

ARCHEOGEOPHYSICAL (GPR) STUDIES AT THE KAZAKHSTAN-AKMOLA-EREYMENTAU-KUMAY VALLEY 6th-7th CENTURY OGHUZ-KIPCHAK KURGANS

Fethi Ahmet YÜKSEL (1), Ayman DOSIMBAYEVA (2), and Kerim AVCI (3)

- (1) Istanbul University, Department of Geophysical Engineering, Istanbul, Turkey fethiahmety@gmail.com
- (2) Ministry of Information and Culture of the Republic of Kazakhstan, Astana, Kazakhstan, ayman_dos@inbox.ru
- (3) Geometrik Mühendislik Müşavirlik Yer altı Araştırmaları, İstanbul, Turkey, Geometrik_muh@yahoo.com

The study area is located about 110 km east of Astana, the capital city of Kazakhstan. Kurgans (barrows) that belong to the 6th-7th century Oghuz-Kipchak settlements were found in the Bronze Age and Iron Age necropolis and acropolis areas that lie within the limits of the Buyratau National Park, which is located in the Ereymentau District of the Akmola Province, in the vicinity of the Kumay Valley, along the foothills of Buyratau, to the left side of Kumay River (which has given the area its name) (Fig. 1, 2, 3). The district was introduced for the first time to the scientific community by the academicians and researchers of the Nazarbayev Center with the "International Kazakh-Turkish Project on the Constitution of the Kumay Archeology and Ethnography Open Air Museum" as a Bronze and Early Iron Age Turkic period and ethnography.



Figure 1. Turkic fences with Kos Batir statues

The statues at the Kumay Archeological and Ethnographic Complex (Turkic fences with Kos Batir statues, Bronze Age structure, Karagaylı 1 Turkic fence with statue, Karagaylı 2 Turkic fence with statue, Bronze Age Karagaylı 4 burial ground, Karagaylı 3 Turkic fence with statue, Barrows, Barrows with Mustache, Settlement-Stone statue, Karagaylı 5 Turkic fences, Karagaylı 2 Turkic fence with statue, Burial Henge, Balıktı 1 Barrow cluster, Bronze Age Karagaylı 3 burial ground, and Bronze Age Karagaylı 2 burial ground) are new discoveries of the common Turkic heritage exemplifying the cultural layers of different periods in Kazakhstan. Bronze Age structures represented by three types of statues, which, in terms of style, regarded as hundreds of different structures, fences, and barrows, cover the entire Bronze Age.



Figure 2. Site Location Map



Figure 3. Google Earth Image locating Mala 250 GPR survey areas of the Kumay Valley in Kazakhstan



Figure 4. Overview over the site of Kumay Valley and Turkic fences with Kos Batir statues



Figure 5. Kurgans and location of the Kumay Valley survey Site, Astana, Kazakhstan

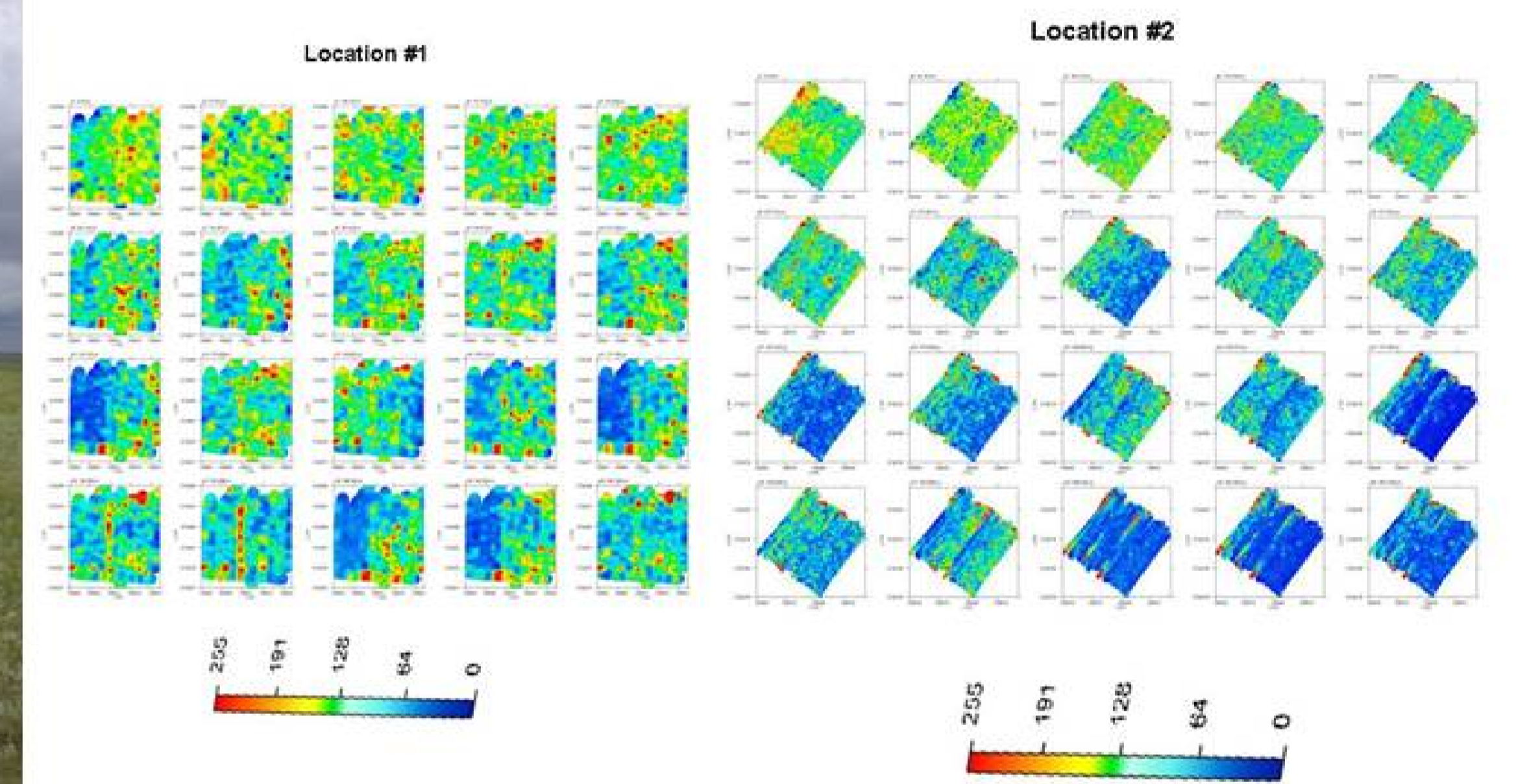


Figure 6. GPR survey results with approximate depths for Kumay Valley, Location 1 and 2.

A geophysical (GPR) project was jointly planned by the Nazarbayev Center of the Ministry of Culture and Information of the Republic of Kazakhstan and the Republic of Turkey Prime Ministry Turkish Cooperation and Coordination Agency (TİKA) in order to investigate the development of the cultural heritage during different periods in Kazakhstan through a contemporaneous and comprehensive study of the areas where above ground or partially buried structures, included in the the Karagaylı 2, 3, and 4 statue groups, are mainly localized to determine whether there are any buried structures in these localities (Fig. 8, 9, 10, 13).

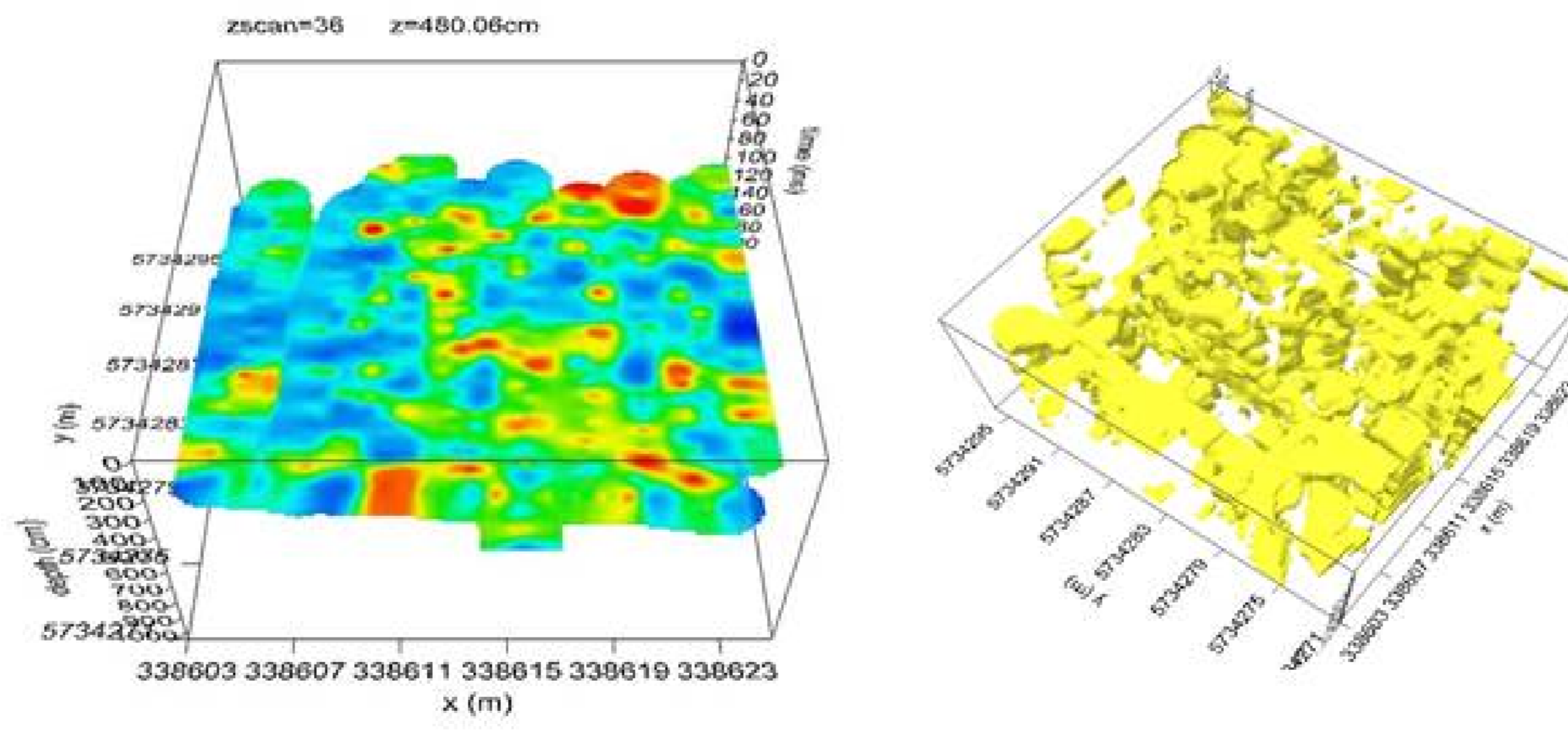


Figure 7. Three dimensional block data view of the Location 5

It was aimed that the buried statues, burial sites and settlements would be revealed using geophysical measurements by means of subsurface monitoring of the Kumay Valley statues and the nearby necropolis and acropolis areas (Fig. 4, 5, 11, 12).

For subsurface monitoring in the region, two and three-dimensional images were obtained using Ground Penetrating Radar (GPR) measurements using a DGPS-supported 250 MHz shield antenna. Based on GPR measurements a new kurgan and ceremony site complex were located and suggested for further archaeological excavation (Fig. 6, 7, 14).

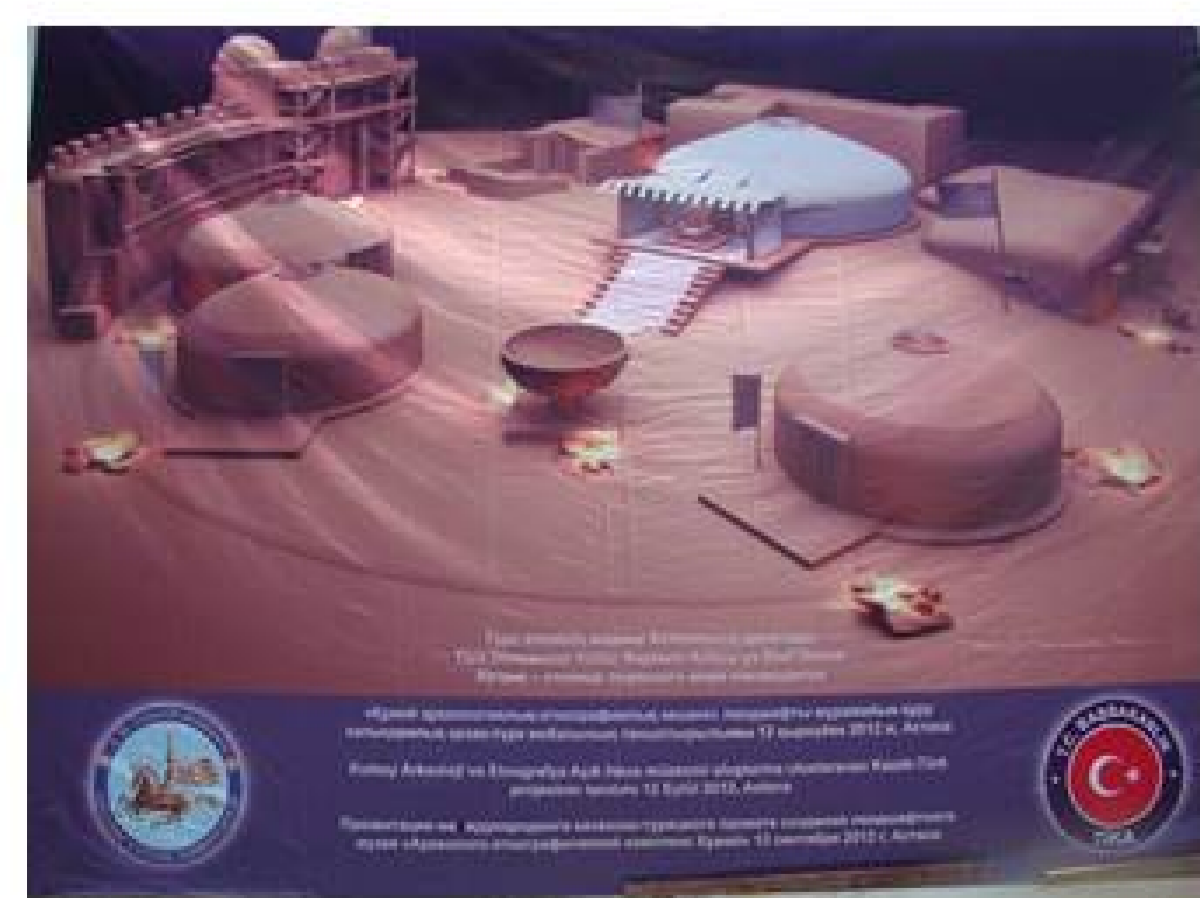


Figure 8. Turkic fences with Kos Batir statues



Figure 9. Turkic fences with Kos Batir statues



Figure 10. Turkic fences with Kos Batir statues



Figure 11. Ground penetrating radar survey of an archaeological site in Kumay Valley.



Figure 12. Ground penetrating radar survey of a Kurgan site in Location 5



Figure 13. Kurgans of the early iron age Kurgans, the model of "Mustache" Kurgans.

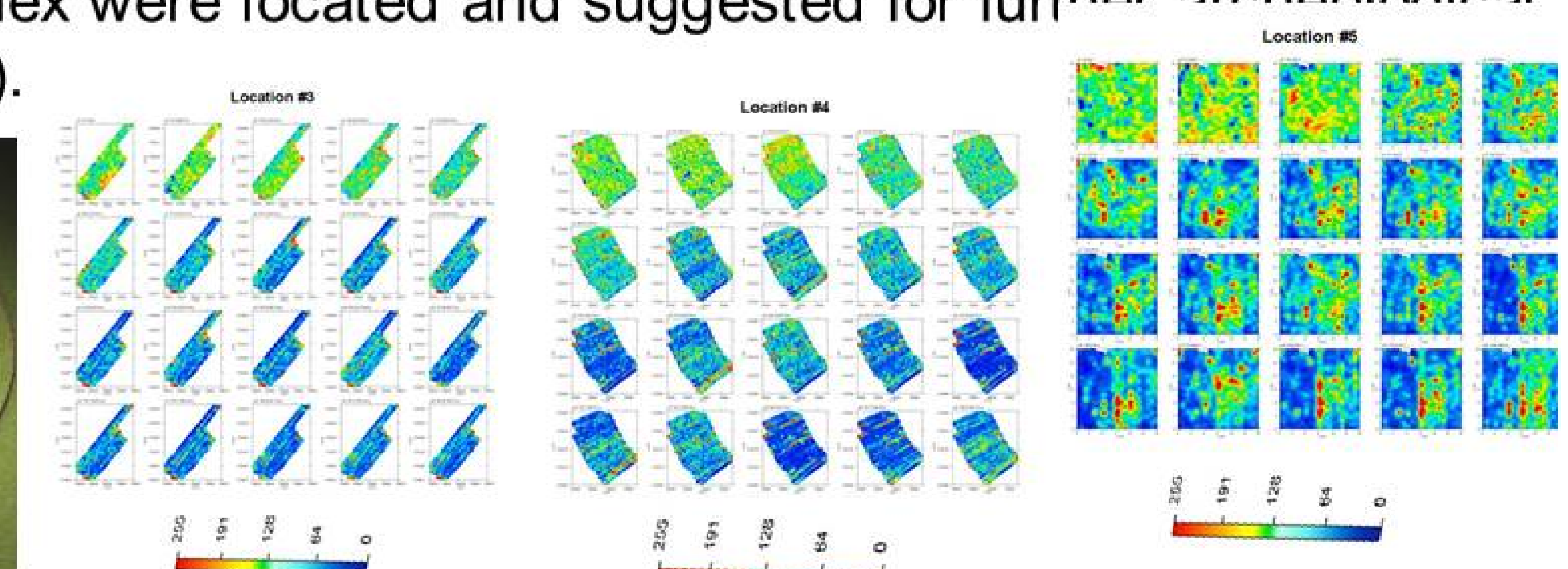


Figure 14. GPR survey results with approximate depths for Kumay Valley, Location 3, 4 and 5