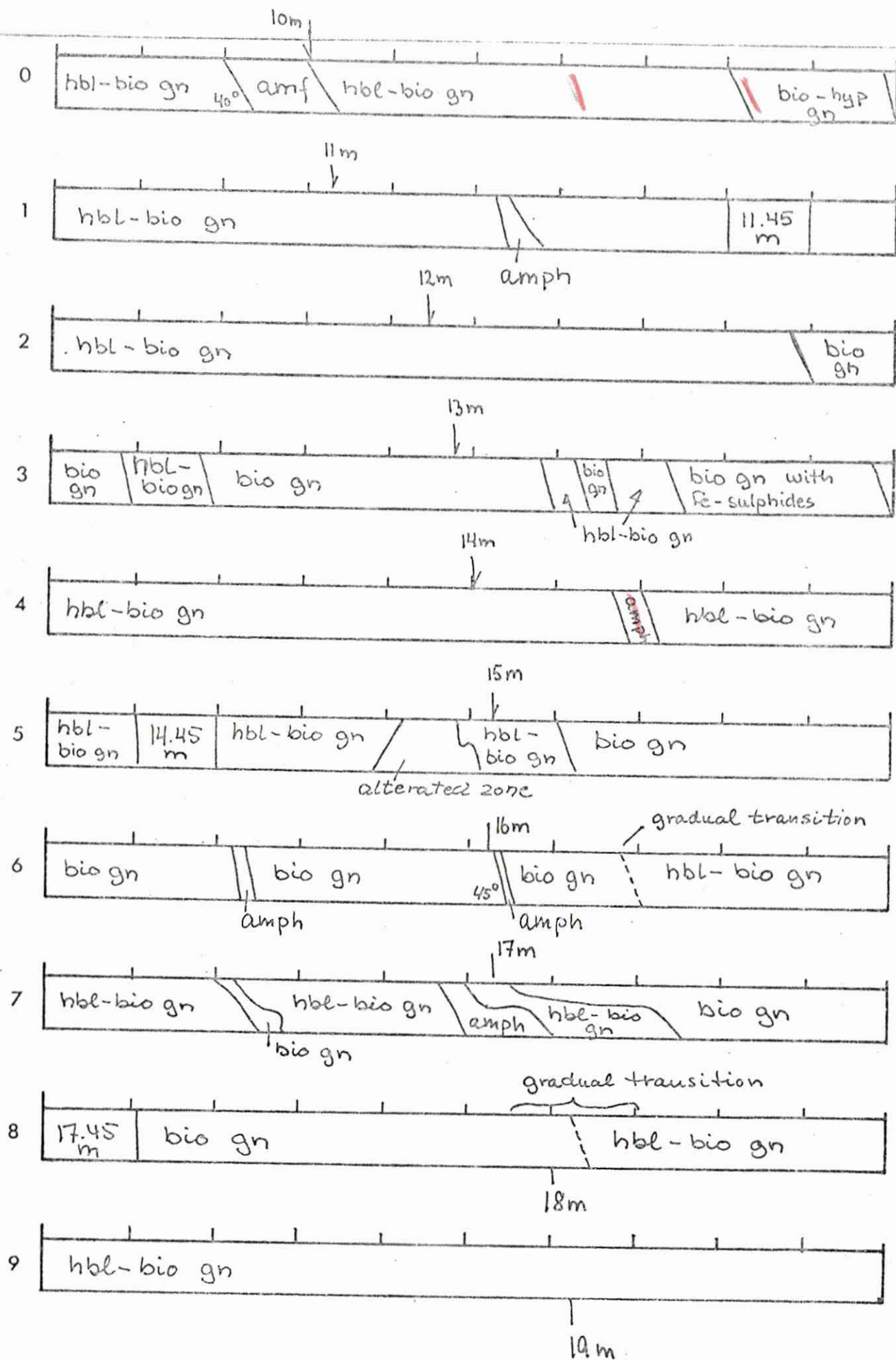


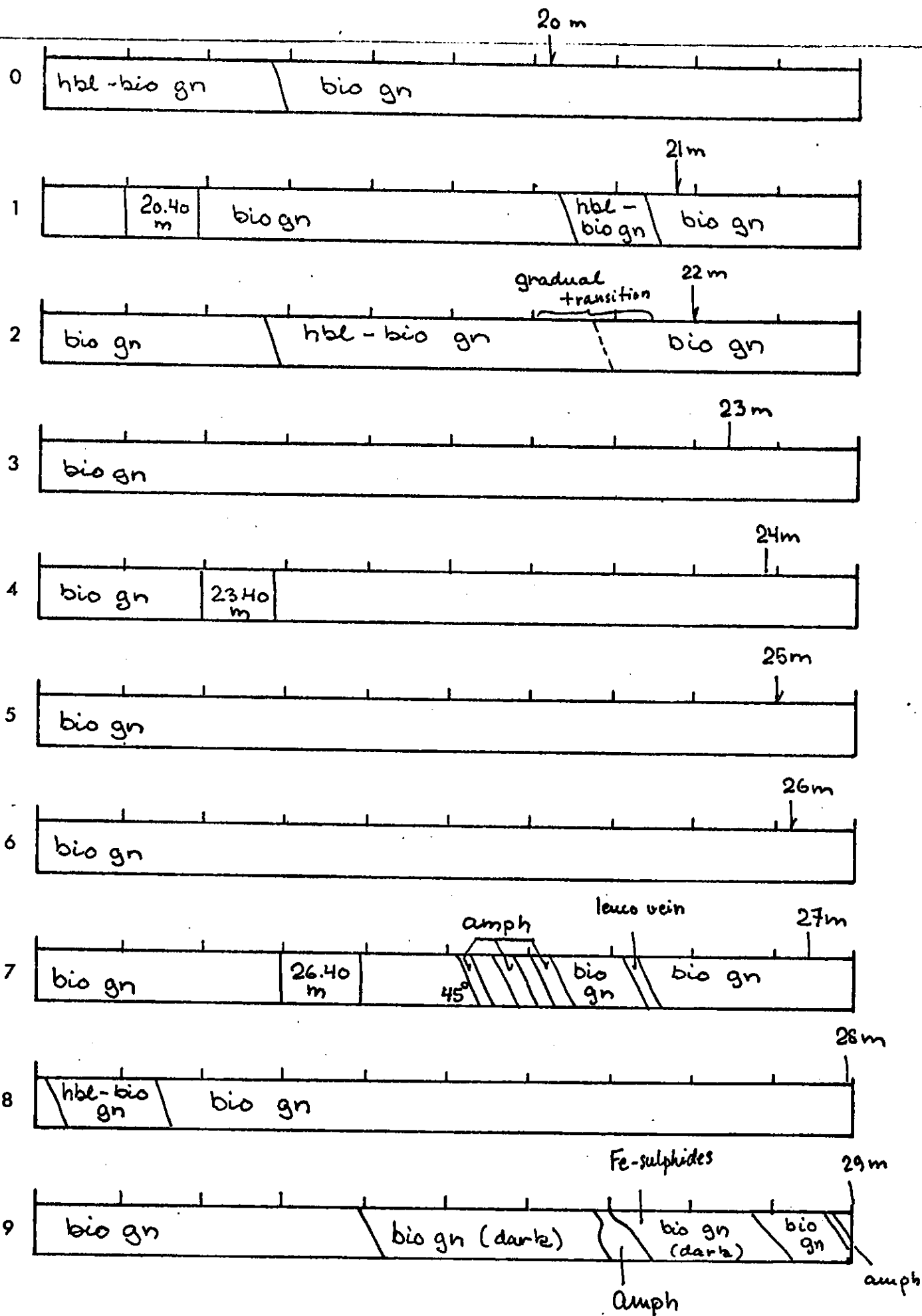
Re-fueling in Ørsdalen 1981.

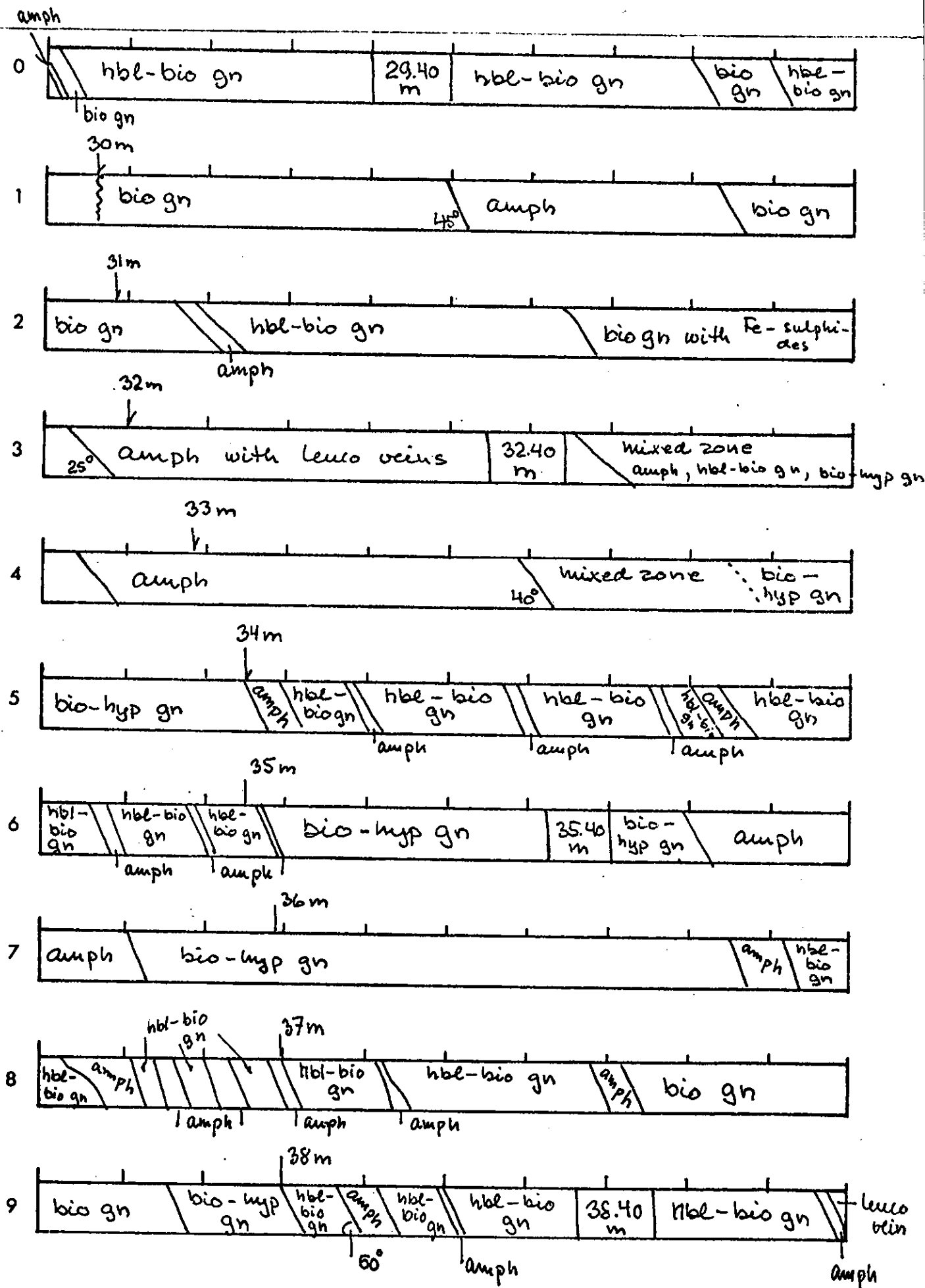
10 . APPENDIX - DESCRIPTIONS OF DRILL CORES

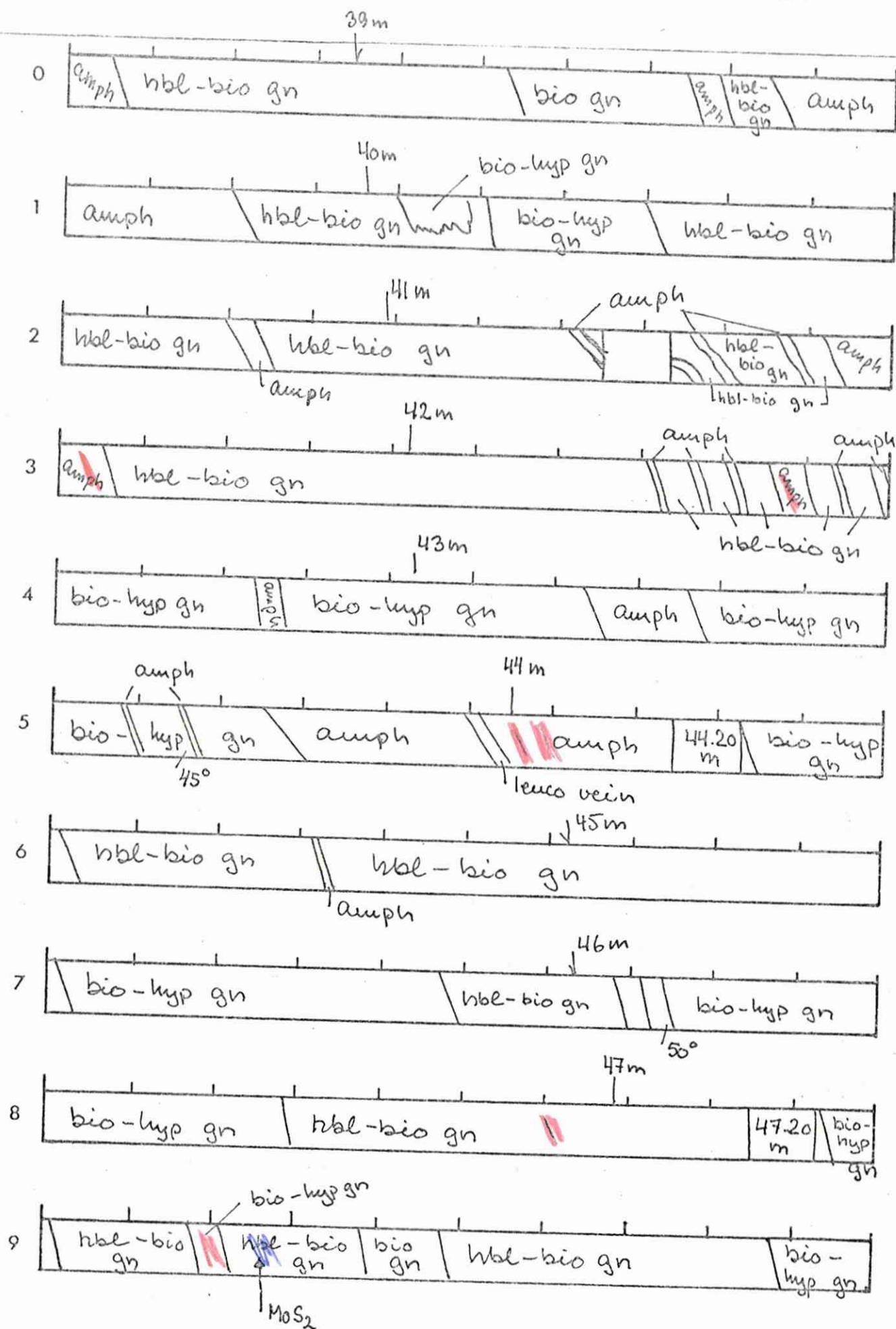
Description of drill cores from DDH nos. 231,
232 and 233.

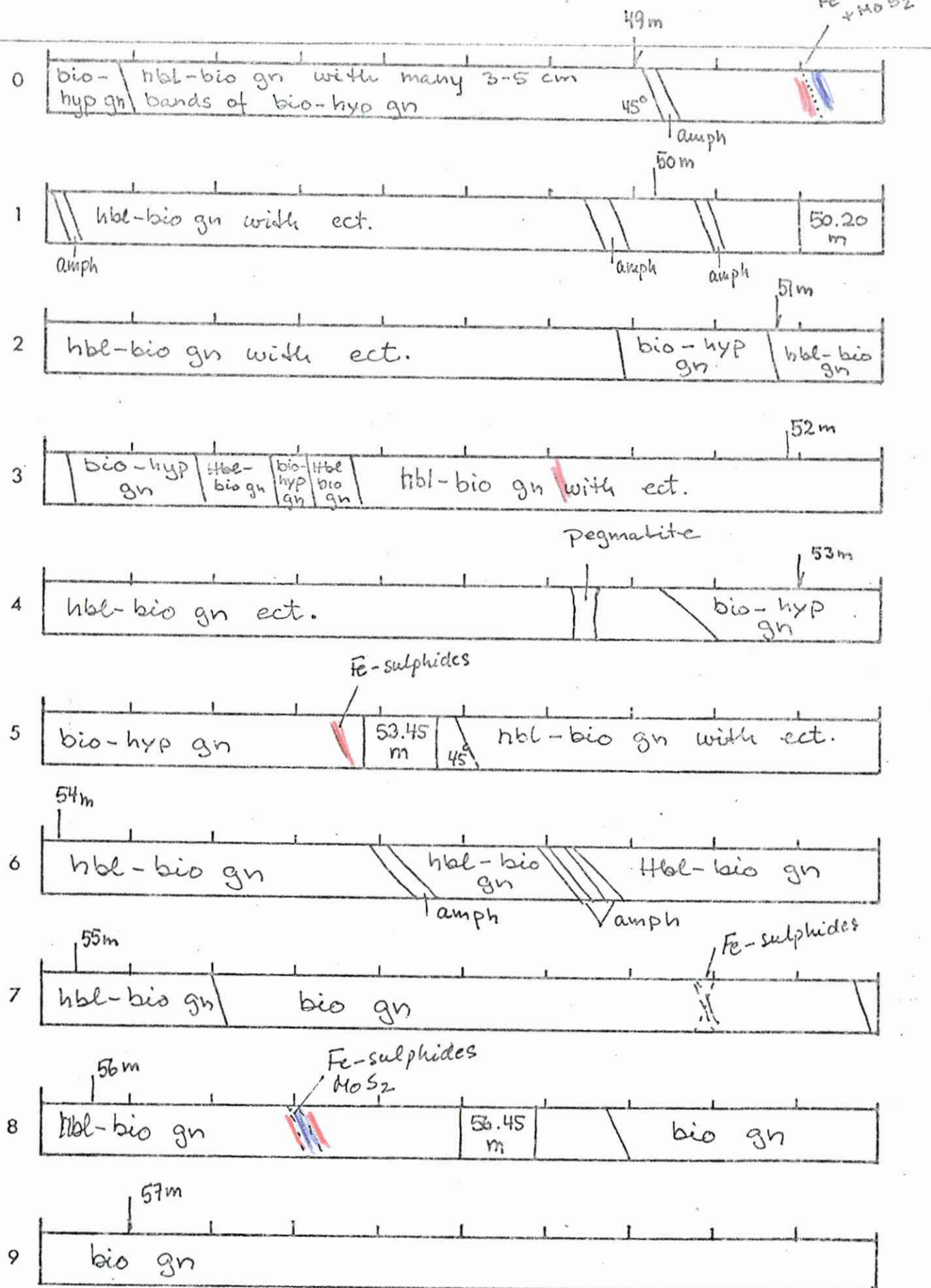


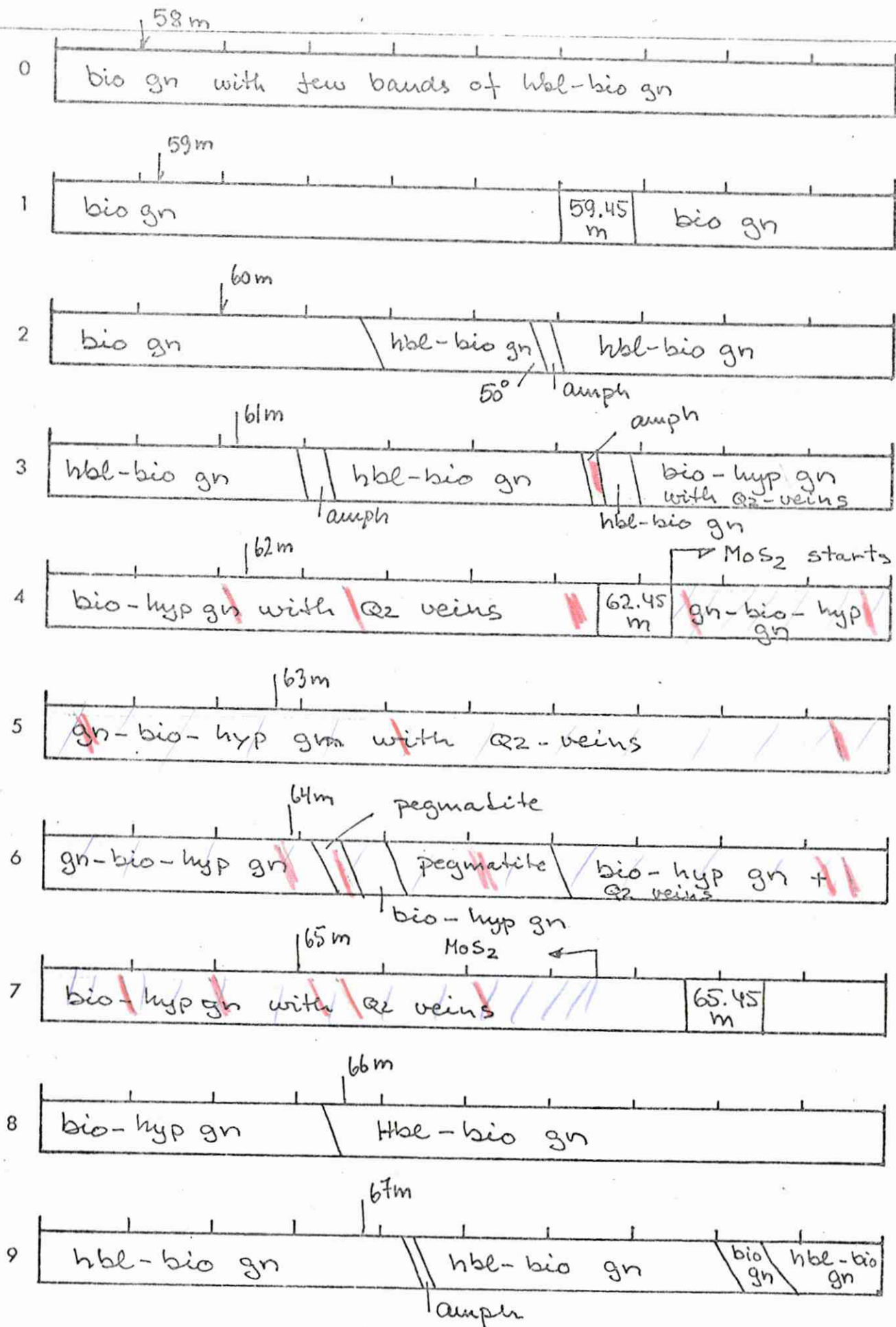


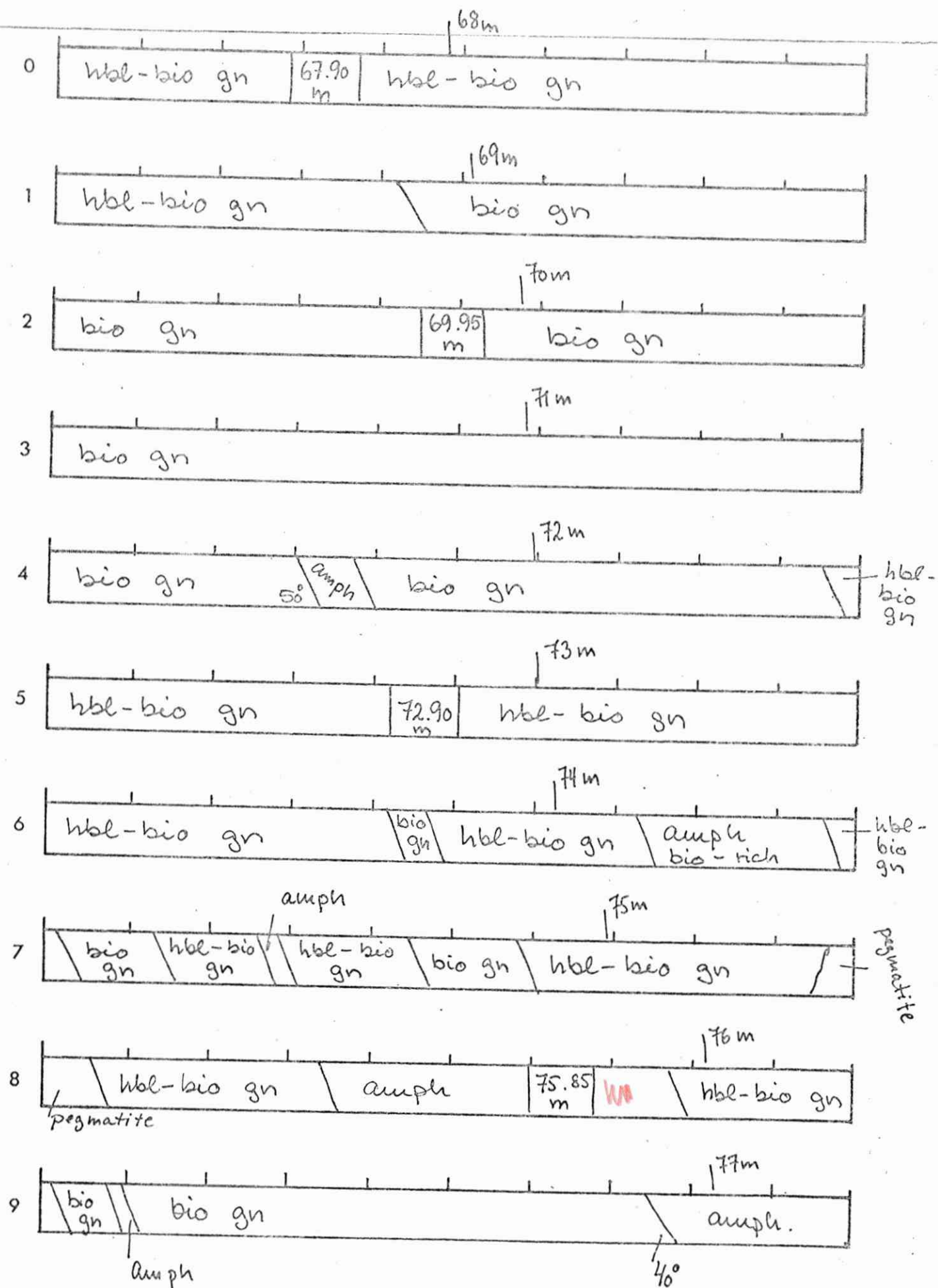


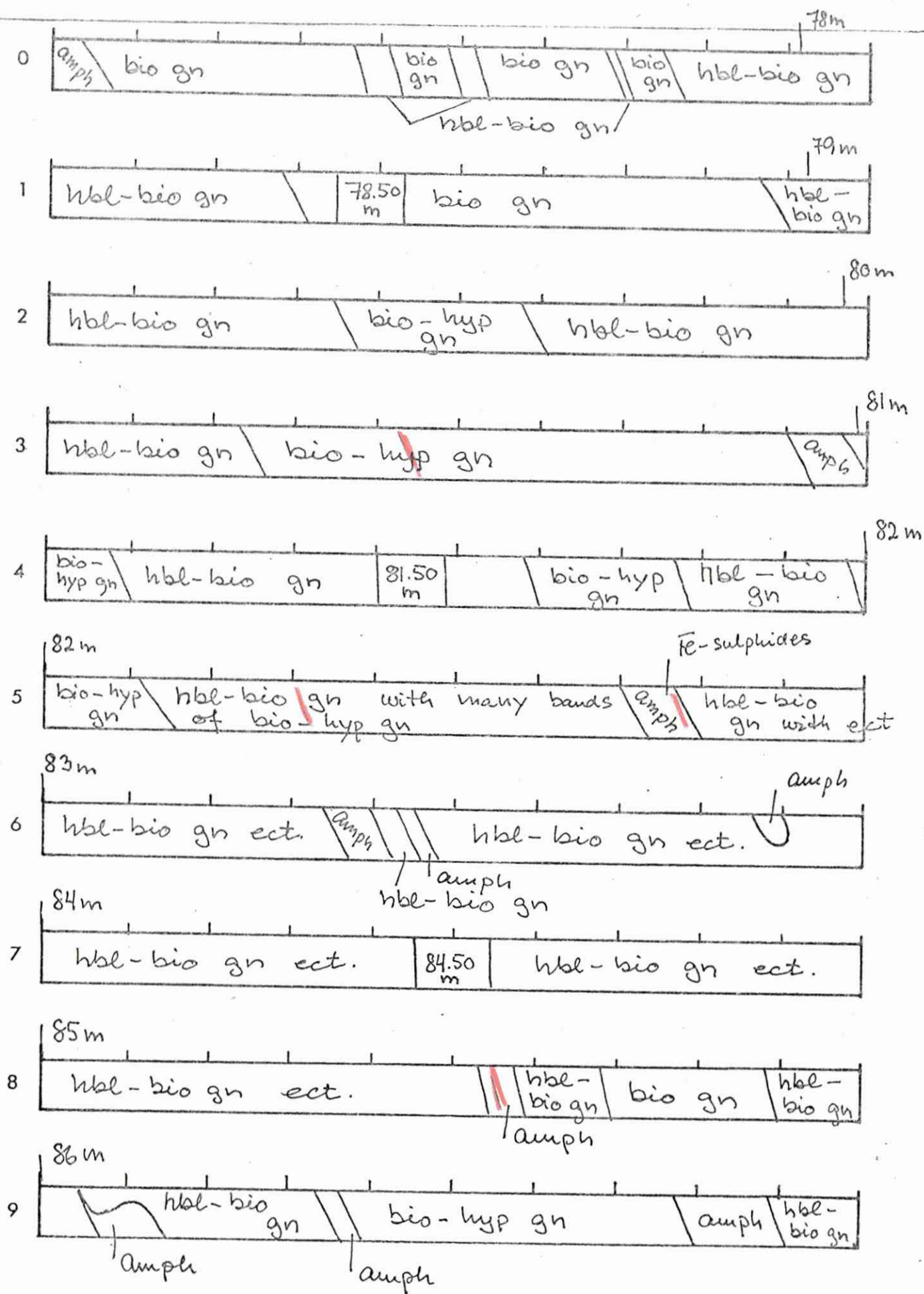


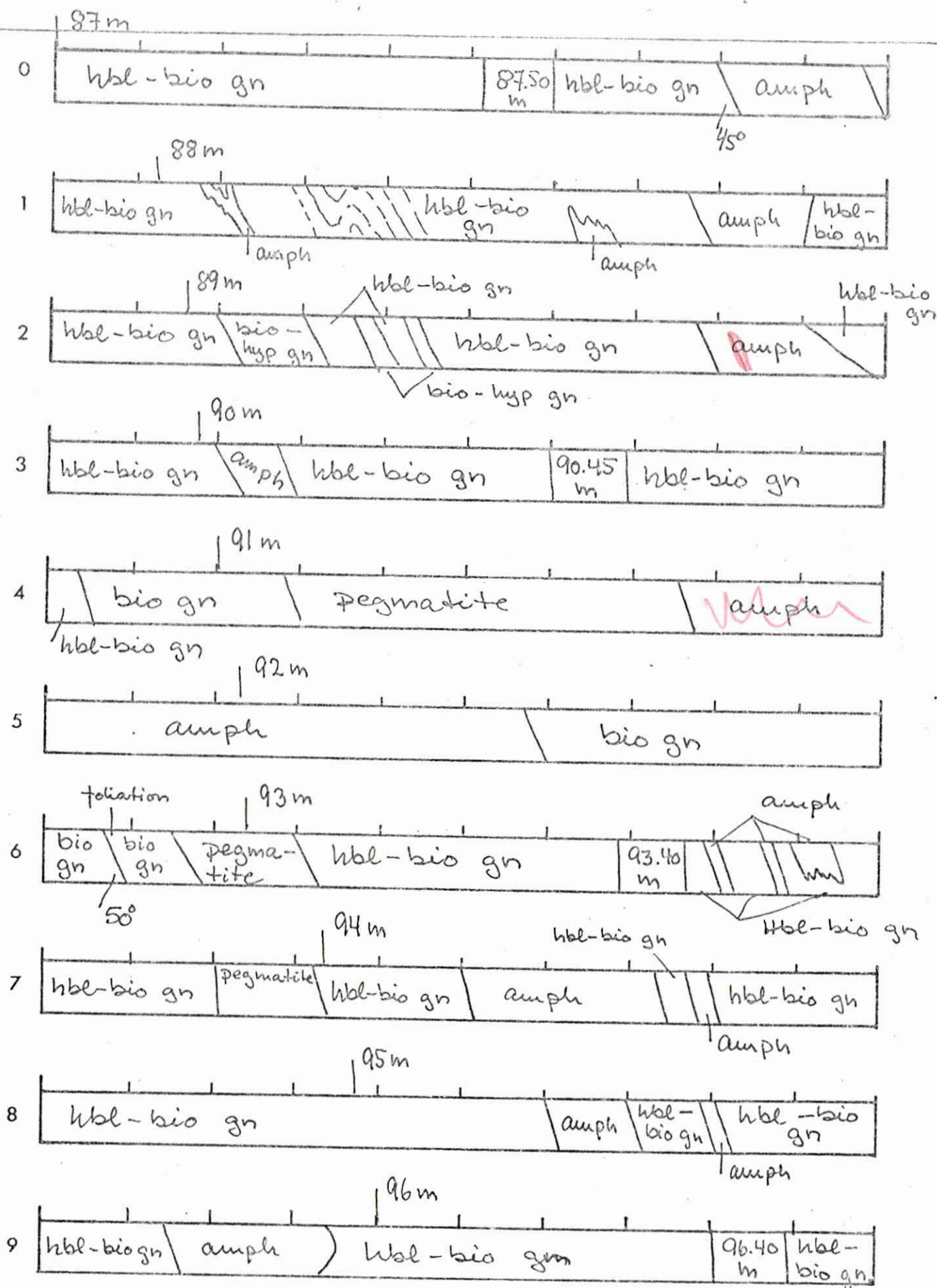


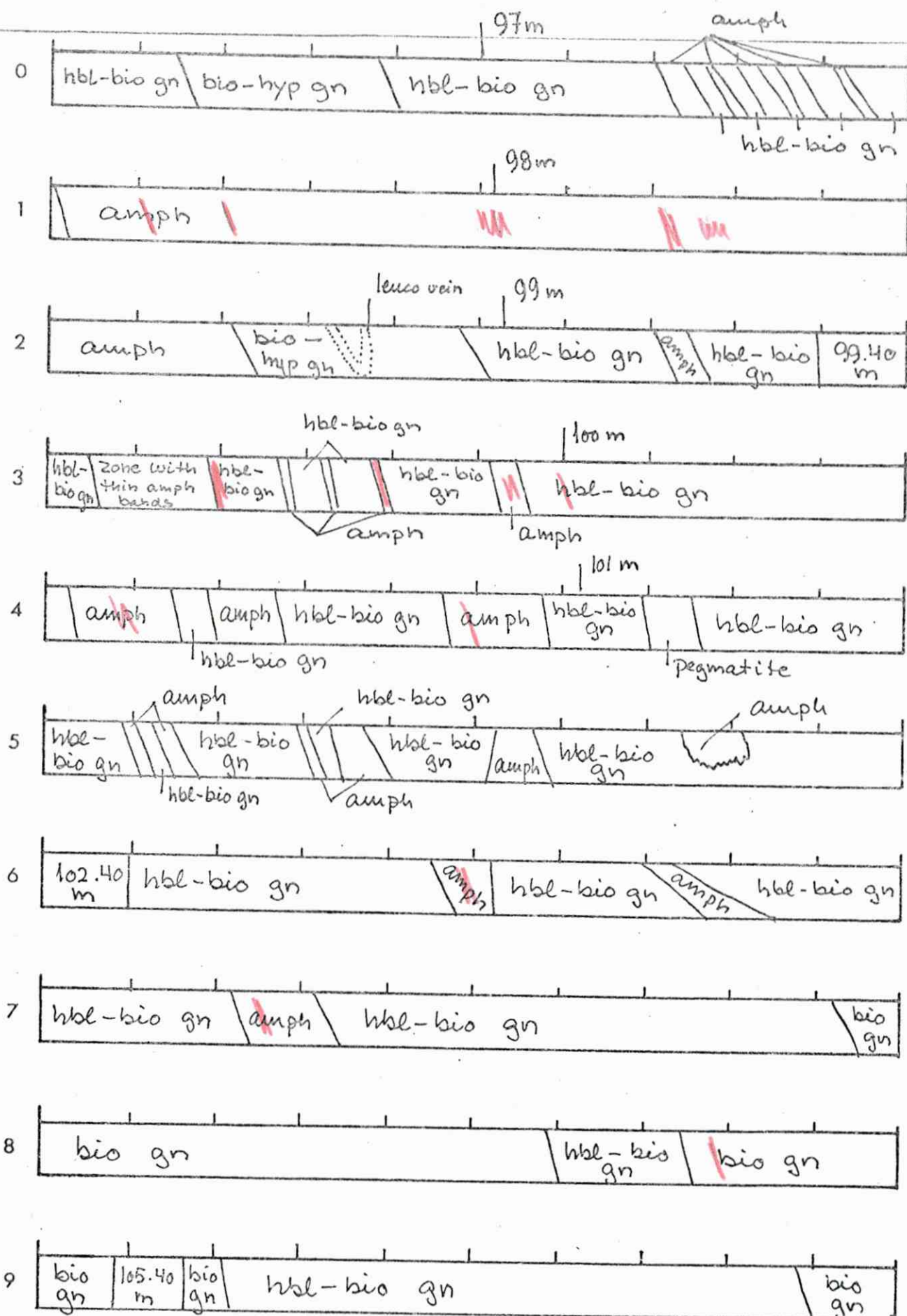


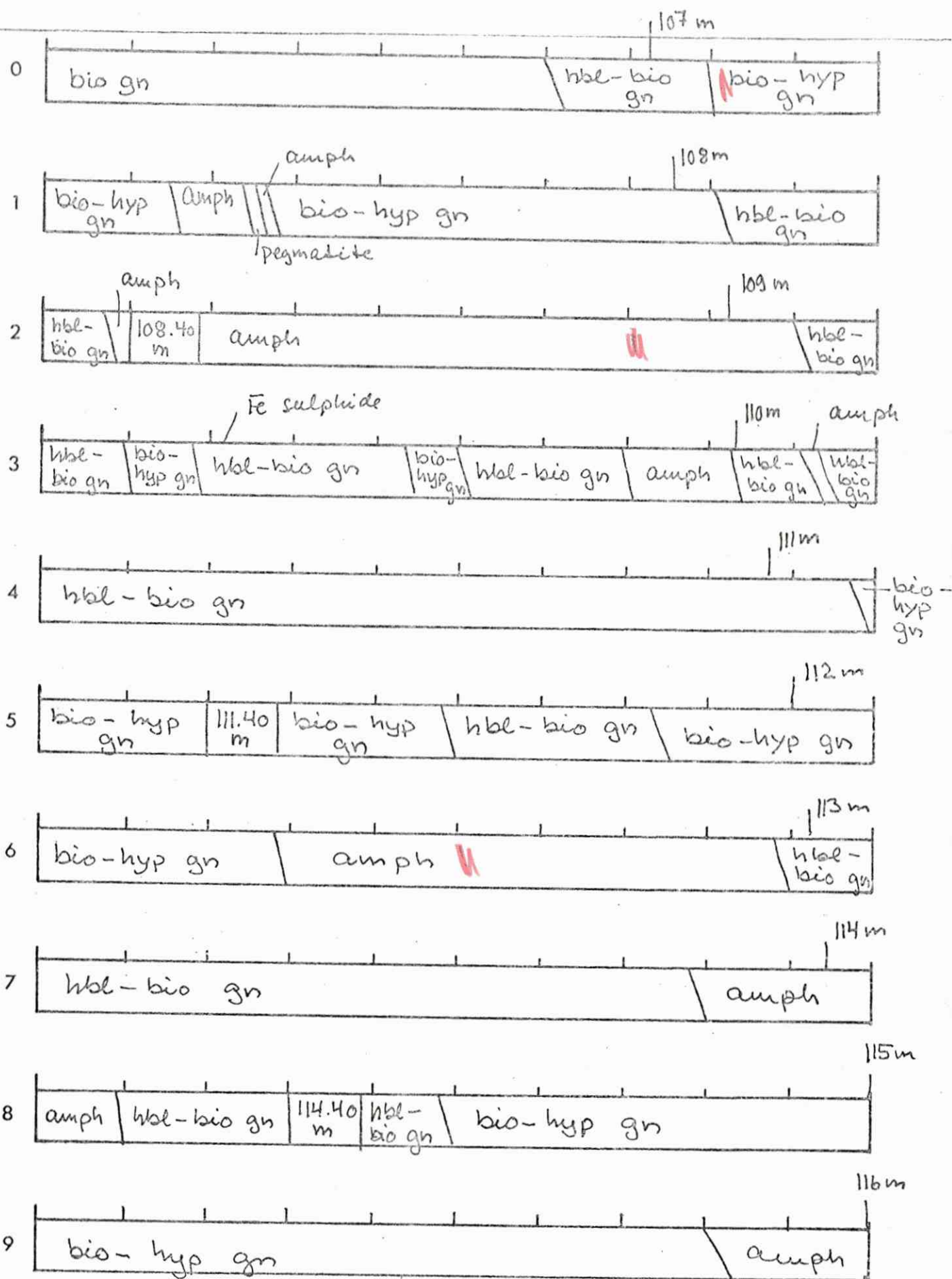


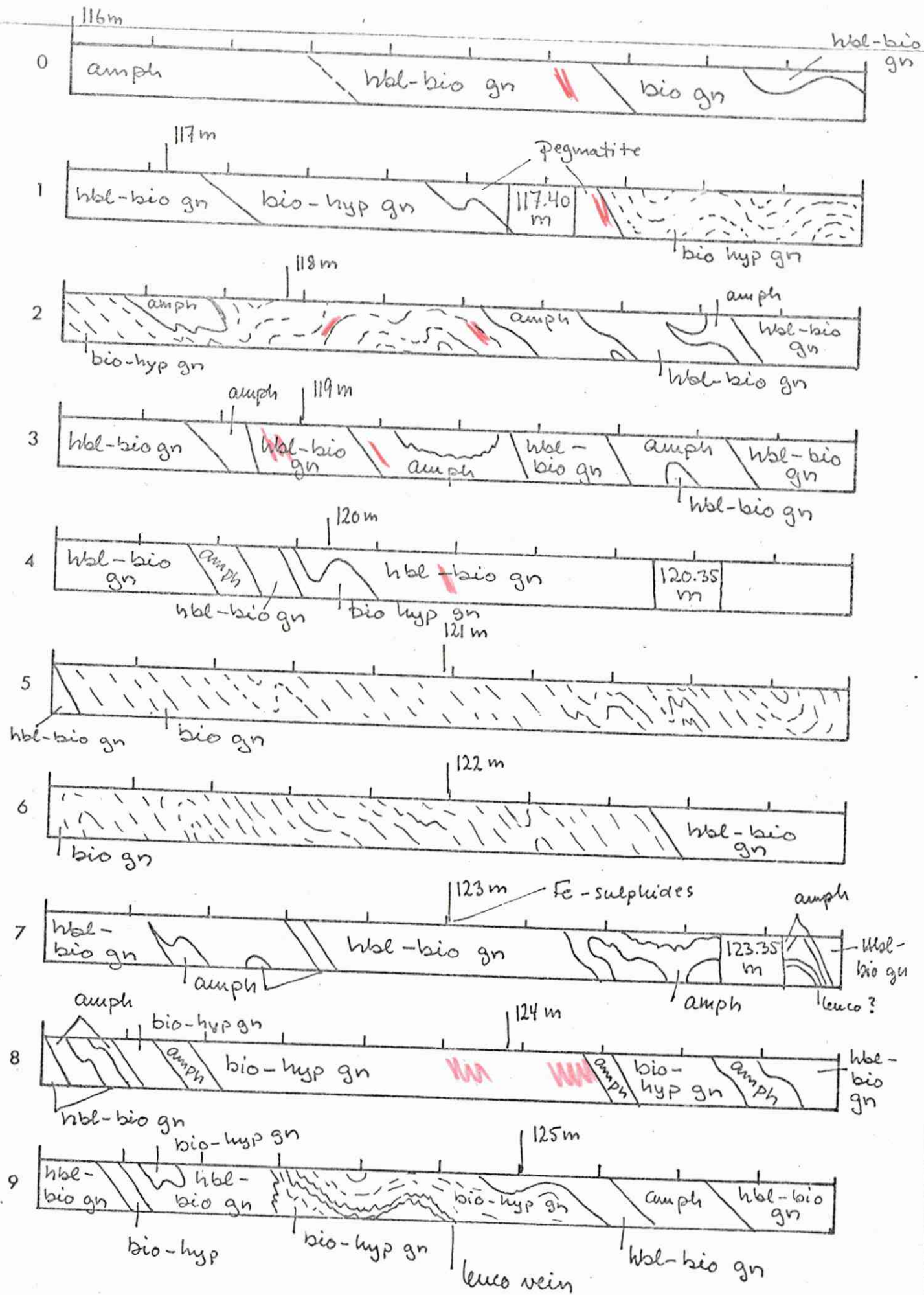


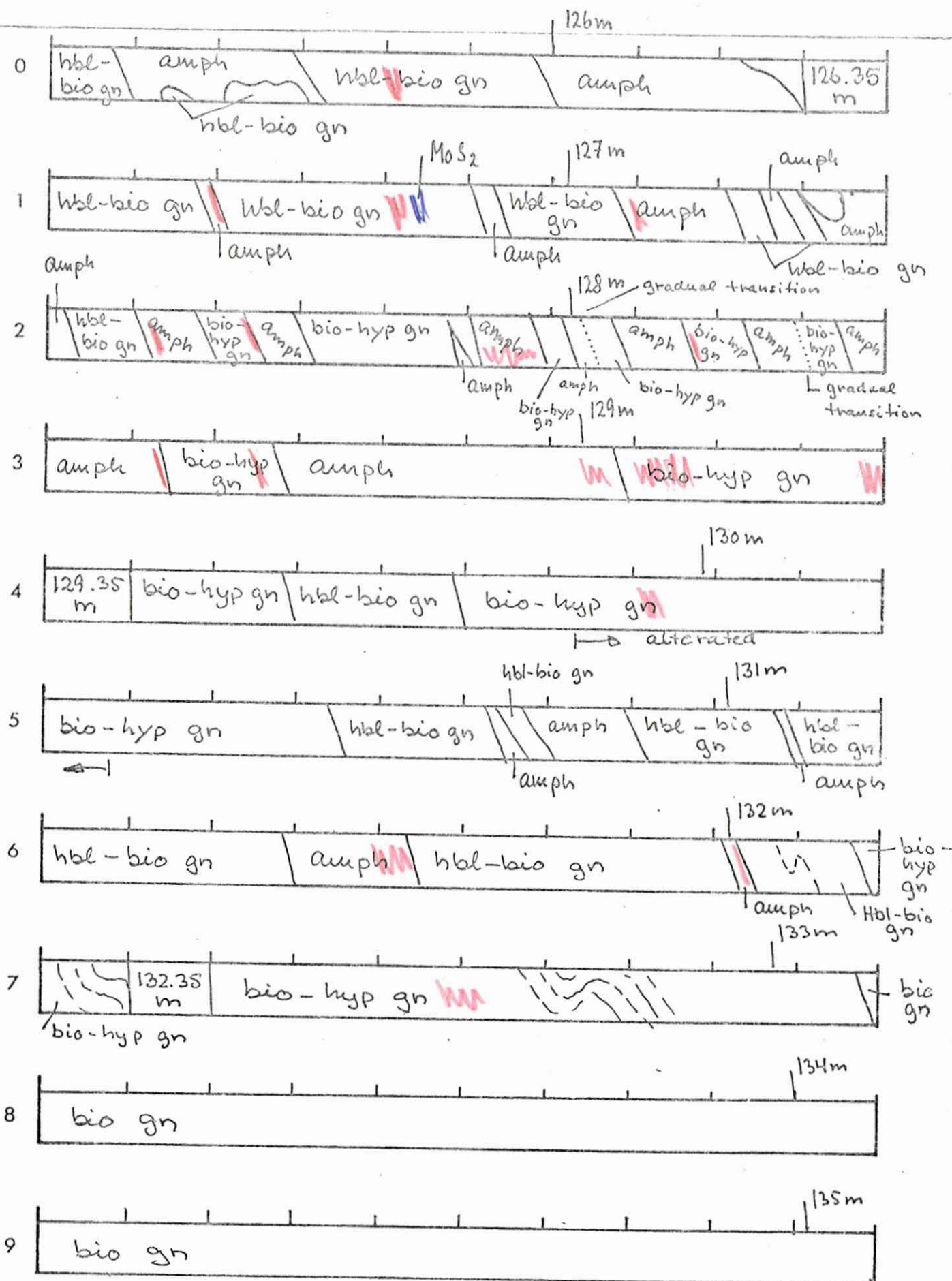


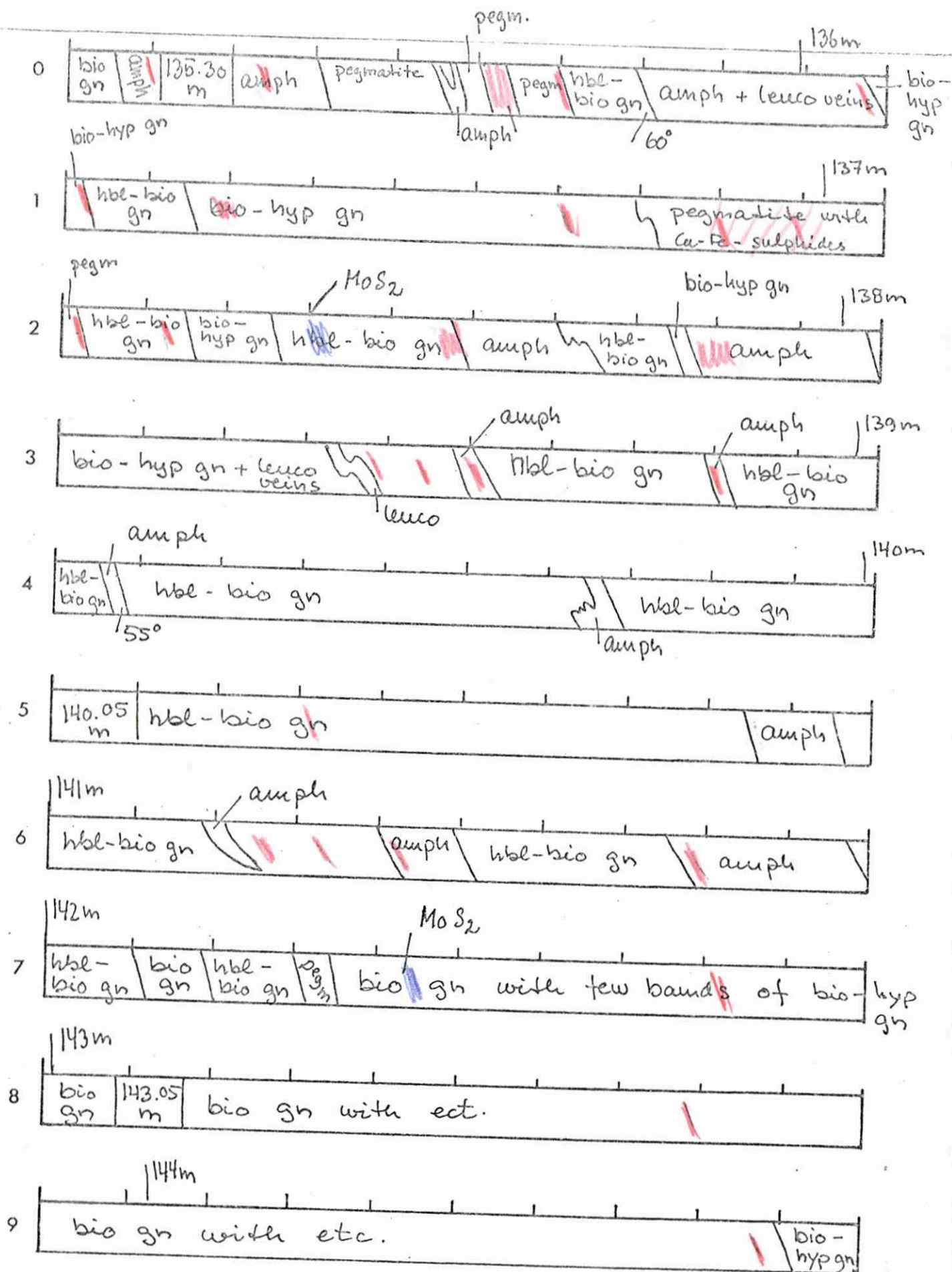


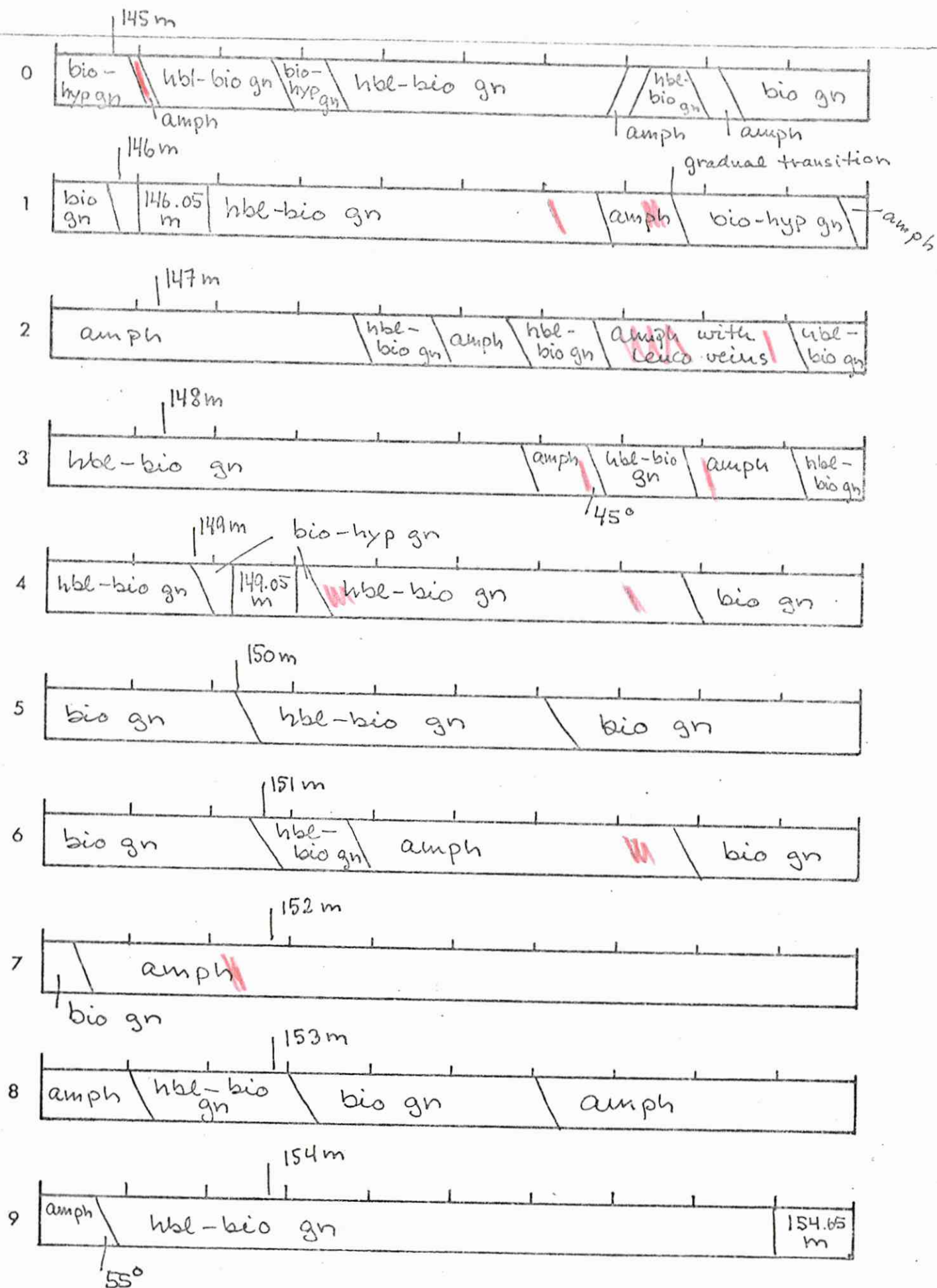


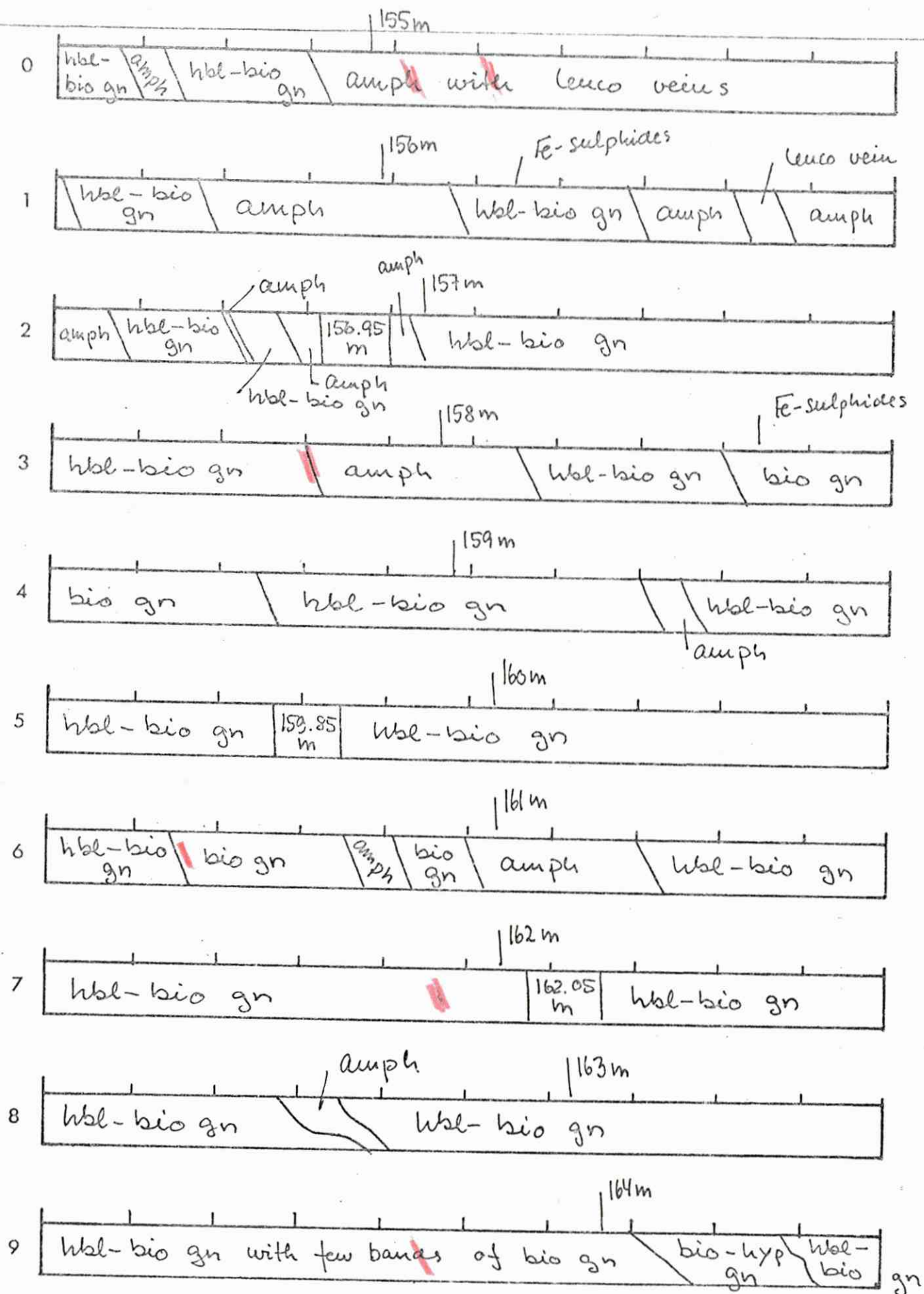


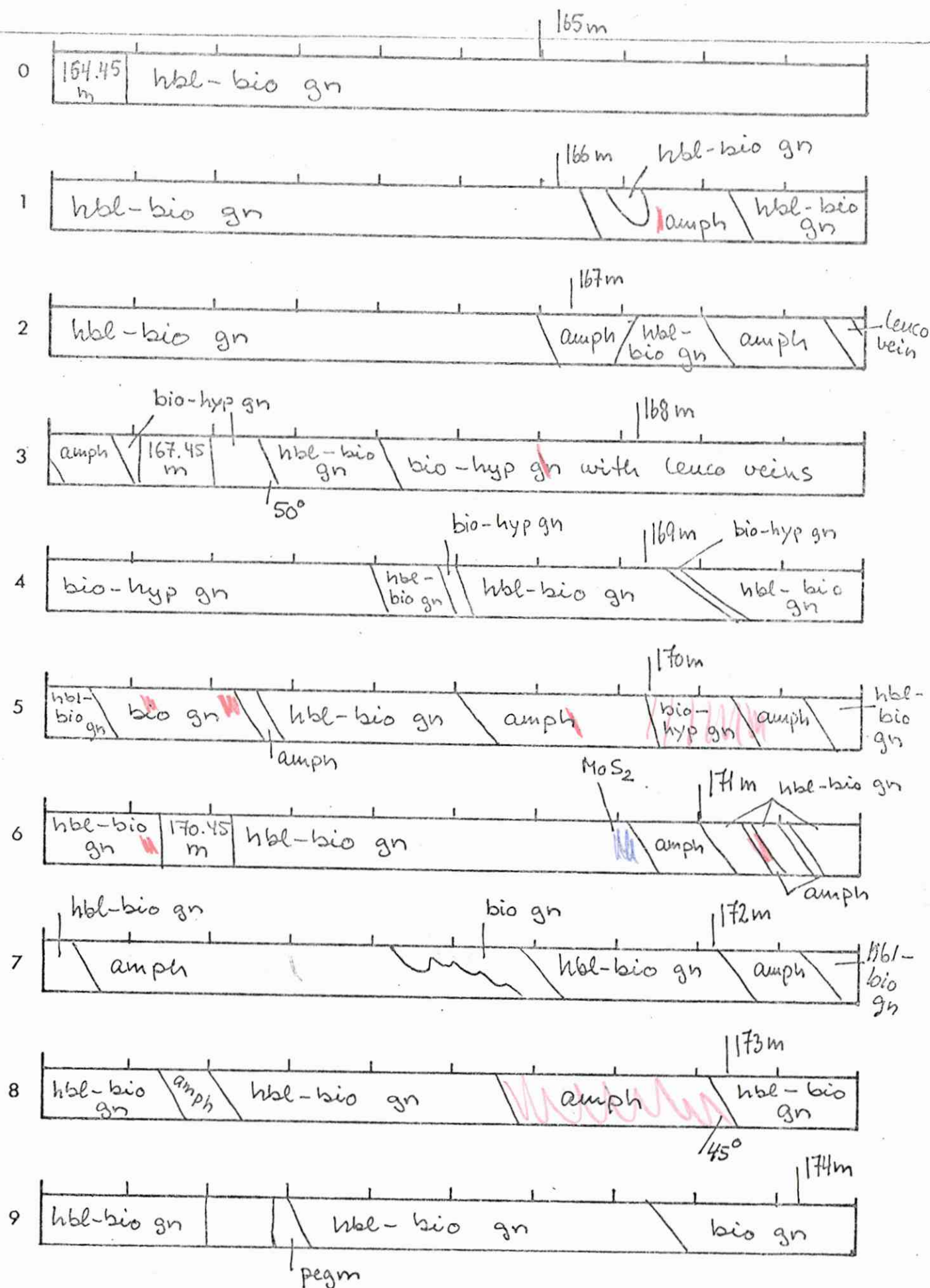


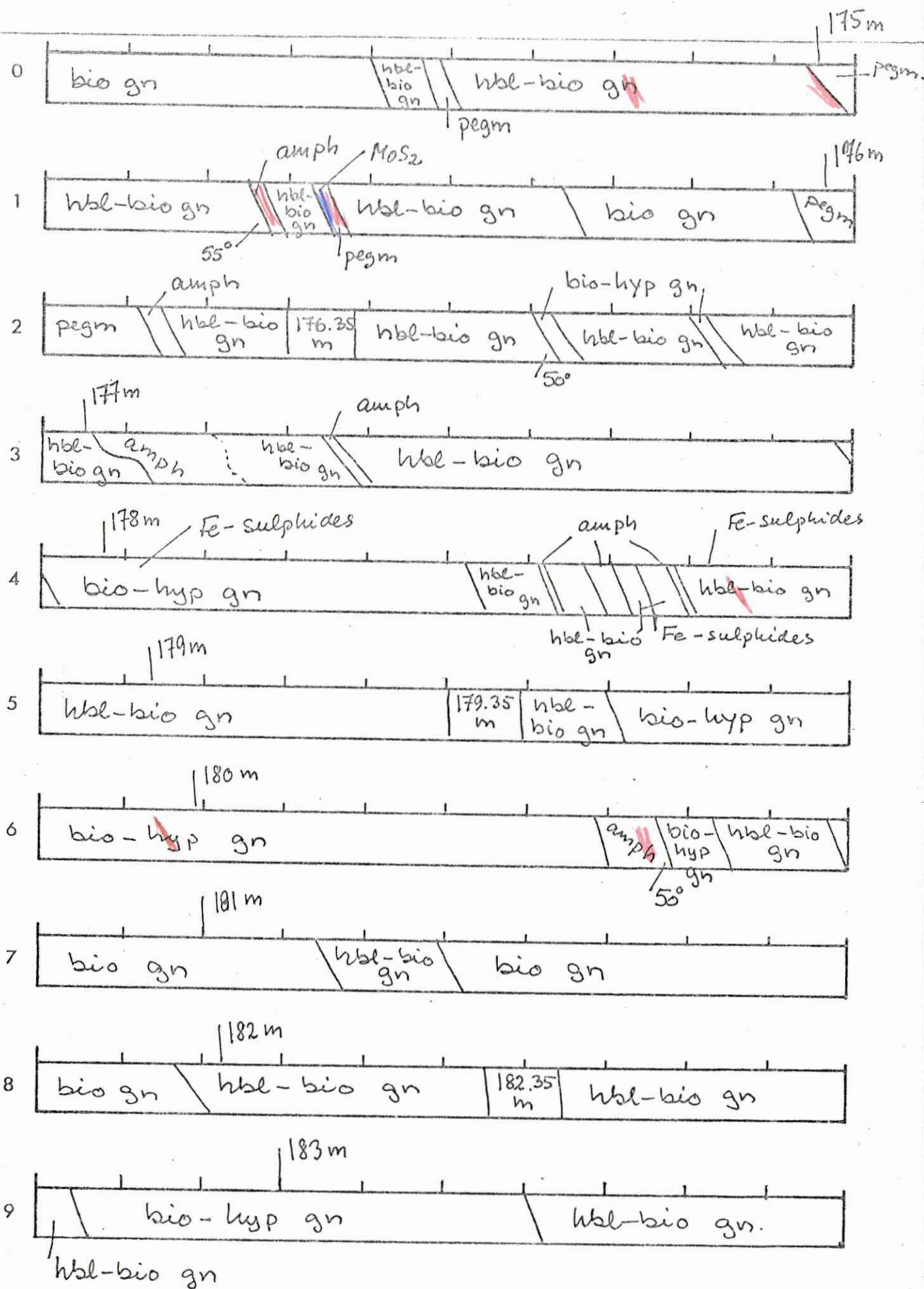


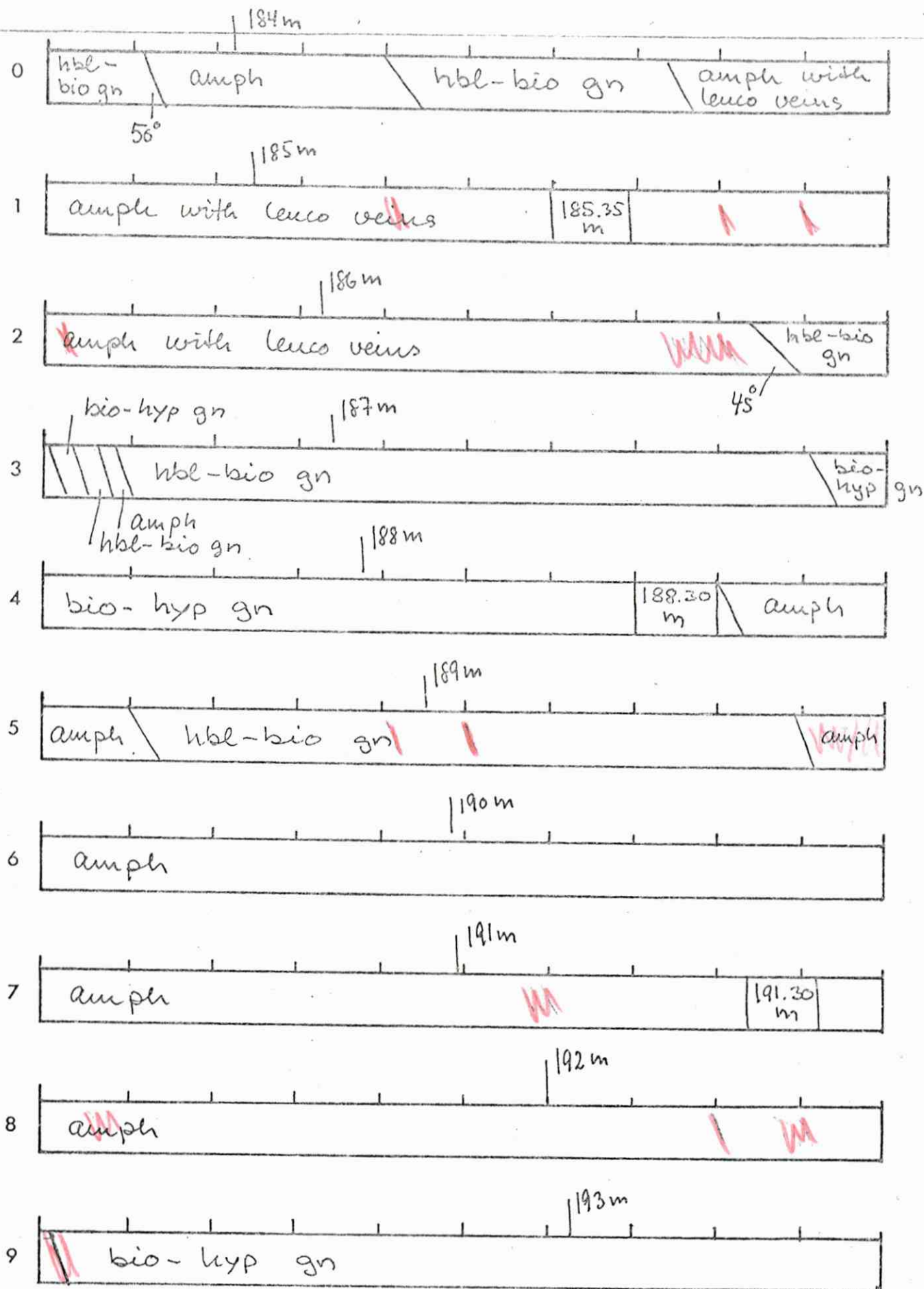


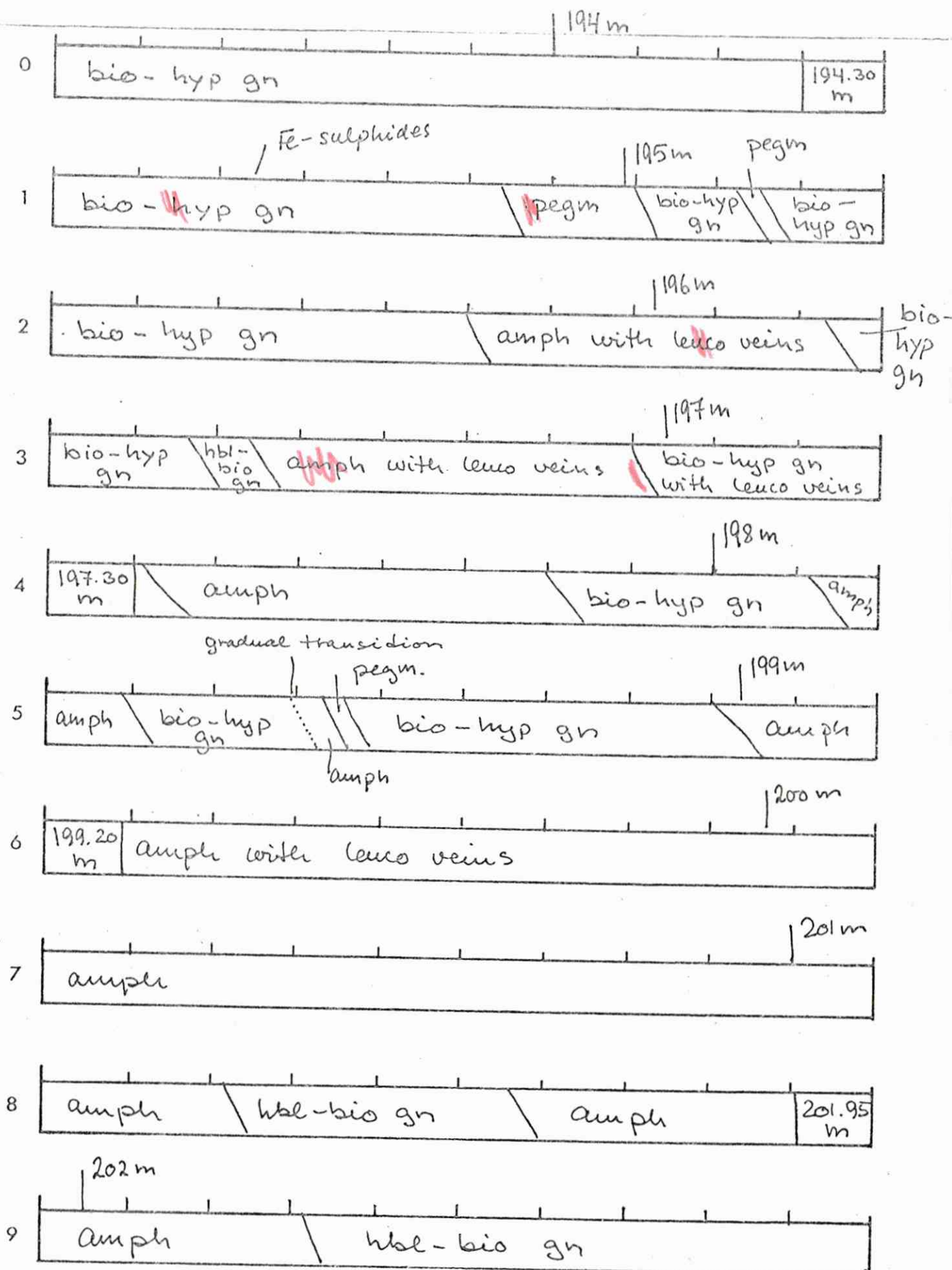


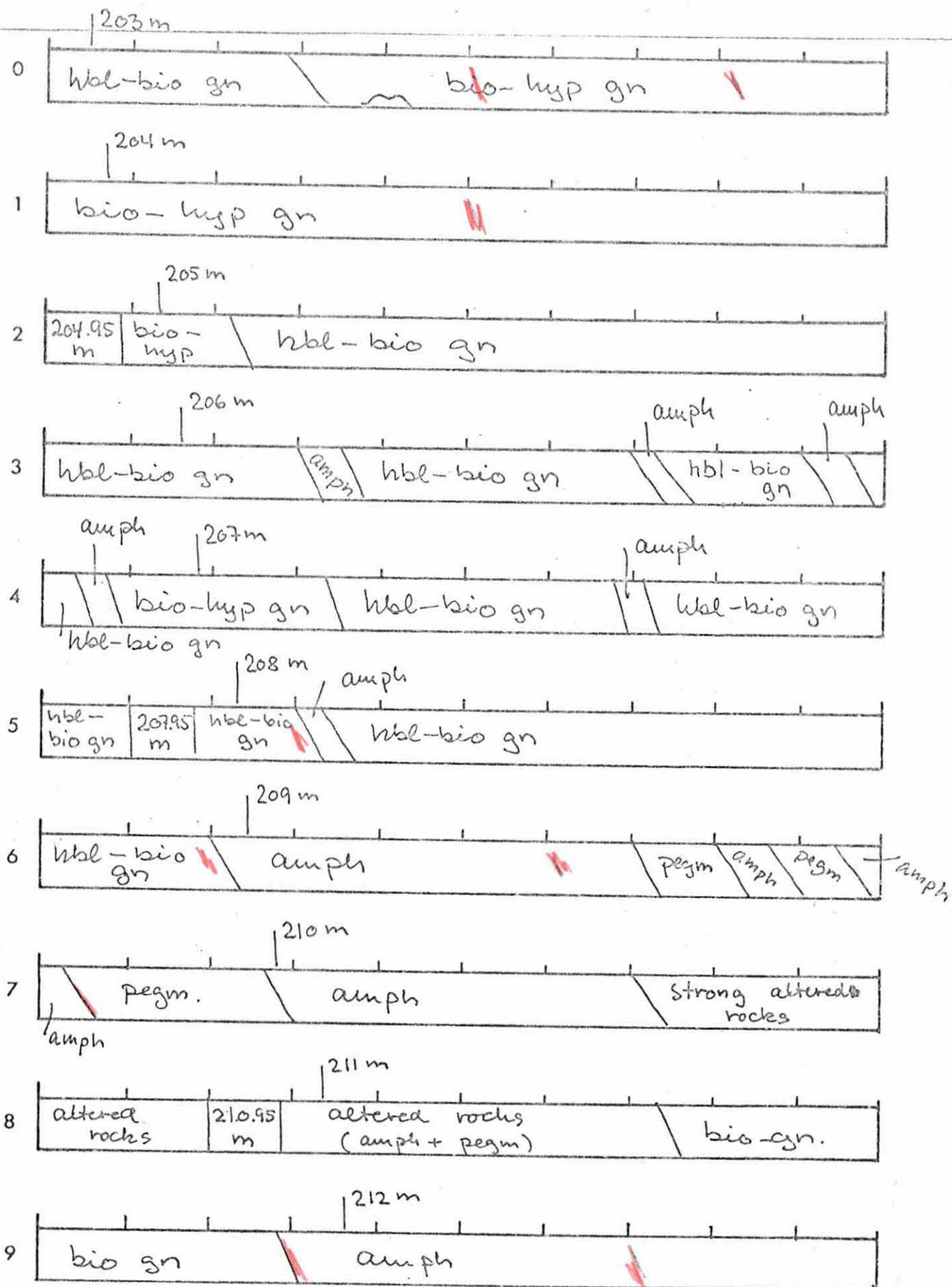


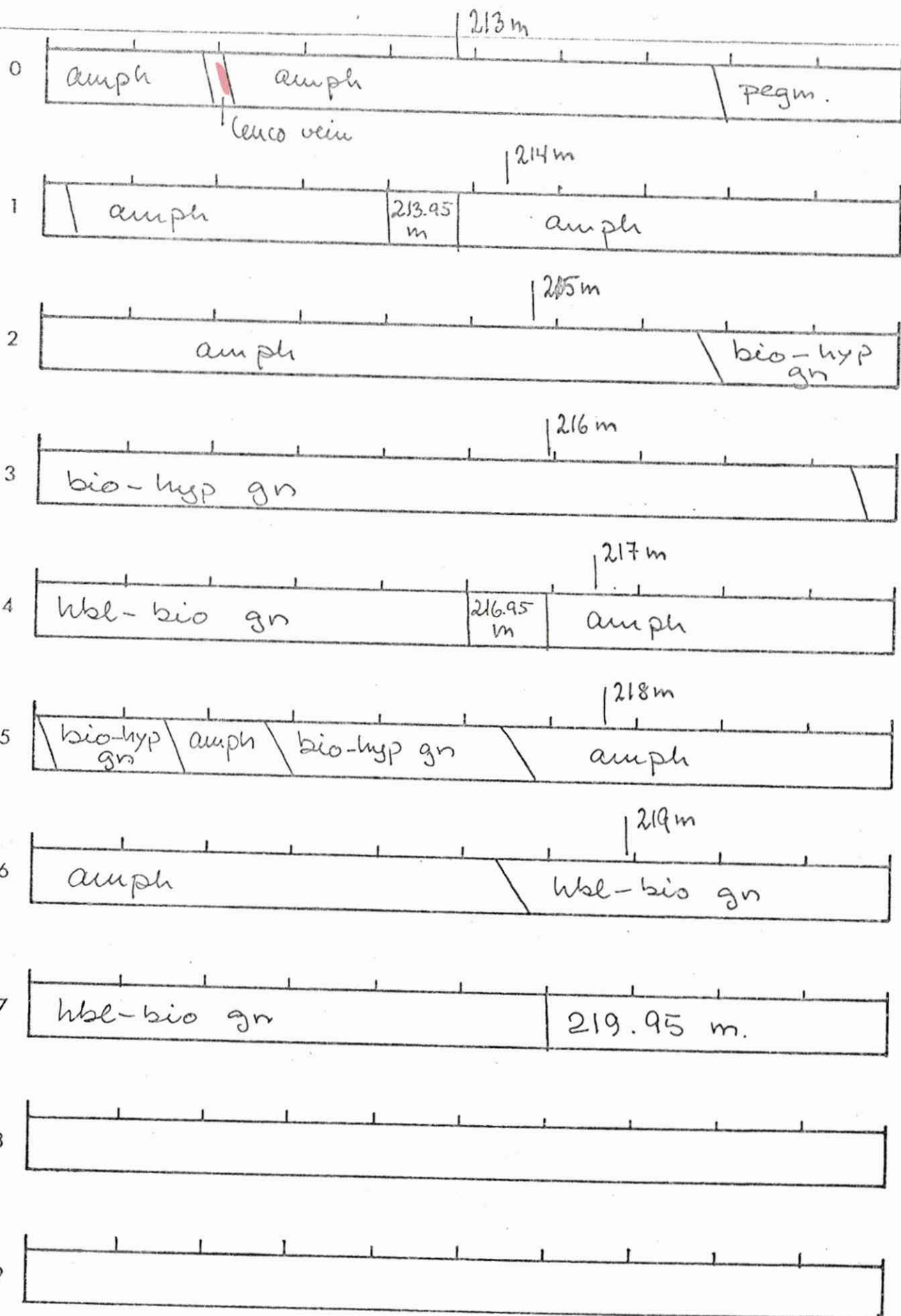


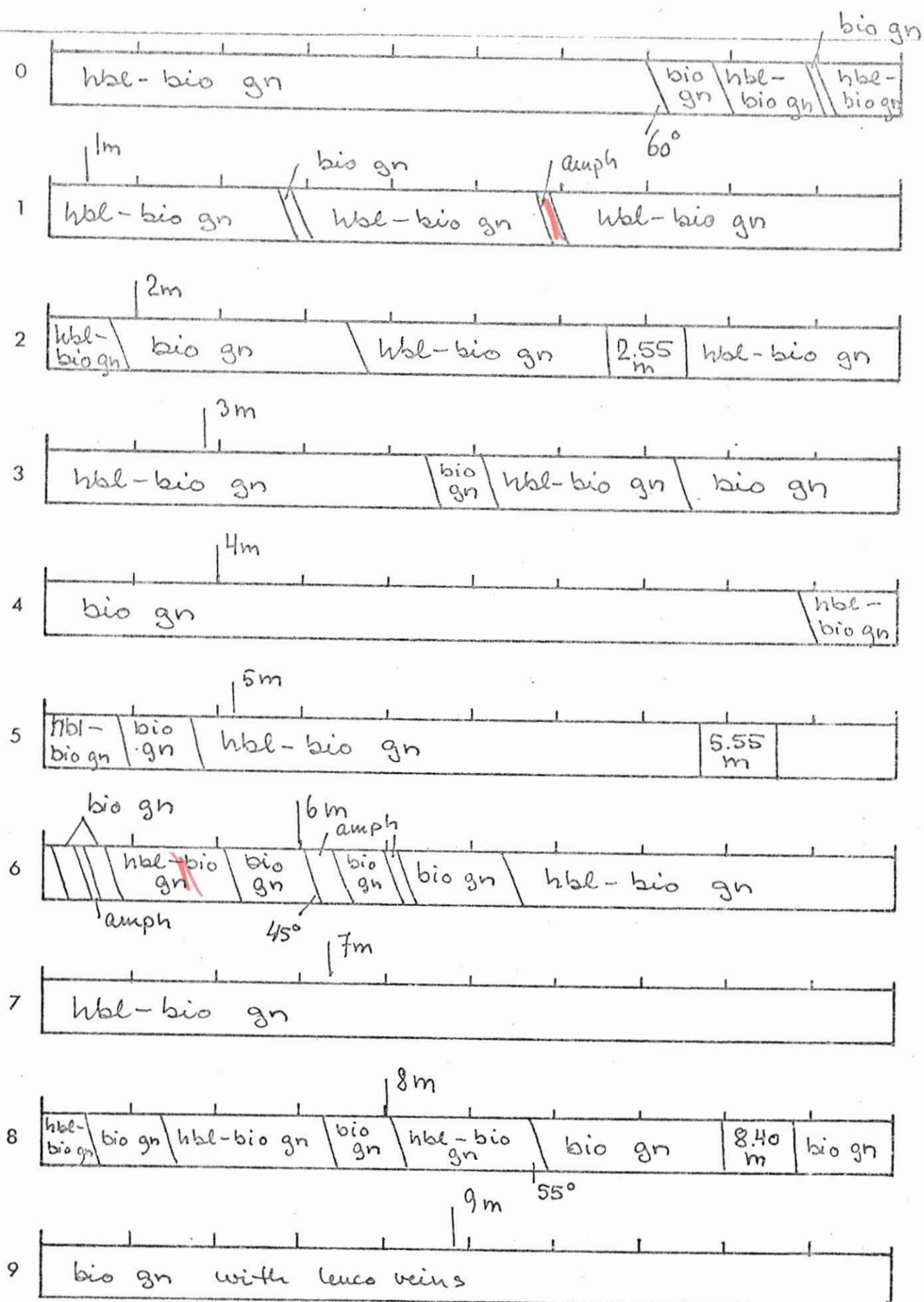


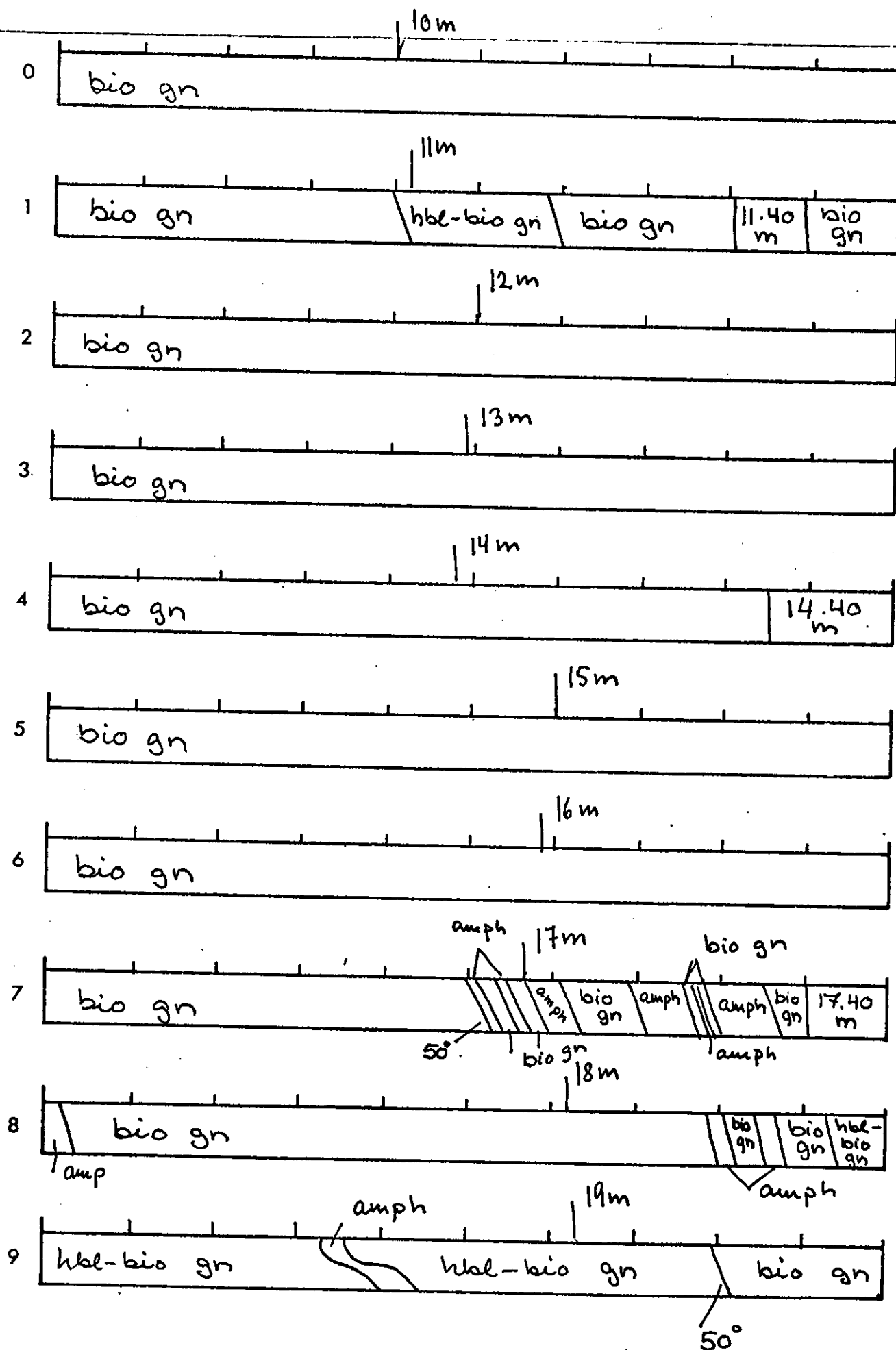


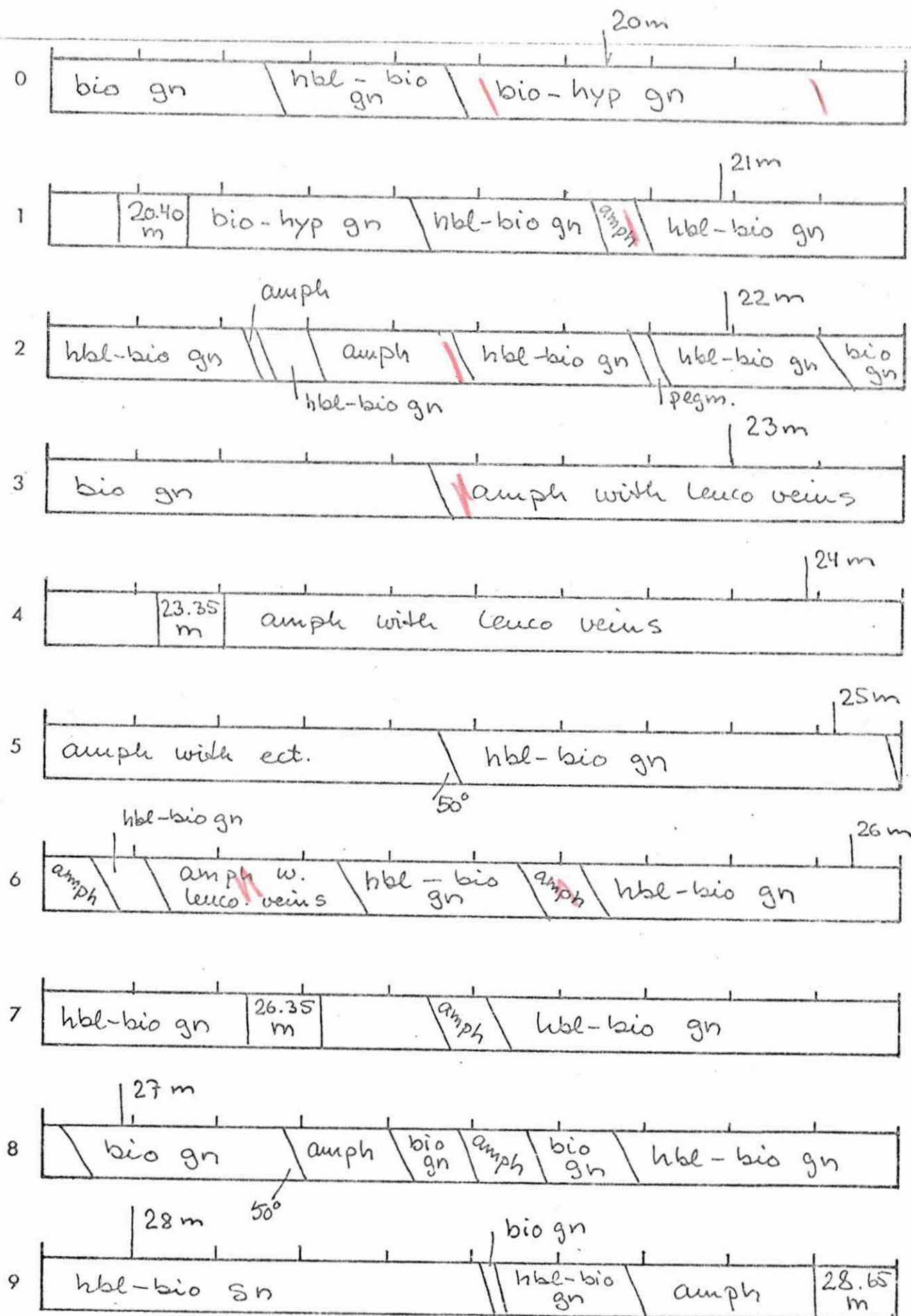


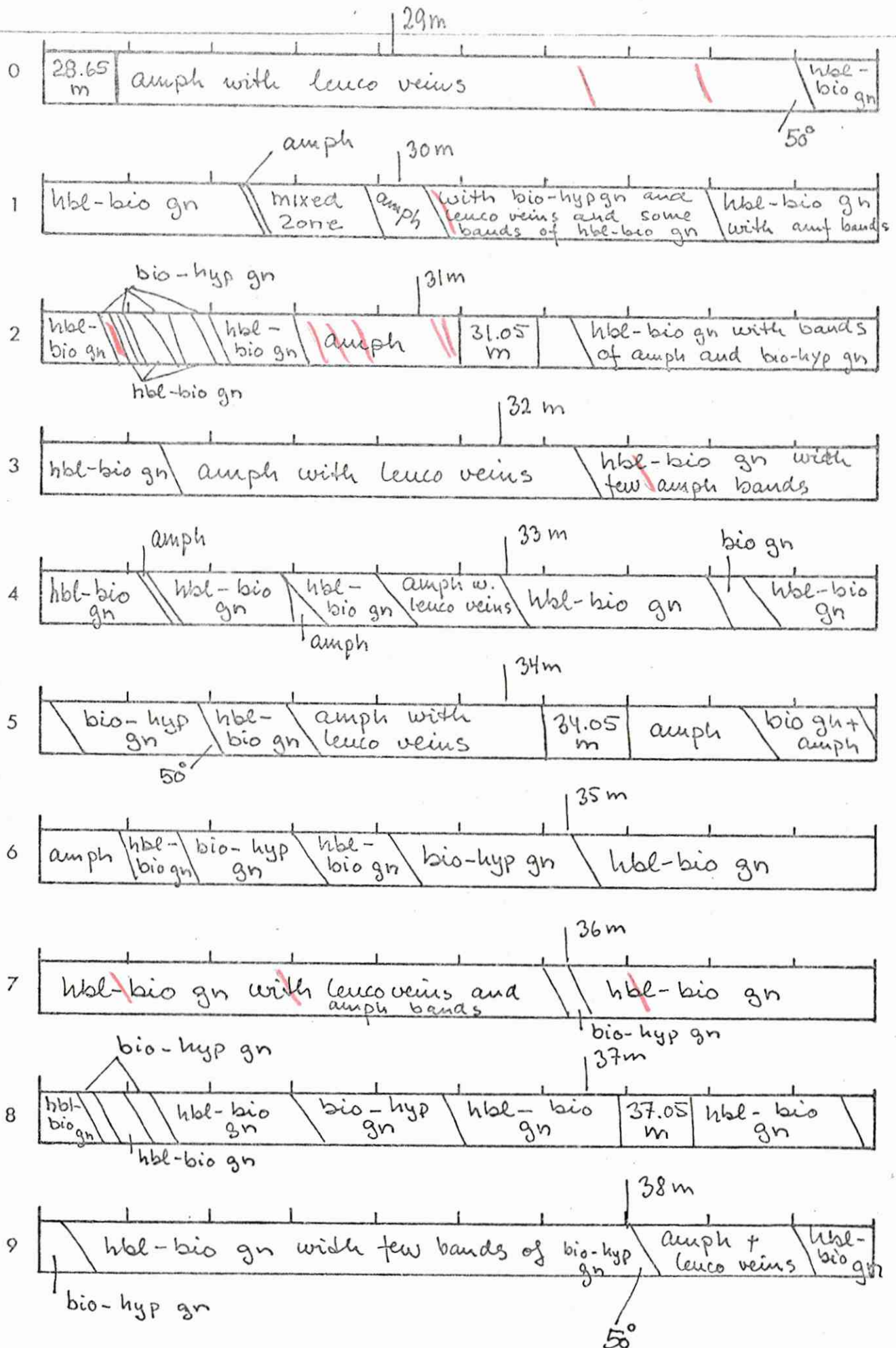


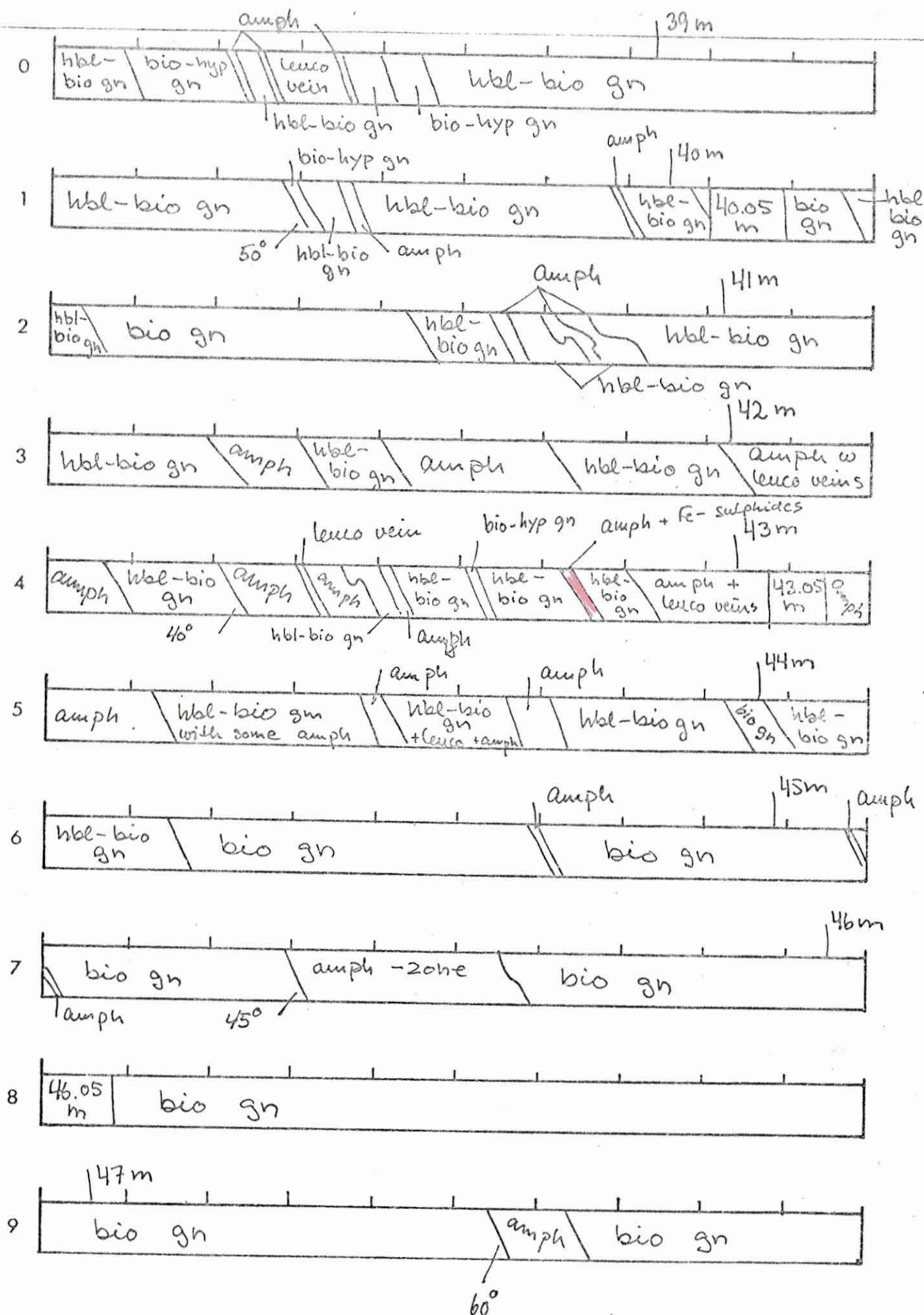


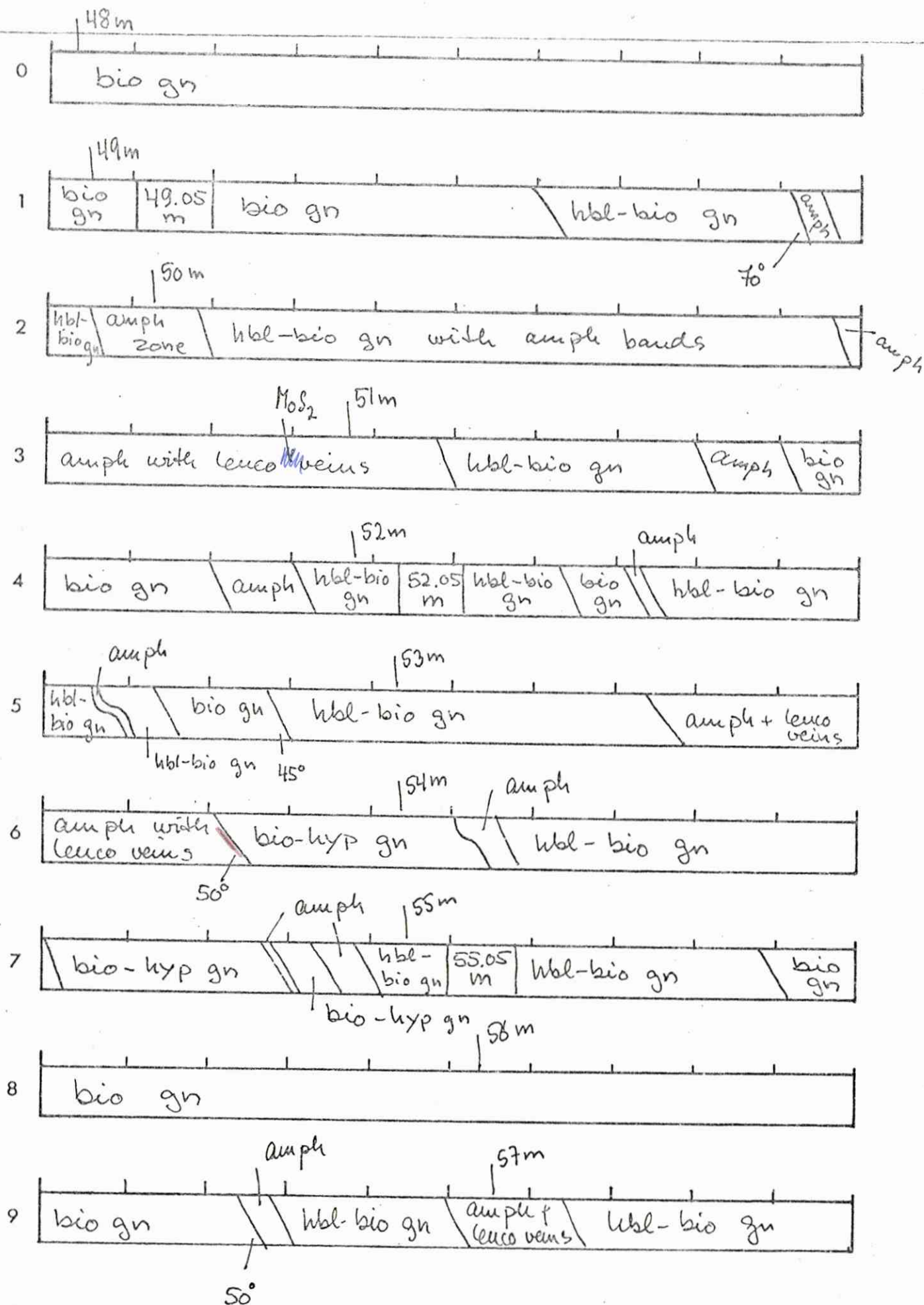


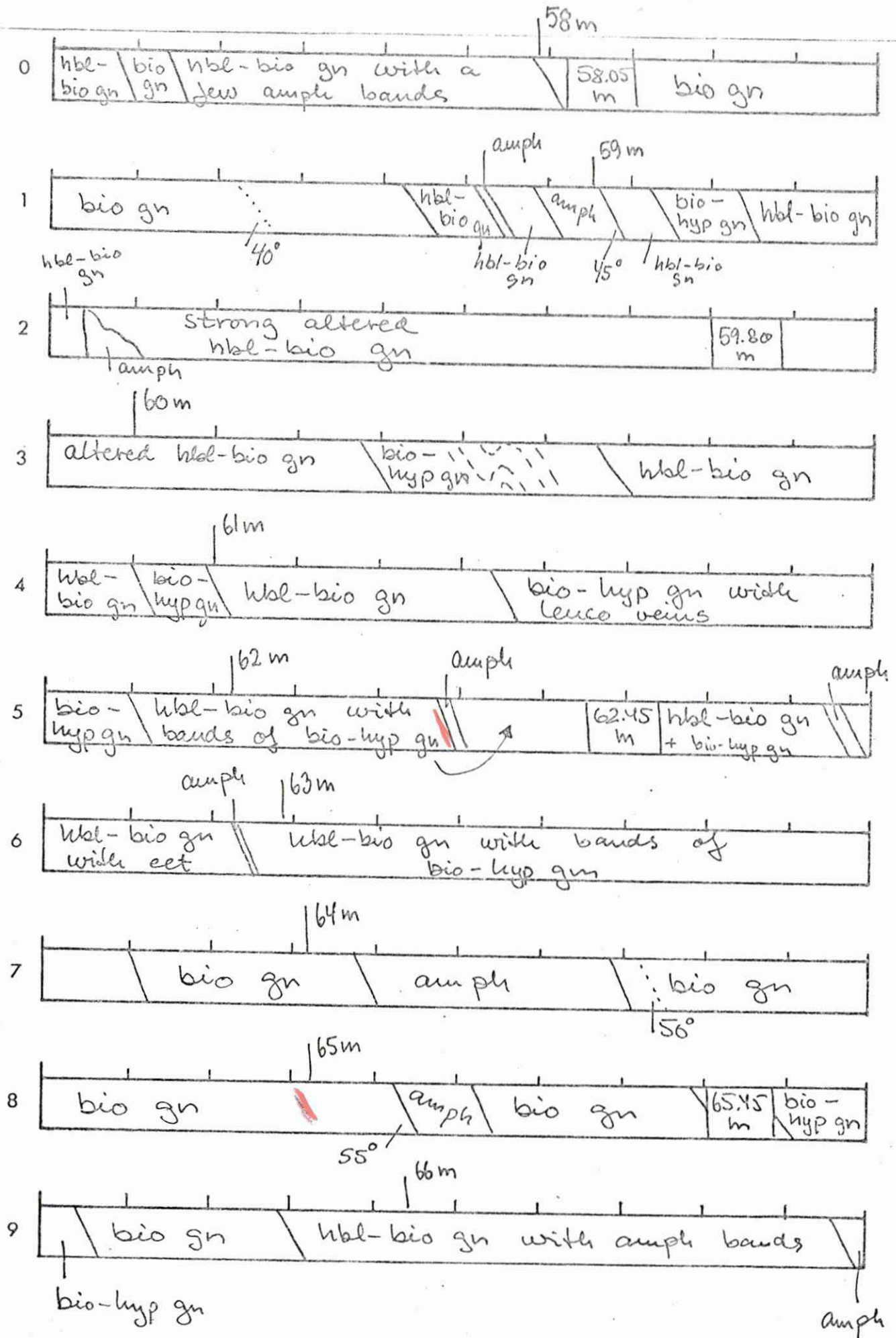


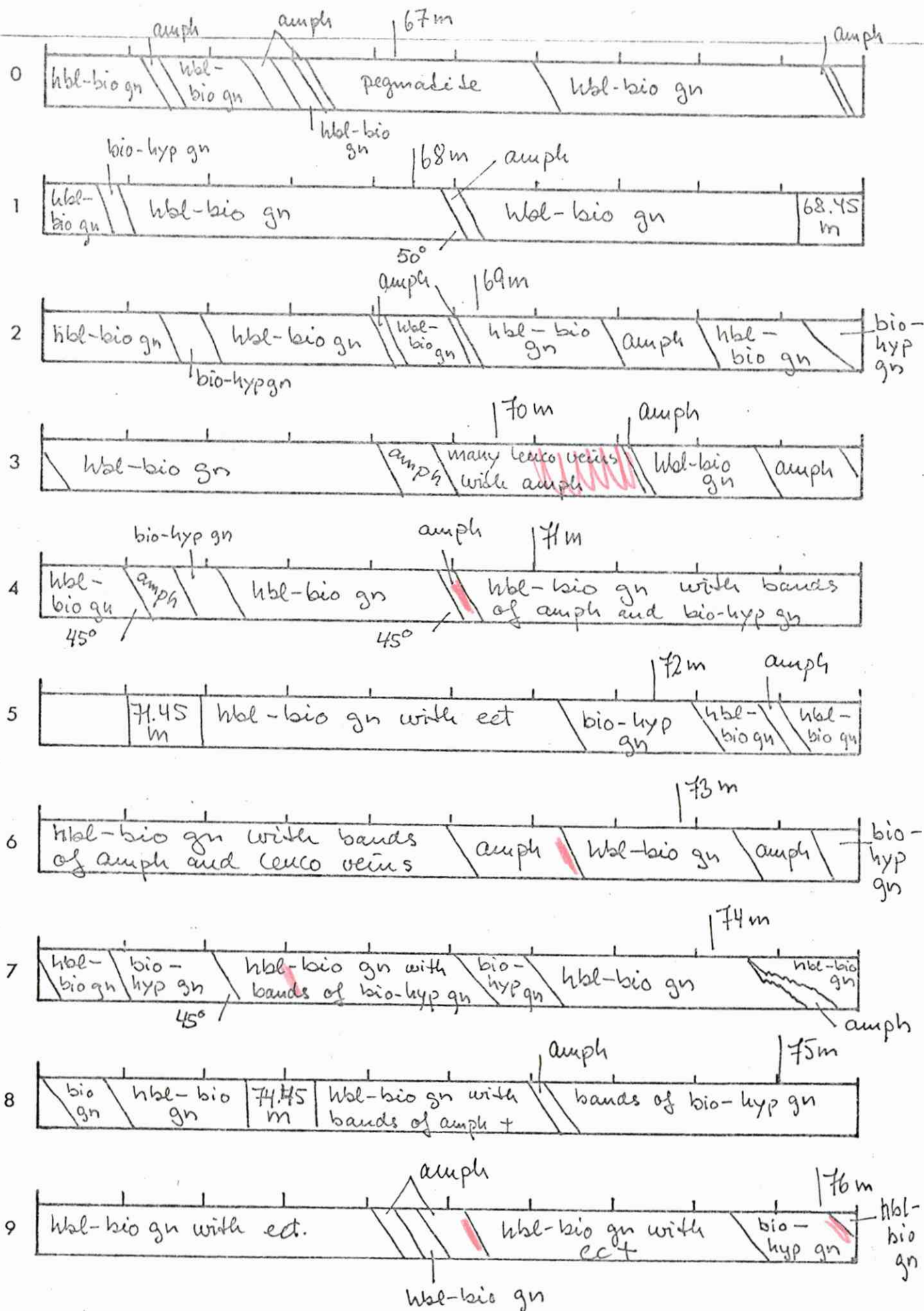


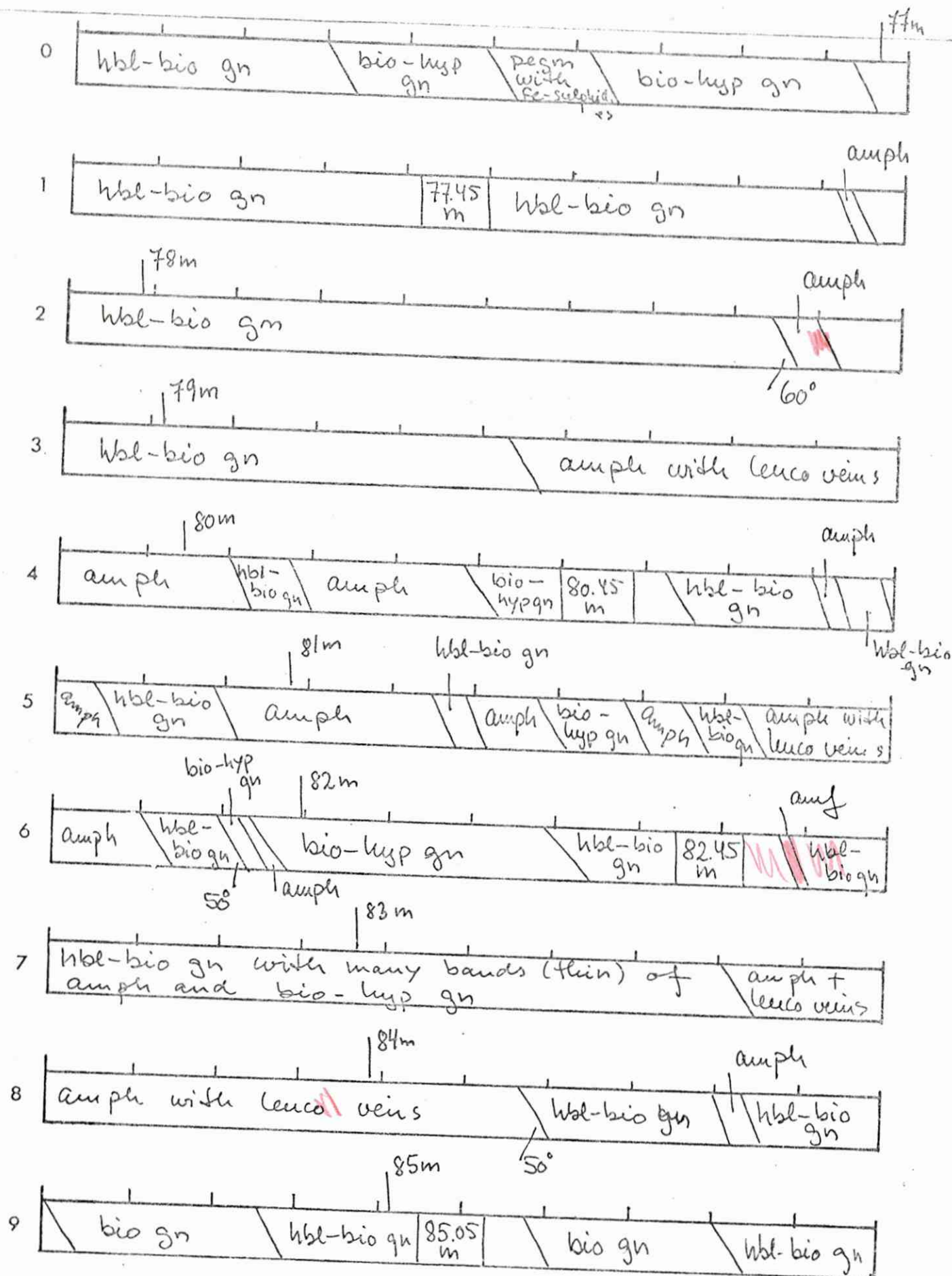


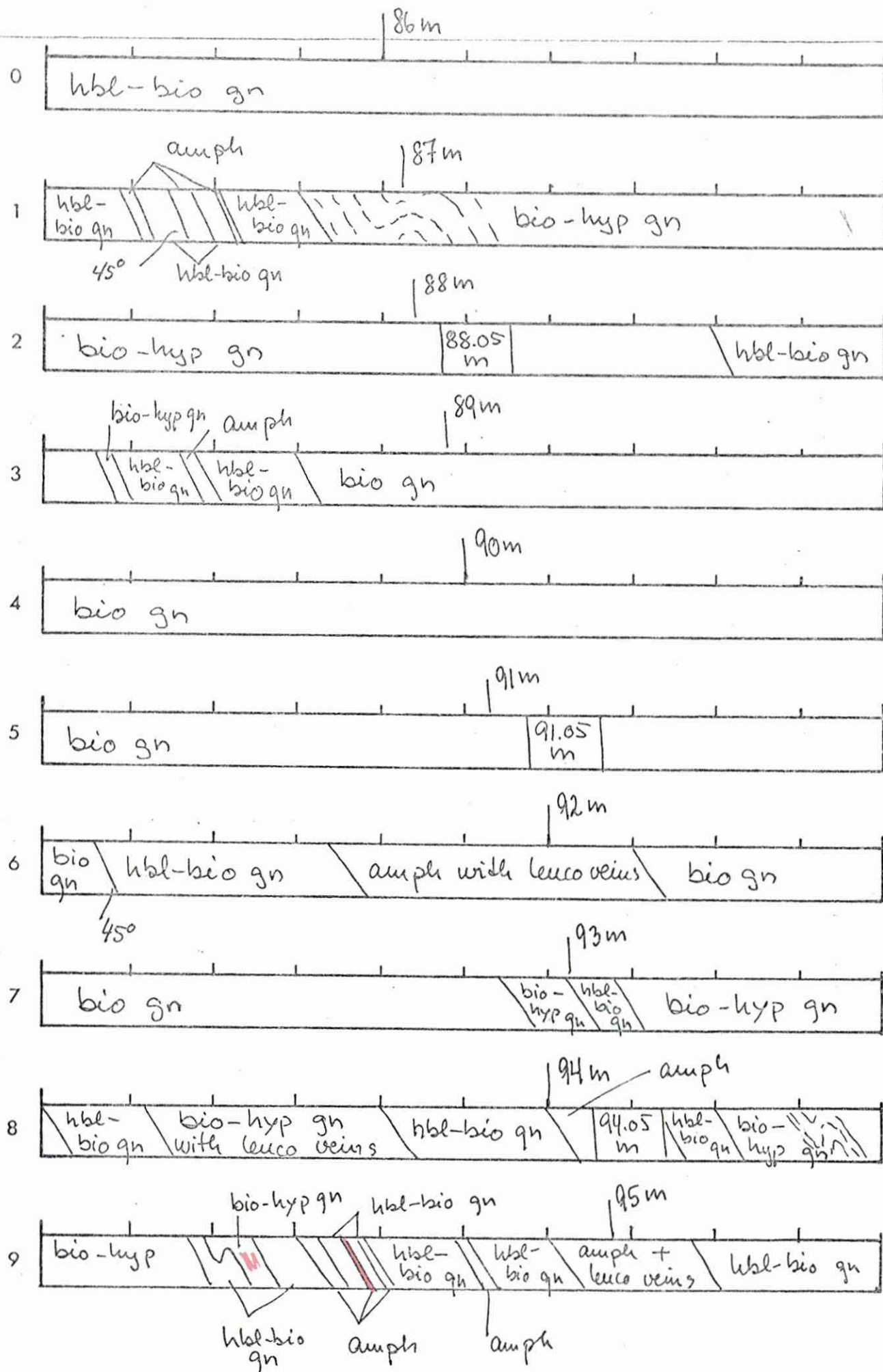


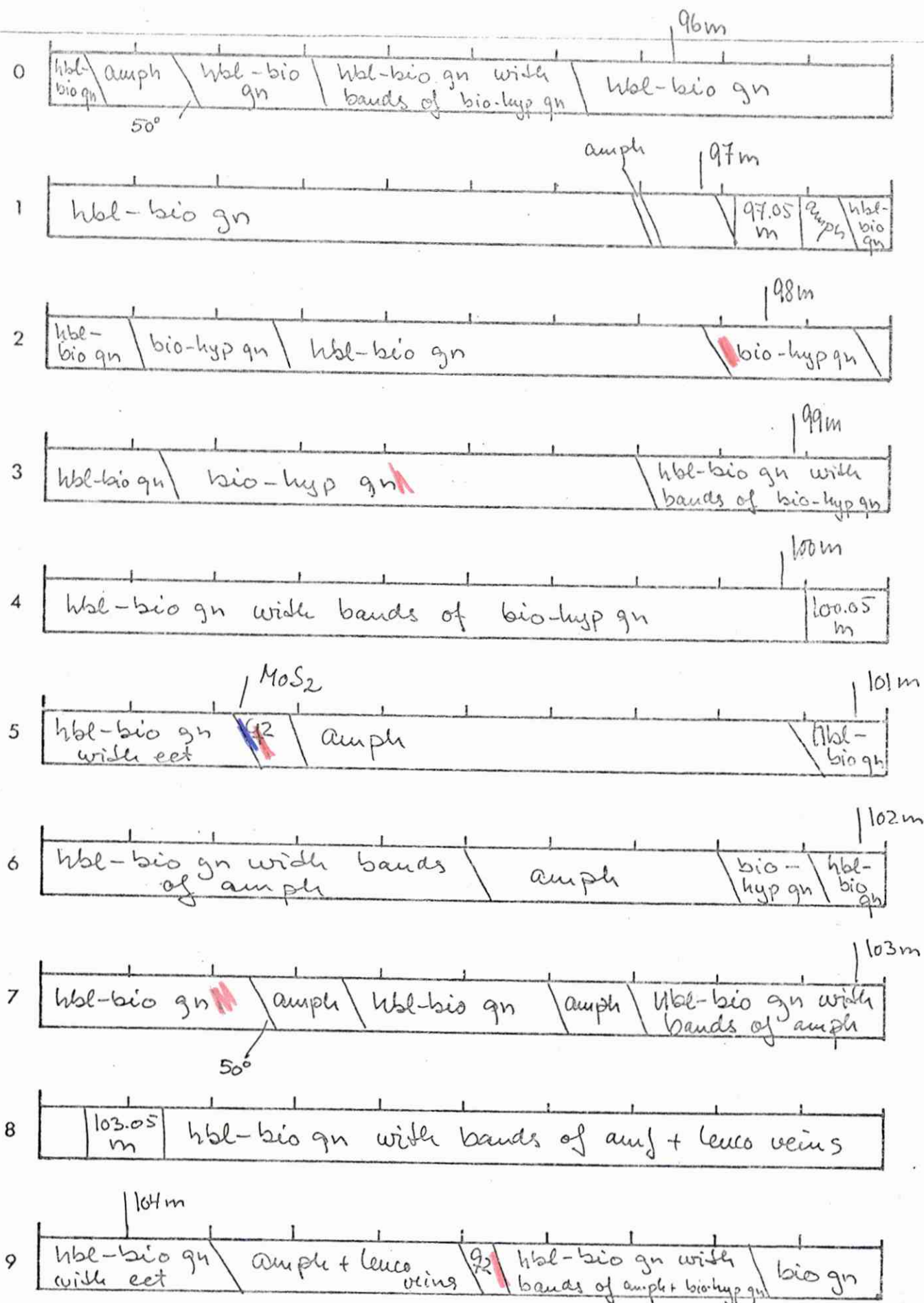


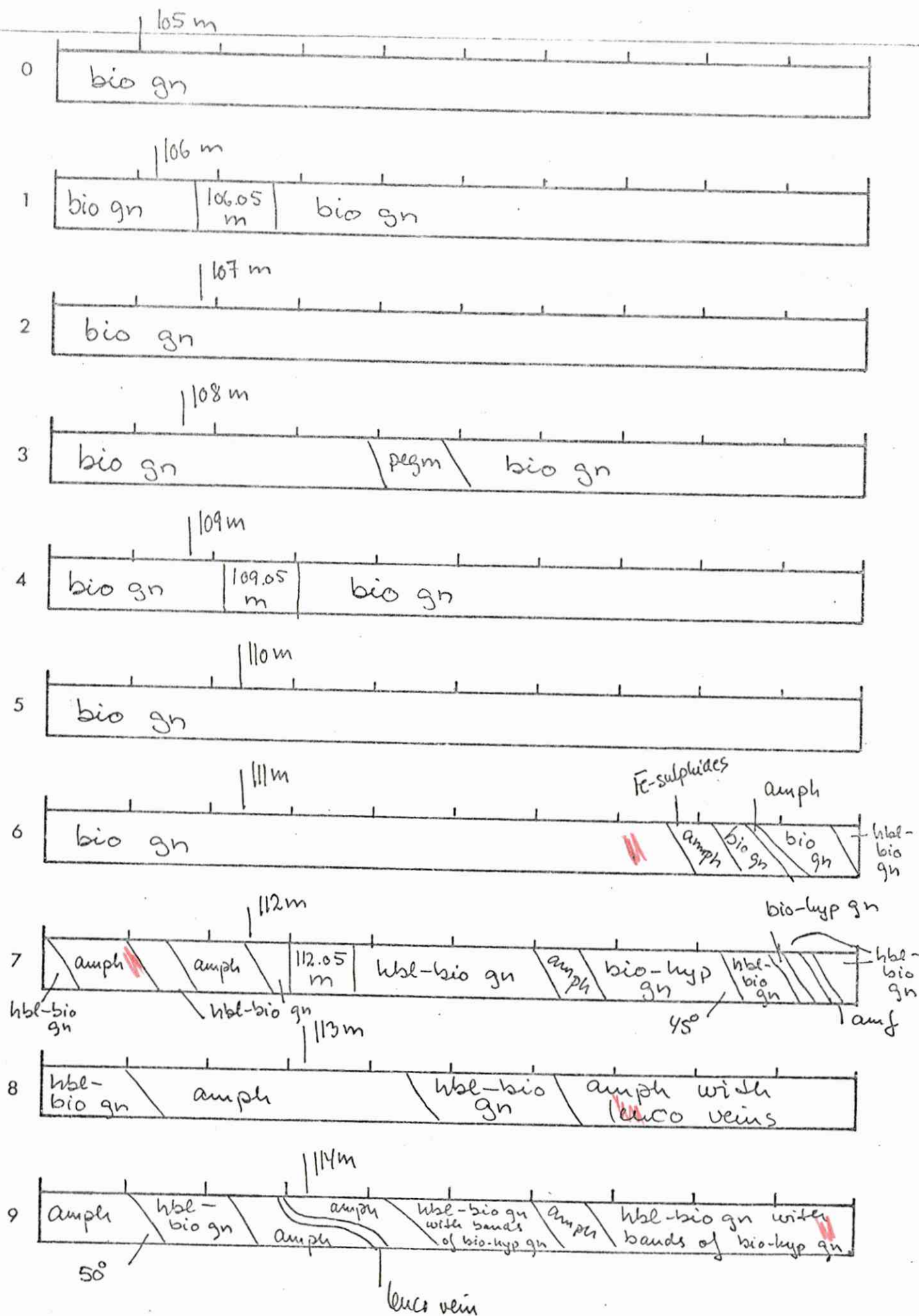


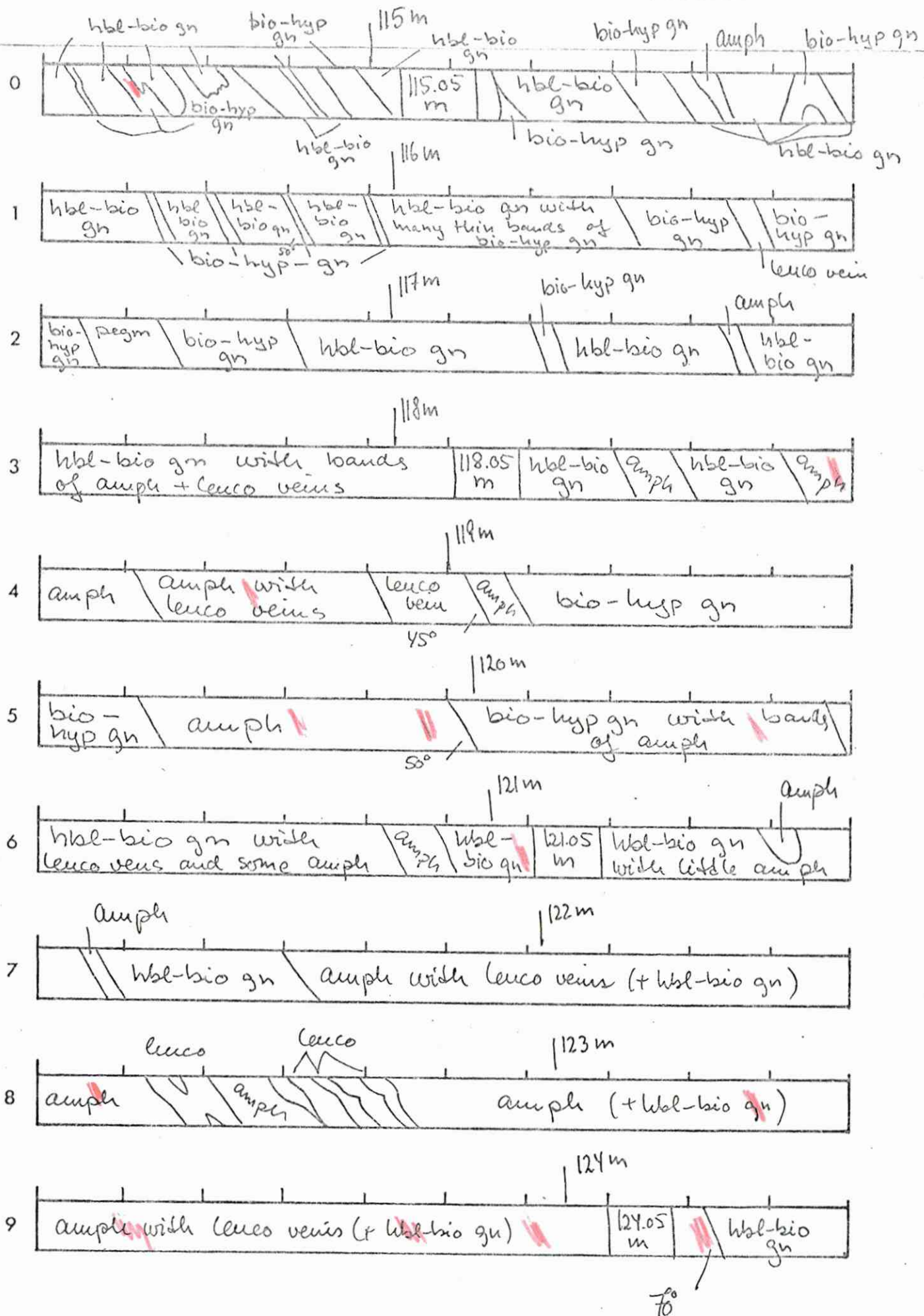


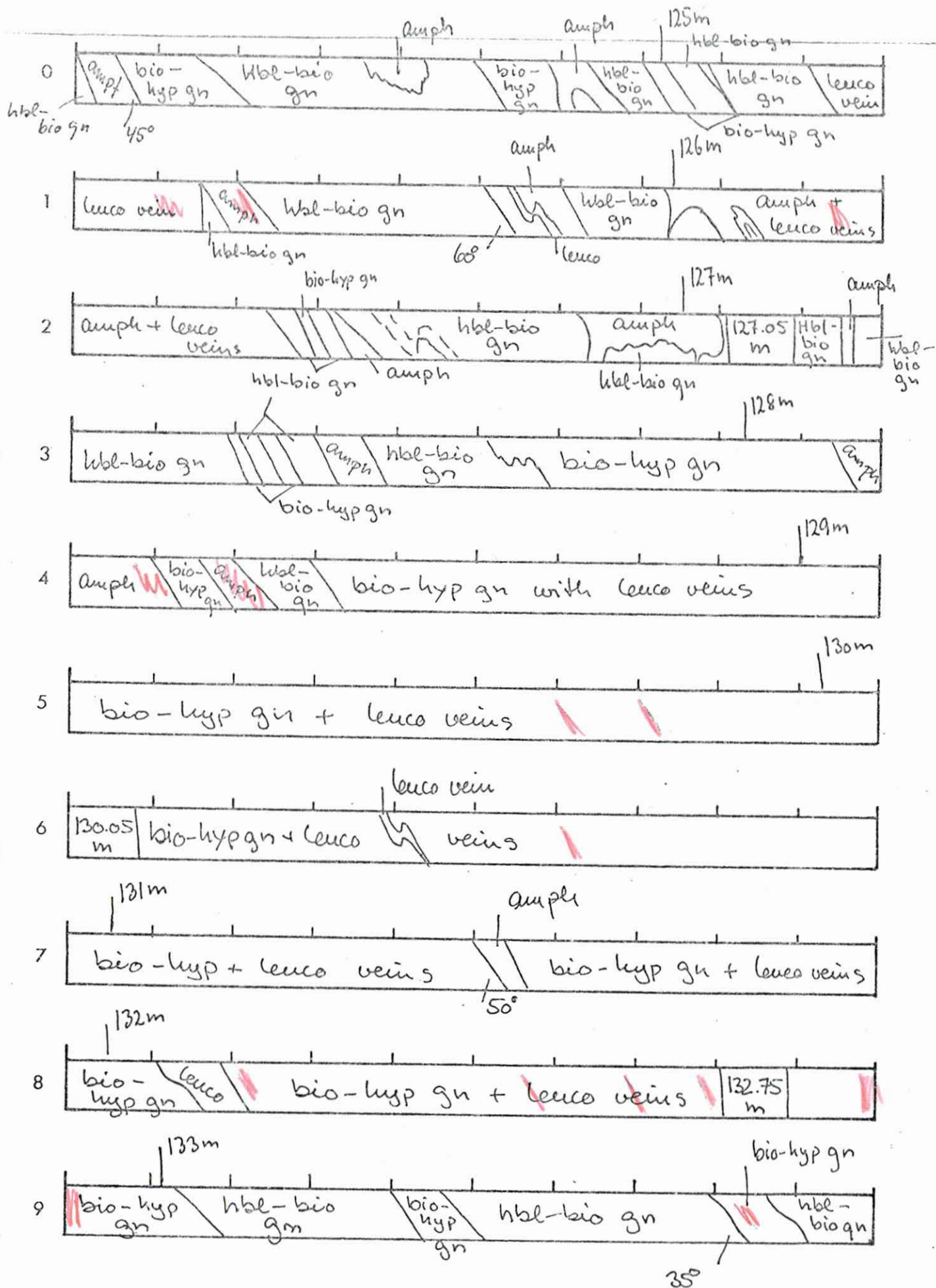


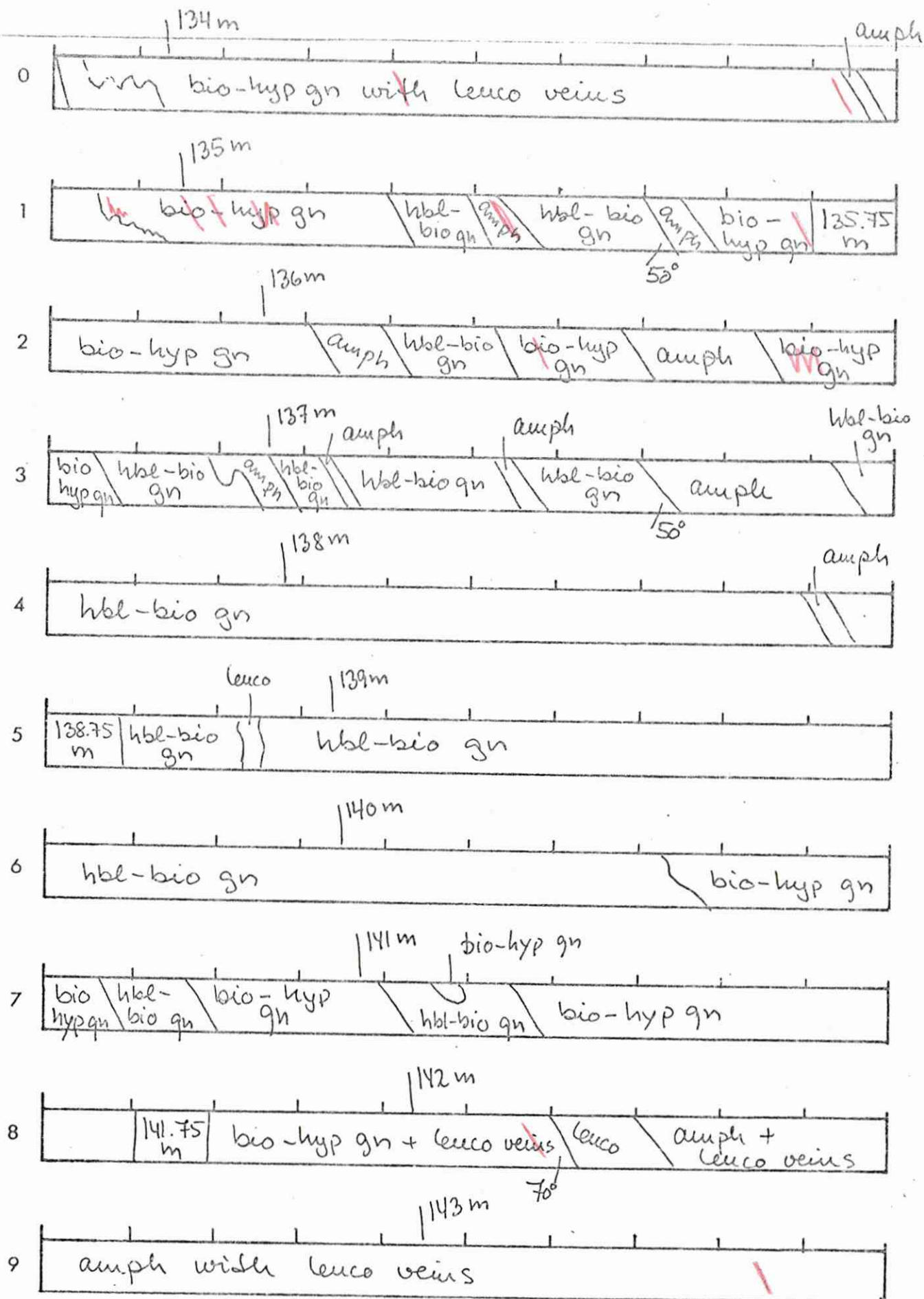


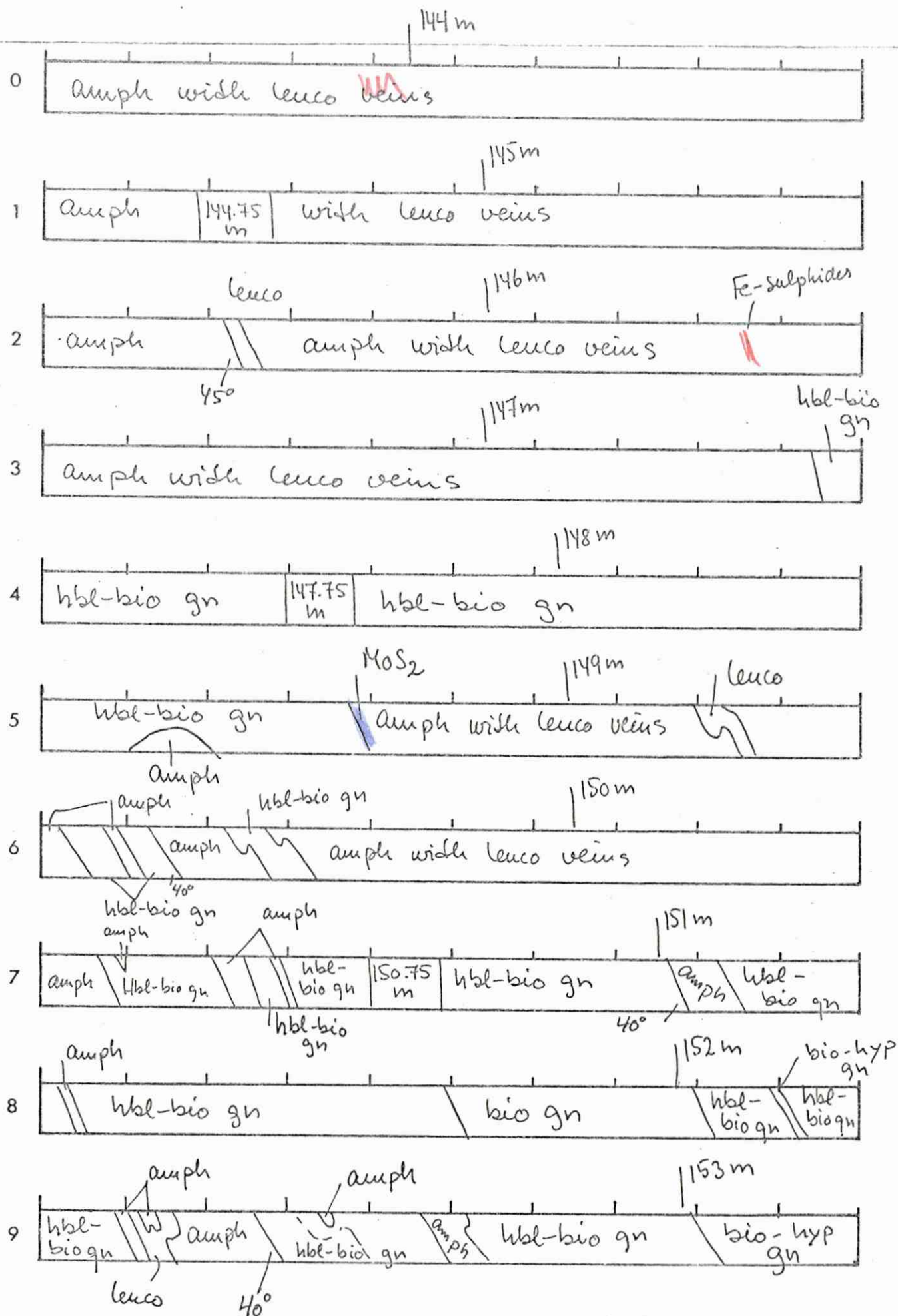


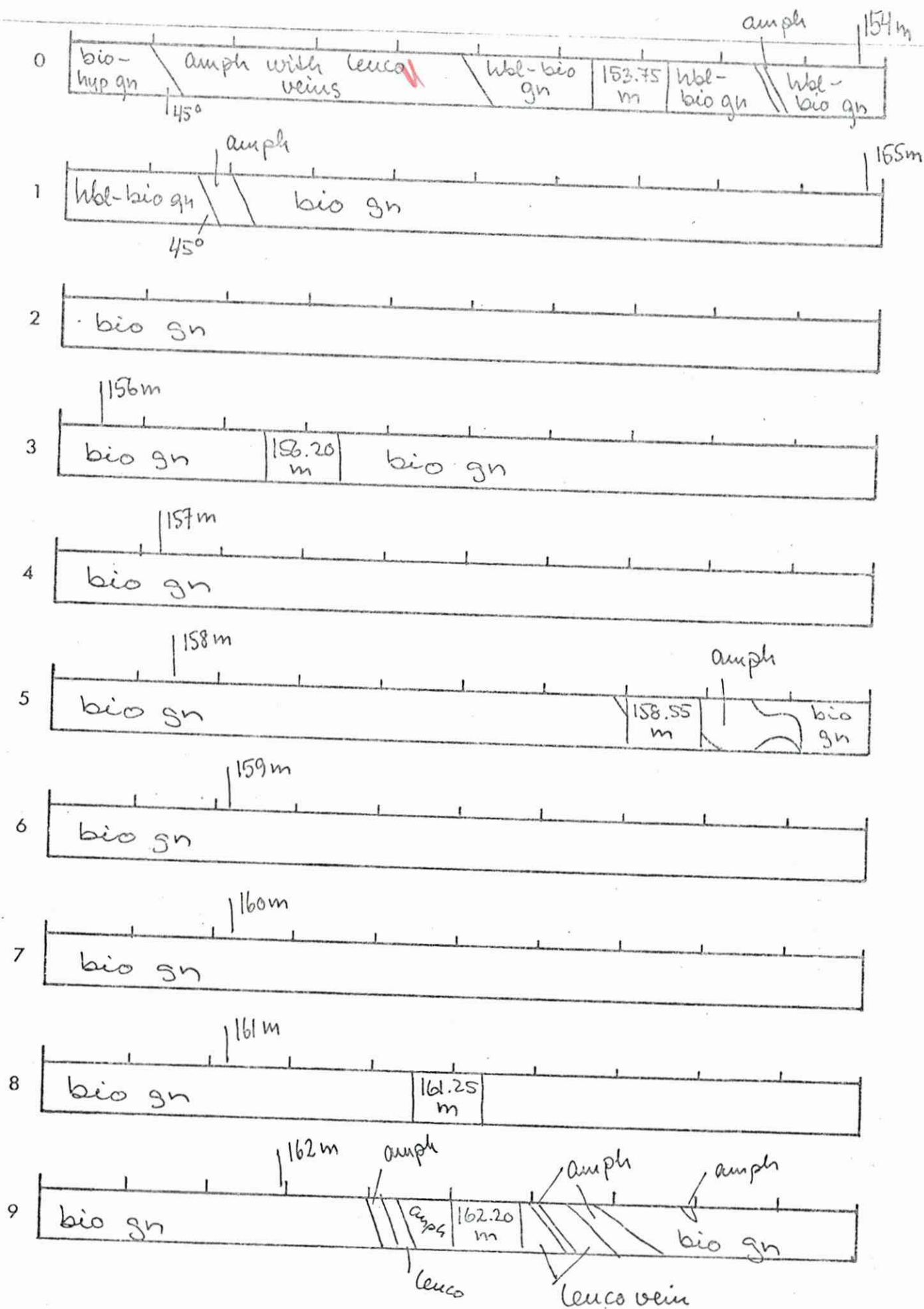


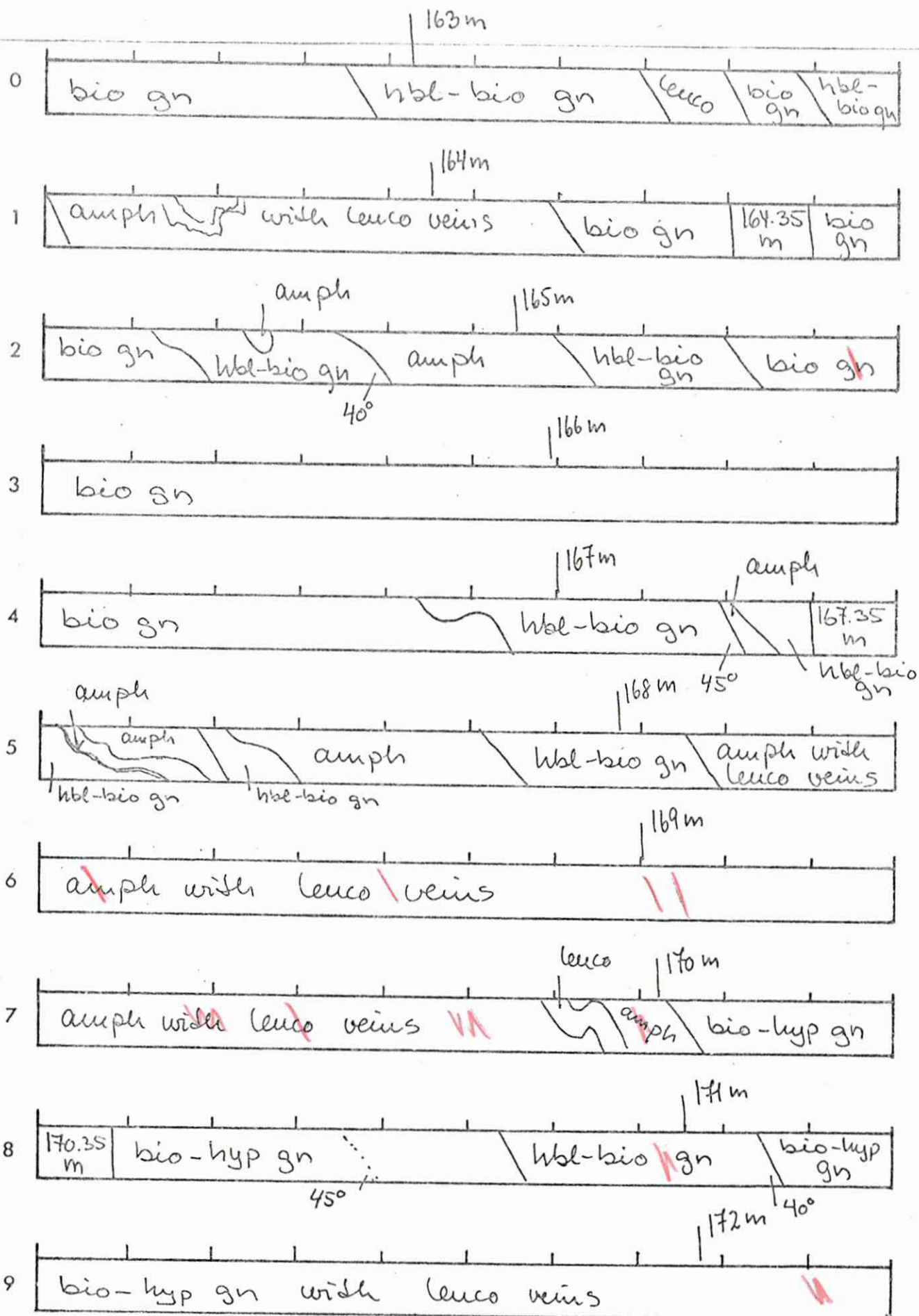


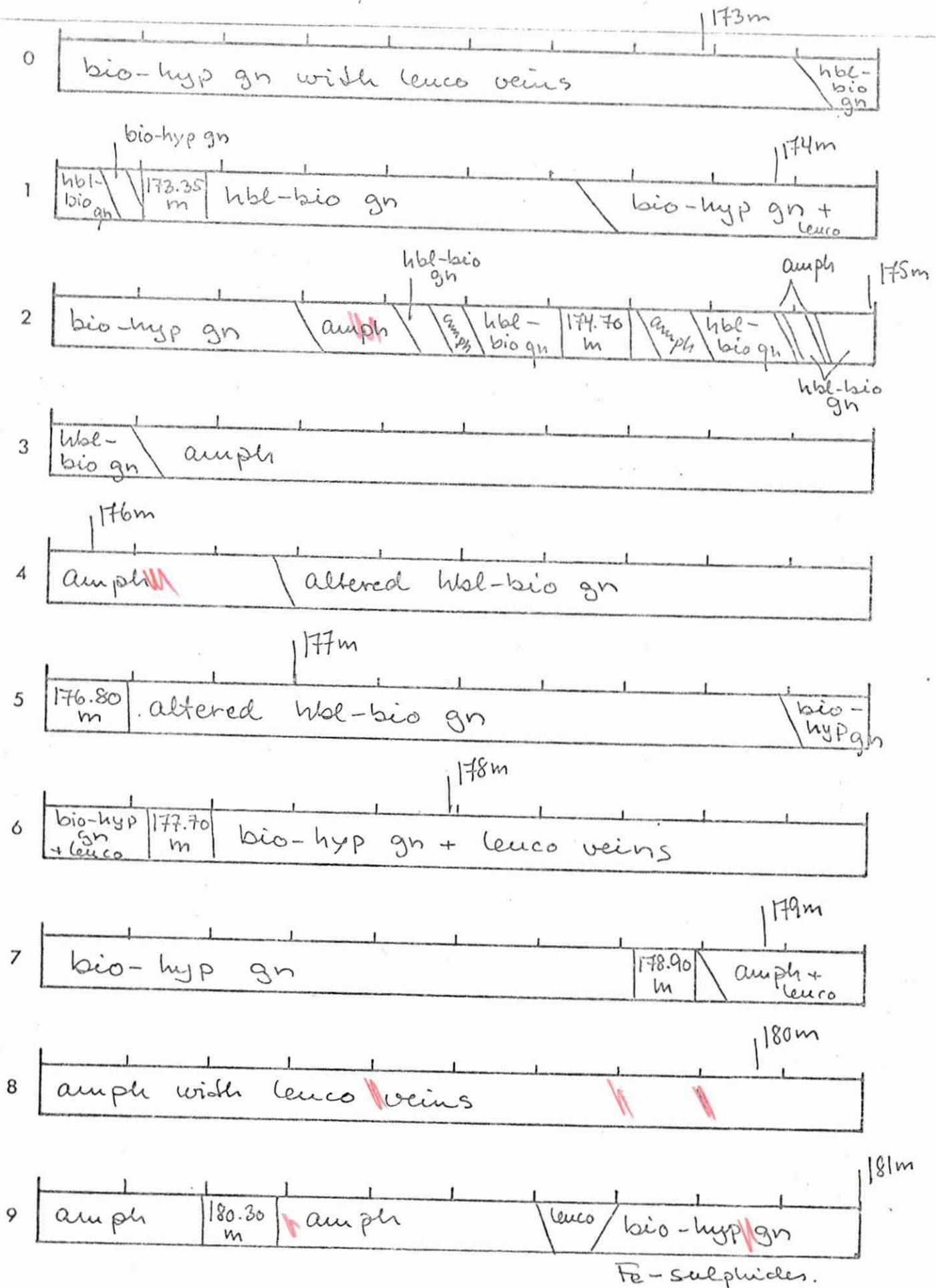


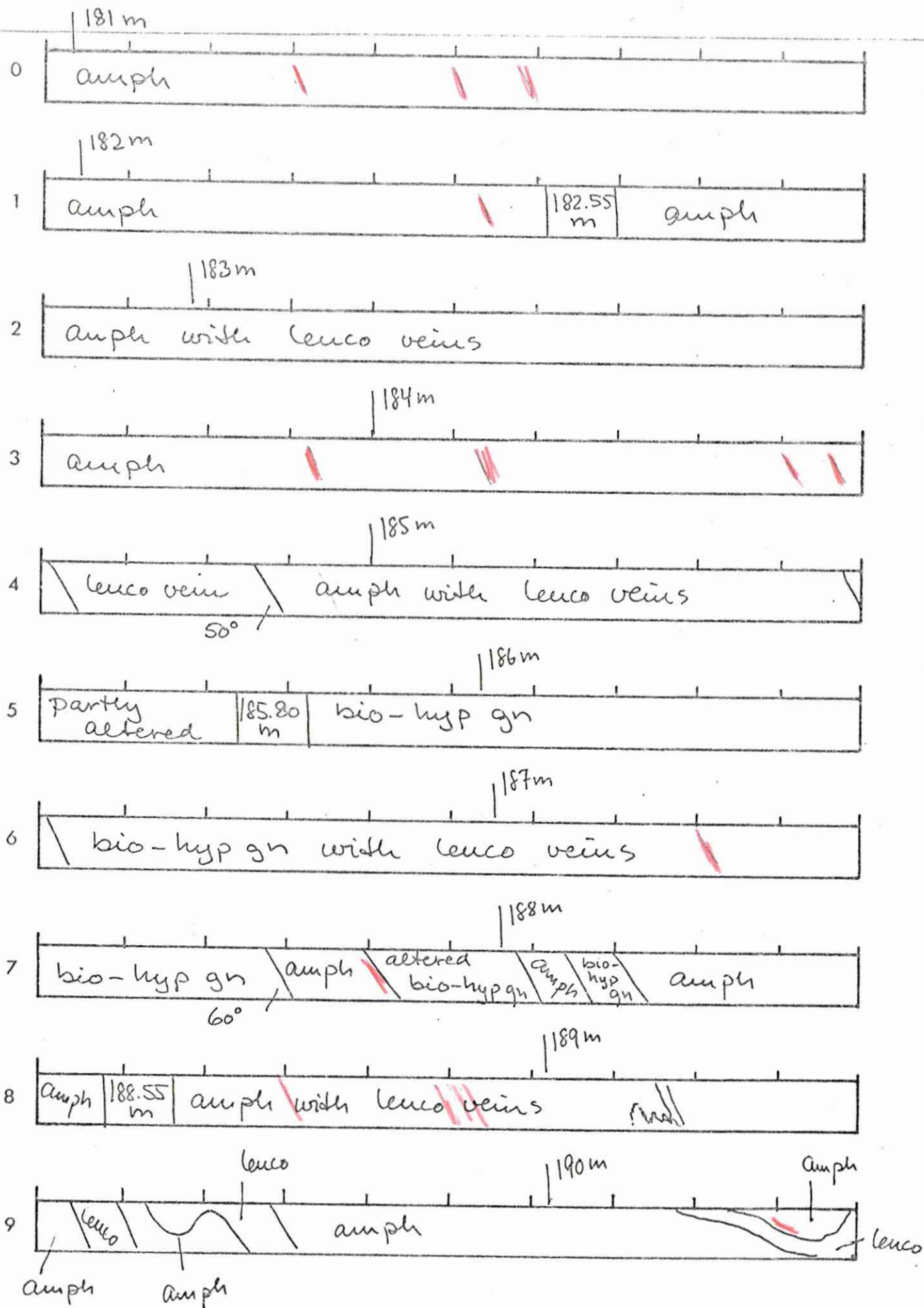


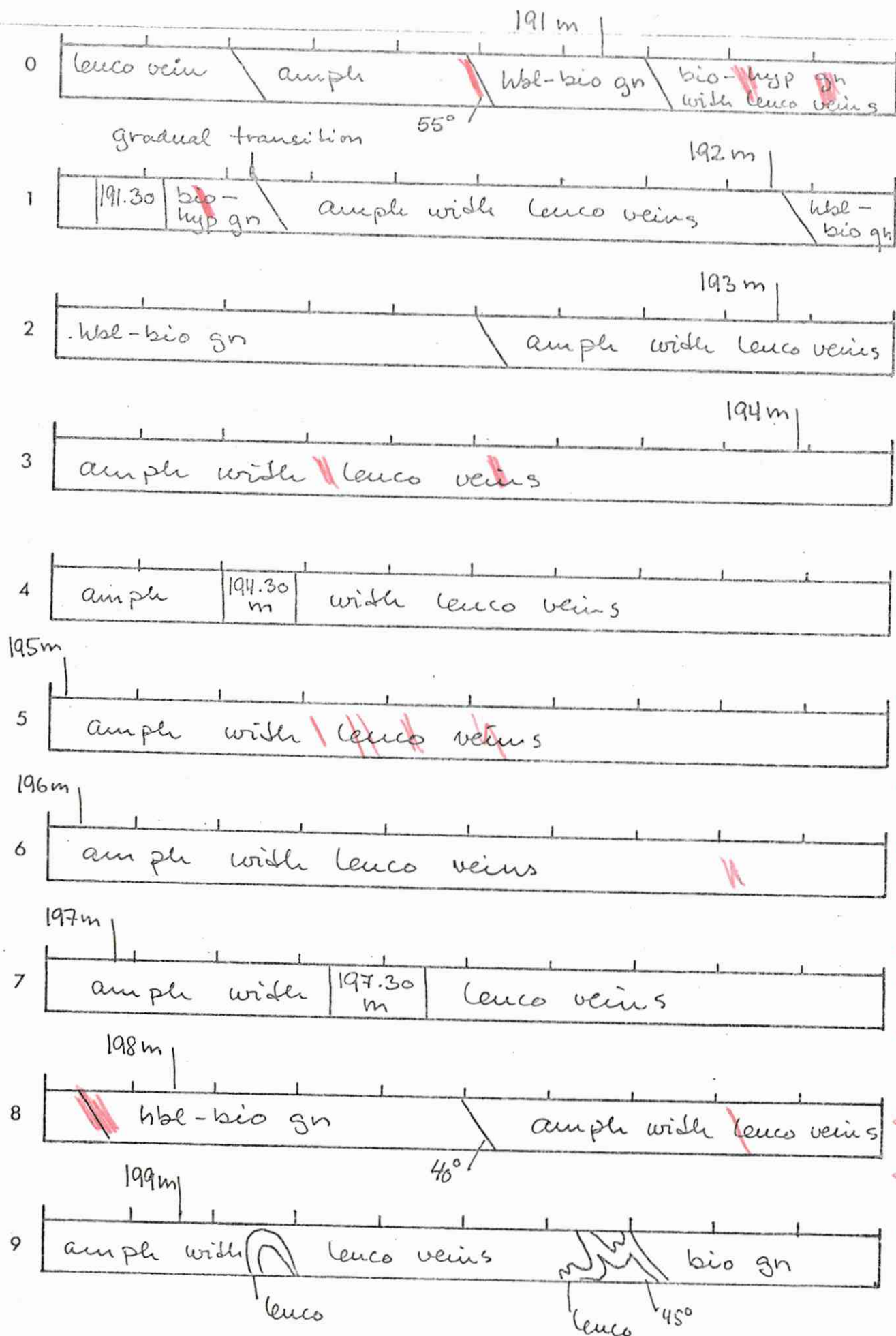


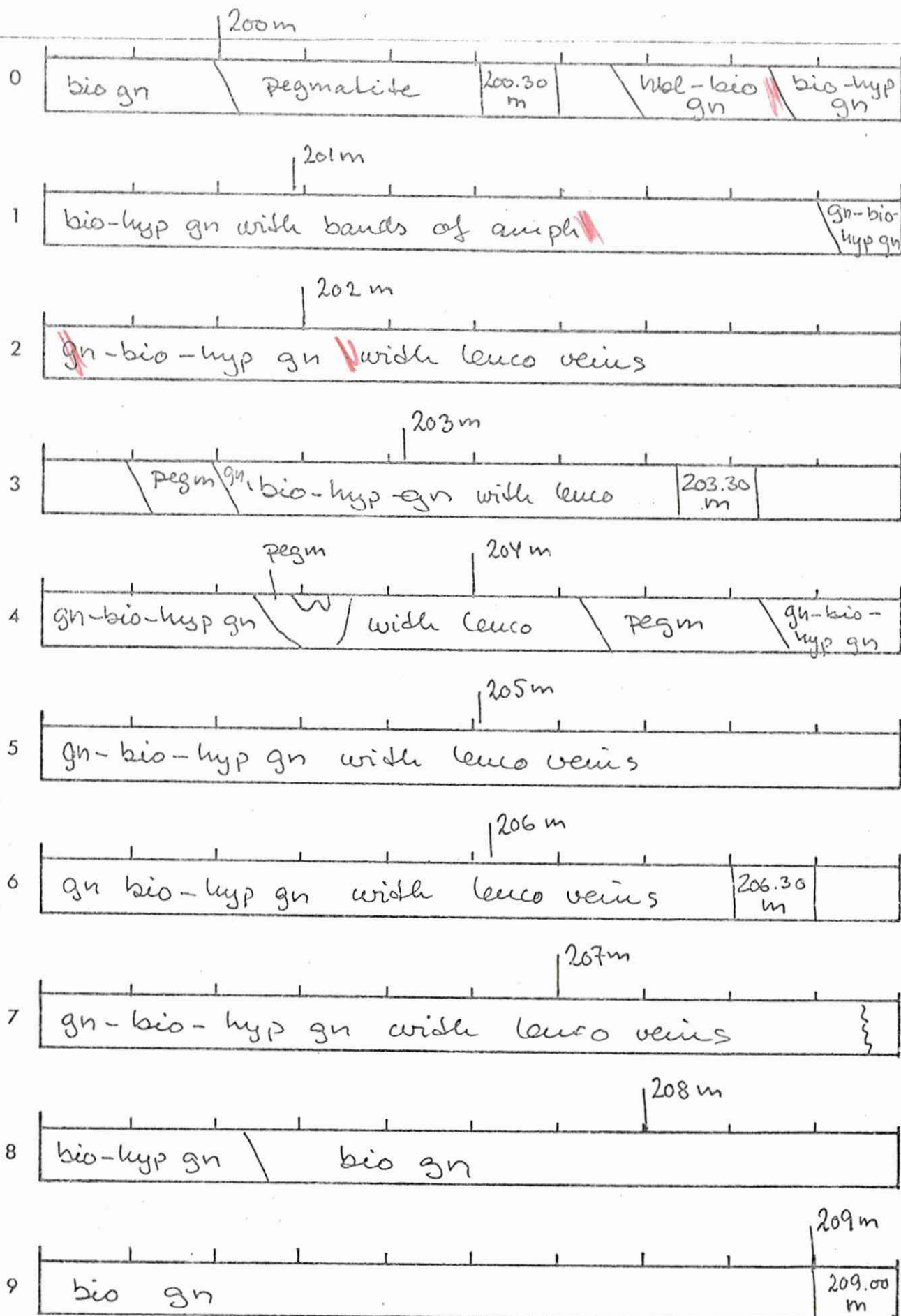


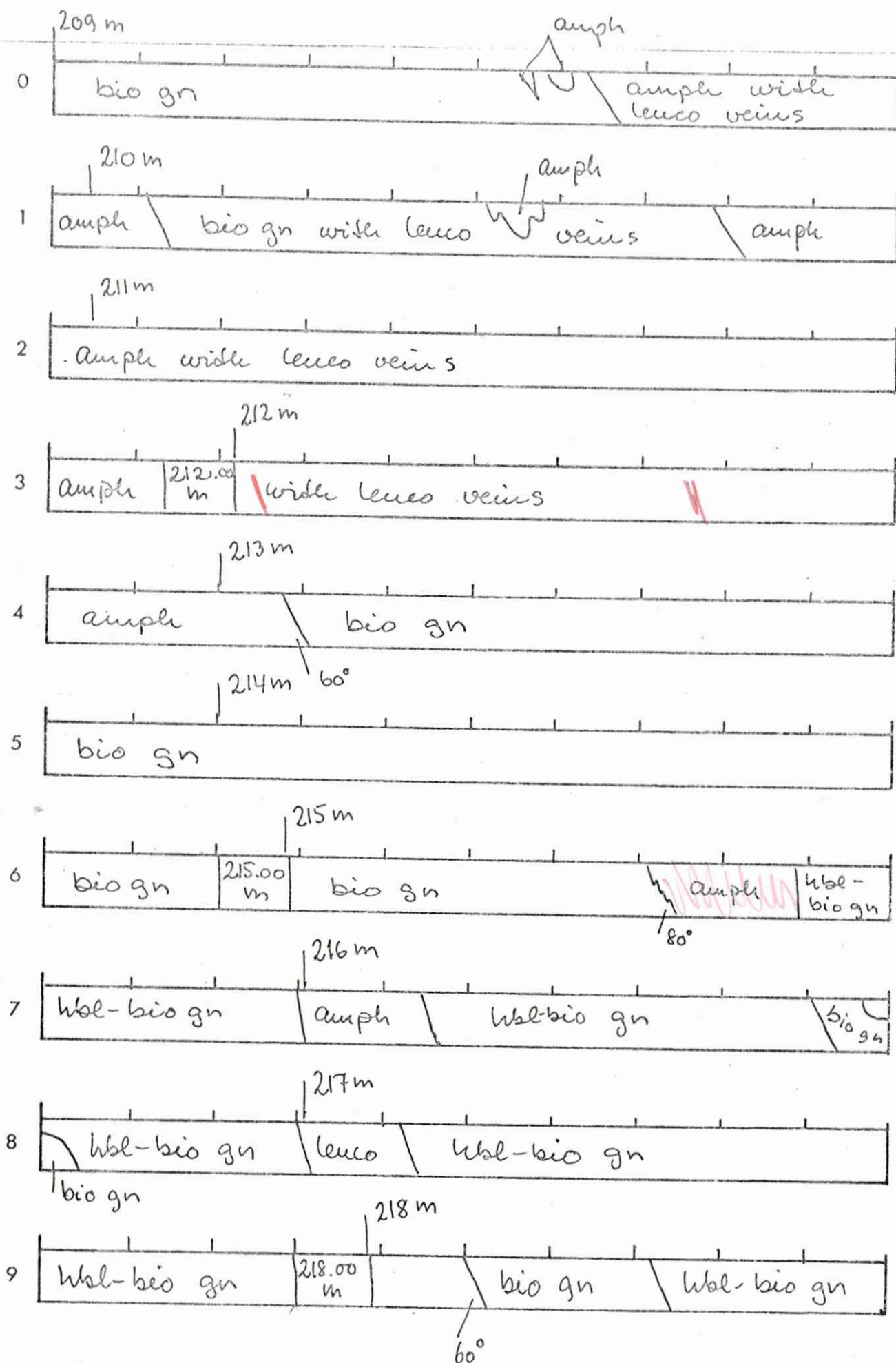


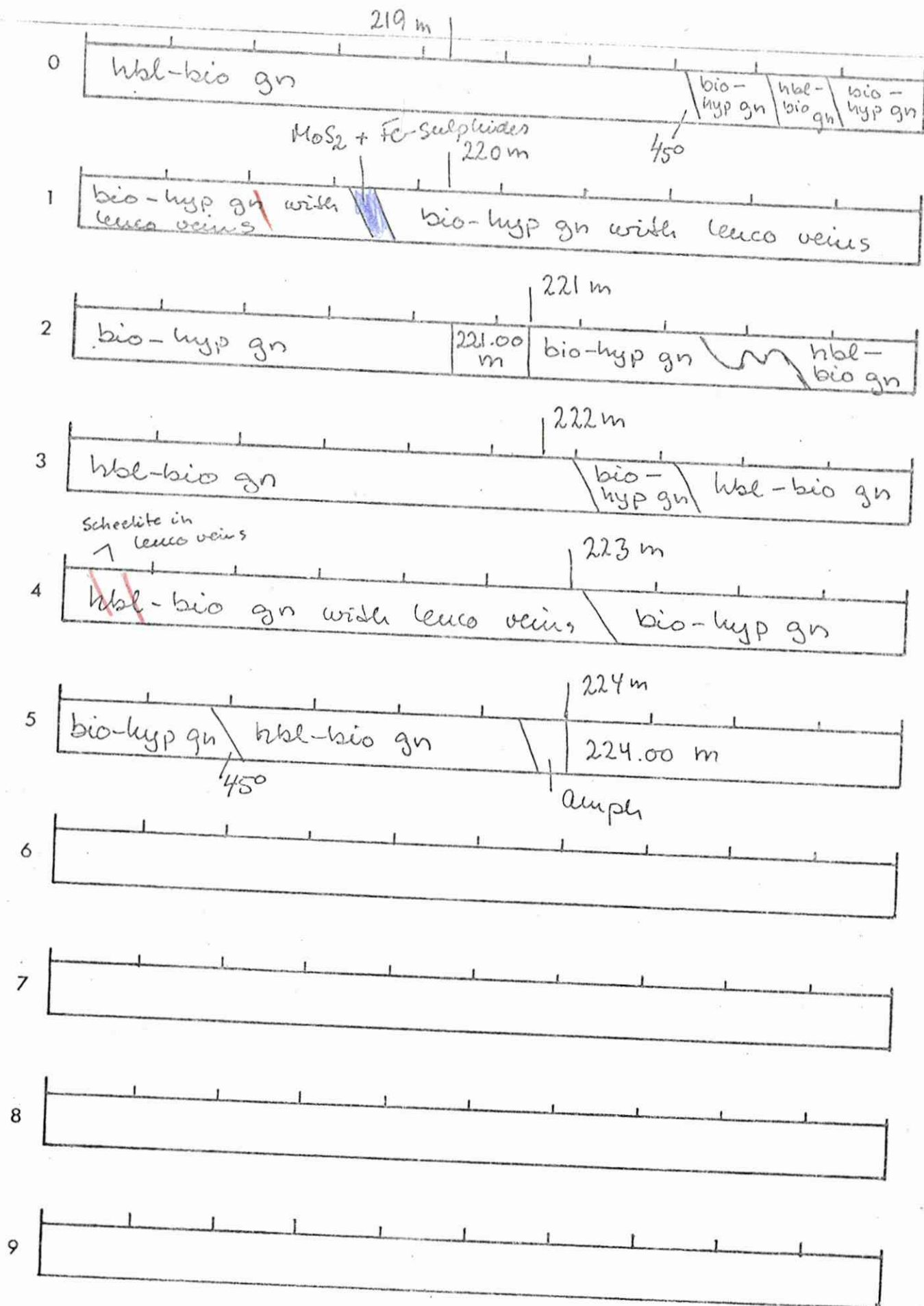


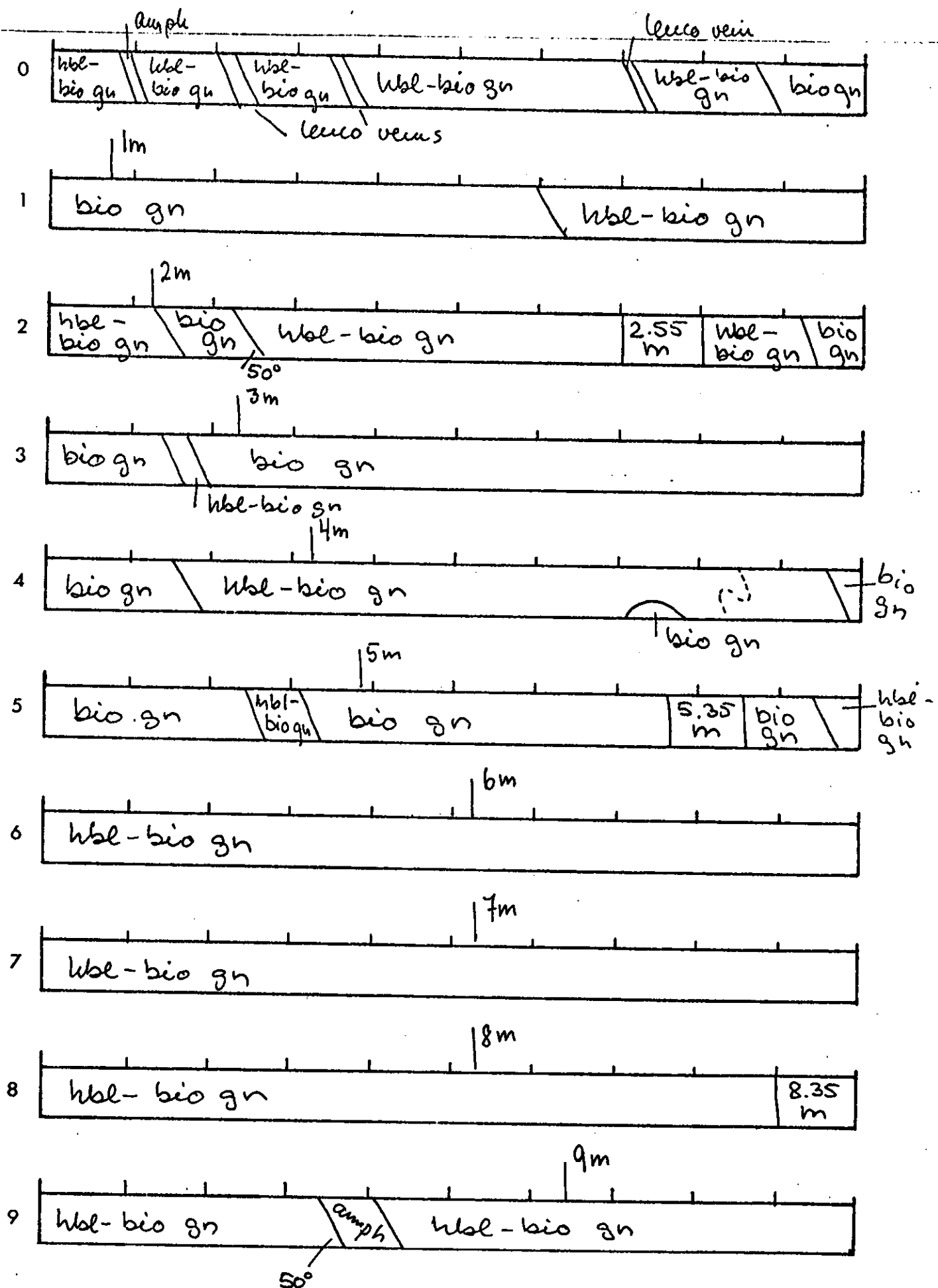


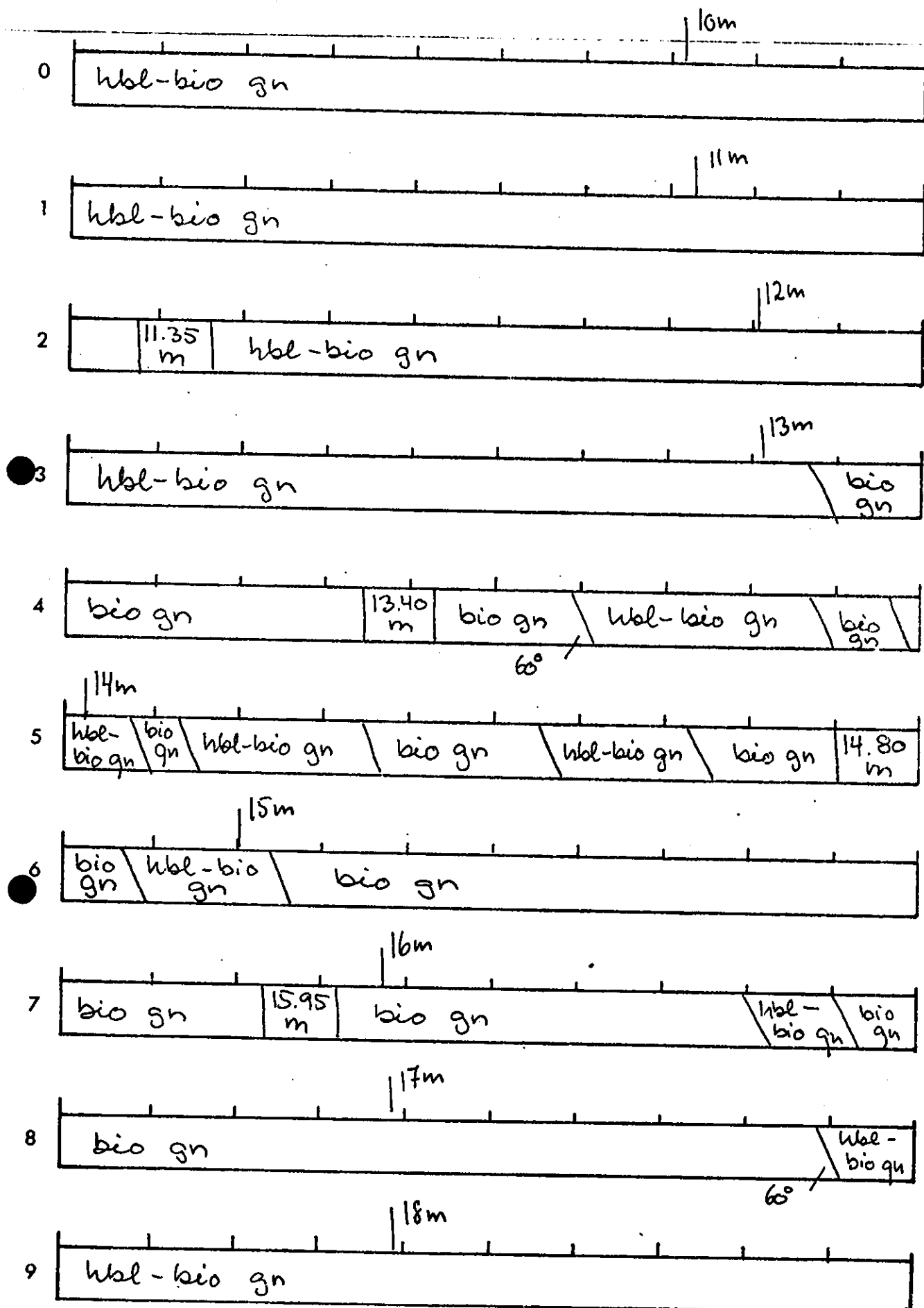


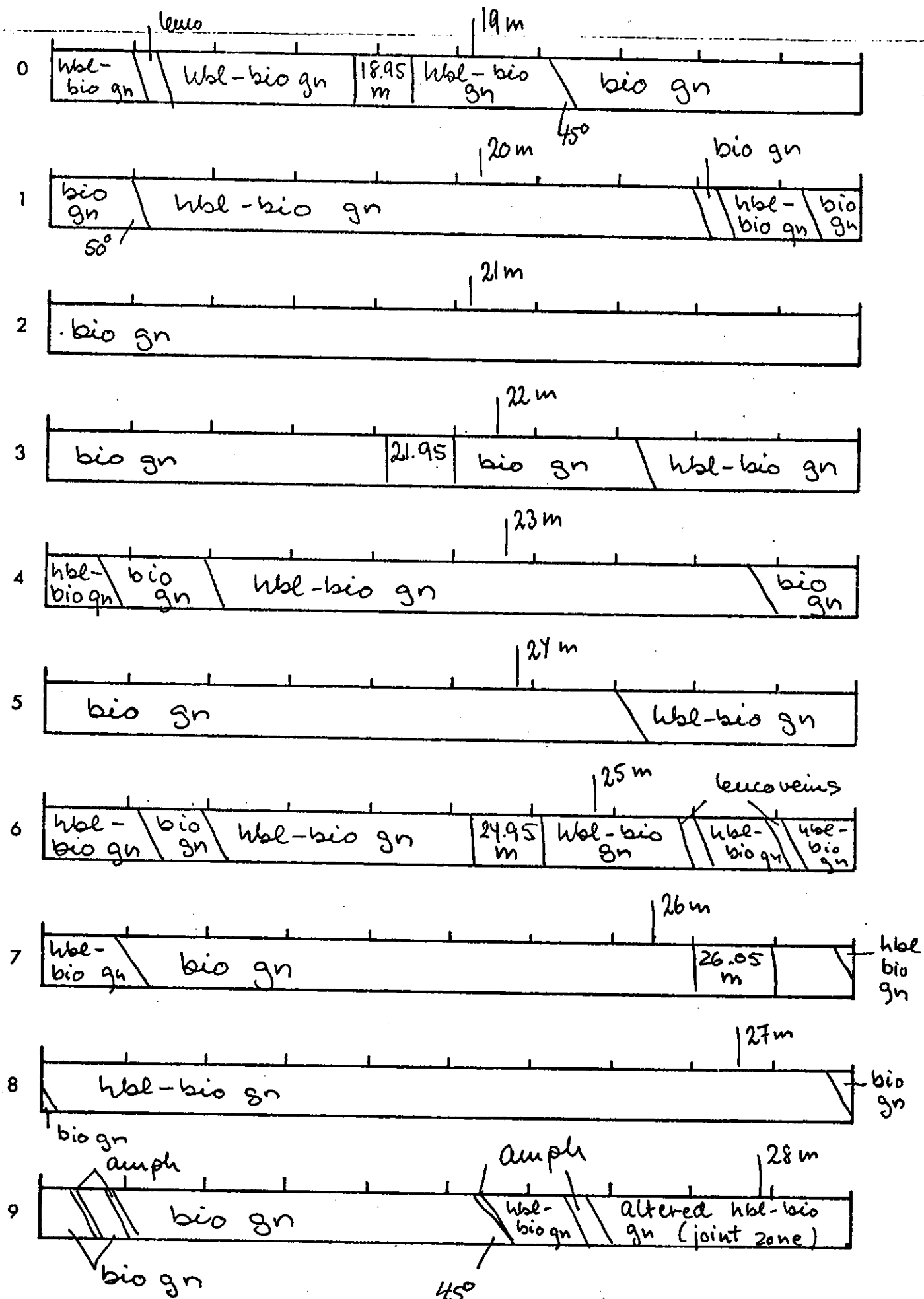


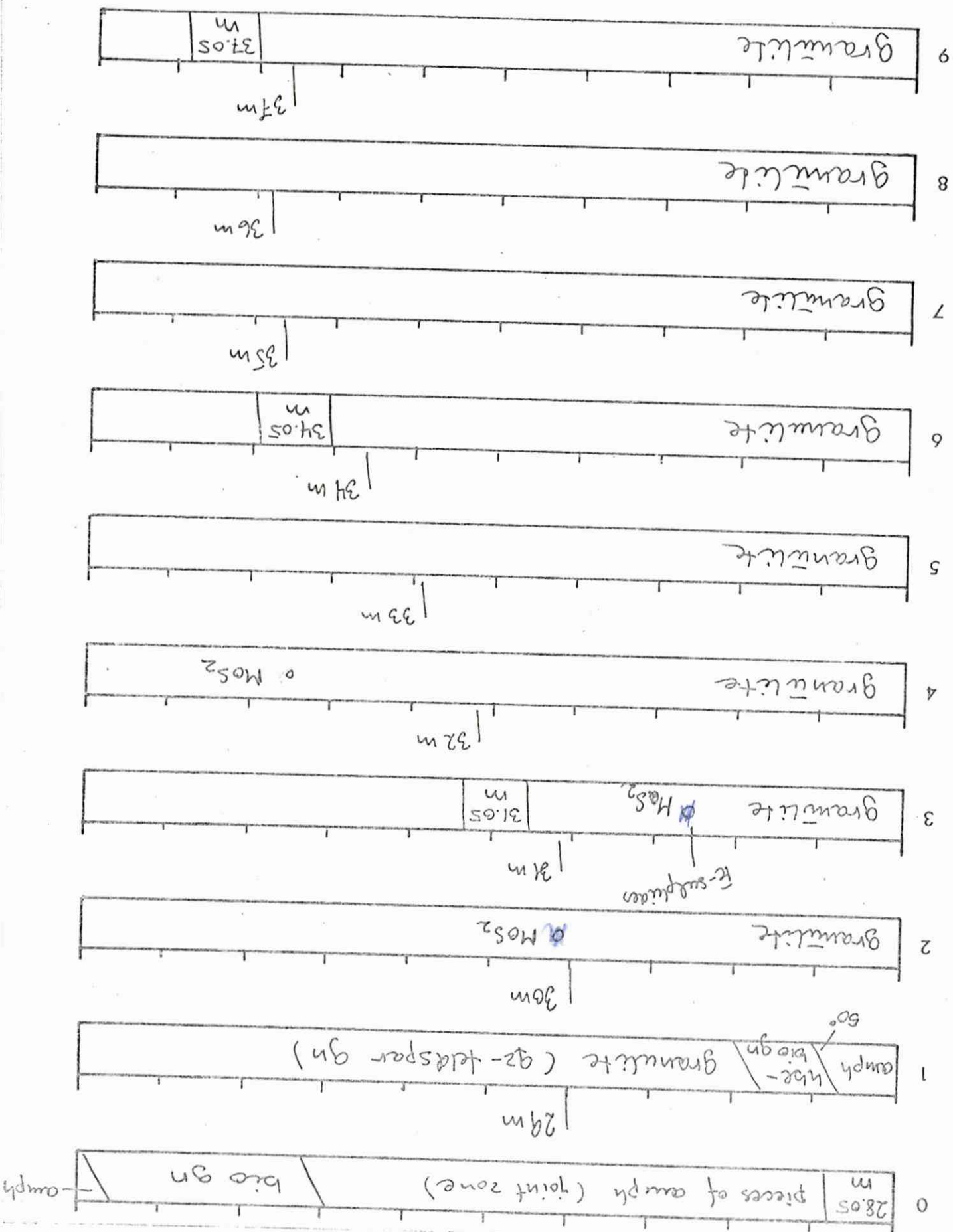


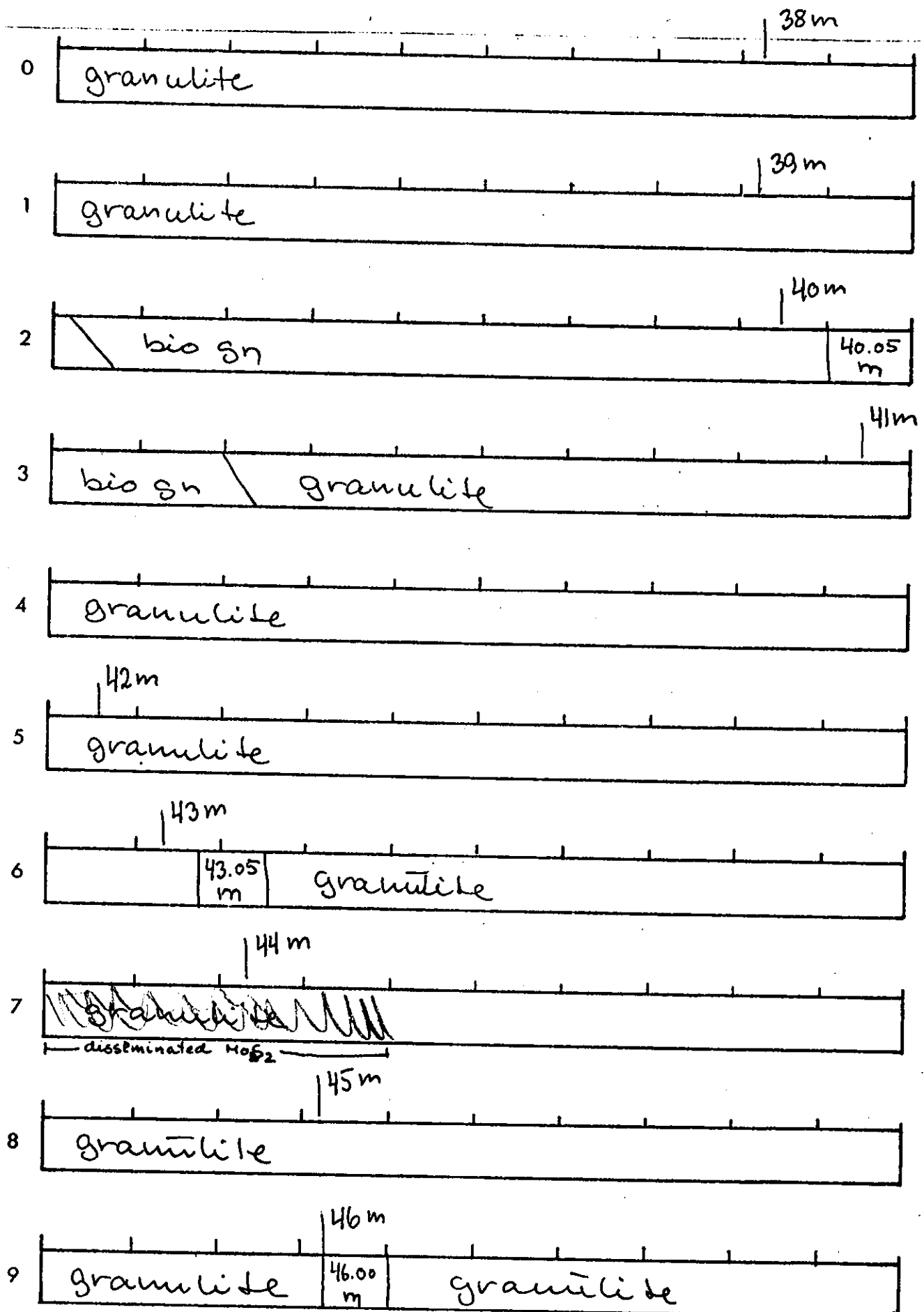












47m

0 granulite o MoS₂

48m

1 granulite

49m

2 granulite

49.00
m

50m

3 granulite

51m

4 granulite

50.90
m

52m

5 granulite

53m

6 granulite

54m

7

53.55
m

granulite

Fe, Ti-oxides

55m

8 granulite

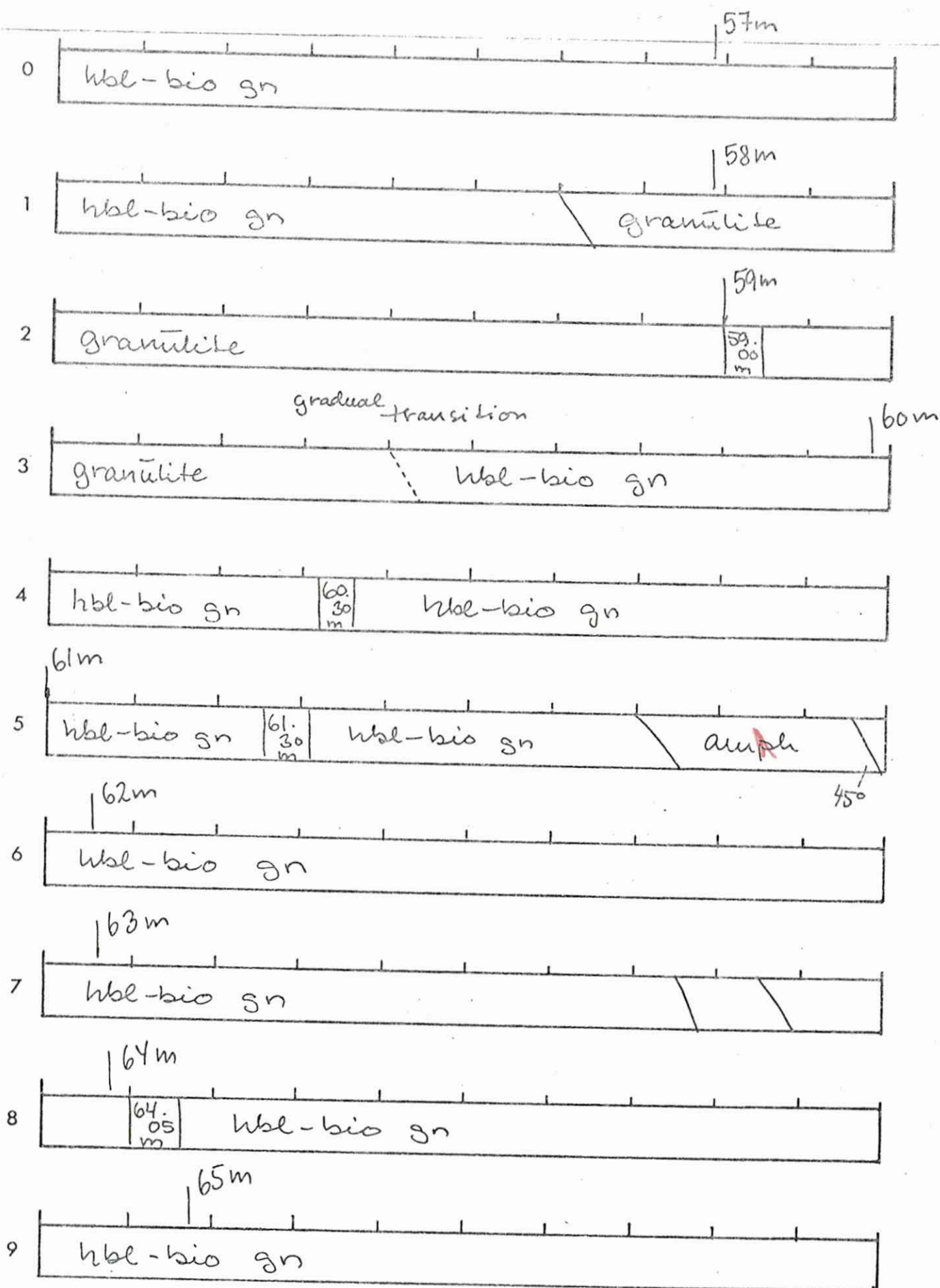
hbl-bio gn

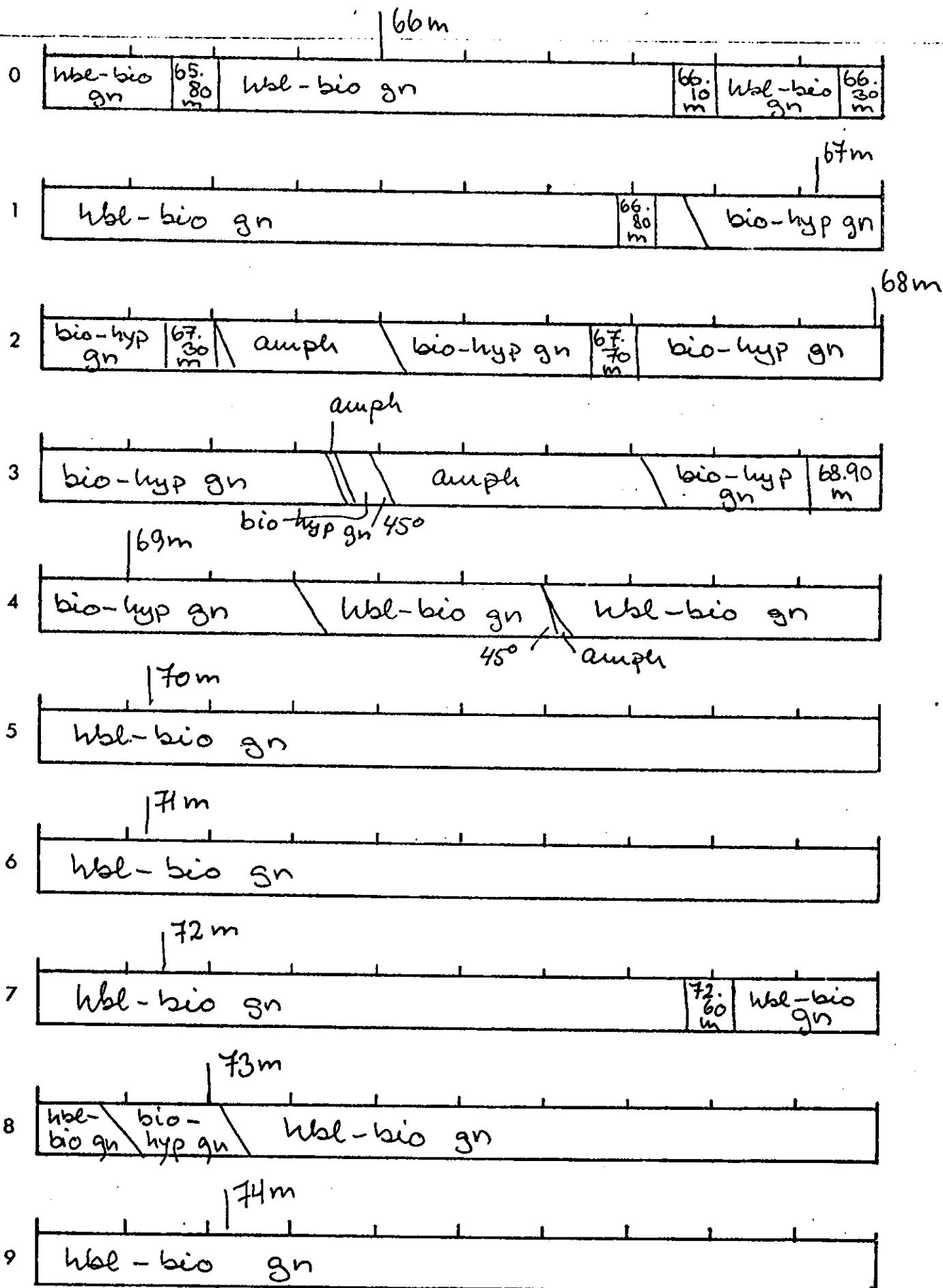
56m

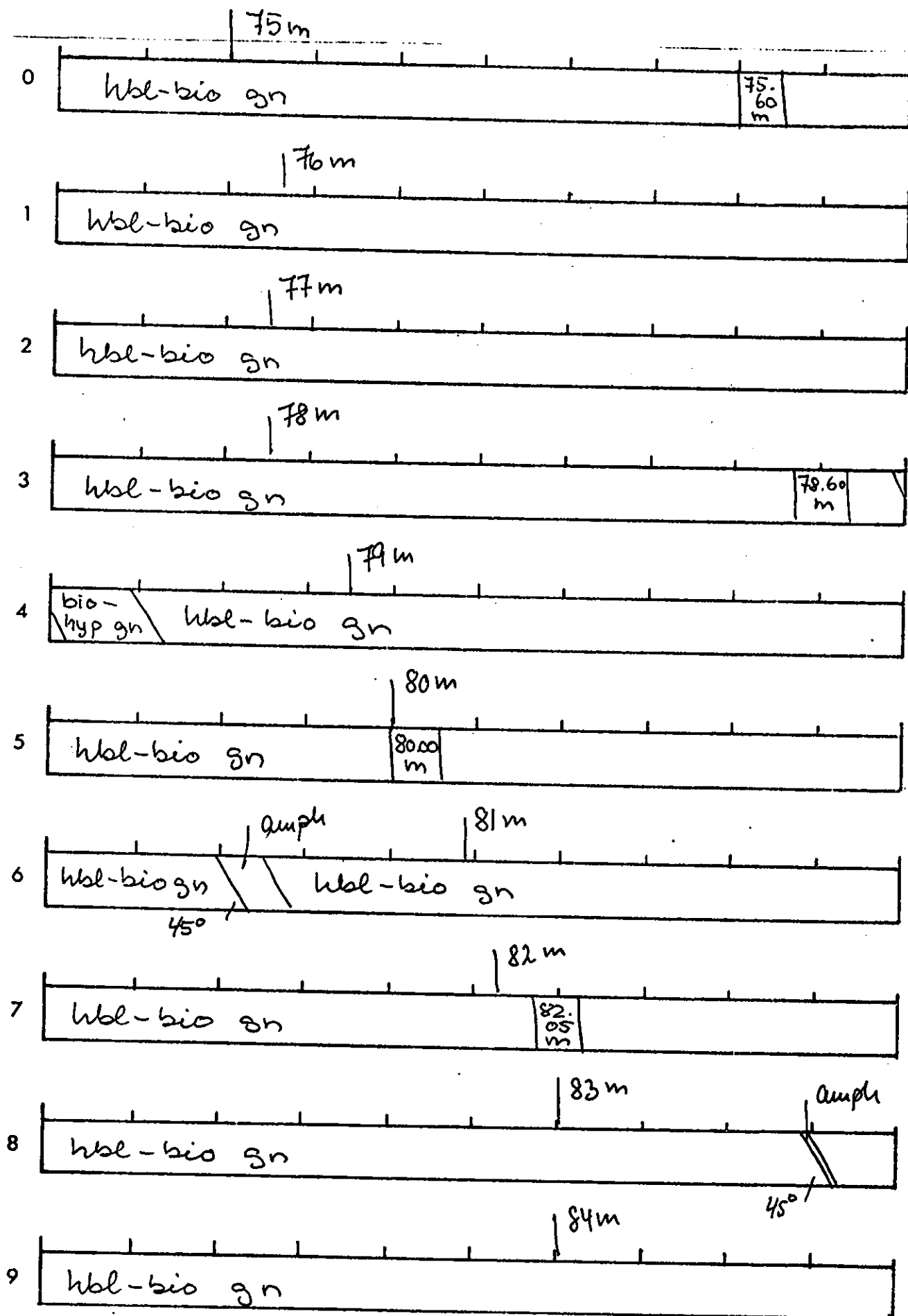
9 hbl-bio gn

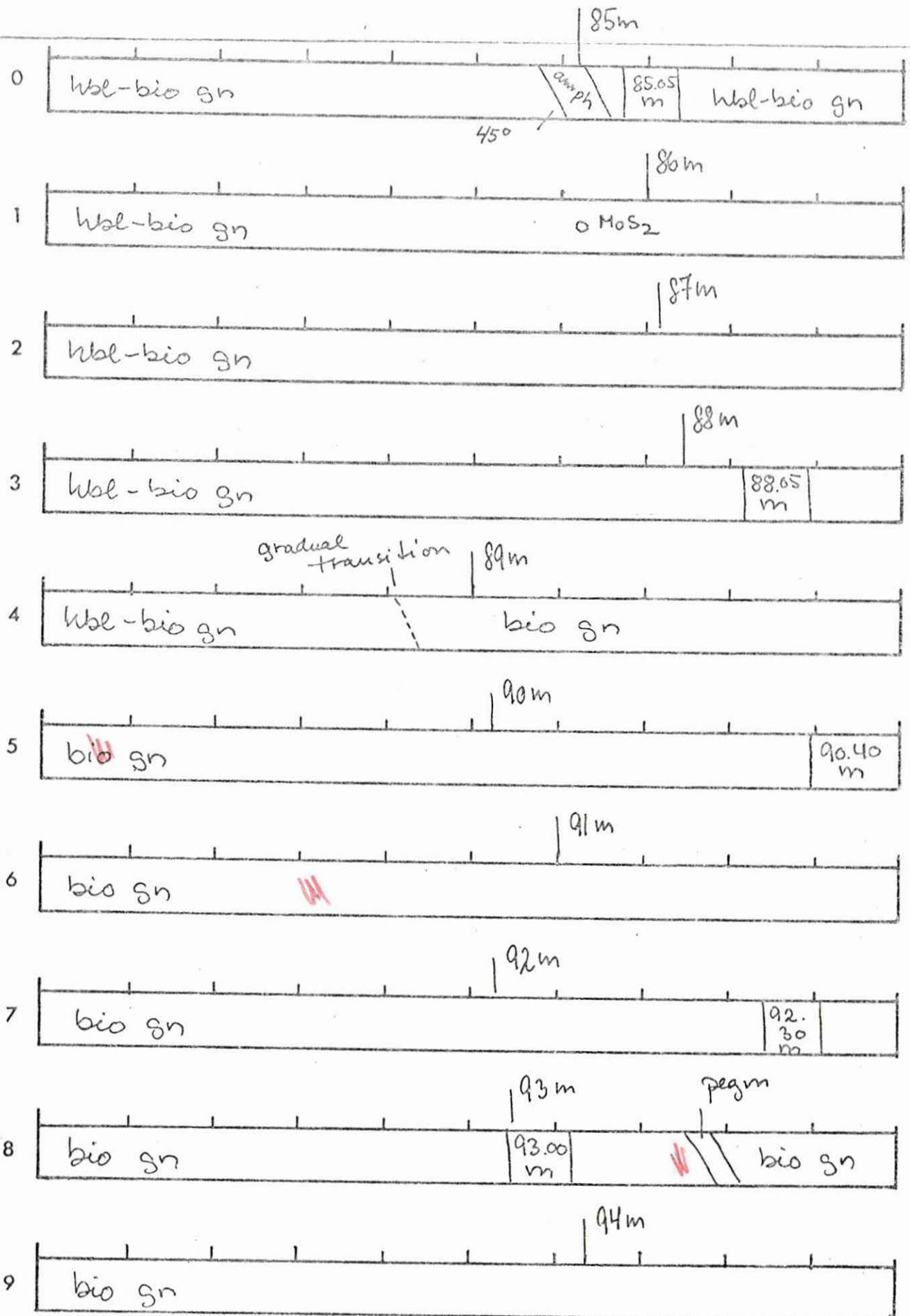
MoS₂56.00
m

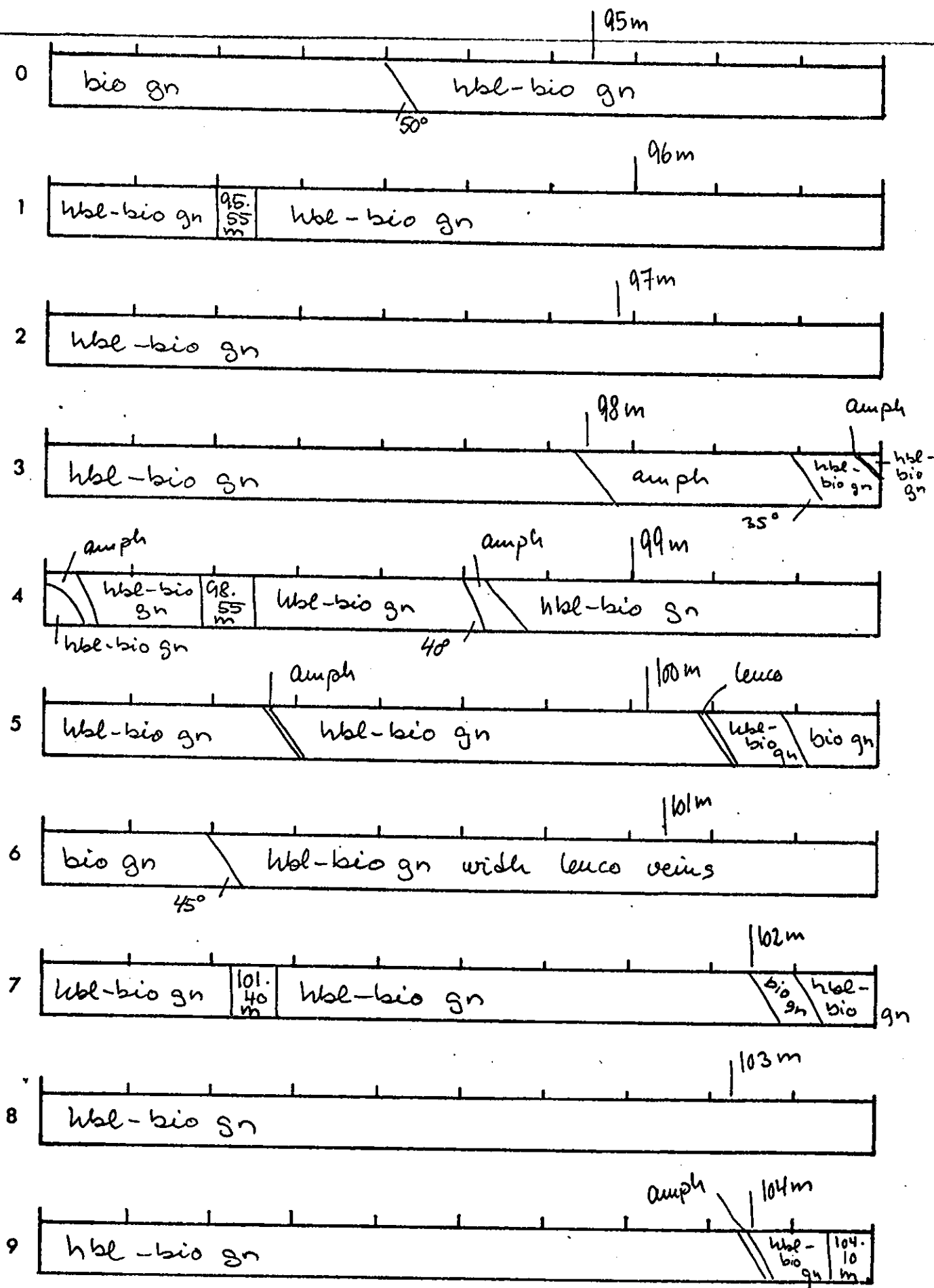
hbl-bio gn

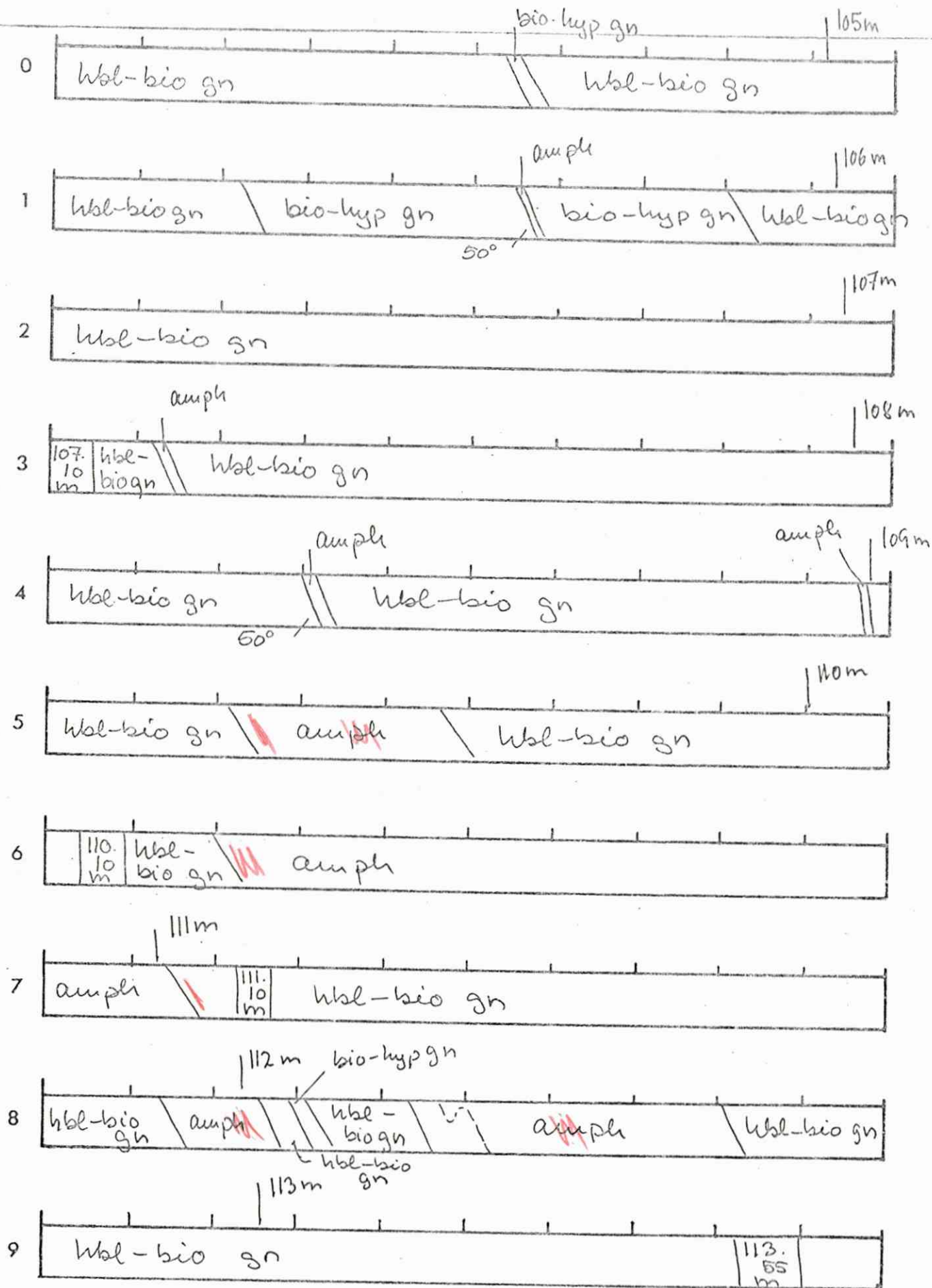


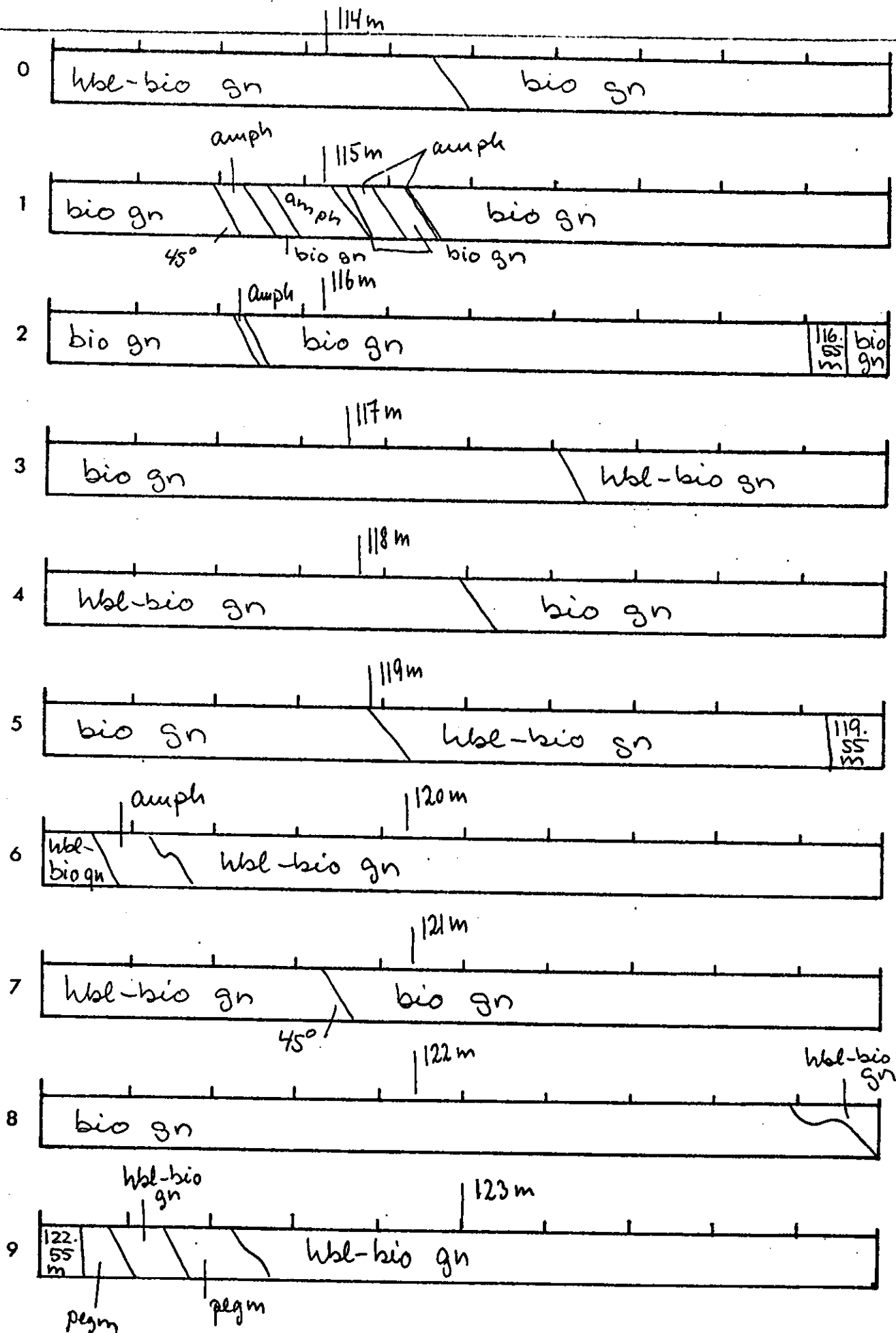


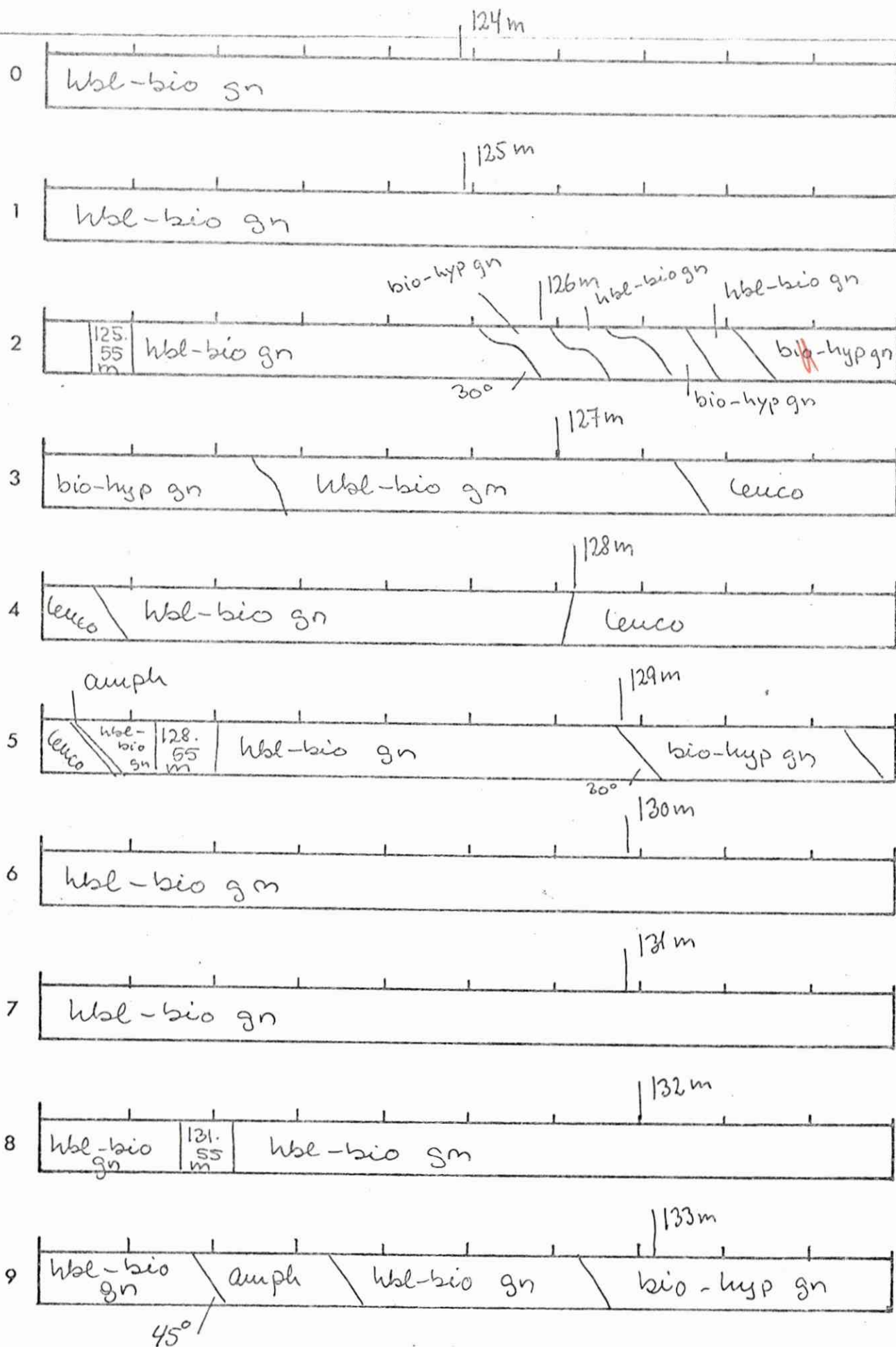


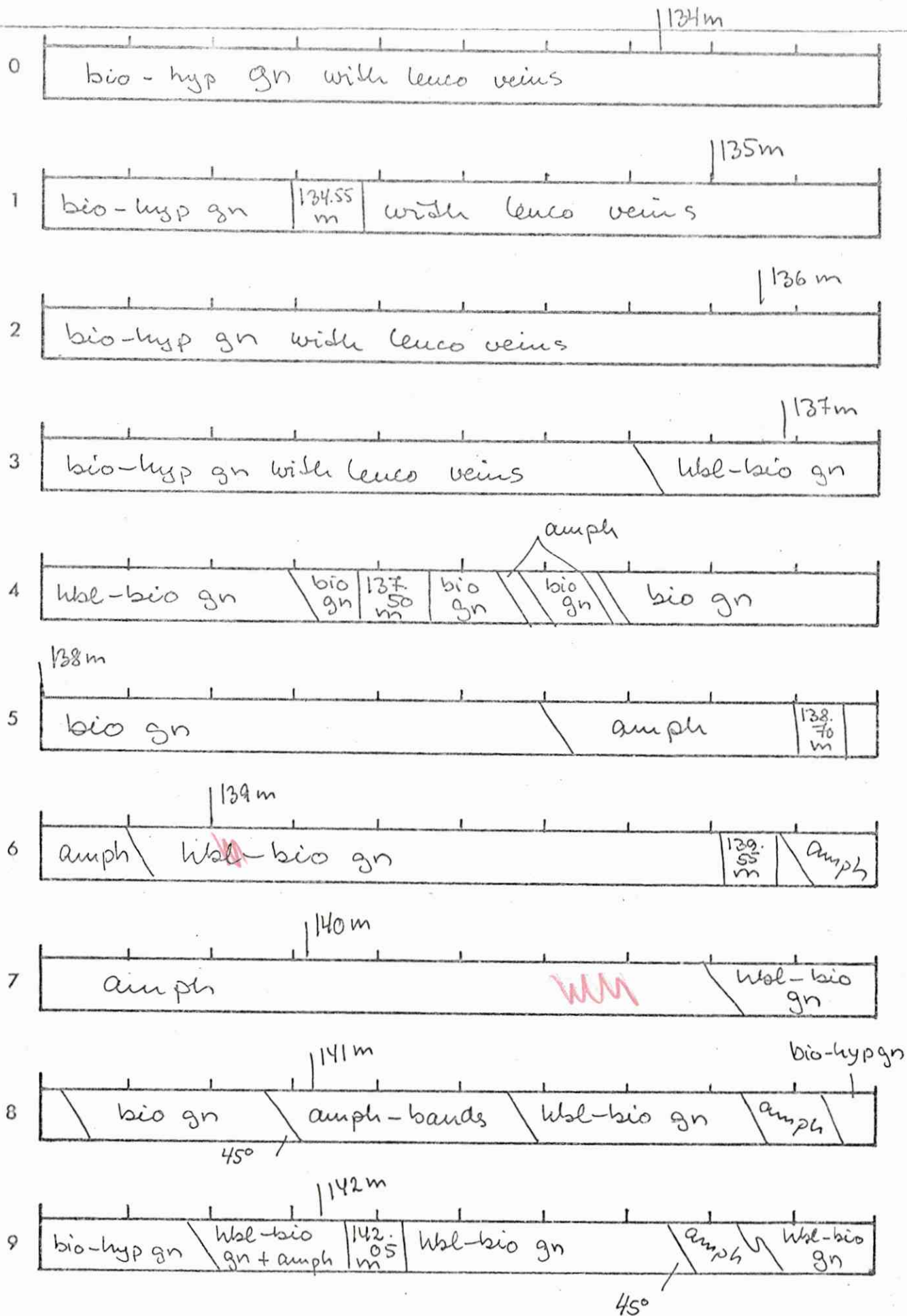


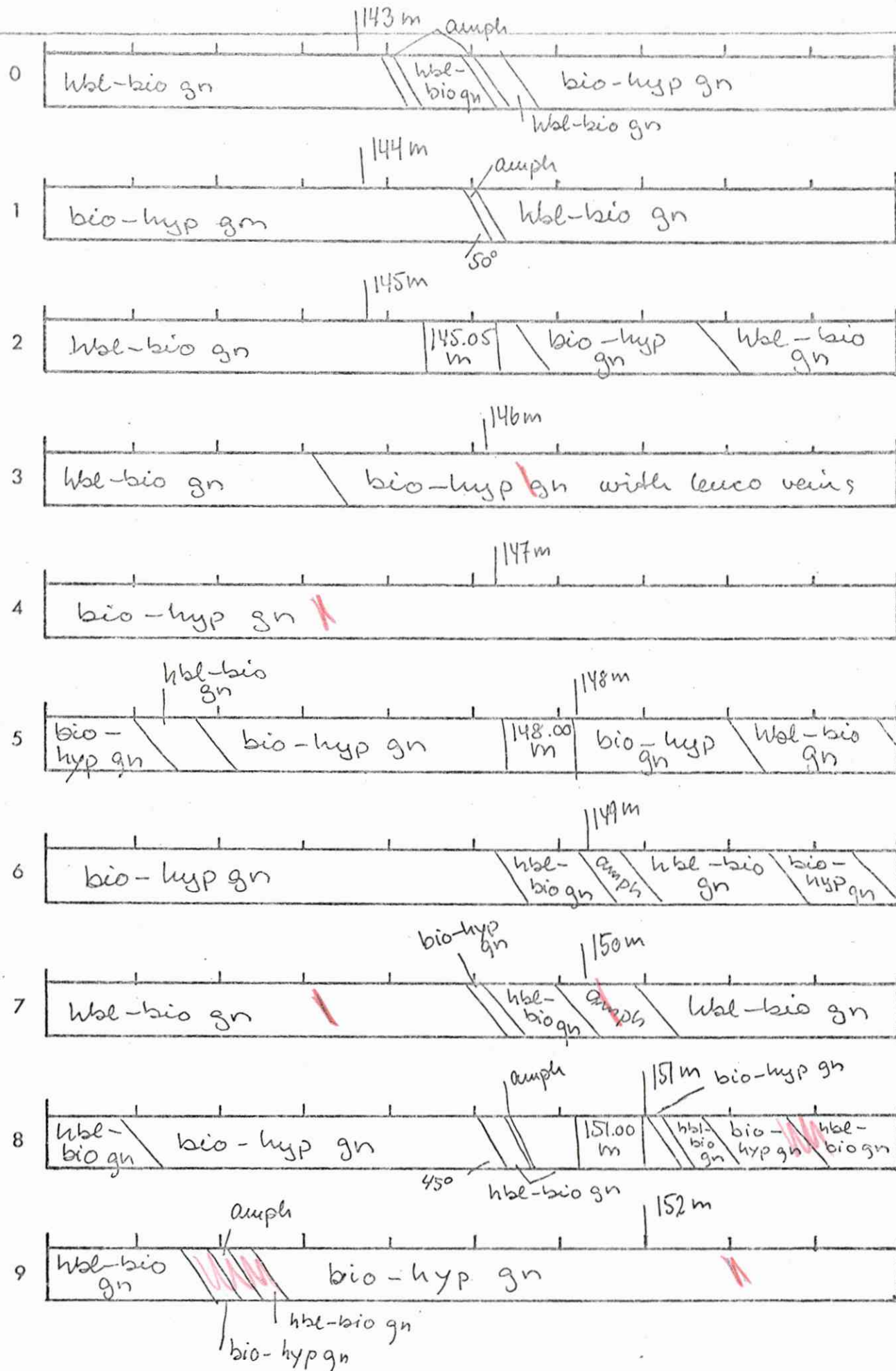


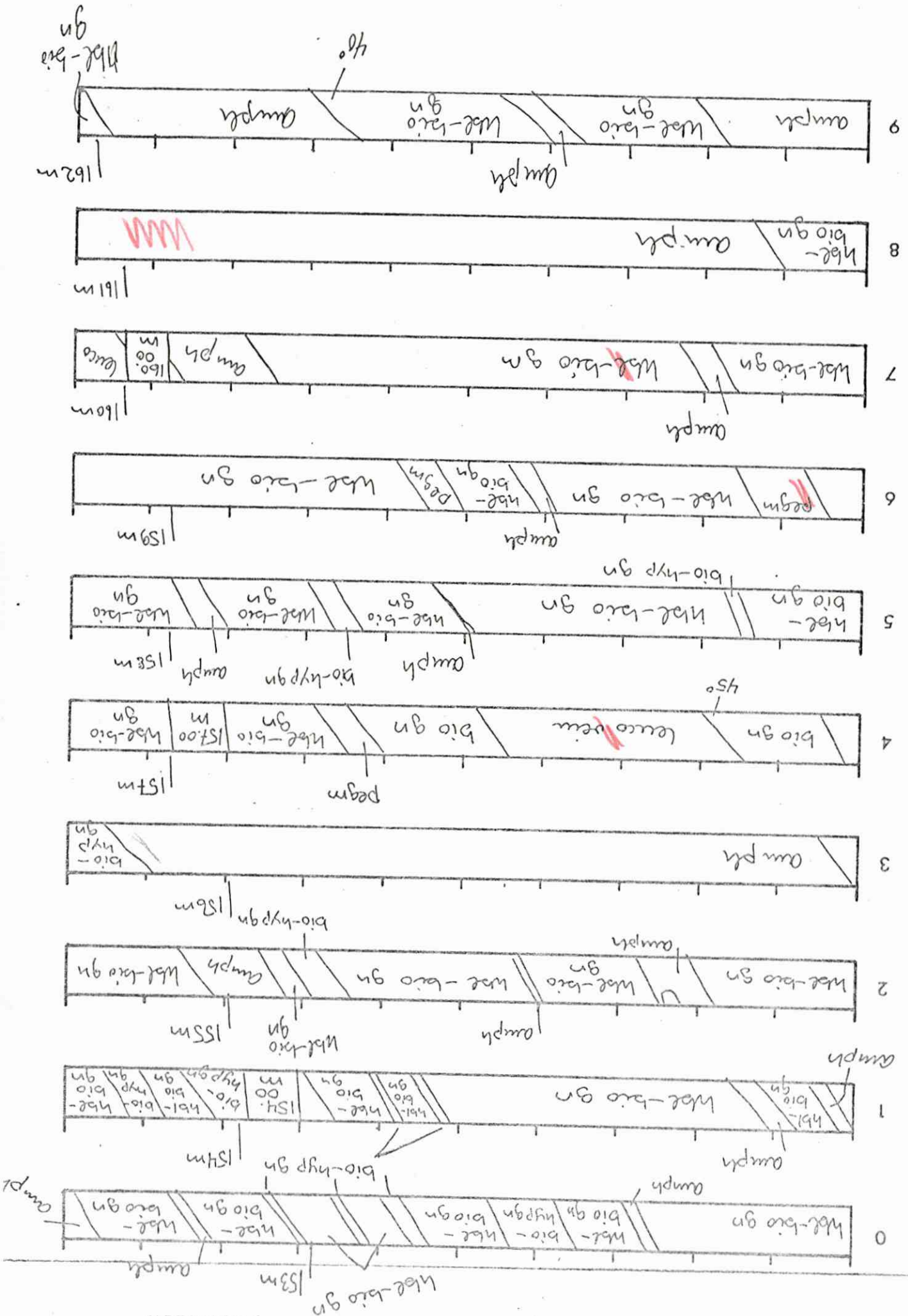


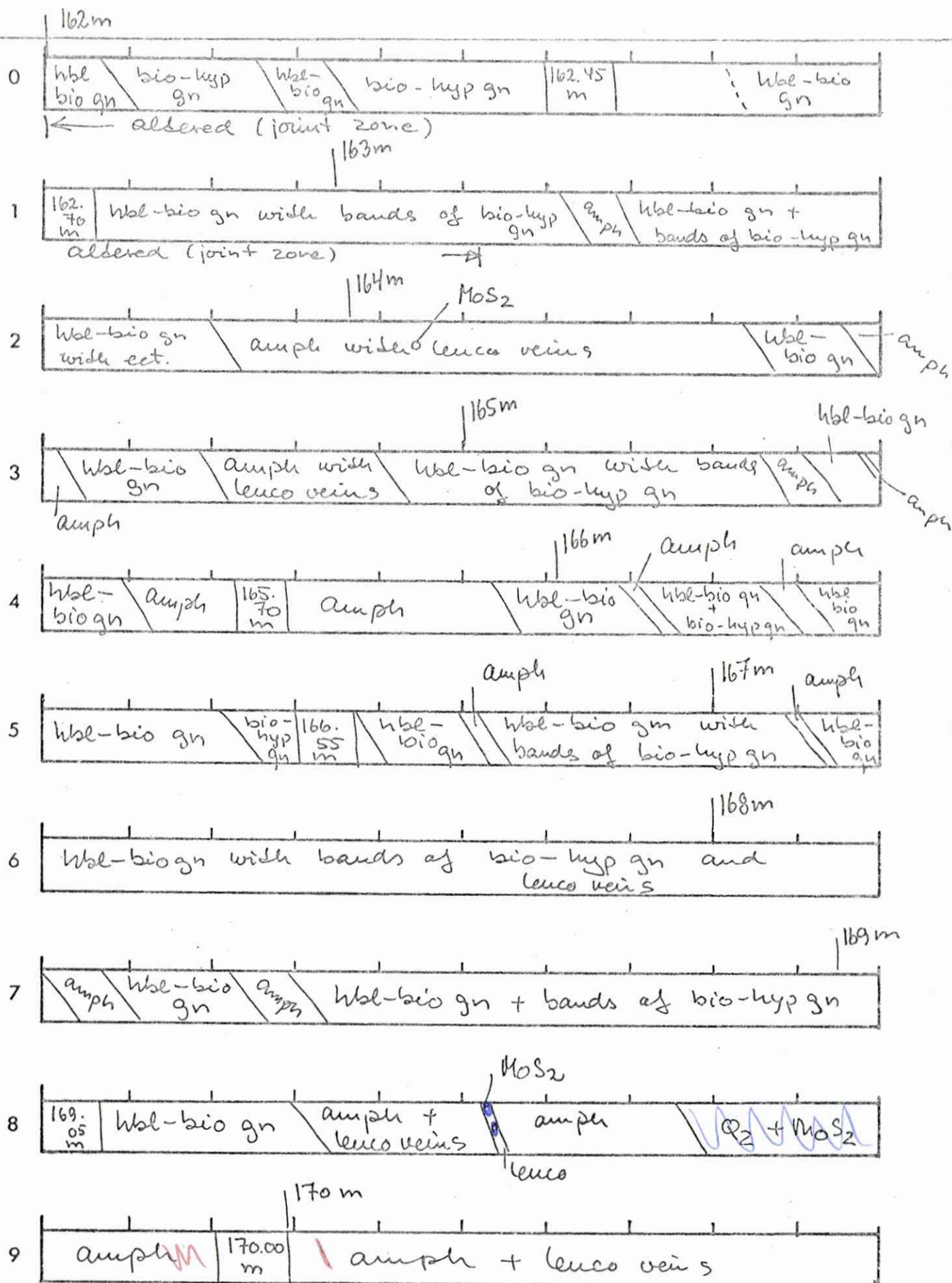


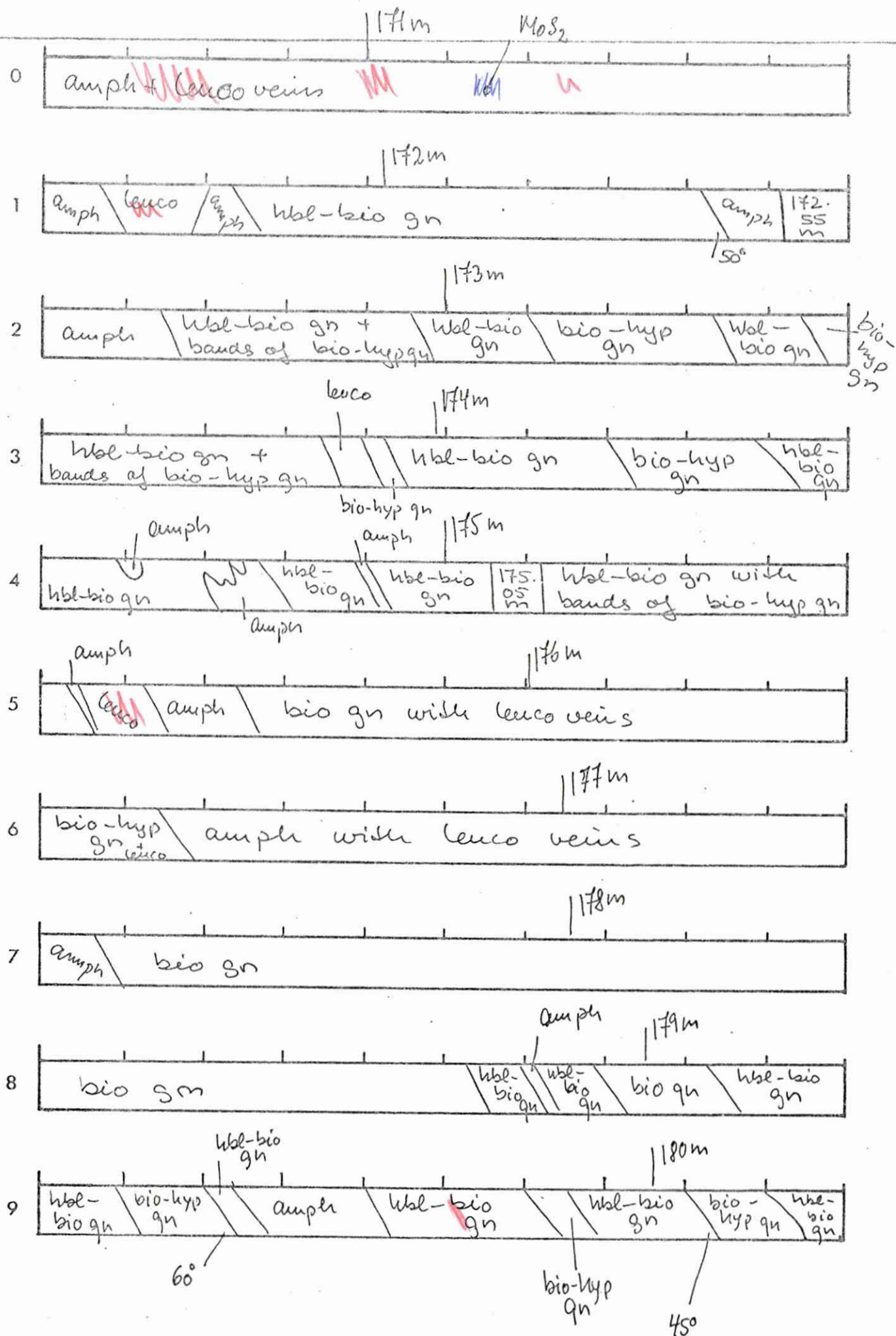




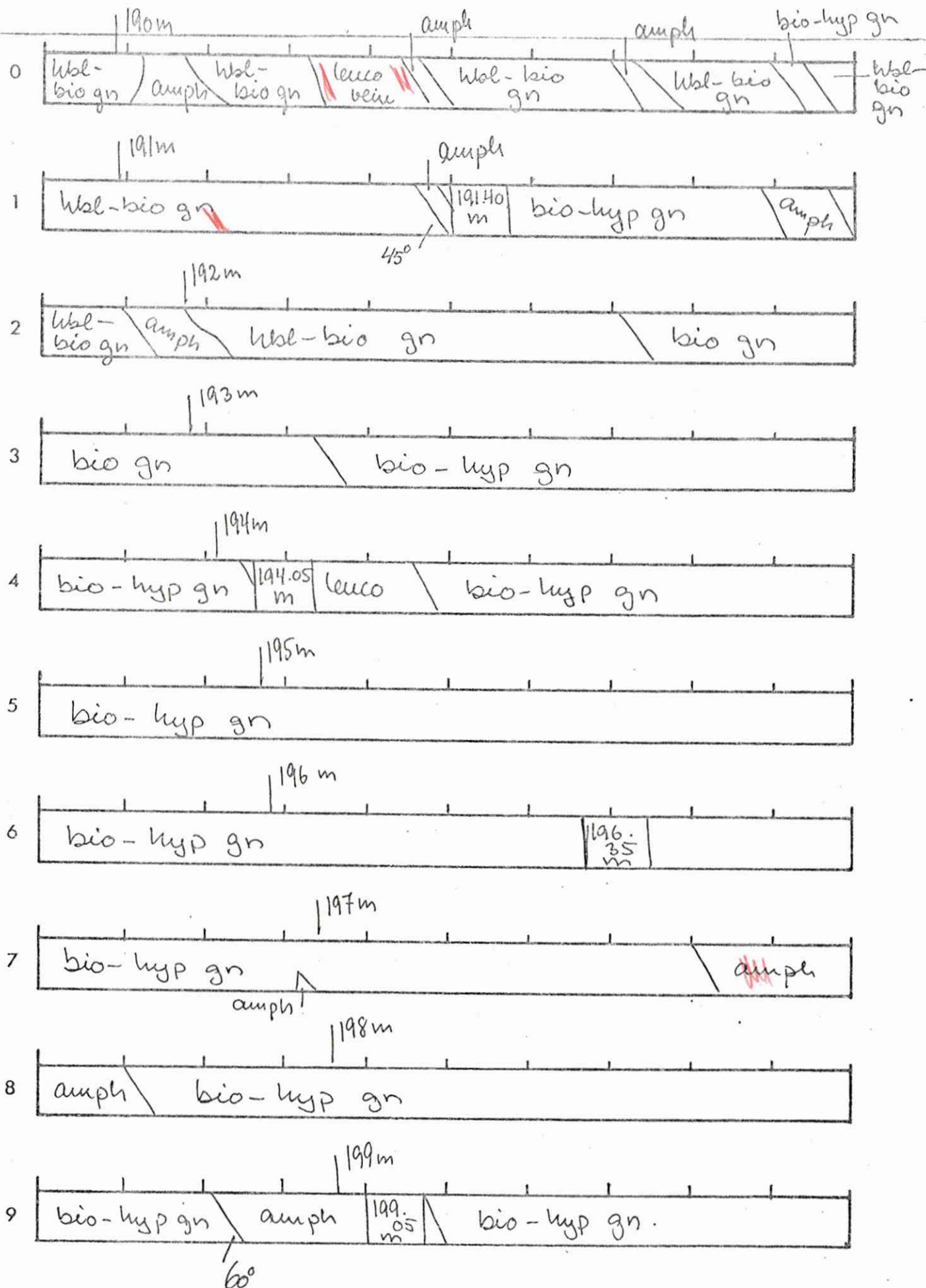


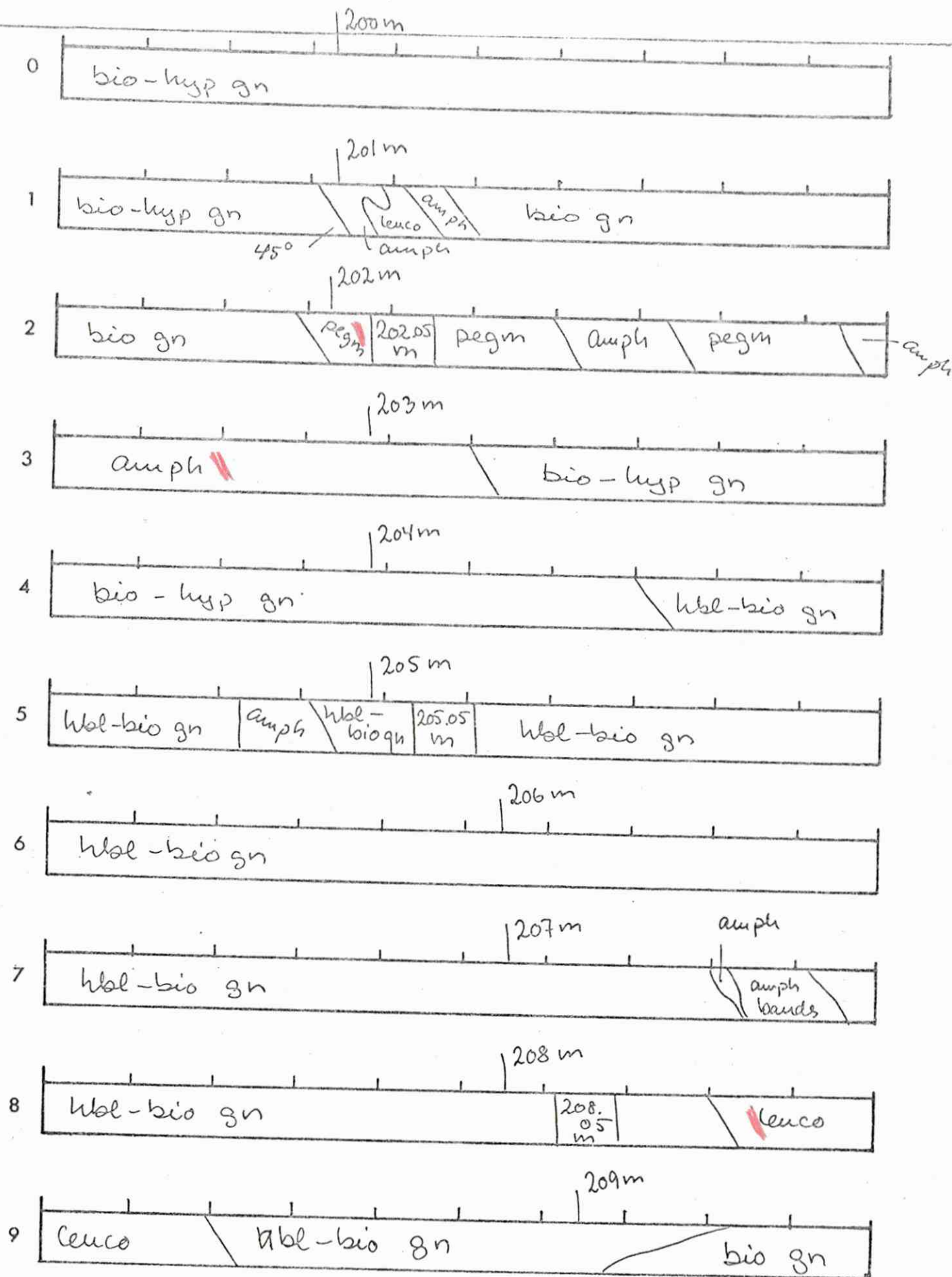


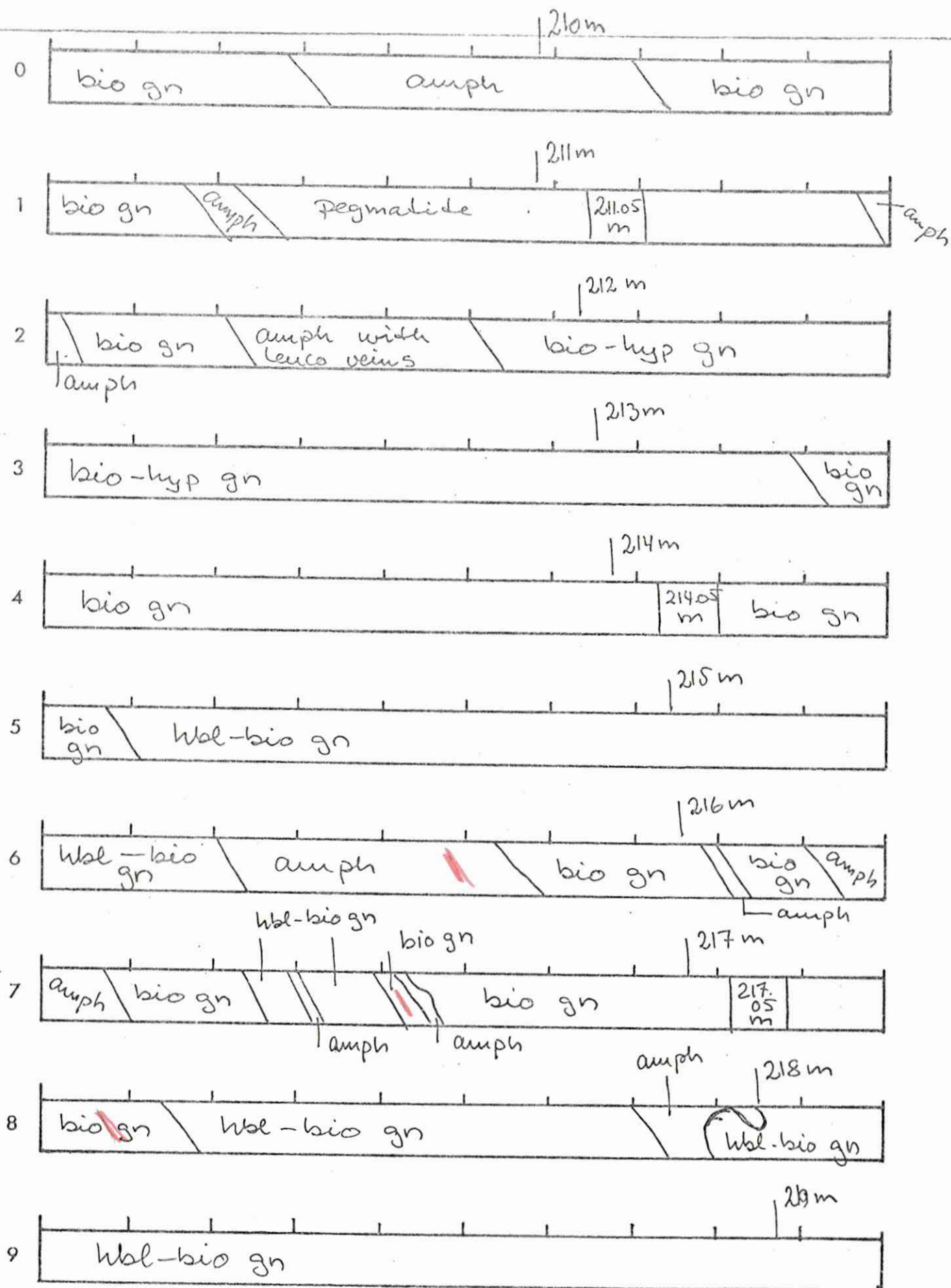


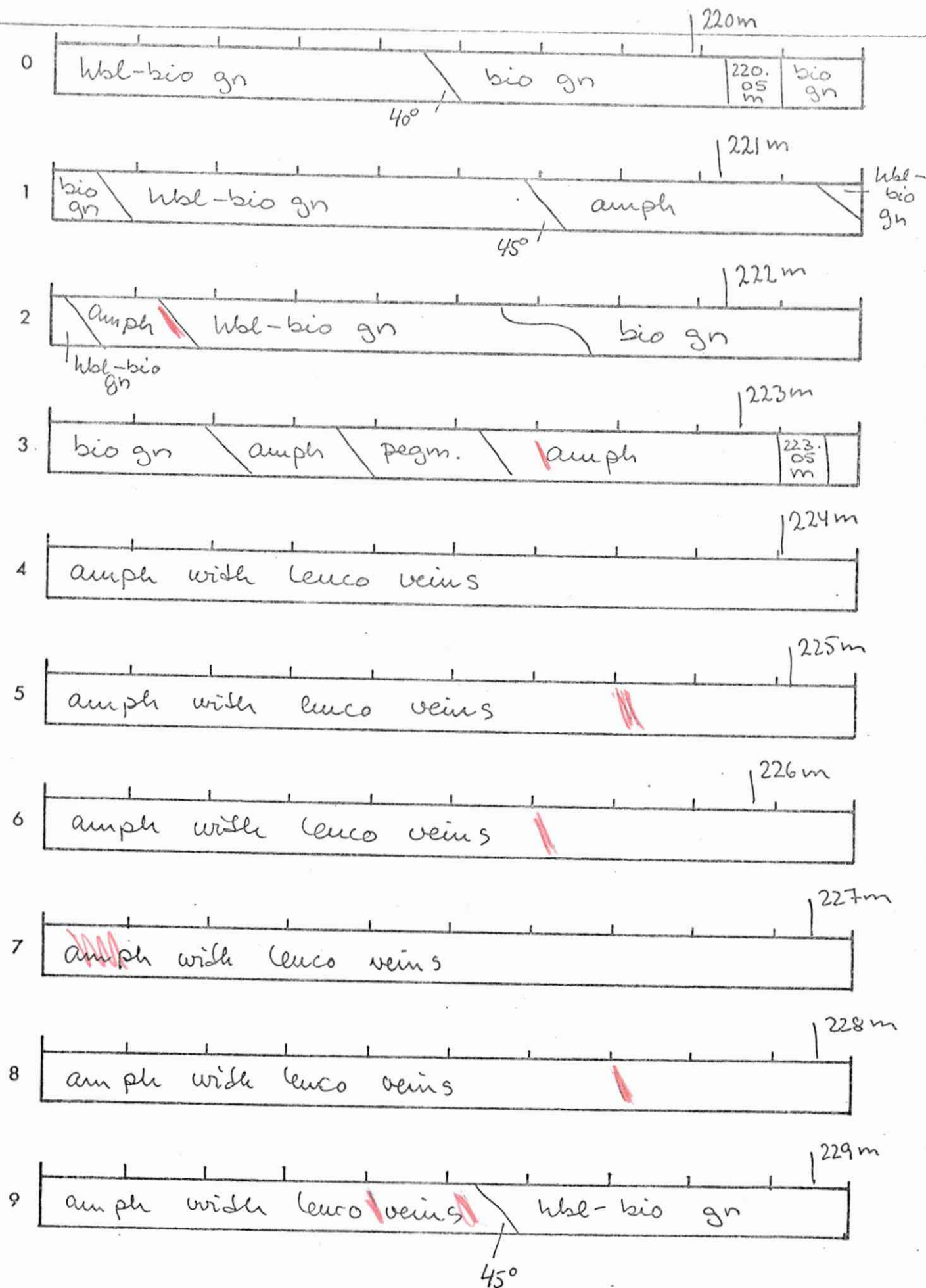


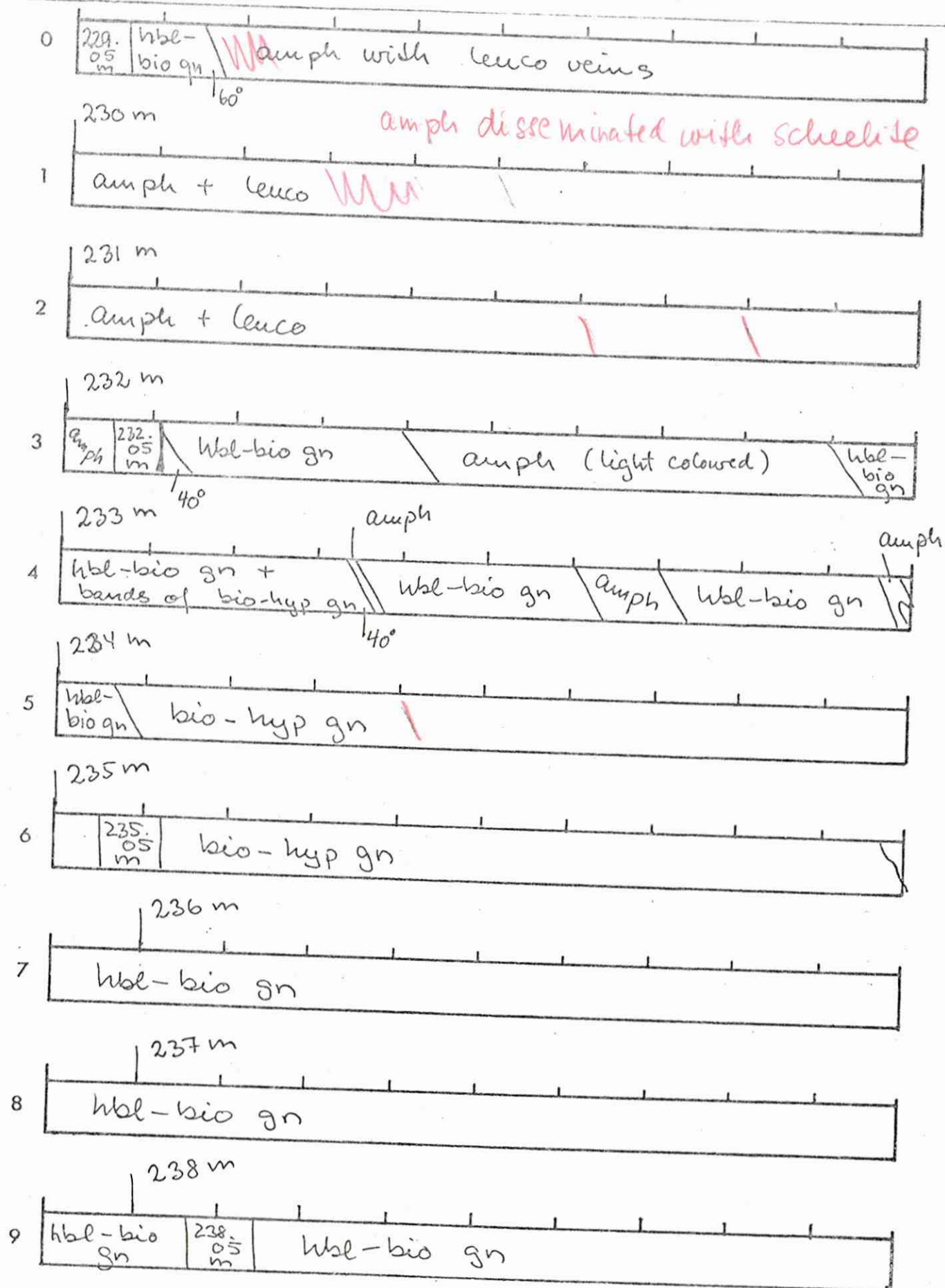


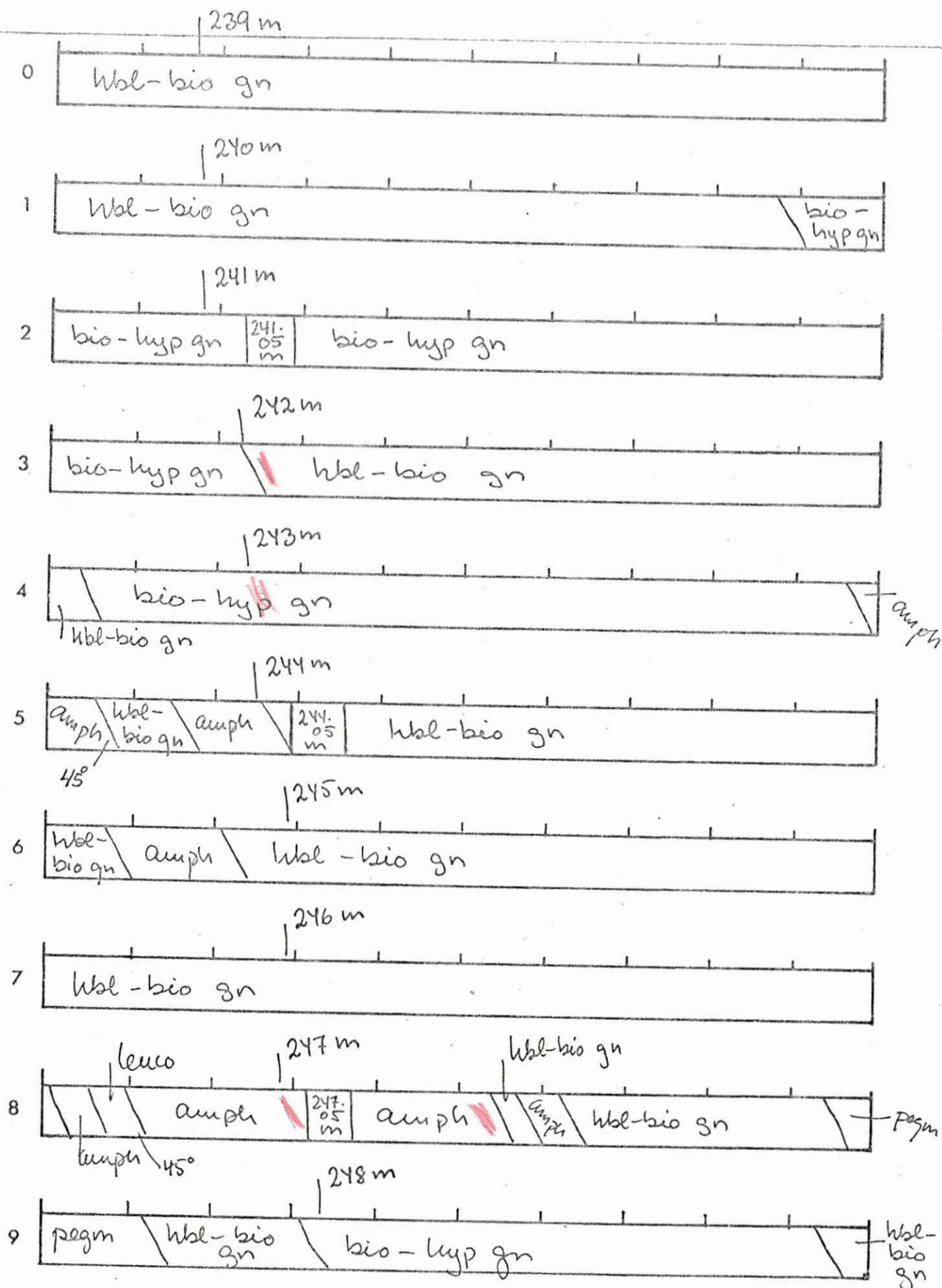


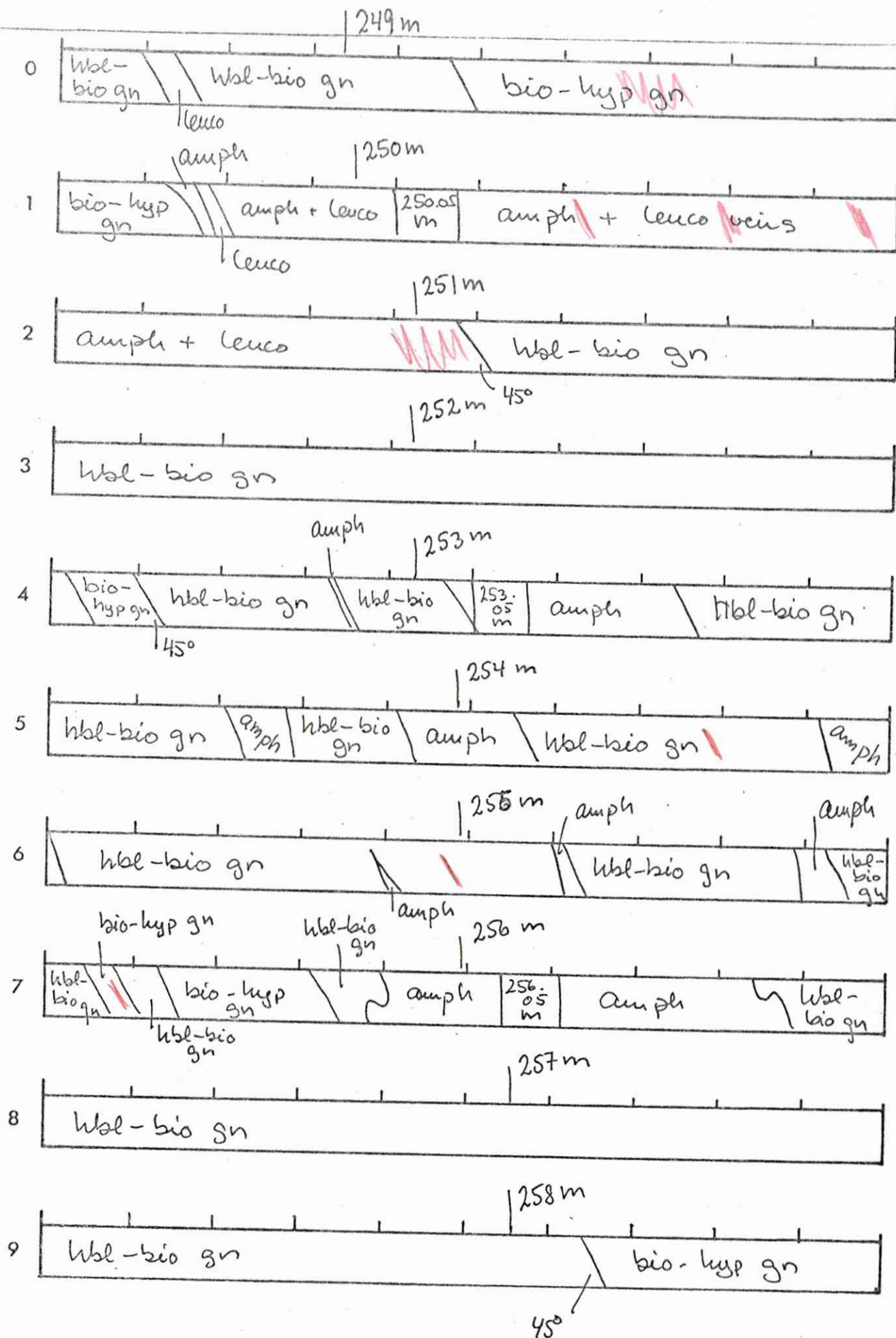


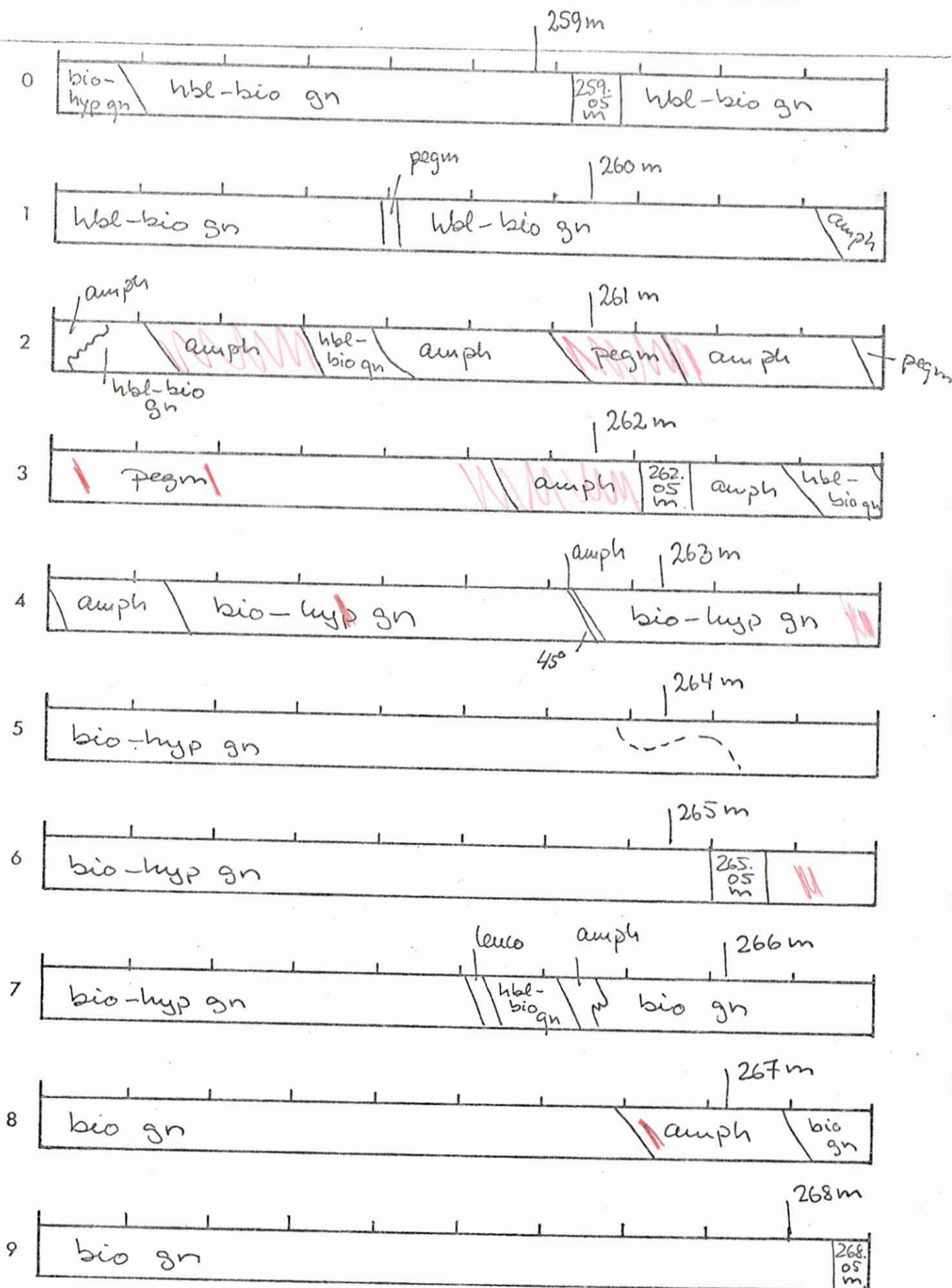


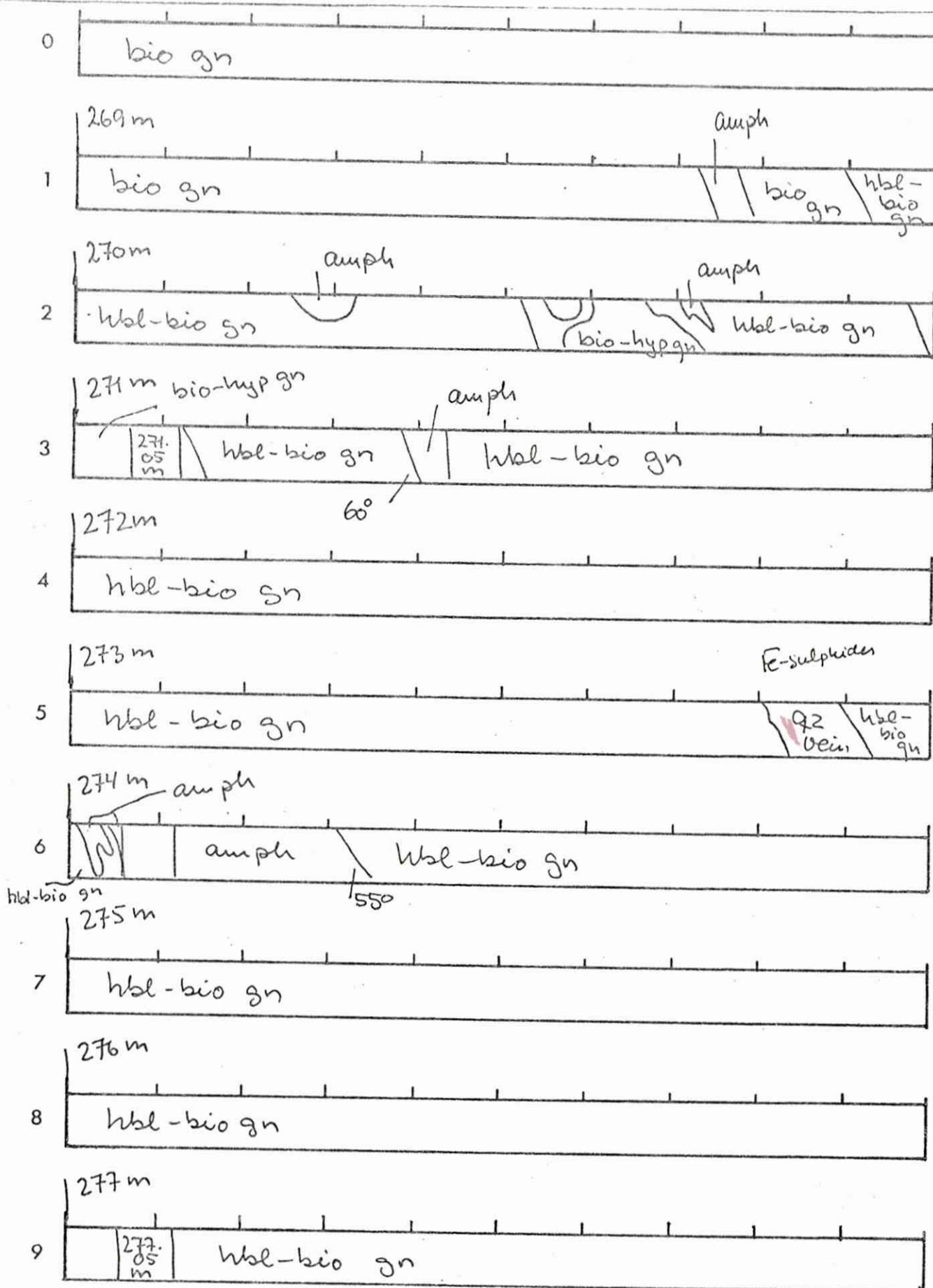


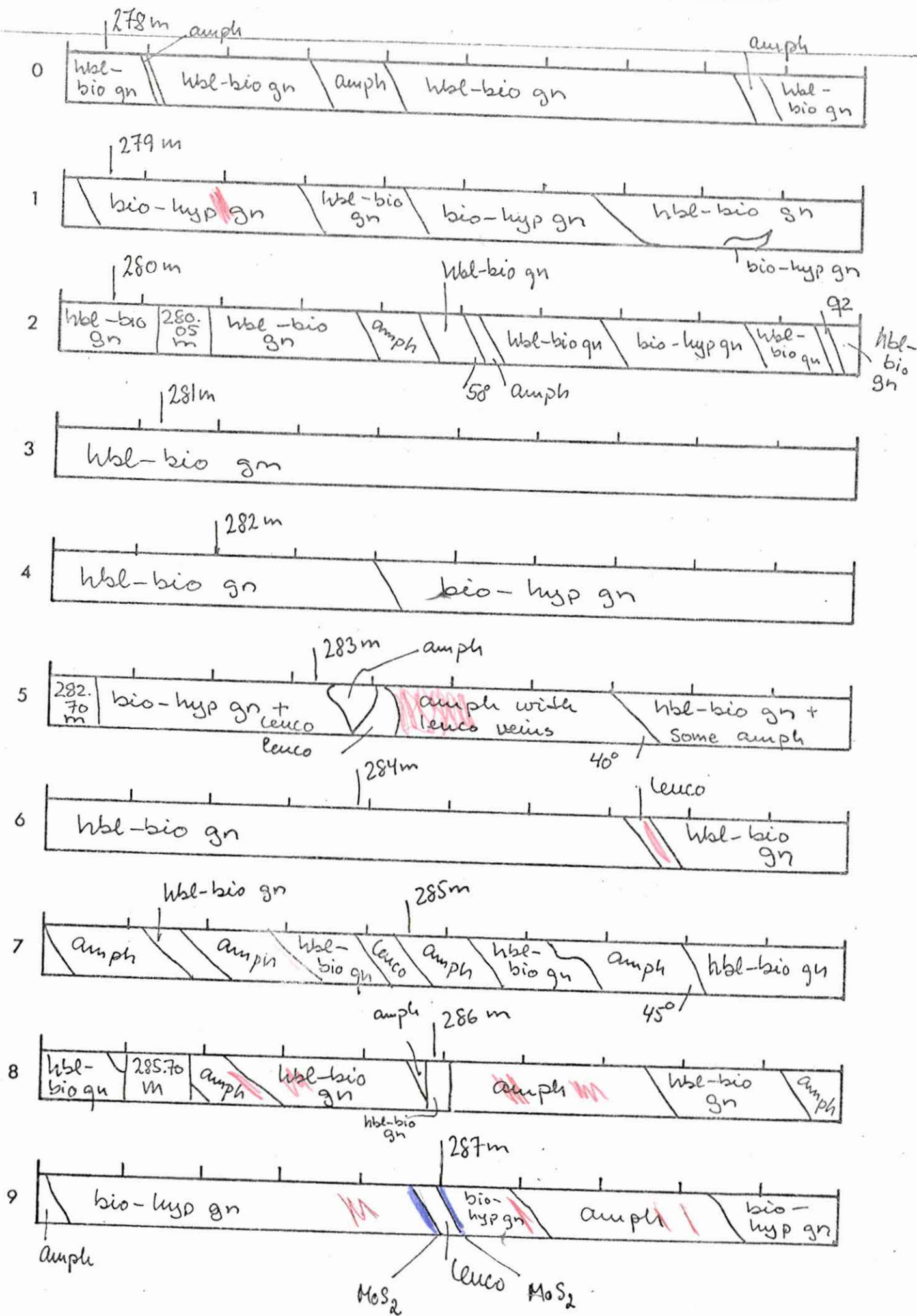


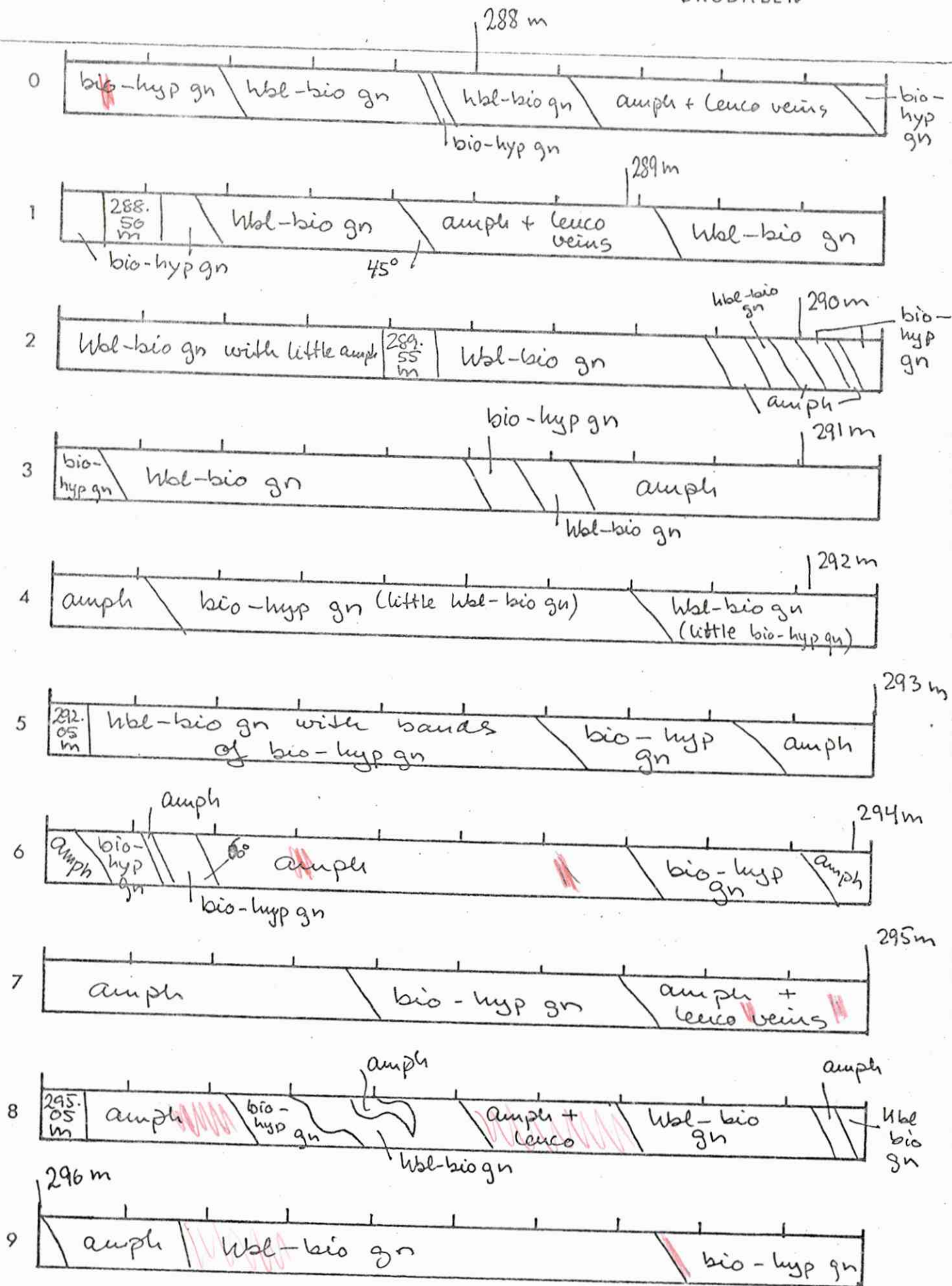


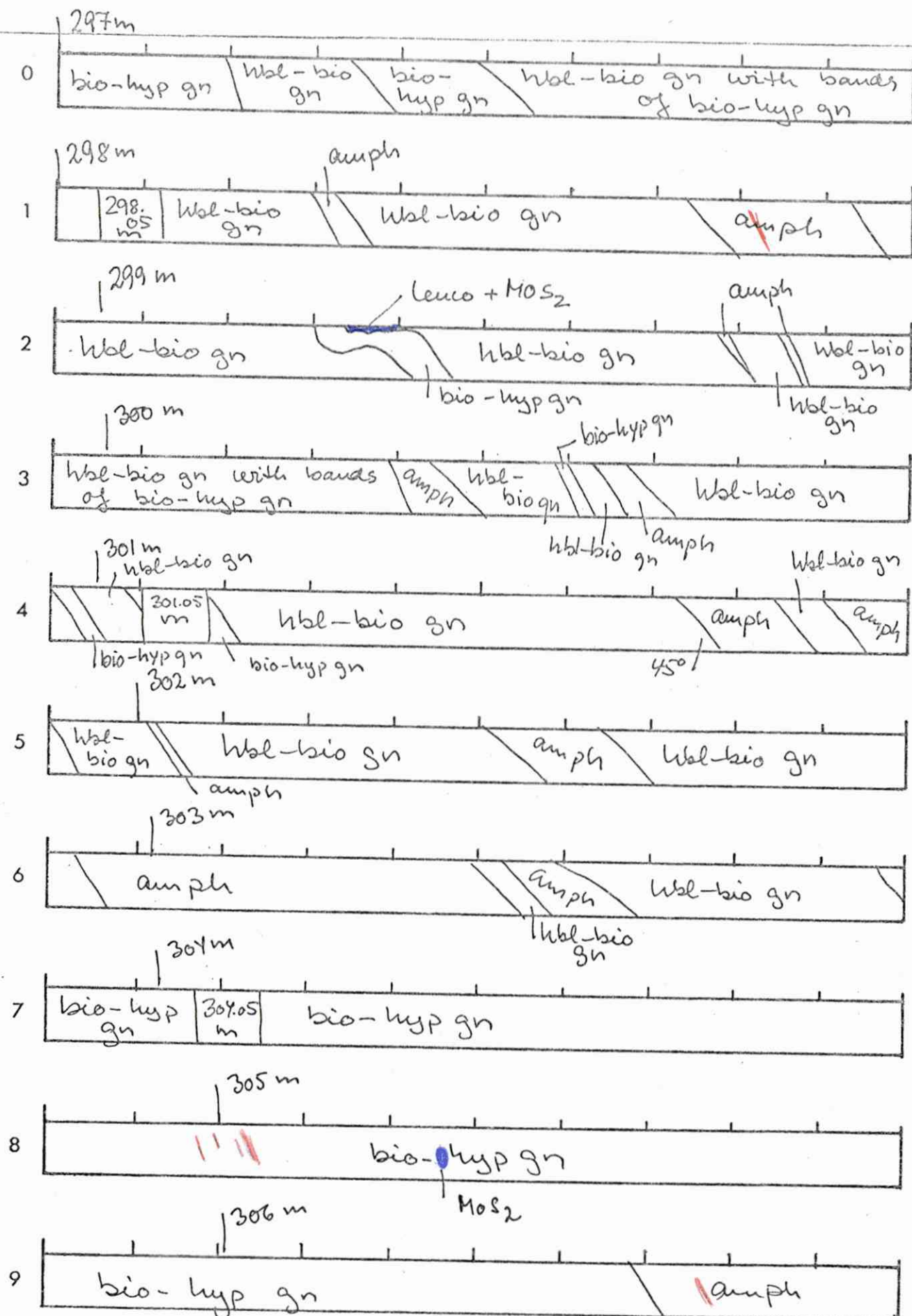












0

amph

307.00 m

1

2

3

4

5

6

7

8

9