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SURFACE MAGNETIC FIELD NOISE MEASUREMENTS AT GENEVA MINE

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The views and conclusions contained in this document should not be interpreted as necessarily representing the official policies or recommendations of the Interior Department's Bureau of Mines of the U. S. Government.

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FOREWORD

This report was prepared by the National Bureau of Standards, Boulder, Colorado, under USBM Contract No. HO 133005. The contract was initiated under the Coal Mine Health and Safety Research Program. It was administered under the technical direction of the Pittsburgh Mining and Safety Research Center with Mr. Howard Parkinson and Mr. Harry Dobrowski acting as the technical project officers.

This report is a summary of the work completed as part of this contract during the period June 1973 to June 1974. This report was submitted by the authors in September, 1974.

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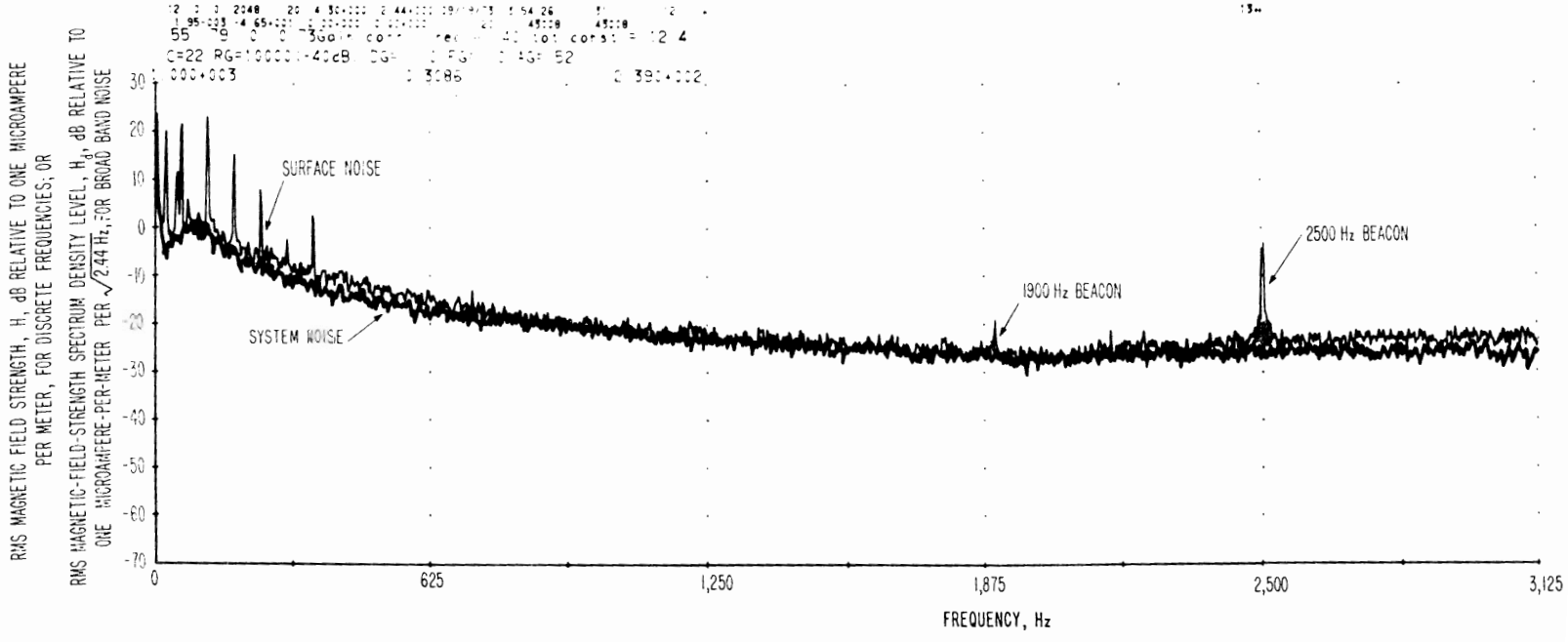

Figure 19

3 kHz spectrum of surface EW noise at Lila Canyon Overlook, over Geneva Mine, Location A1 on Figure 7. Both the 1900 Hz and 2500 Hz beacons show clearly. The 1900 Hz beacon is displaced laterally about 805 meters (0.5 mile) and is 463 meters deep. The 2500 Hz beacon is vertically displaced 351 meters (1150 ft.). Antenna sensitive axis is vertical. Survey, 4:43 p.m., June 12, 1973.

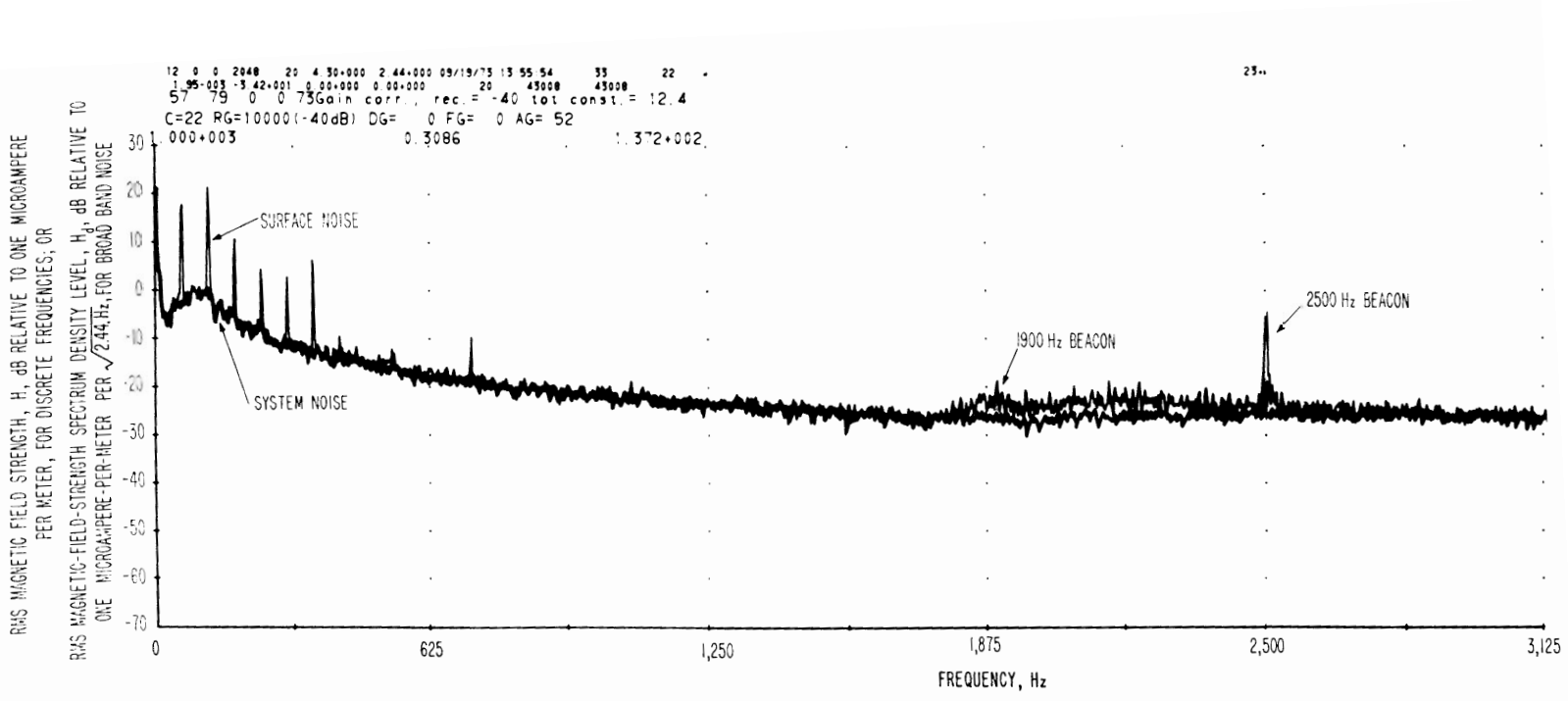

Figure 20

3 kHz spectrum of surface EM noise at Lila Canyon Overlook, over Geneva Mine, Location A1 on Figure 7. The 1960 Hz beacon is barely visible; the 2500 Hz beacon is clearly visible. Antenna sensitive axis is vertical. Twilight, 9:30 p.m., June 12, 1973.

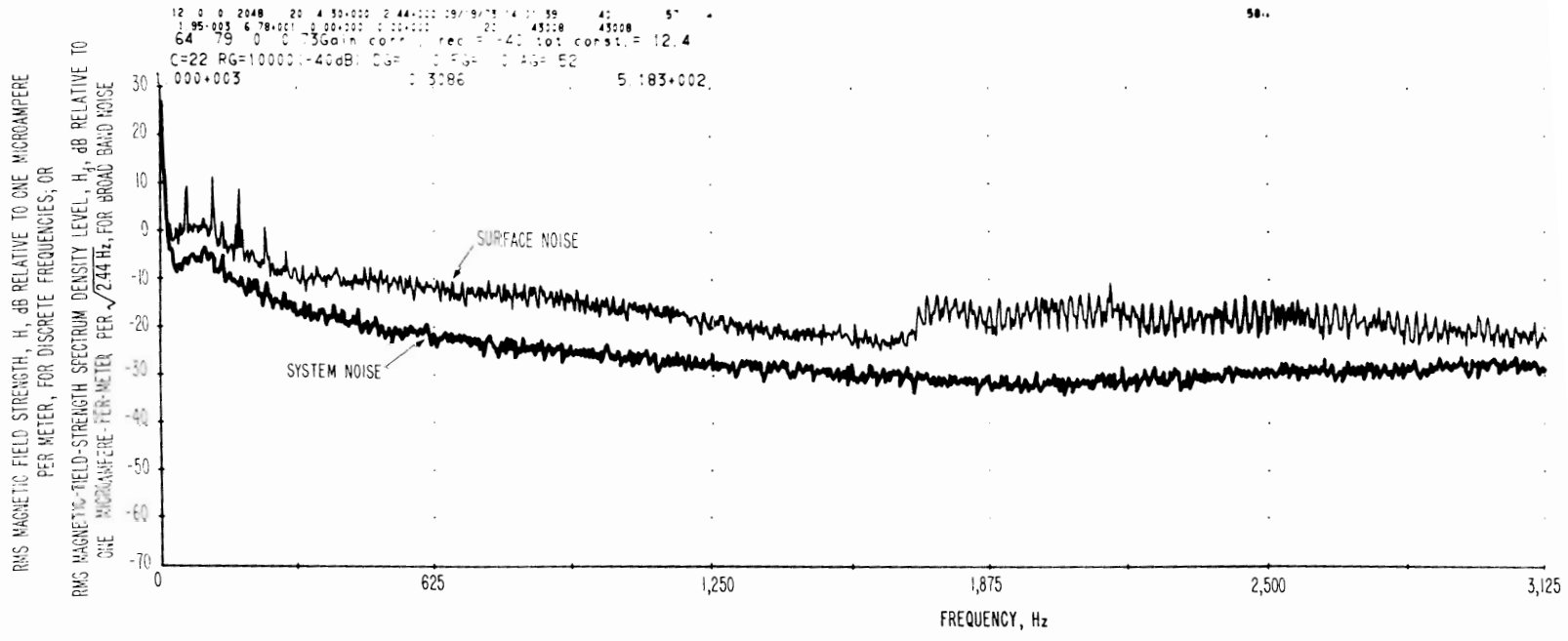

Figure 24

3 kHz spectrum of surface EM noise at Gila Canyon Overlook, over Geneva Mine, Location A1 on Figure 7. No beacons are visible. Antenna sensitive axis is horizontal (E-W). Note sferics above 1700 Hz. Sighttime, 10:29 a.m., June 12, 1971.

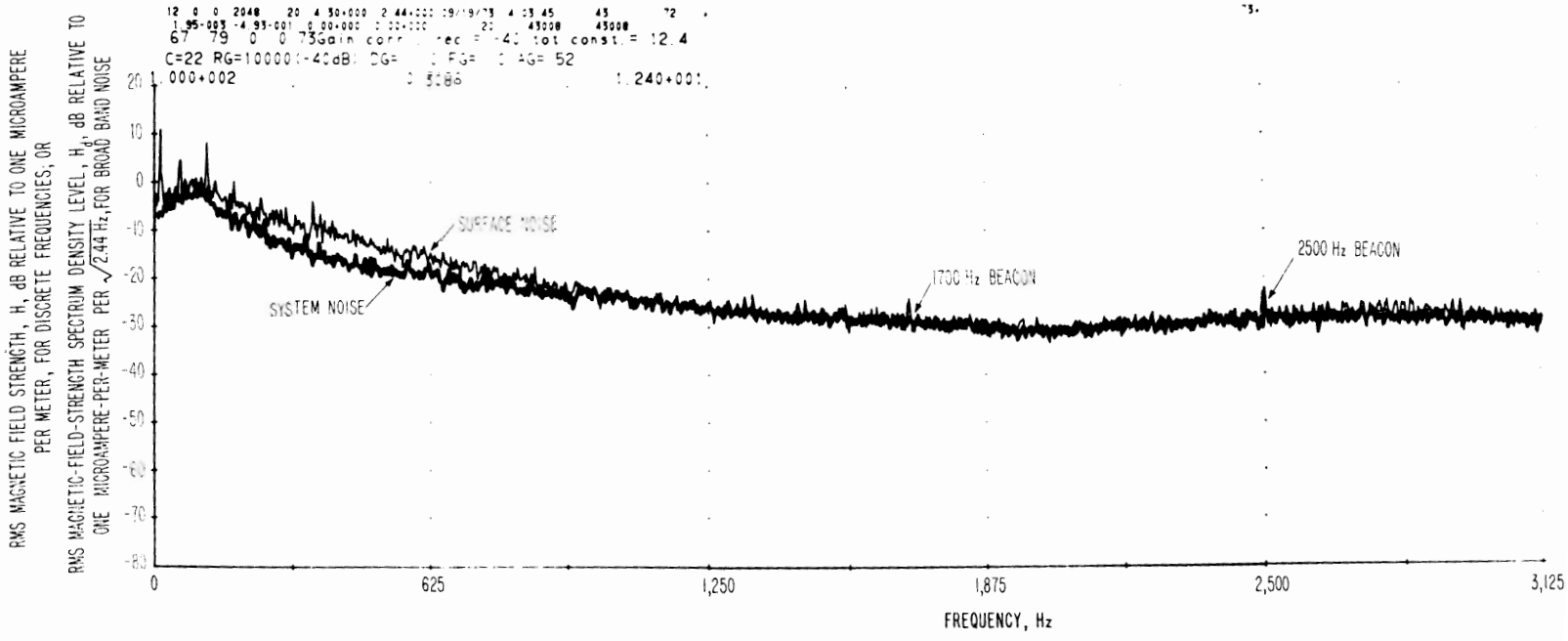

Figure 25

3 kHz spectrum of surface EM noise at Lila Canyon Overlook, over Geneva Mine, Location A1 on Figure 7. Both the 1990 Hz and 2500 Hz beacons are visible. The 1990 Hz beacon signal is coming from about 1610 meters (1 mile) horizontal displacement and through 442 meters (1450 ft.) overburden. The 2500 Hz beacon is directly below, through about 151 meters of overburden. The antenna sensitive axis is horizontal (S-S). Daytime, 14:41 p.m., June 12, 1973.