

a trace left, unless the isolated rock on the northern side of the well-known narrow passage through the reef into the present harbour be a vestige of it. I have marked the place where I suppose the island to have stood on the map.

NOTES ON SOME RUINS AND A ROCK-CUT AQUEDUCT IN THE WÂDY KUMRÂN.

By Dr. E. W. G. MASTERMAN.

IN traversing the Wâdy Kumrân on my road to 'Ain Feshkhal in March last I passed two points of interest—

1. *Khurbet Abu Tabak*.¹—In the plain called *El Buqia* near to the important and well-worn road that traverses the plain from north to south I came to a place called *Abu Tabak*. My guide called it *Umm Tabak*, but afterwards when I told him the name in the map was *Abu Tabak*, he acknowledged that this was the usual form.

Here there are (1) a small cemetery evidently of antiquity, the appearance of the graves being very similar to those at *Khurbet Kumrân*, (2) a cave, and (3) some ruins. The cave, known as *Mugharet Abu* (or *Umm) Tabak*, lies on the north side of a low hill; it runs north to south, and is largely, if not entirely, artificial. It is 116 feet long, 17½ feet wide at its widest, that is about half-way in, and probably is about 20 feet high throughout. The floor is piled up with goats' dung to the height of several feet, so it is difficult to say how far the floor has been levelled throughout, but the general shape is regular. At the extreme inner end there is a hole at the top of the accumulated dirt which may lead into an inner part. My man put his gun in as far as he could without touching rock. The right side of the cave shows tool-marks where the walls have been smoothed, and at two places there are recesses for lamps. Close to the entrance on this side of the cave there is a place where my Bedawin guide declared the Arabs had cut away an inscription—or what they took for an inscription. There are signs that something has been cut away, and beside this place are two marks—not letters—consisting of parallel lines each 4 inches long, ¼ inch deep, and 1½ inches apart, evidently artificial, but also probably modern; the rock is too soft to make it a likely place for the long preservation of any cutting.

On the top of the isolated hill in which the cave lies, there are the foundations of a wall 4 feet thick, made of large stones, and standing in places to the height of three courses above the ground. They completely

¹ Apparently the *Kurm Abu Tubk* of *The Memoirs*, vol. iii, p. 213.

enclose an area, practically the whole top of the hill—about 170 feet by 80 feet. At a slightly lower level to the east, and joining on to the first enclosure, there is a smaller enclosed area about 40 feet square. On the highest point of the hill are some ill-defined ruins. My guide pointed out some lines of ruined walls on the hill slopes around which he said belonged to vineyards that once existed there.

The whole remains, the ruins, the cave, and the graves, suggest that there was once a guard station here for the protection of the important road which traverses the *Bukeia* from Jericho and the Jordan to Mar Sâba, 'Ain Jidy, Masada, &c. This plain is now every summer such a



FIG. 1.—View on the road down the side of the Wady Kumerân.

haunt of robbers that the road can only be traversed by well-armed parties ; in the winter the *Abideyeh* Arabs encamp all over it.

2. *Rock-cut Aqueduct in the Wady Kumerân.*—The descent from the *Bukeia* to the remains known as Khurbet Kumerân is by an exceedingly rough path down which a horse can only be led with difficulty, but there are evidences that at one time much labour has been expended on making a mountain road suitable for horses and mules. On reaching the plateau of marl on which, at a quarter of a mile to the east, lies the Khurbet Kumerân, an aqueduct¹ may be seen running from the hills almost direct towards the ruins for a distance of upwards of 400 yards.

¹ Referred to in my paper on this district, *Quarterly Statement*, 1902, p. 161.

What appears on the surface is but a parallel row of stones, the water-channel having silted up to the level of the surrounding ground. I made further investigation and found, what I believe has not been previously reported, that this built-up channel is but the continuation of a rock-cut aqueduct which begins in the kind of amphitheatre¹ formed

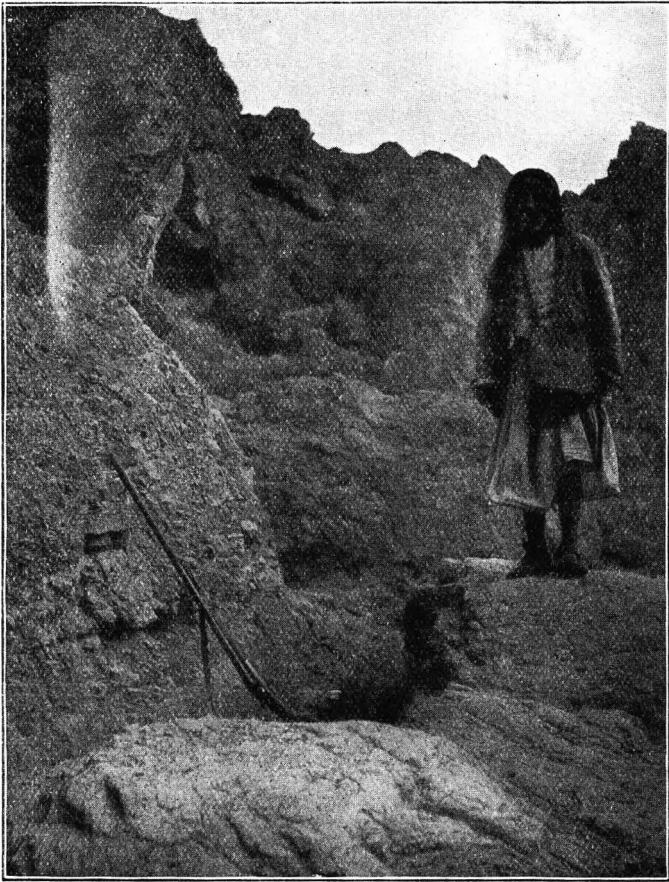


FIG. 2.—Open rock-cut Aqueduct in Wâdy Ẹumrân, near the beginning. Gun is placed in the channel.

when the Wâdy Ẹumrân abruptly empties itself from the high ground to the level of the 'Ain Feshkhah oasis. Down this series of precipices all

¹ Described by M. de Saulcy as "a circular cavity, resembling a crater." *The Dead Sea* (Eng. ed.), vol. ii, p. 42.

the drainage of the *Buḡeia* empties itself after heavy rain in a series of cascades. The aqueduct commences at the foot of one of these cascades—not the central great one but a smaller one to the north. From the natural, somewhat funnel-shaped beginning the aqueduct runs for 60 feet as an open rock-cut channel, it then traverses for about 40 feet a rock-cut tunnel now blocked up at both ends; thence it runs about 30 feet along the side of the rock by what must have been a half built-up channel, one side being of natural rock, the other built up; this latter, the south side, has been almost entirely broken away, but the course is quite evident by the plaster along the rocks. On reaching this point the aqueduct passes through the rock once more. This tunnel, which can be traversed throughout, is 3 feet high, 2 feet wide, and 43 feet long. Like the rest of this aqueduct it is very winding. It is broken at the bottom, 11 feet from the entrance, at a point where the floor has been partially built up of stone, and another 12 feet along there is a small window, made probably accidentally, above the level reached by the water, looking to the south. This part of the aqueduct is in good repair, and much of the plaster is in position. Leaving the tunnel the aqueduct can be easily traced for some 50 feet, but from there till it reappears on the plateau, a distance of about 340 feet, it has been almost entirely destroyed, and can only be traced by means of fragments of the cement adherent to the cliffs. The total length from the source to the *birket* among the ruins must be about half a mile.

It is improbable there was ever a spring in this part of the *Wâdy Kumrân*, and I think we are safe in assuming that this little aqueduct was made to fill with the winter rains the cistern or cisterns connected with the buildings now known as the ruin *Kumrân*. The surface-water on the marly plateau would not be good for this purpose, nor would the brackish water in the neighbouring springs of 'Ain Feshkhah, though drinkable, be grateful to permanent dwellers in the neighbourhood.

The 700 graves and the extensive ruins of Khurbet *Kumrân* offer a field for speculation as to their origin; it is evident that this carefully-constructed aqueduct and, I think we may add, the built-up road down the north side of the *Wâdy* and the ruins of Khurbet Abu Tabak are all closely connected with the unknown period, when this now entirely deserted corner of the Dead Sea was in no inconsiderable degree inhabited.