NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION

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THE SALVAGE EXCAVATION OF A PA AT MOKAU, NORTH TARANAKI, NEW ZEALAND

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INTRODUCTION

This report describes the salvage excavation of a small pa site (N.91/3) on the south bank of the Mokau River mouth in North Taranaki, New Zealand. The site, which lies within the easement surveyed for the Kapuni gas pipeline, will be entirely destroyed by pipeline works.

The excavation was carried out for the New Zealand Historic Places Trust with money provided by them and the Ministry of Works, as part of the archaeological survey for the Kapuni Pipeline Project.

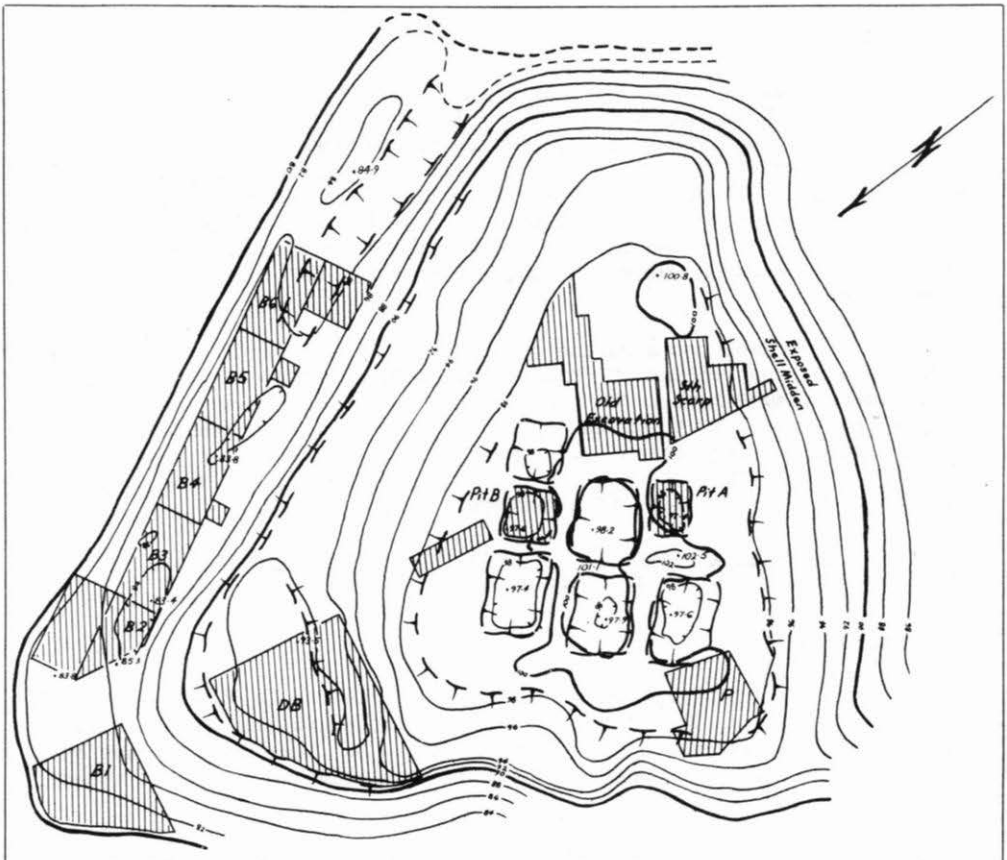
The site was first recorded and sampled during May 1968 (Gorbey: 1968). Only one phase of building activity was found. The salvage excavation carried out from 26 January to 2 February 1969 therefore aimed at uncovering a wide area of the site, in order to expose the greatest range of archaeological evidence.

METHOD

Control was provided by a ten-foot grid within which selected areas determined by the topography of the site were excavated. All recording was photographic, supplemented by notes and sketches. Sections were recorded in monochrome and colour on oblique photographs, and structural features were recorded either on oblique photographs in monochrome and colour, or on monochrome vertical stereophotographs. In all cases, sufficient supplementary control was provided to rectify the photographs and draw orthogonal views.

The site was surveyed using a plane-table and microptic alidade at a scale of five feet to an inch and with a contour interval of one foot. For convenience the contours are in terms of an arbitrary datum of 100 feet located on the top platform of the site. The contours shown on the site plan do not, therefore, indicate the height above sea level.

The excavation was carried out using spades and trowels.



TOPOGRAPHICAL PLAN OF SITE N 91/3.

Surveyed by: N.Z. Historic Places Trust. Date: Jan. 1969.

Scale: 10 8 6 4 2 0 10 20 feet. Contour Interval: 2 feet.

Note: Contours do not represent height above sealevel.

Excavated Areas.

Fig 2.

SITE LOCATION

N.91/3 is about half a mile from the coast at the end of a ridge overlooking the Mokau River (Fig. 1). It is about two hundred feet above sea level, and commands a good view of the Mokau River mouth and upstream for two or three miles. The soil is technically a yellow-brown earth of medium texture (McLintock, 1960: Map 12). When excavated, it varied from a brownish silty clay to a less weathered, and generally deeper, hard yellow clay. It had developed on a sandstone base of upper tertiary sedimentary rock which, when exposed, was found to be a bright reddish-orange colour.

The predominant pre-European vegetation in the area has been described as "scrublands and fernlands" (McLintock, 1960: map 14). Parts of the area, however, must have been forested in pre-European times, as are the steep slopes to the south of the pa today. These are covered with a "Tariare dominant vegetation" (Gorbey: 1968). The foot of the pa is at present covered with a bracken fern, and many of the surrounding slopes are covered with gorse and rough pasture.

Pipi (Amphidesma australe) and cockle (Chione stutchburyi) beds are both found within a short distance of the site.

SITE DESCRIPTION

The site is a roughly triangular knob, surrounded by steep slopes on all sides (Fig. 2). The north-eastern side is modified by two terraces. The lower terrace extends along the whole side, but the upper terrace cuts only across the northern corner. Both terraces have on them what appears to be a ditch and bank.

The only features visible on the top platform are seven well-defined rectangular pits without rims, dug into the sandstone sub-stratum. There is a thin scatter of midden visible on the south side of the pa.

From the south-western corner of the site a knife-edge ridge leads south to a ridge-top pa about 150 yards away (Site N.91/4).

EXCAVATION RESULTS

Five separate areas were examined (Fig. 2). These were: the ditch and bank along the north-eastern side of the pa (B.1 to B.6); the ditch and bank cutting across the northern corner (D.B.); the top platform and part of the scarp (South Scarp); two pits (Pit A and Pit B); and the

portion of the upper platform facing the causeway (P).

Area P: This is the most vulnerable point on the pa. It was examined for evidence of pallisading.

Below a topsoil of varying thickness was a brown silty-clay containing small flecks of charcoal. This layer, also of varying thickness, covered all the excavated area, and appeared to have been washed down from higher up on the site. The boundary between the brown silty-clay and the topsoil was not clearly defined (Fig. 3).

Four postholes were found cut into the hard yellow clay beneath the brown silty-clay, and filled with the brown silty-clay. Although it was hard to distinguish between these layers, the postholes were not as hard packed as the surrounding hard yellow clay, and showed up, especially after rain, as soft damp patches.

The postholes varied in size from 12 inches to 18 inches deep, and from six inches to 15 inches in diameter at the surface. The four postholes formed a rough rectangle approximately 3 feet 6 inches by 6 feet (Fig. 3).

Pit A and Pit B: Two of the seven pits were examined (Figs. 4 and 5). Pit A was a single pit; pit B was one of two pits separated by a low wall. Each had originally been excavated through a layer of yellow weathered clay into the hard reddish-orange sandstone. Each was filled with debris forming three distinct layers.

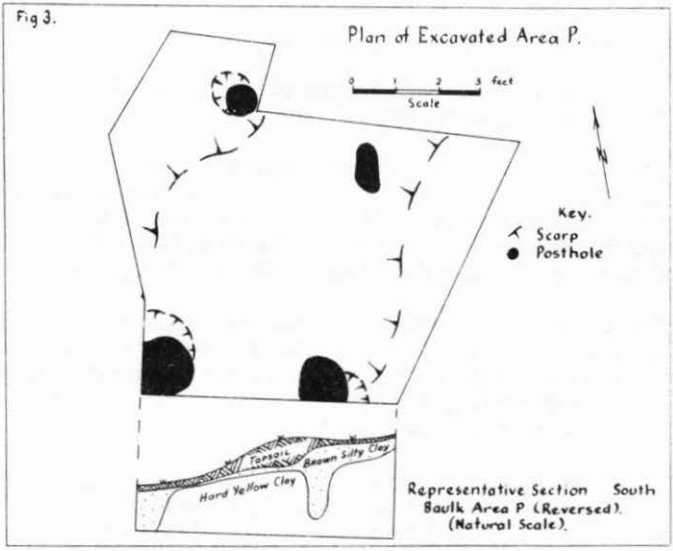
Both pits were first excavated downwards to locate the pit floor. A corner was then removed to locate the pit wall.

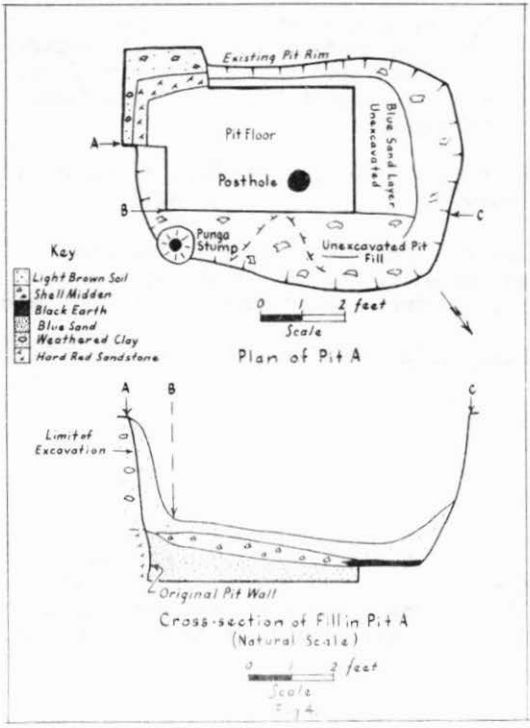
Pit A: The lowest layer was a sterile blue sand. The blue colour seemed to have been caused by the action of water trapped in the bottom of the pit, and held by the impervious nature of the red sandstone.

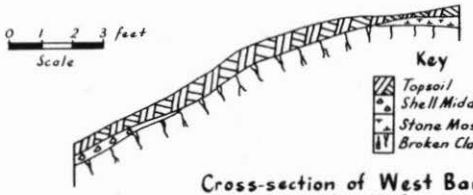
A layer of black earth containing shell midden completely covered the blue sand. The shell midden was thickest on the eastern side but absent on the western side of the pit. It was composed almost wholly of pipi shells (Amphidesma australe), and an occasional cockle shell (Chione stutchburyi).

On top of the black earth and shell midden was a light brown soil containing fern roots, occasional pieces of charcoal, and lumps of clay from the existing wall of the pit. This layer was very similar to the weathered clay above the hard red sandstone, and seemed to merge with it. The base of the pit wall was found where the pit had been dug into the red sandstone, but the pit wall could not be found in the weathered clay,

Fig 3.


Plan of Excavated Area P.
0 1 2 3 feet
Scale
N
Key.
Scarp
Posthole
Topsoil
Brown Silty Clay
Hard Yellow Clay
Representative Section South Baulk Area P (Reversed). (Natural Scale).


Existing Pit Rim
Pit Floor
Posthole
Blue Sand Layer Unexcavated
A
B
C
Punga Stump
Unexcavated Pit Fill
Key
Light Brown Soil
Shell Midden
Black Earth
Blue Sand
Weathered Clay
Hard Red Sandstone
0 1 2 feet
Scale
Plan of Pit A
A
B
C
Limit of Excavation
Original Pit Wall
Cross-section of Fill in Pit A
(Natural Scale)
0 1 2 feet
Scale

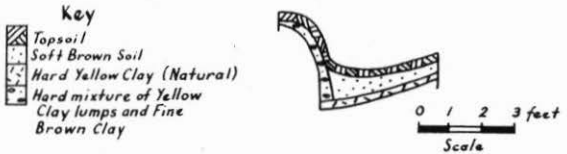


Cross-section of West Baulk South Scarp
(Natural Scale)

Fig.6a.

Section of East Baulk B2
(Natural Scale)

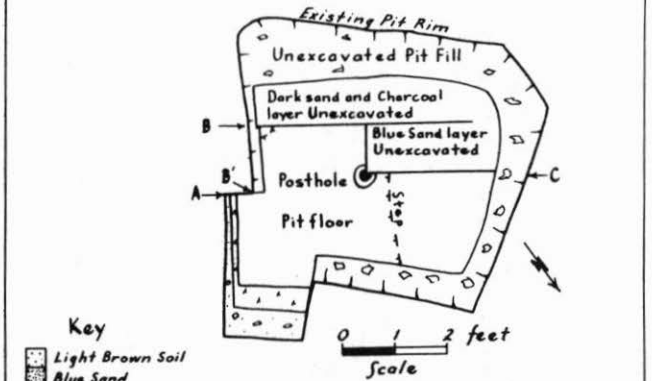
Fig.6b.



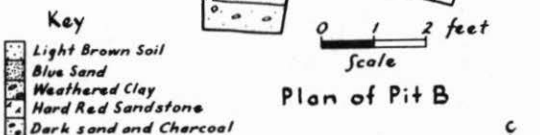
Section of East Baulk B6
(Natural Scale)

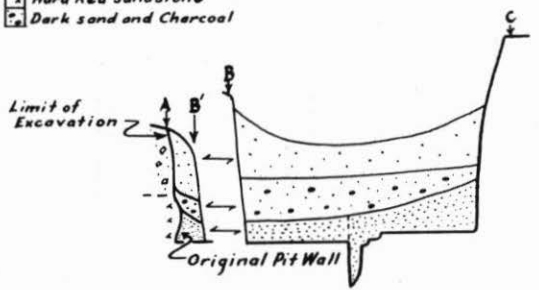
Fig.6c.

Fig 6



Plan of Pit B





Cross-section of Fill in Pit B
(Natural Scale)

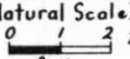


Fig.5.

Fig. 5

although it had presumably been cut through it.

Pit B: Like Pit A, the first layer of infilling was a blue coloured sand. However, in Pit B this layer contained occasional beach pebbles up to three inches in diameter, a small concentration of charcoal, and a number of pieces of tree bark.

Layer two was a layer of dark sandy soil with charcoal and beach pebbles scattered through it. In the very top of this layer was a concentration of charcoal and charred wood, including punga. This was concentrated in the centre of the pit and in the north-eastern corner. It did not extend into the other corners.

The third layer was a light brown soil with fern roots, occasional pieces of charcoal, and lumps of clay from the pit wall. Like the same layer in Pit A, it appeared to merge with the weathered clay.

Features in Pits A and B. In the centre of each pit was a large posthole about 18 inches deep, cut into the red sandstone and filled with blue sand. The posthole in Pit B had a low rim around it about half an inch deep. There was no rim around the posthole in Pit A.

Each pit was cut about 15 inches into the red sandstone. A two-inch deep undercutting of the wall at floor level was observed beneath a slight bulge in the wall of each pit. In Pit B only there was a small two-inch high step running across the floor (Fig. 5).

South Scarp: The South Scarp excavation was planned both to examine the possibility that it had been defended, and to seek a stratigraphical link between the midden over the edge of the South Scarp and the rest of the site.

The layer described as topsoil in Fig. 6a was a sandy soil containing clean round beach pebbles up to six inches in diameter, charcoal flecks, and the roots of bracken fern.

In the north-western corner of the excavation, beneath the topsoil, was a two-inch to three-inch-thick stone mosaic. The stones were hard lumps of green and red sandstone packed together on top of the natural layer. They were similar to the hard red sandstone into which the pits had been dug, and from their position close to the pits, would appear almost certainly to be derived from them.

The midden over the edge of the scarp also lay beneath the topsoil and on top of the natural layer. It was similar to that found in Pit A,

being predominantly pipi shell with a small percentage of cockle shells, in a black earth matrix.

The natural layer was a yellow clay, broken by root action.

D.B. and B.1 - B.6: These areas were laid out to examine the ditch and bank features and to locate any pallisade defences which may have existed.

D.B.: There were three layers (Fig. 7). The first, a topsoil approximately six inches thick covered the whole area. Beneath this, a brown silty-clay layer filled the ditch but lay thinly on top of the bank. It rested directly on a hard yellow natural clay, and appeared to be silt washed down from higher parts of the site. Hard lumps of yellow weathered sandstone were mixed with the brown silty-clay on the north facing slope of the bank.

The ditch in the yellow clay was five to six feet wide at its widest point, and approximately five feet deep. It was filled with about two feet of the brown silty-clay. The only feature was a hemispherical depression, 12 inches in diameter on the top of the bank. There were, however, numerous bracken fern roots in and around the feature and it could be natural.

B.1.: This was the western end of the lower terrace along the north-eastern side of the site (Fig. 7). The stratigraphy was simple - a grey topsoil three inches to six inches thick, gradually changing to a hard yellow clay. One well defined posthole seven inches square was found cut into the yellow clay and filled with grey soil. It was located on the outside edge of the terrace.

B.2 - B.6.: This area covered much of the bank and part of the ditch on the lower terrace along the north-eastern side of the site. The topsoil rested directly on top of the bank. The bank at the western end (B.2.) was of a hard yellow clay (Fig. 6b) which gradually changed to a hard mixture of yellow clay lumps and fine brown silty-clay resting on the hard yellow natural clay at the eastern end of the terrace (B.6), (Fig. 6c). Lying on top of the bank in B.5. were several small unidentifiable pieces of shell. Elsewhere along the bank were found small waterworn pieces of grey pumice, white pumice, and occasional pieces of charcoal.

On either side of the bank from B.2. to B.6. the topsoil changed to a soft brown soil or fine brown clay which was in turn resting on top of the hard yellow natural clay. It contained numerous bracken fern roots, clay lumps, and small pieces of charcoal.

Hard yellow clay lumps were found mixed with the fine brown clay (Fig. 6) and appeared to be derived from the top of the bank. Like the yellow clay lumps, the fine brown clay may once have formed part of the bank also, and has since been washed off.

There was little evidence for a ditch behind the bank at B.2 but a ditch at least three feet deep once existed behind the bank at B.6.

The Age of the Site: There is no evidence indicating the age of the site. No cultural remains were found, and no samples were taken for radiocarbon dating.

DISCUSSION

Each pit had a sterile blue sand layer as the first layer of infilling. The next layer, the midden in Pit A and the burnt layer in Pit B, result from human activity. Following this, the infilling appeared to be quite natural, resulting from normal erosion and the collapse of the pit walls.

The blue sand layer contained no cultural material, and was probably the first phase of natural infilling representing the "rapid silt" which takes place shortly after abandonment (Cornwall, 1958: 50). The presence of the "stone mosaic" near Pit A, and apparently derived from it, suggests the material dug from the pits was dumped quite close at hand, and could readily be washed back.

The midden deposit may be associated with the excavation of the other pits on the site, if dug later than Pits A and B, or with any other activity carried out. The blue sand layer showed no signs of a soil development and appeared to be quite homogenous. This suggests that the midden layer was deposited within a short time of the blue sand layer. It was not possible to relate the midden over the South Scarp to the rest of the site but, from its appearance, it is probably part of the same midden filling Pit A.

A puzzling feature of the site is the general absence of structural remains other than the pits, the seven postholes, and the ditches and banks. There were no other structural remains on the excavated portions of the top platform, nor was there evidence of pallisading along the South Scarp, or along either bank on the north-eastern terraces. The steep scarps alone may have provided sufficient defence without requiring modification. It is perhaps significant that at the most vulnerable point on the site, the causeway, postholes were found. However, four postholes do not necessarily indicate a pallisade, although a small fighting platform is a possibility.

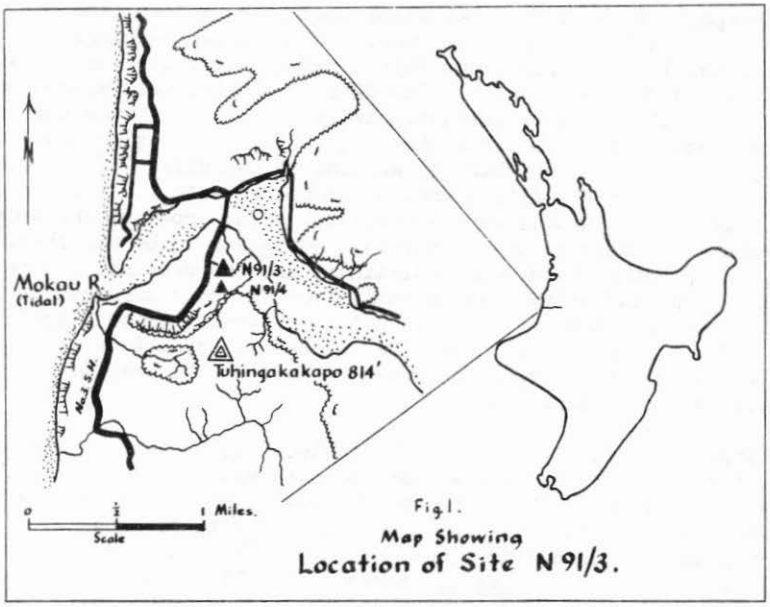
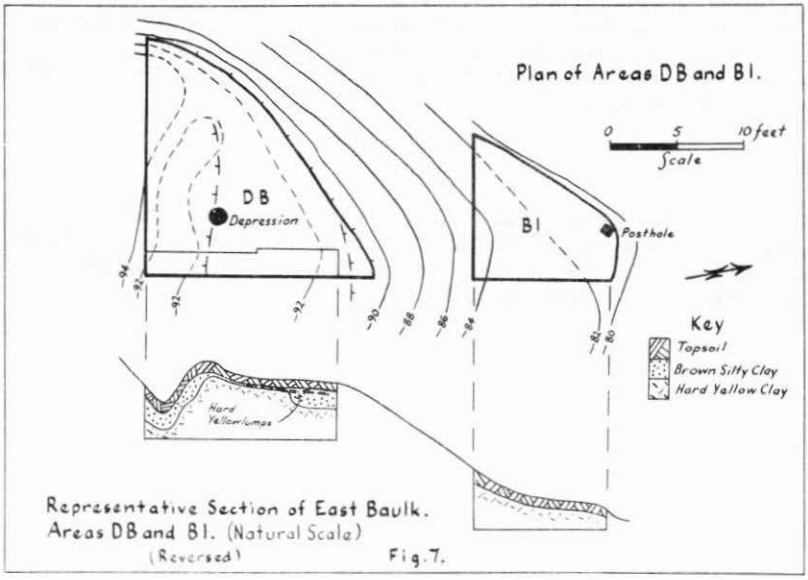


Fig.1.
Map Showing
Location of Site N 91/3.



Representative Section of East Baulk.
Areas DB and B1. (Natural Scale)
(Reversed)

Fig.7.

The purpose of the earthworks along the north-eastern side is enigmatic. No postholes were discovered, other than the single posthole on the lower terrace, and this, from its position, could have been from an old European fence. The ditch and bank, well marked at the eastern end of the lower terrace, barely existed at the western end, even in section. It is possible that weathering and erosion had obliterated any signs of the bank by washing it downhill. The depth of the eastern end of the ditch, however, compared with the western end suggests that the earthworks were incomplete. The upper ditch, from its size and relatively clear-cut nature, did appear to be finished. The bank, on the other hand, was indistinct, and the presence of the yellow clay lumps and silty-clay downhill from the bank suggests it had been badly eroded. Even so, the absence of postholes is once again curious. The two ditches and banks may therefore reflect two separate attempts to defend the site, or they may be part of the same defence system which was not completed.

The absence of pallisades and of structures other than pits on the upper platform, possibly indicate that the site was never completed. The finished condition of the pits would imply however that they were features of some importance. The site lies in Iwitini, an area suitable for kumara agriculture (Cumberland, 1949: 418), and it is probable that the pits were kumara stores. If this is so, and assuming the pits and defences to be contemporary, the site may initially have been little more than a defended food store, relying for defence on the naturally steep slopes of the scarps, perhaps supplemented by the small ditch and bank across the northern corner, and the structure across the causeway. The lower earthworks, perhaps contemporary with the midden, may have been a later but unsuccessful attempt to strengthen or complete the defences of the site.

CONCLUSION

The surface features of Site N.91/3 were clear and well-defined. The excavation, however, showed the different parts of the site to be at different stages of construction: the pits investigated had been completed, the defences were unfinished.

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