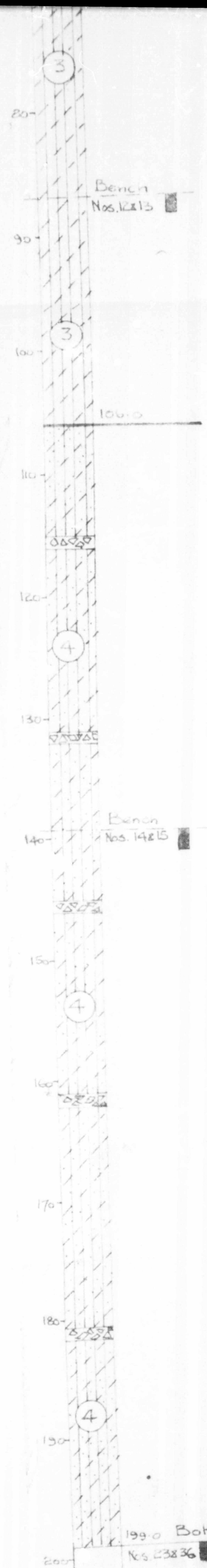


Reddish grey, firm, jointed clayey silt; in profile mauve banded grey with many fissures and chert stringers which are much more profuse in upper 10 ft. Decomposed dolomitic schist.

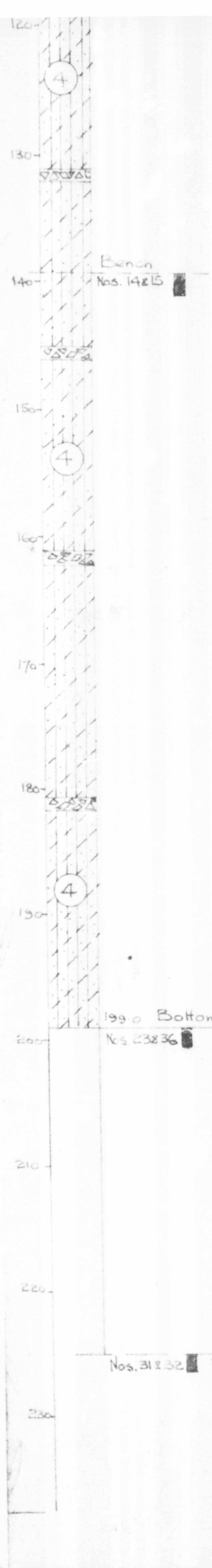
Pinkish grey, soft and firm (in layers) jointed clayey-sandy silt, in profile colours very greatly, layered yellow, greenish yellow and dark brown; laminated, dipping North, with many cross joint planes; highly micaceous; with many layers of brecciated quartz. The soil on either side of each quartz layer is soft with much increased mica content suggesting that water flow has taken place at this horizon. Decomposed Upper Banded Shale.

NOTES:

(a) No water seepage or other sign of water table observed.

(b) Profile observations and classifications by Mr. D. Brink, Feb. 1961. Profile interpretation and simplification by Professor J.E. Jennings, April, 1961.

(c) N.B. Profile is taken on vertical bench faces on general slope of pit as it existed in Feb. 1961. In



Pinkish grey, soft and firm (in layers) jointed clayey-sandy silt, in profile colours very greatly, layered yellow, greenish yellow and dark brown; laminated, dipping North, with many cross joint planes; highly micaceous; with many layers of brecciated quartz. The soil on either side of each quartz layer is soft with much increased mica content suggesting that water flow has taken place at this horizon. Decomposed Upper Banded Shale.

NOTES:

(a) No water seepage or other sign of water table observed.

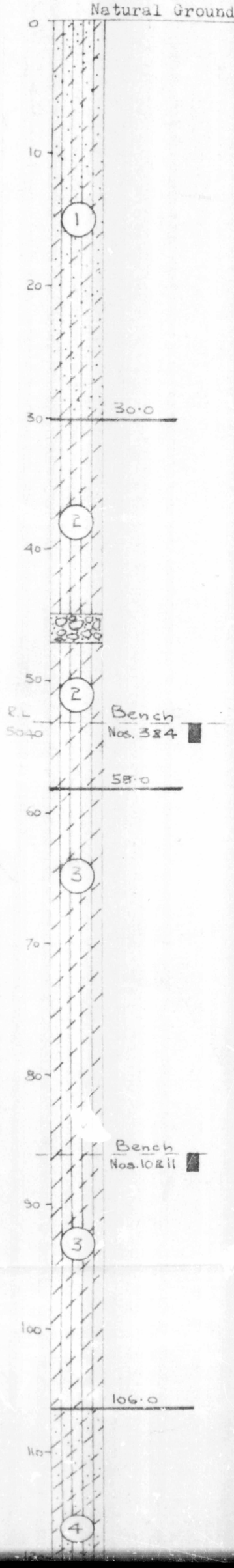
(b) Profile observations and classifications by Mr. D. Brink, Feb. 1961. Profile interpretation and simplification by Professor J.E. Jennings, April, 1961.

(c) N.B. Profile is taken on vertical bench faces on general slope of pit as it existed in Feb. 1961. In interpreting levels from the top (R.L. of North Rim approx. + 5100) account must be taken of the general slope towards the South along which this profile has been taken.

Fig 5

INVESTIGATION OF SLOPE STABILITY - NCHANGA OPEN PIT

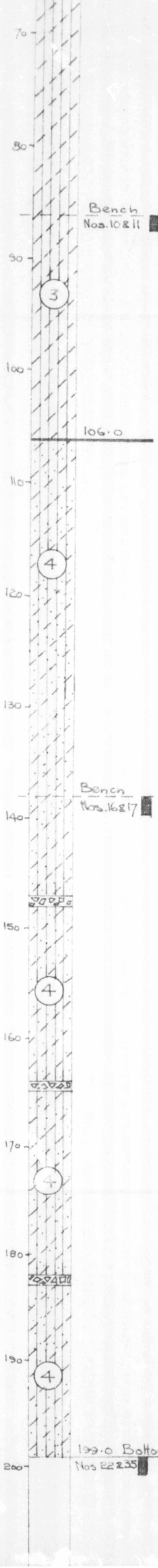
SOIL PROFILE ON NORTH FACE OF PIT - SECTION LINE NO. 5.



Red, soft to firm intact, clayey silt with small sand fraction; probably altered aeolean sand.

Yellow, firm intact, clayey silt and sandy silt with some coarse sand; in profile mottled red, yellow and white; evidence of boulders decomposed in situ; Gravel from 45 to 47 ft. $\frac{1}{8}$ in. to 6 in. variegated subangular and subrounded rocks, predominantly quartz; whole stratum was originally gravel with one more resistant layer.

Reddish grey, firm, jointed clayey silt; in profile mauve banded grey with many fissures and chert stringers which are much more profuse in upper 10 ft. Decomposed dolomitic schist.



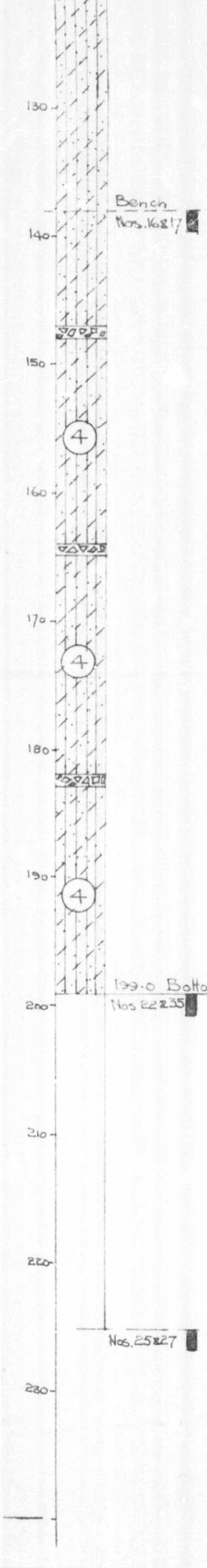
Reddish grey, firm, jointed clayey silt; in profile mauve banded grey with many fissures and chert stringers which are much more profuse in upper 10 ft. Decomposed dolomitic conglt.

Pinkish grey, soft and firm (in layers) jointed clayey-sandy silt; in profile colours vary greatly, layered yellow, greenish yellow and dark brown; laminated, dipping North, with many cross joint planes; highly micaceous; with many layers of brecciated quartz. The soil on either side of each quartz layer is soft with much increased mica content suggesting that water-flow has taken place at this horizon. Decomposed Upper Banded Shale.

NOTES:

(a) No water seepage or other sign of water table observed.

(b) Profile observations and classifications by Mr. D. Brink, Feb. 1961.



Pinkish grey, soft and firm (in layers) jointed clayey-sandy silt; in profile colours vary greatly, layered yellow, greenish yellow and dark brown; laminated, dipping North, with many cross joint planes; highly micaceous; with many layers of brecciated quartz. The soil on either side of each quartz layer is soft with much increased mica content suggesting that water-flow has taken place at this horizon. Decomposed Upper Banded Shale.

NOTES:

(a) No water seepage or other sign of water table observed.

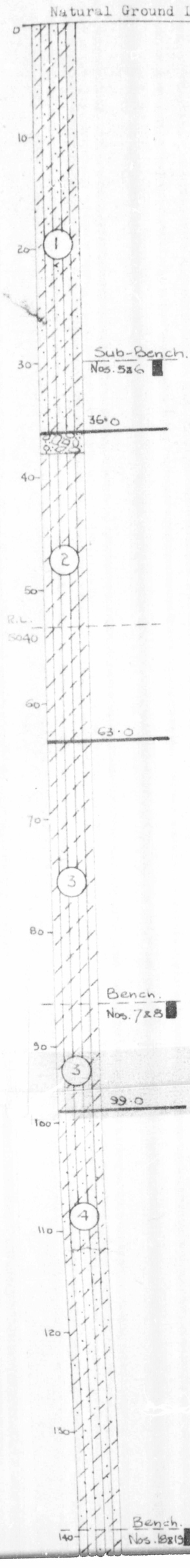
(b) Profile observations and classifications by Mr. D. Brink, Feb. 1961. Profile interpretation and simplification by Professor J.E. Jennings, April, 1961.

(c) N.B. Profile is taken on vertical bench faces on general slope of pit as it existed in February, 1961. In interpreting levels from the top (R.L. of North Rim approx. + 5100) account must be taken of the general slope towards the South along which this profile has been taken.

Fig 6

INVESTIGATION OF SLOPE STABILITY - NCHANGA OPEN PIT

SOIL PROFILE ON NORTH FACE OF PIT - SECTION LINE NO. 7.

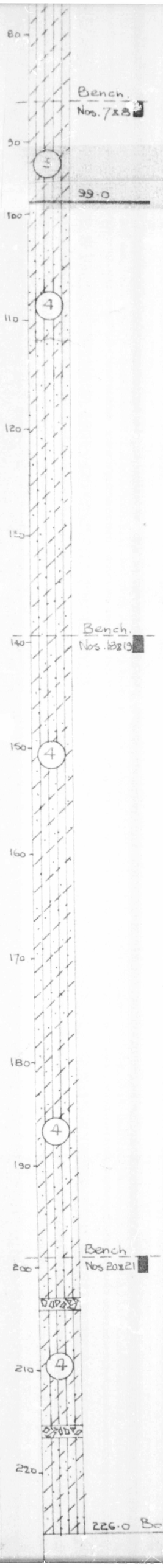


Red, soft to firm intact clayey silt with small sand fraction; probably altered aeolean sand.

Yellow, firm, intact clayey silt and sandy silt with some coarse sand; In profile mottled red, yellow and white; evidence of boulders decomposed in situ; Gravel from 36 to 38 ft. $\frac{1}{8}$ in. to 6 in. variegated subangular and subrounded rocks, predominantly quartz; whole stratum was originally gravel with one more resistant layer.

Reddish grey, firm, jointed clayey silt; in profile mauve banded grey with many siliceous and chert gravel; weak zones are much more profuse in upper 10 ft. Decomposed dolomitic schist.

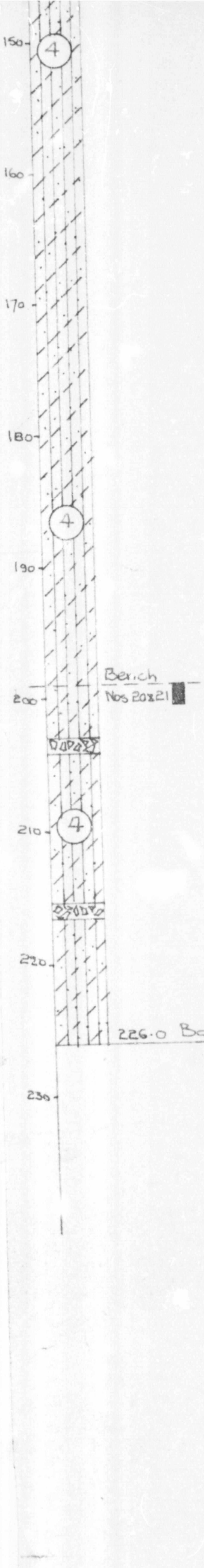
Pinkish grey, soft and firm (in layers) jointed clayey-sandy silt, in profile colours vary greatly, layered yellow, greenish yellow, and dark brown; laminated, dipping North, with many cross joint planes; highly micaceous; with many layers of brecciated quartz.



much more profuse in upper 10 ft.
Decomposed dolomitic schist.

Pinkish grey, soft and firm (in layers) jointed clayey-sandy silt, in profile colours vary greatly, layered yellow, greenish yellow, and dark brown; laminated, dipping North, with many cross joint planes; highly micaceous; with many layers of brecciated quartz. The soil on either side of each quartz layer is soft with much increased mica content suggesting that water flow has taken place at this horizon. Decomposed Upper Banded Shale.

NOTES:



Upper Banded Shale.

NOTES:

(a) No water seepage or other sign of water table observed. The water in the sump is assumed to be drainage water from rain falling in the pit. This water disappears in the dry season.

(b) Profile observations and classifications by Mr. D. Brink, Feb. 1961. Profile interpretation and simplification by J.E. Jennings, April 1961.

(c) N.B. Profile is taken on vertical bench faces on general slope of pit as it existed in Feb. 1961. In interpreting levels from the top (R.L. of North Rim approx. + 5100) account must be taken of the general slope towards the South along which this profile has been taken.

Fig 7