

4 – Esercitazione stratigrafia carotaggio di interesse archeologico

Geoarcheologia, morfologia e processi formativi

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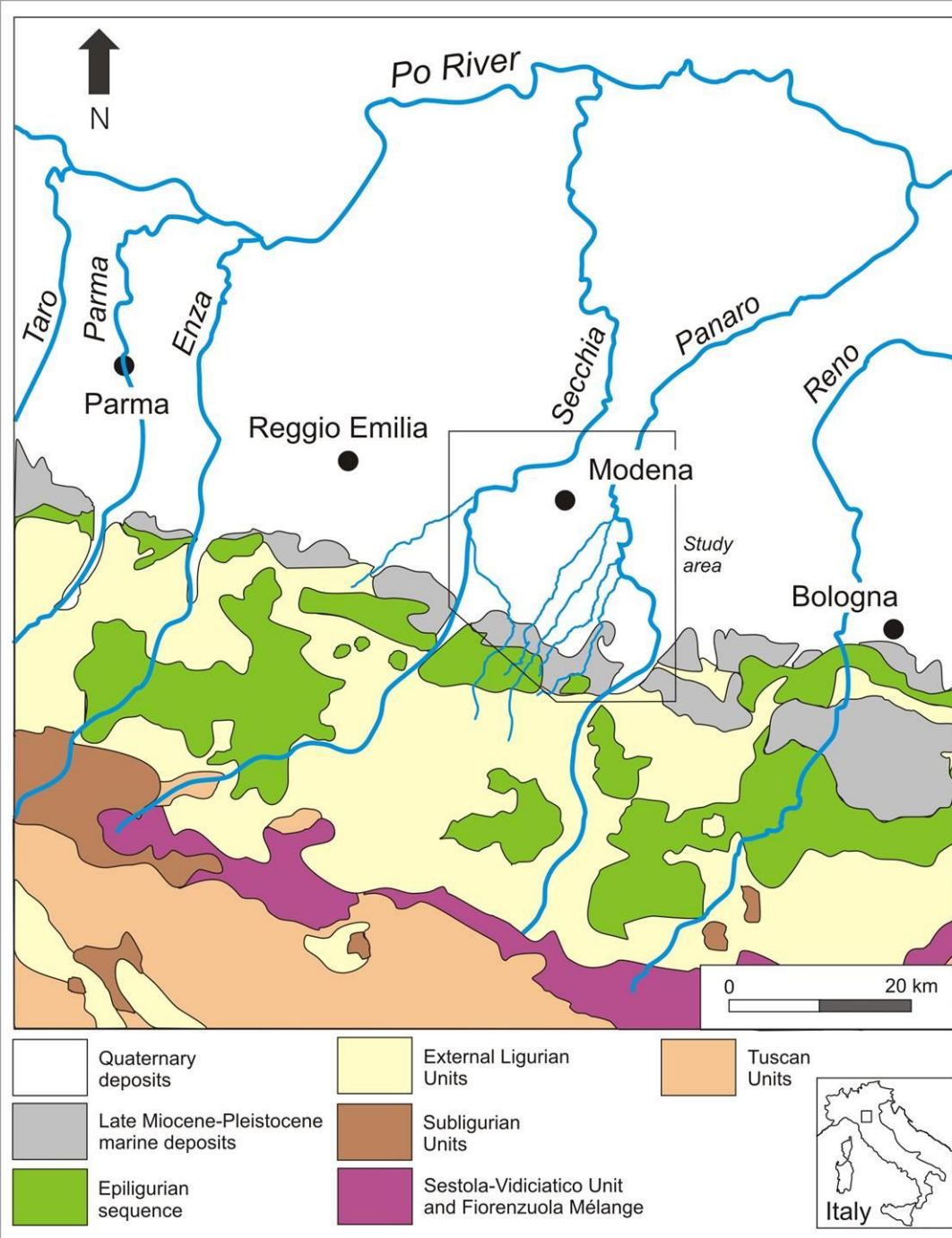
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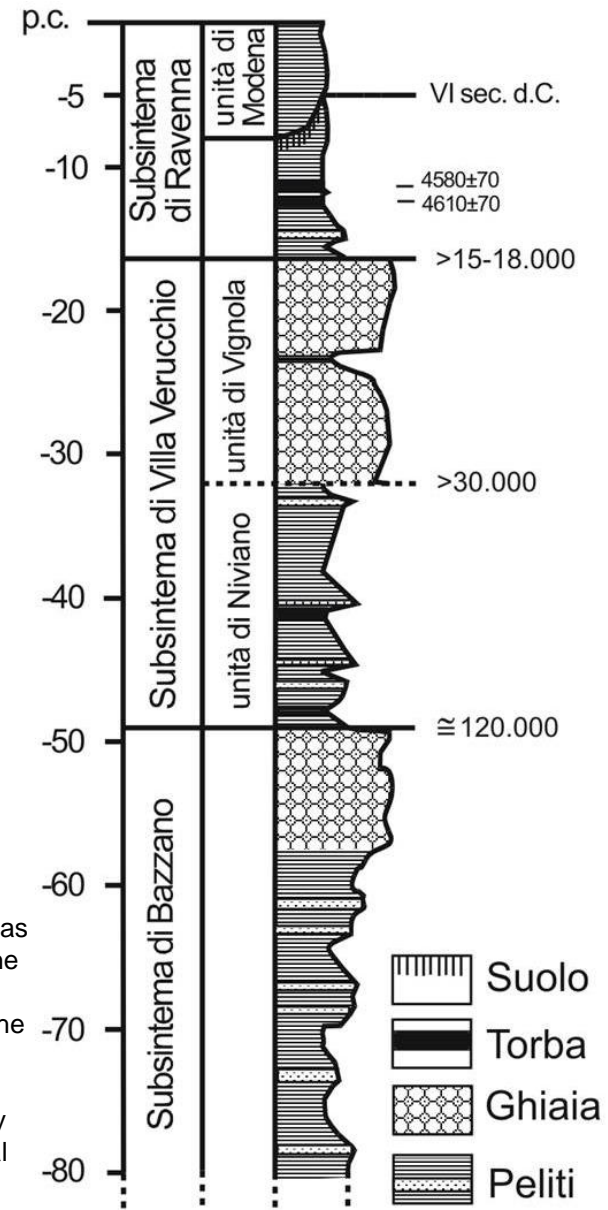
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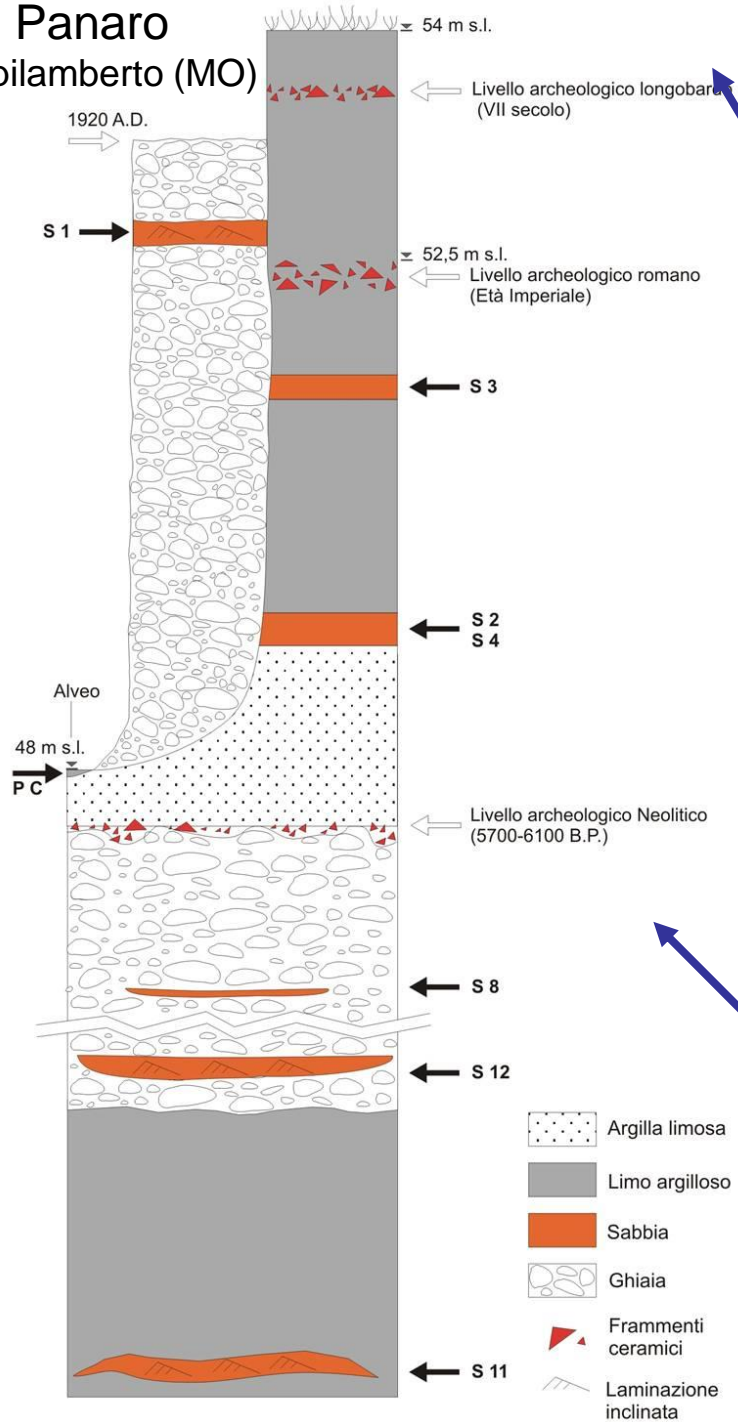


Lugli S.e Marchetti Dori S., 2011. Evoluzione sedimentaria dell'area tra Formigine e Baggiovara alla luce dei nuovi scavi archeologici. In: "L'insediamento etrusco e romano di Baggiovara (MO), le indagini archeologiche e archeometriche". Quaderni di Archeologia dell'Emilia Romagna, 27, 117-124.

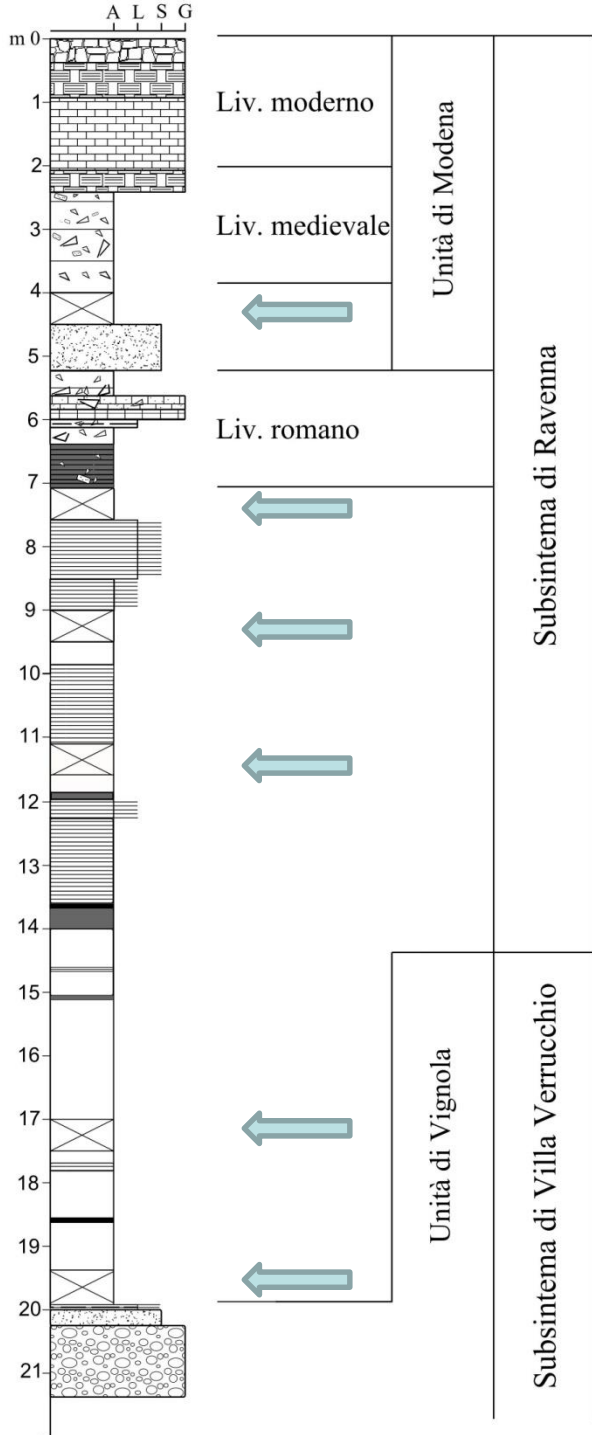
Lugli S., Marchetti Dori S. & Fontana D., 2007. Alluvial sand composition as a tool to unravel the Late Quaternary sedimentation of the Modena Plain, northern Italy. Geological Society of America Special Paper 420, 57-72



F. Panaro Spilamberto (MO)



Lugli S., Marchetti
Dori S. & Fontana
D., 2007.



Legenda

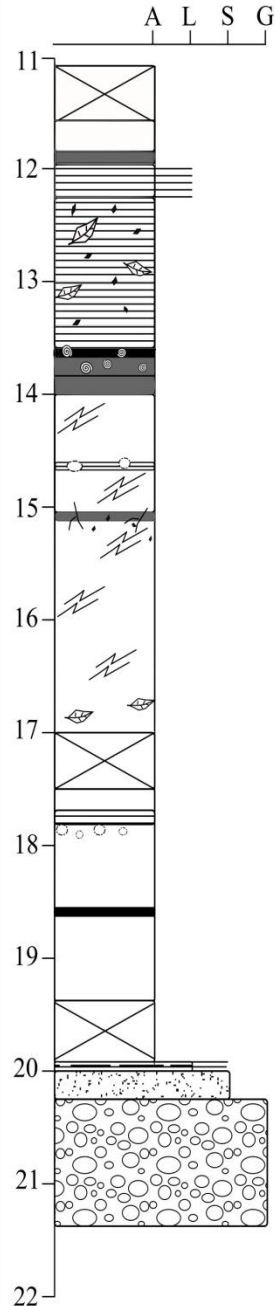
- Torba
- Argilla organica
- Argilla
- Limo
- Sabbia
- Ghiaia
- Laminazione
- Materiale lapideo
- Laterizio
- Conglomerato cementizio
- Malta
- Frammenti di laterizi
- Frammenti di malte

Argentino C., Lugli S., Marchetti Dori S., 2015, Evoluzione sedimentaria del centro storico di Modena nel tardo Quaternario. *Atti della Società dei Naturalisti e Matematici di Modena*, 146, 49-62.



Legenda

Argilla	Tracce di carbone
Limo	Frammenti di laterizi
Sabbia	Gasteropodi
Ghiaia	Calcinelli
Materiale lapideo	Resti vegetali
Laterizio	Frammenti di malte
Conglomerato cementizio	Screziature
Malta	Ciottoli
Torba	Laminazione
Argilla organica	Radici



C4

Argilla
 Colore 2.5y 3.1 very dark grey
 Argilla torbosa grigio scura da 11,81 m a 11,93 m
 Laminazione Argilla/Limo da 11,93 m a 12,25 m

Argilla limosa
 Colore 2.5y 4.1 dark reddish grey; sono presenti resti vegetali e frequenti tracce di carbone millimetriche. Si trovano lamine di argilla più scura ricca in sostanza organica fino a 13,25 m

Argilla limosa con lamine organiche
 Colore 2.5y 4.1 dark reddish grey; tracce di carbone millimetriche
 Torba con resti di gasteropodi da 13,66 m a 13,69 m
 Argilla torbosa nera con frammenti di gasteropodi da 13,69 m a 13,81m
 Argilla nera omogenea, priva di resti organici macroscopici da 13,81m a 14 m
 Argilla limosa screziata (screziature distanziate tra loro di 10 cm circa) da 14 m a 15 m
 Colore 2.5y 3.1 very dark grey
 Lamine di argilla più scura con presenza di calcinelli millimetrici da 14,60 m a 14,68 m
 Argilla screziata con tracce poco diffuse di carbone (concentrate tra 15 m e 15,25 m)
 Livello d'argilla organica tra 15,04 m e 15,06 m; presenza di radici

C7

Argilla limosa. Colore 2.5 y 4.1 dark reddish grey
 Screziature marroni-rossicce presenti da 16,10 m a 16,70m
 Alla base sono presenti resti vegetali legnosi (di lunghezza inferiore a 3 cm)

Argilla limosa. Colore 2.5y 4.1 dark reddish grey
 Lamine di argilla organica da 17,70 m fino 17,85 m; calcinelli concentrati a 17,90 m

C8

Torba
 Argilla limosa grigia, più chiara alla base (2.5y 4.2 dark greysh brown - 2.5y 3.1 very dark grey)

Limo argilloso con sottili lamine di sabbia fine-finissima. Presenza di leggere screziature rossastre. Colore 2.5y 5.1 grey

Sabbia medio-fine argillosa. Colore 2.5y 5.1 grey

Ghiaia
 Clasti di diametro variabile (0,5- 5 cm)

Variazione di colore della matrice: sfumature marrone chiaro alla base tendenti al grigio verso il tetto (2.5y 4.4 olive brown - 2.5y 5.1 grey)

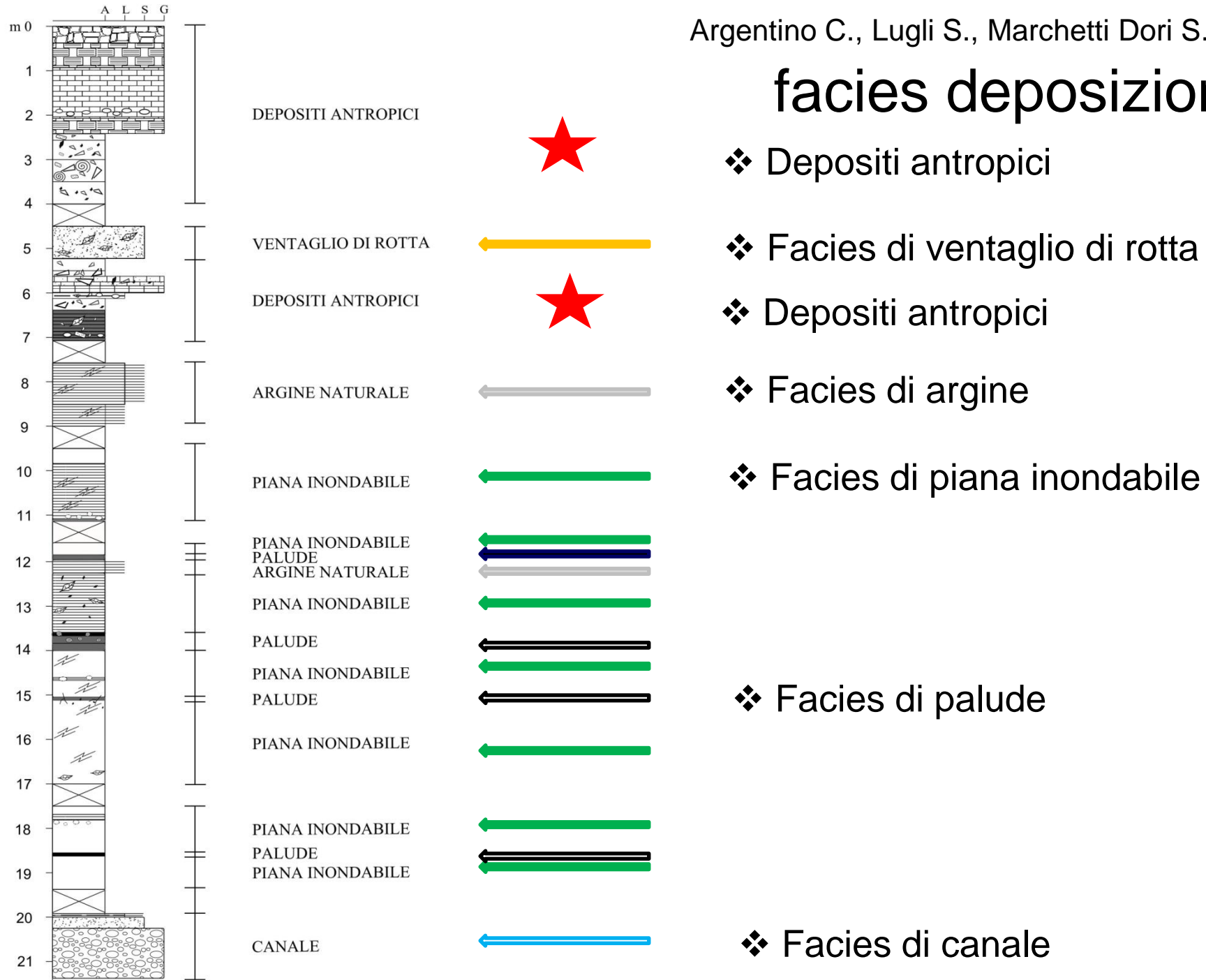


Intervallo 10-15

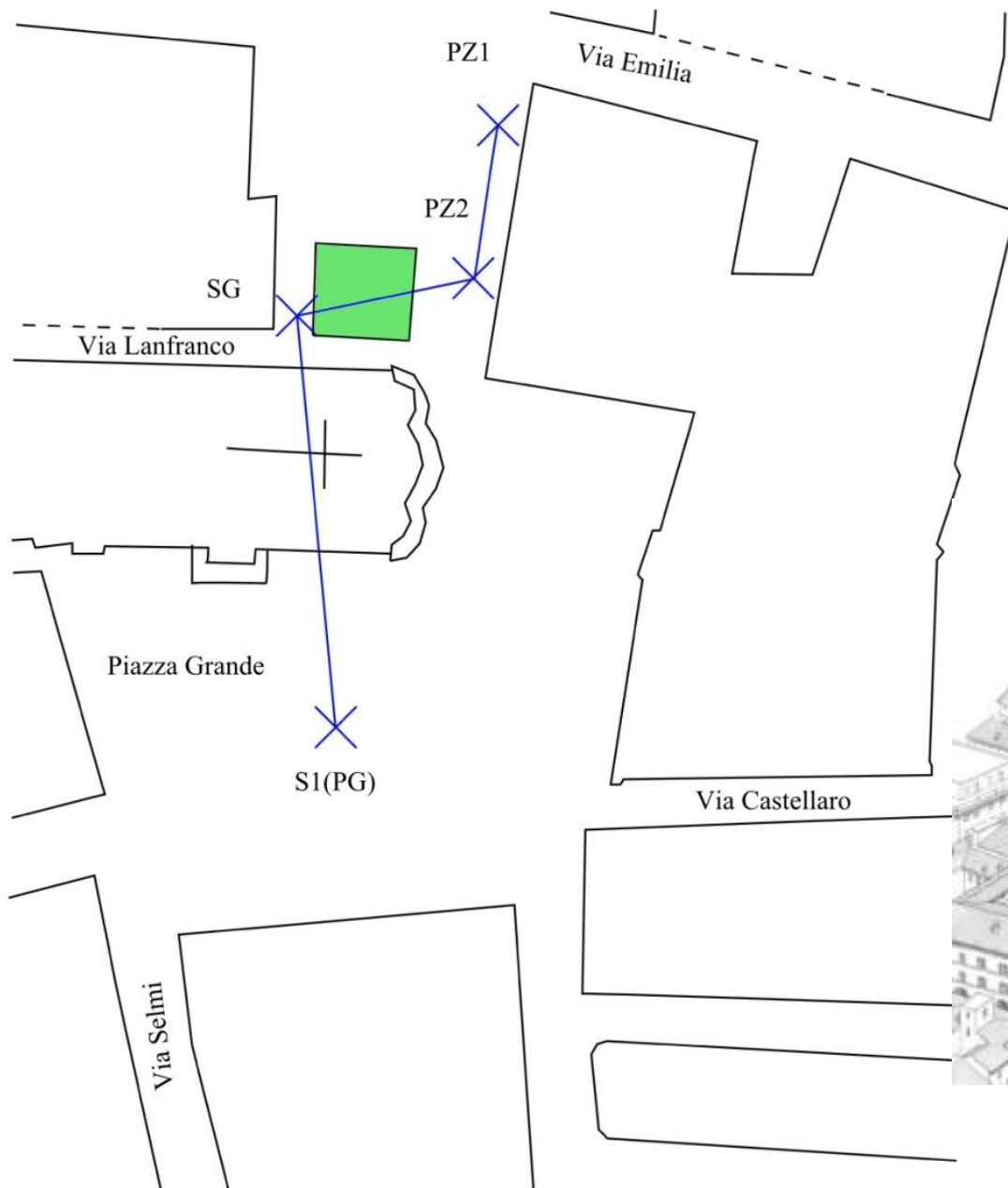


Intervallo 20-25 m

facies deposizionali



Ricostruzione del profilo di sottosuolo



50 m



Argentino C., Lugli S., Marchetti Dori S., 2015

Sezione stratigrafica Centro Storico

NE

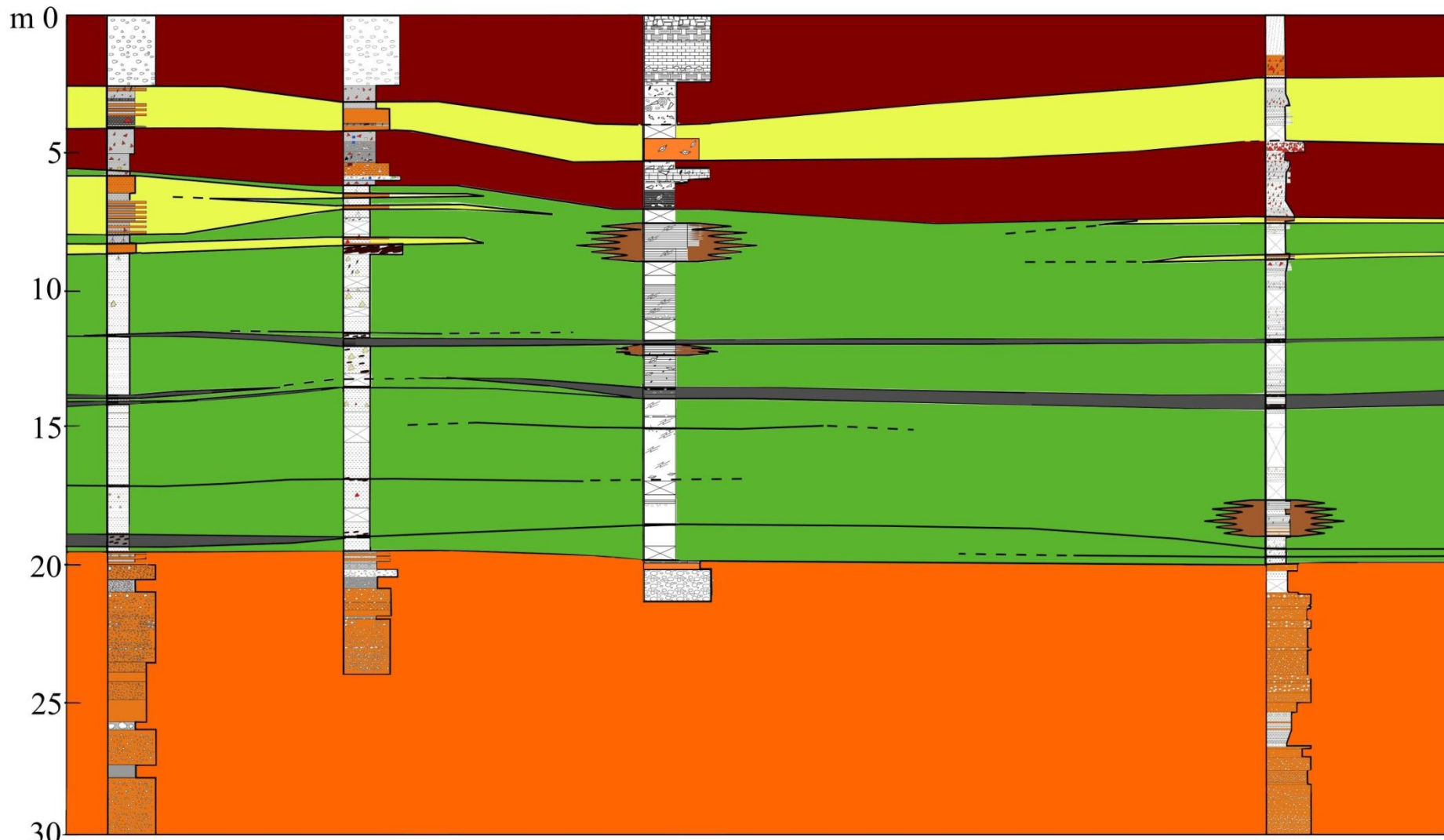
SO

PZ1 (2010)







PZ2 (2010)

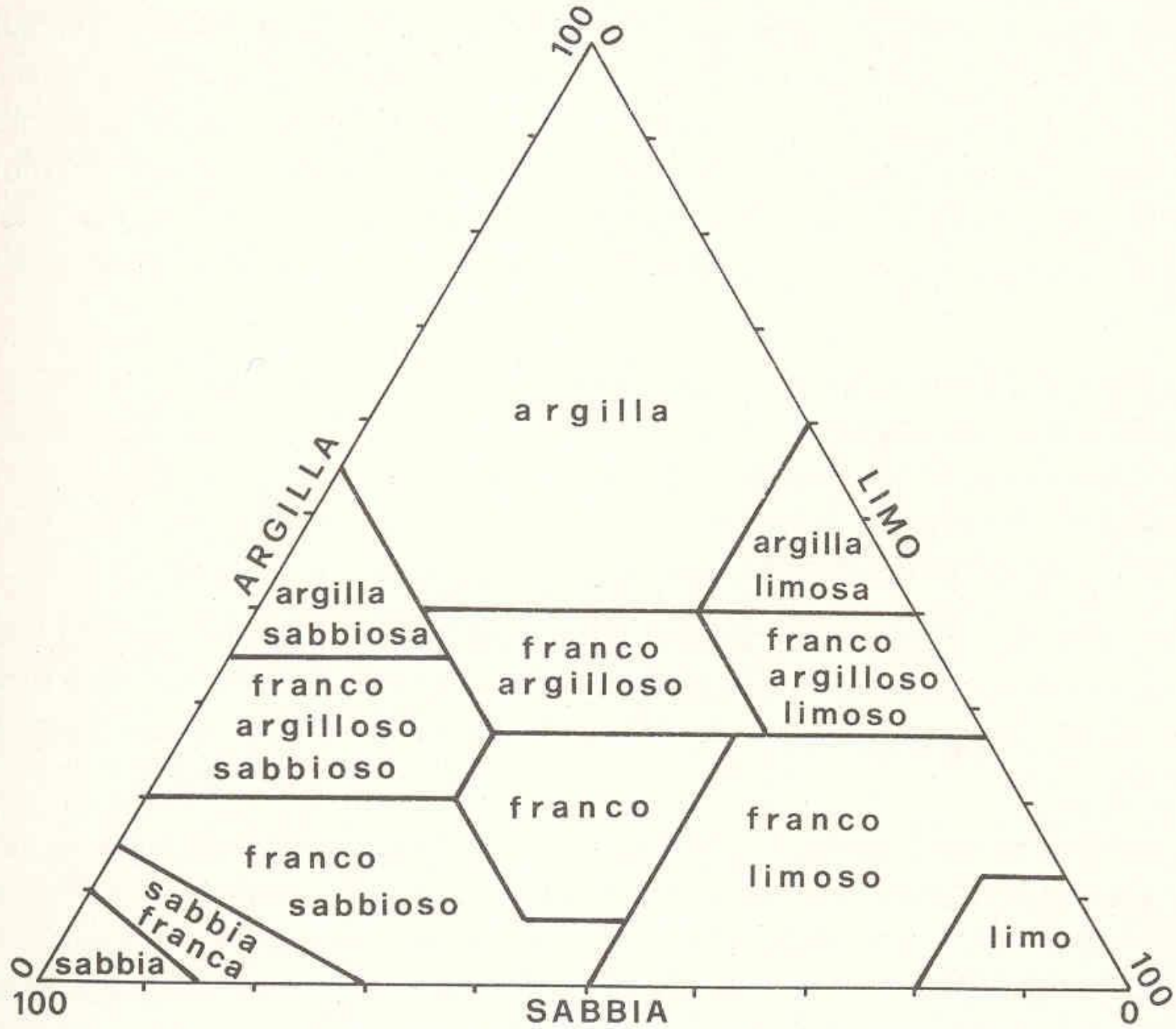
SG (2012)

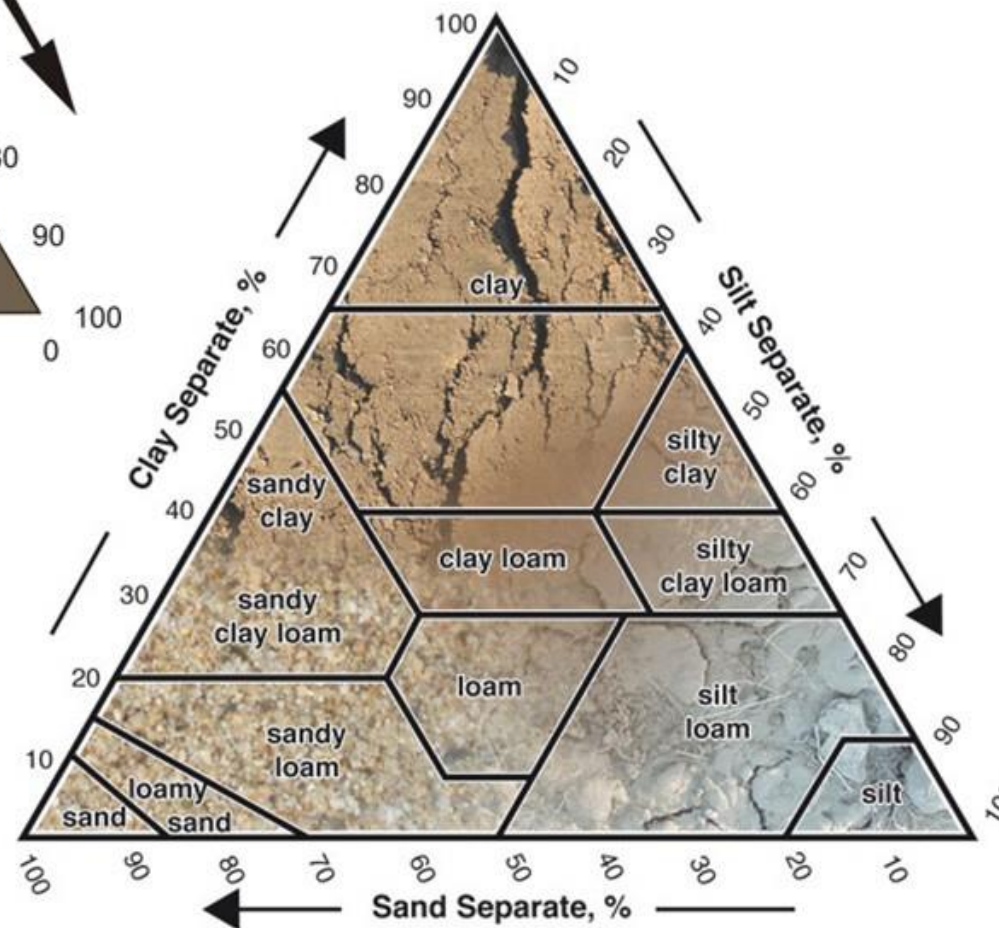
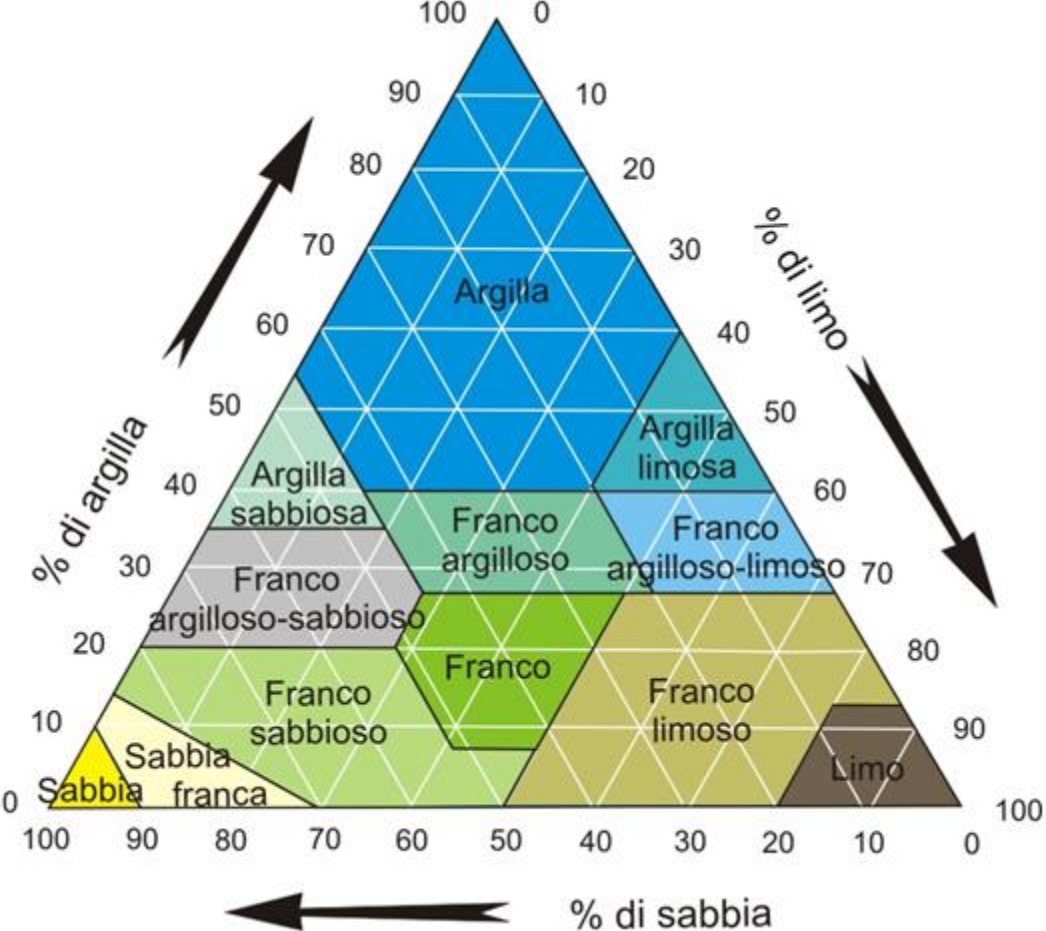
S1(PG) (2008)



10 m

- | | | |
|--|--|---|
|  Depositi antropici |  Canale |  Argine naturale |
|  Rotte fluviali |  Piana inondabile |  Palude |





**Types of loam
 ≤ 2.5 cm ribbon**



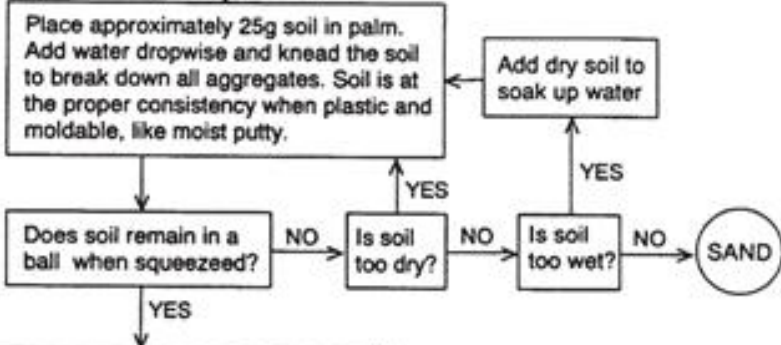
**Types of clay loam
2.5 - 5 cm ribbon**



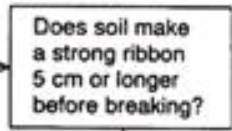
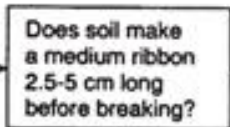
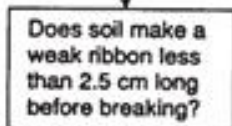
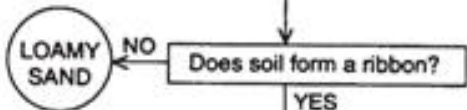
**Types of clay
 ≥ 5 cm ribbon**



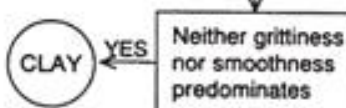
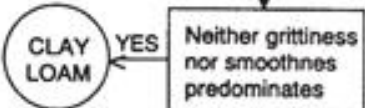
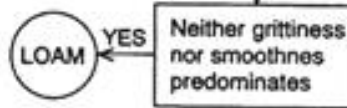
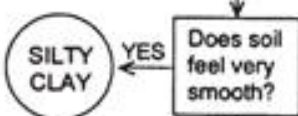
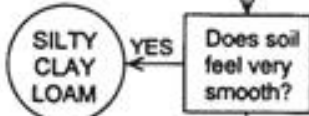
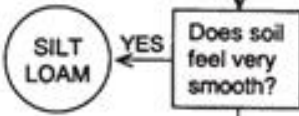
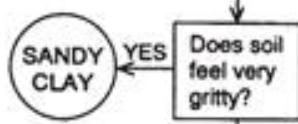
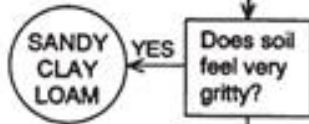
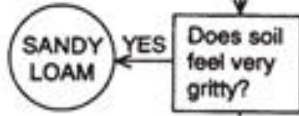
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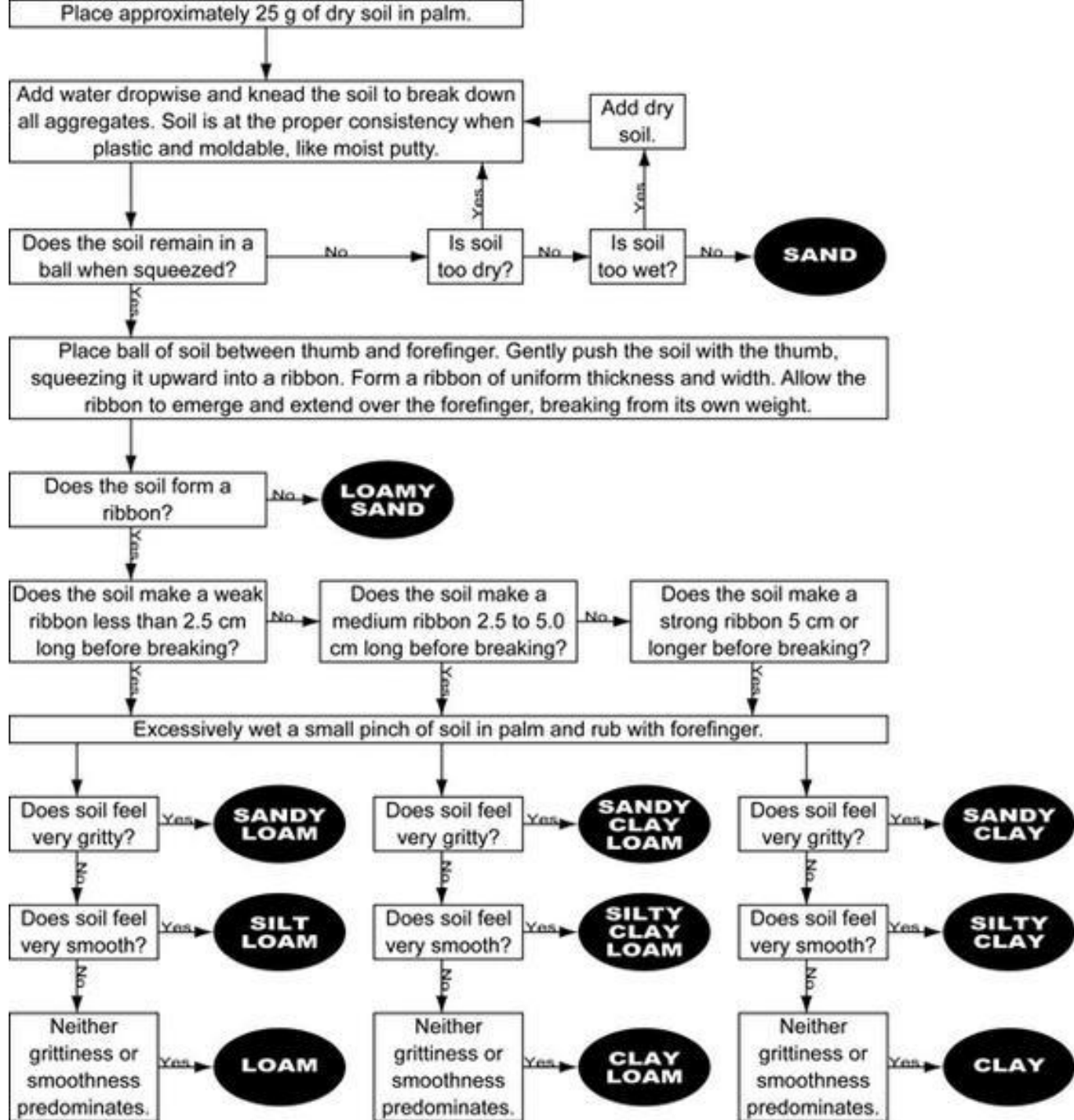


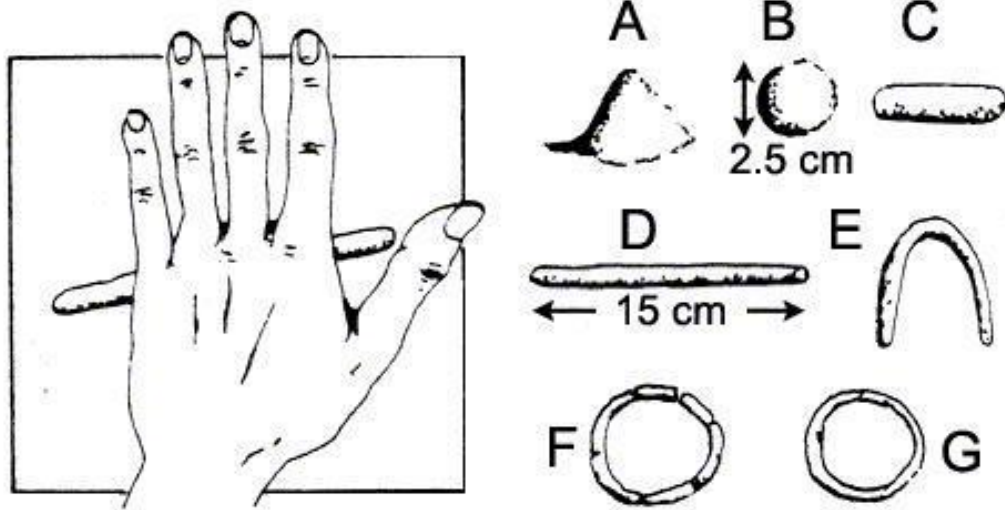
Place a ball of soil between thumb and forefinger gently pushing the soil with the thumb, squeezing it upward into a ribbon. Form a ribbon of uniform thickness and width. Allow the ribbon to emerge and extend over the forefinger, breaking from its own weight.



Excessively wet a small pinch of soil in palm and rub with forefinger.







Place approximately 1 tablespoon of fine, dry earth in the palm of your hand. Drip water slowly onto the soil until it approaches sticky point (i.e., the point at which the soil just begins to stick to your hand). Next form a ball about 2.5 cm in diameter. The extent to which the moist soil can be shaped is indicative of its texture. From Ilaco, 1985

(A) Sand - Soil remains loose and single-grained; can only be heaped into a pyramid.

(B) Loamy sand - The soil contains sufficient silt and clay to become somewhat cohesive; can be shaped into a ball that easily falls apart.

(C) Silt loam - Same as for loamy sand but can be shaped by rolling into a short, thick cylinder.

(D) Loam - About equal sand, silt, and clay means the soil can be rolled into a cylinder about 15 cm long that breaks when bent.

(E) Clay loam - As for loam, although soil can be bent into a U, but no further, without being broken.

(F) Light clay - Soil can be bent into a circle that shows cracks.

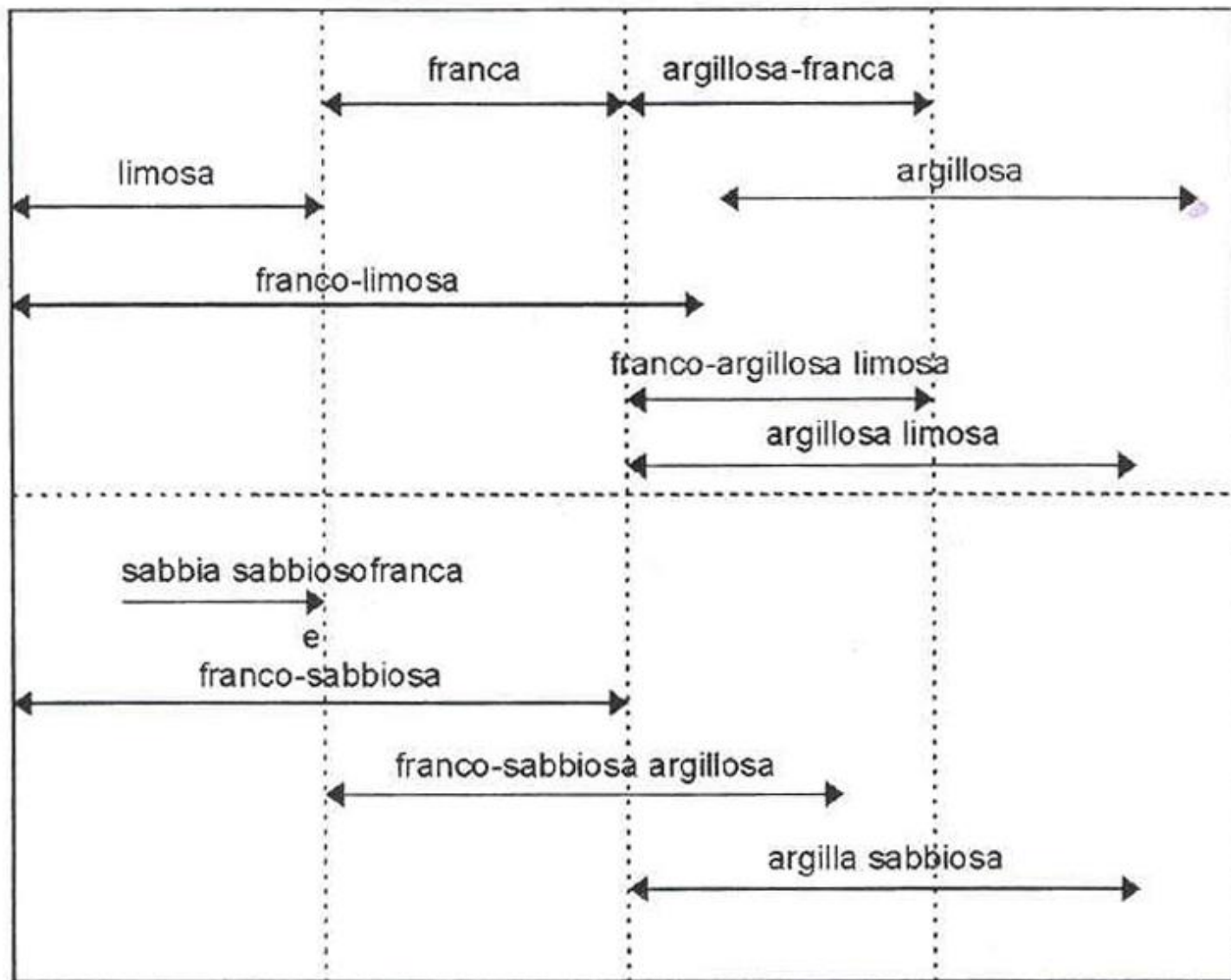
(G) Heavy clay - Soil can be bent into a circle without showing cracks.

t e s s i t u r e

sensazione al tatto

saponosità

smeriglio



nessuna

bassa

media

alta

adesività e plasticità

Sabbioso

Franco

Argilloso



0 - 10% clay
0 - 10% silt
80 - 100% sand

10 - 30% clay
30 - 50% silt
25 - 50% sand

50 - 100% clay
0 - 45% silt
0 - 45% sand

3 parti in volume di acqua e 1 di sedimento
agitate 5 minuti

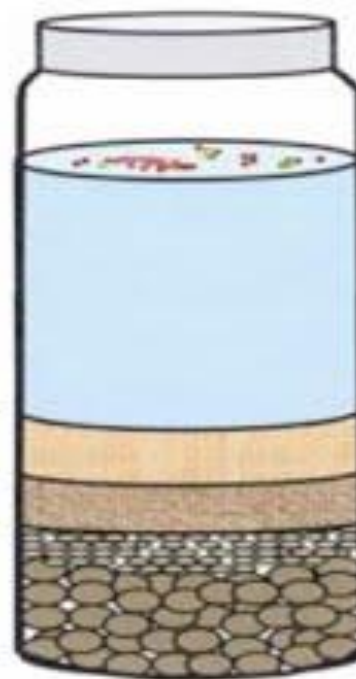
24 ore

30 min

C

B

A



detriti organici

acqua

argilla (< 1/256 mm)

limo (1/16 - 1/256 mm)

sabbia (2-1/16 mm)

ghiaia (10-2 mm)