

respectively, of interpreted overburden from the GPR Line 1 profile. Thus, the interpreted and measured depths are reasonably comparable. Surveying methods provided width estimates of 22.3 m (73.2 ft) for the Hercules South Cave and 9.8 m (32.2 ft) for the Hercules North Cave. Width estimates using the GPR data indicated 21.3 m (69.9 ft) for the Hercules South Cave and 12.2 m (40.0 ft) for the Hercules North Cave. A third lava tube has been interpreted from the data and outlined in red at approximately 55.8 m (183.1 ft). This anomaly is slightly deeper, approximately 2.4 m (7.9 ft), and smaller in width than the two known tubes. No other anomalies were selected in this data.

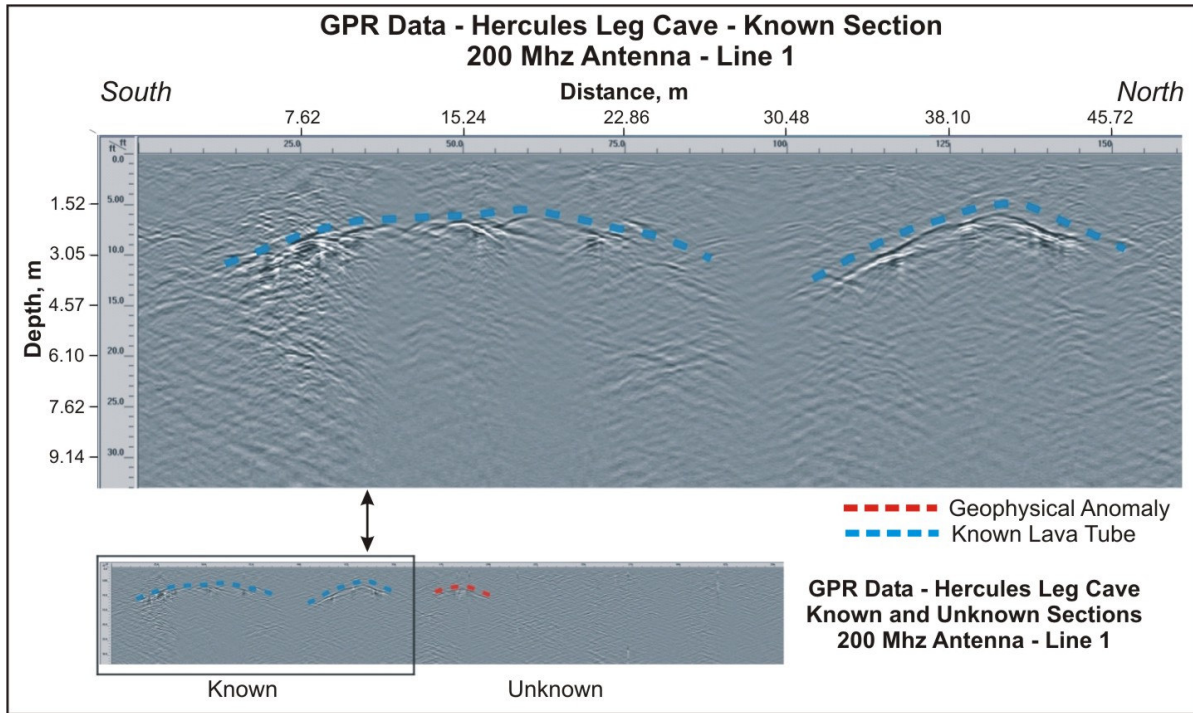


Figure 47. Cross Section. GPR data over the known section of Hercules Leg Cave.

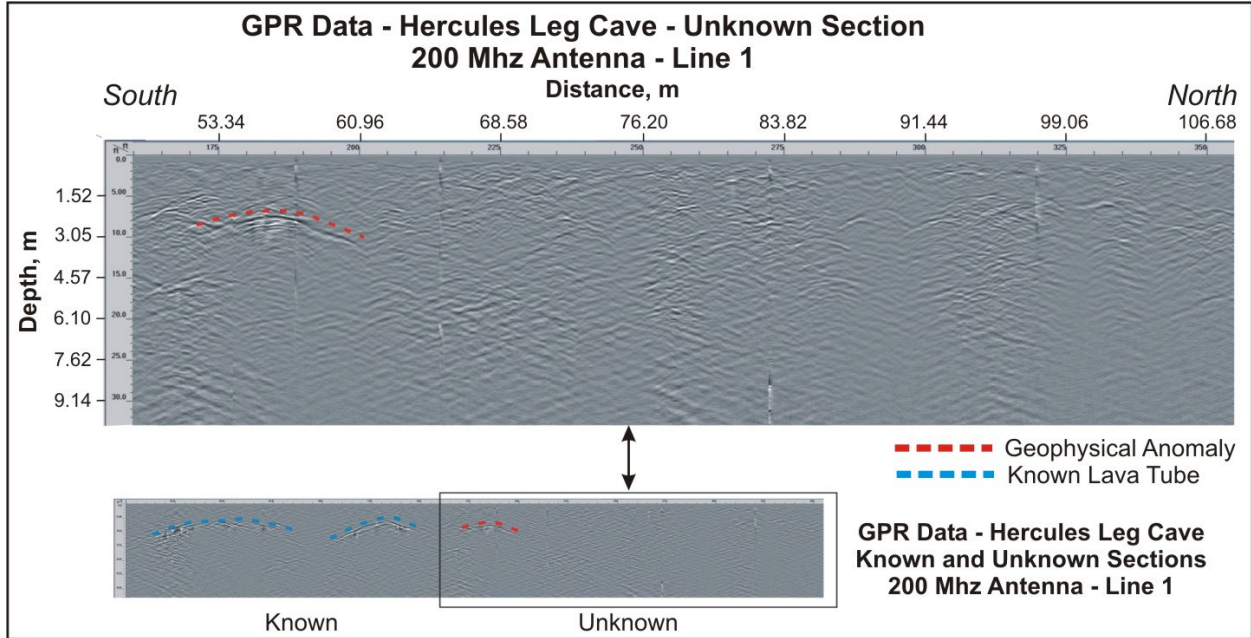


Figure 48. Cross Section. GPR data over the unknown section of Hercules Leg Cave.

Figure 50 shows the magnetic data collected over the section where there are no known lava tubes at Hercules Leg Cave. The magnetic profile illustrates three or four anomalies having amplitudes of a few hundred nanoTeslas superimposed on a more “regional” trend. Although their amplitudes are small, four of these anomalies were selected from the data as the most likely to represent cave locations. The best defined anomaly is located in the middle of the line, and shows a magnetic trough on all three survey lines. The anomaly indicated on the southwestern portion of the line is also fairly well defined and could result from a cave. The remaining two anomalies are less defined and have smaller amplitudes.

Electrical Resistivity

Figure 51 displays the segment of the electrical resistivity survey line where it crosses Hercules Leg Cave⁽⁶⁾ and table 13 gives the coordinates of the end points and some points internal to the survey line. The resistivity data collected at Hercules Leg Cave are shown in figure 52. This geoelectric cross section is much longer than those over the other cave sites in order to cross an area where potential, undocumented caves may exist.

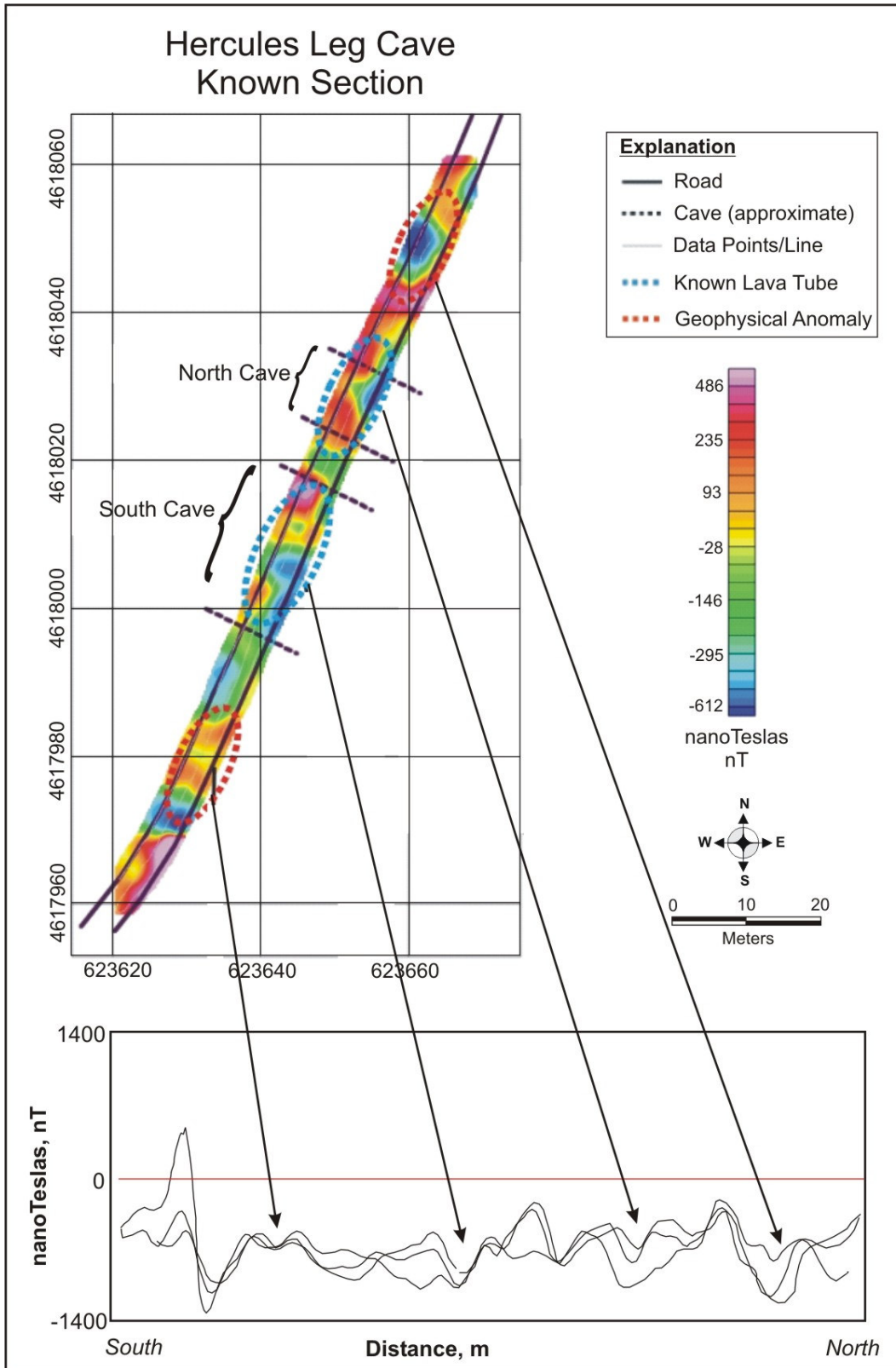


Figure 49. Map. Magnetic data collected over the known section of Hercules Leg Cave.

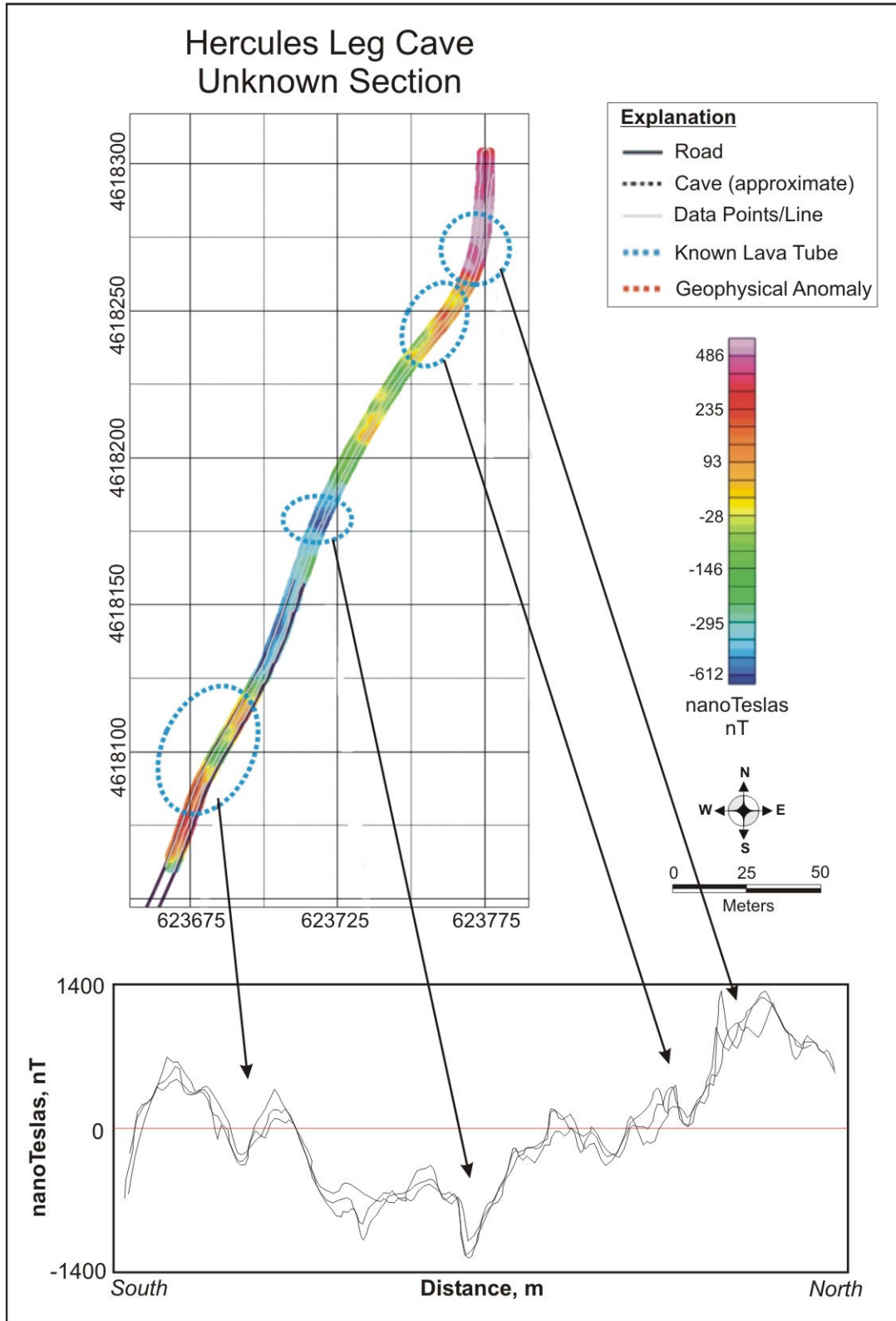


Figure 50. Map. Magnetic data collected over the unknown section of Hercules Leg Cave.

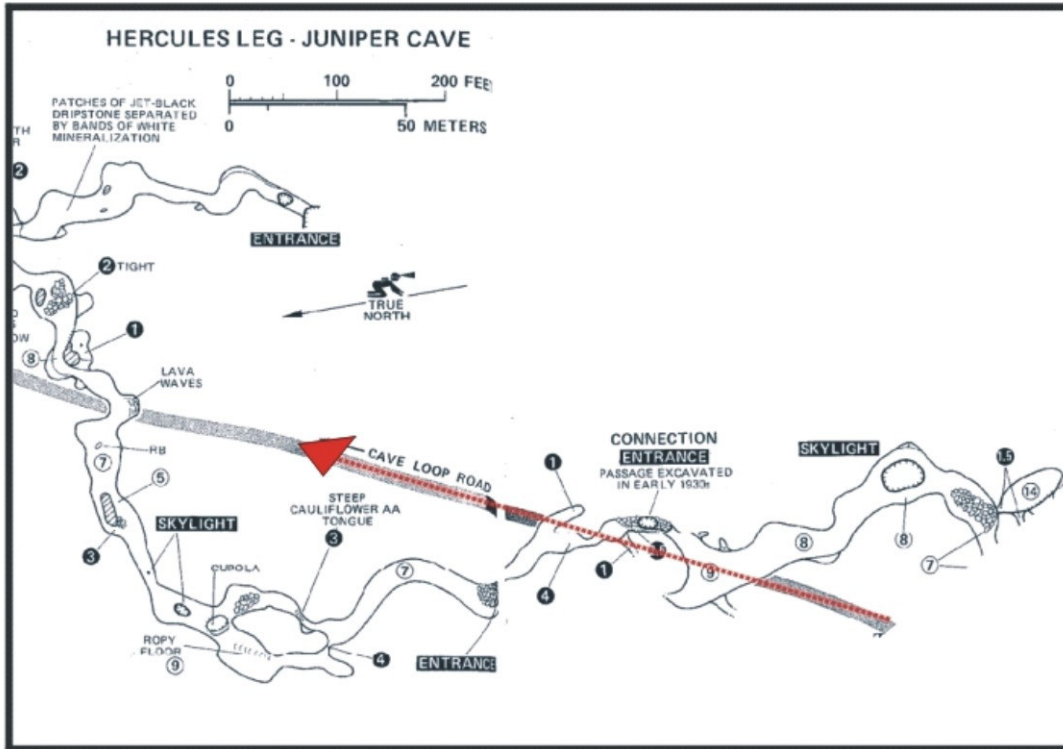


Figure 51. Drawing. Electrical resistivity survey line over Hercules Leg Cave. ⁽⁶⁾

Table 13. Electrical resistivity survey line coordinates over Hercules Leg Cave.

ID	Easting (m)	Northing (m)
Point 1 (south end point)	623628.64	4617972.26
Point 2	623639.05	4617995.62
Point 3	623660.73	4618044.87
Point 4	623680.86	4618090.54
Point 5 (north end point)	623689.58	4618114.58
All coordinates are listed in NAD 83/UTM Zone 10		