

NBSIR 74-369

SURFACE MAGNETIC FIELD NOISE MEASUREMENTS AT GENEVA MINE

J. W. Adams
W. D. Bensema
N. C. Tomoeda

Electromagnetics Division
Institute for Basic Standards
National Bureau of Standards
Boulder, Colorado 80302

The views and conclusions contained
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Interior Department's Bureau of Mines of the
U. S. Government.

June 1974

Prepared for
U. S. Bureau of Mines
United States Department of the Interior
Pittsburg, Pennsylvania 15222
Working Fund Agreement HO 133005



U.S. DEPARTMENT OF COMMERCE, Frederick B. Dent, Secretary

NATIONAL BUREAU OF STANDARDS Richard W. Roberts, Director

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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2 1 2246 20 1.08+000 9 27.1100 13.1173 9 53.41
 1.95+000 1.74+000 1.12+000 20 48.08
 6 12 36000 000.000 1.40 101 const. = 12.4
 C=24 R3=10000 -40dB. CG= 1.53: 52
 1.000+000 1.3086 2.034+000

RMS MAGNETIC FIELD STRENGTH, H, DB RELATIVE TO ONE MICRAMPERE
 PER METER, FOR DISCRETE FREQUENCIES; OR
 RMS MAGNETIC-FIELD-STRENGTH SPECTRUM DENSITY LEVEL, H, DB RELATIVE TO
 ONE MICRAMPERE-PER-METER PER $\sqrt{9.77}$ Hz, FOR BROAD BAND NOISE

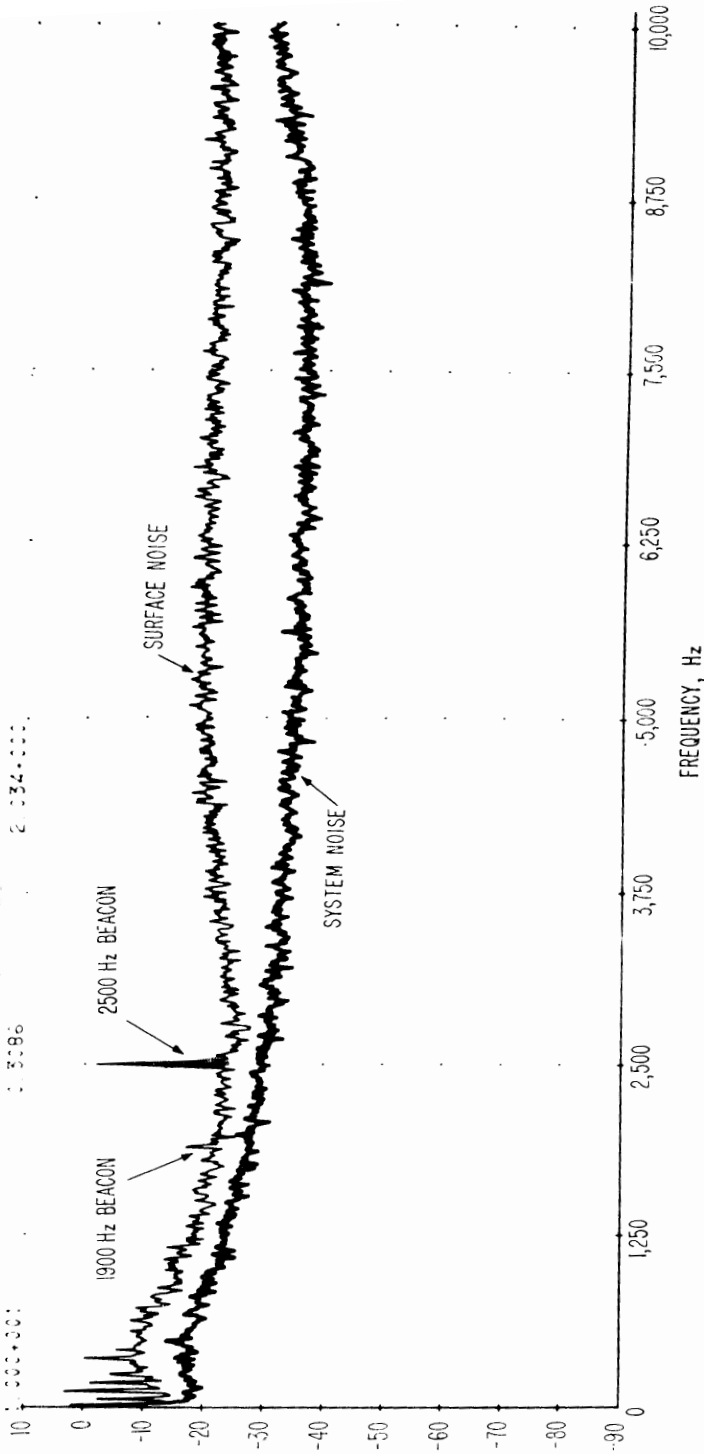


Figure 10

10 kHz spectrum of surface EM noise at Lila Canyon Overlook,
 over Geneva Mine, location A1 on Figure 7. 2500 Hz beacon
 through 951 meters (1150 ft.) of overburden is clearly visible.
 Antenna sensitive axis was vertical. Daytime, 7:40 p.m.,
 June 12, 1973.

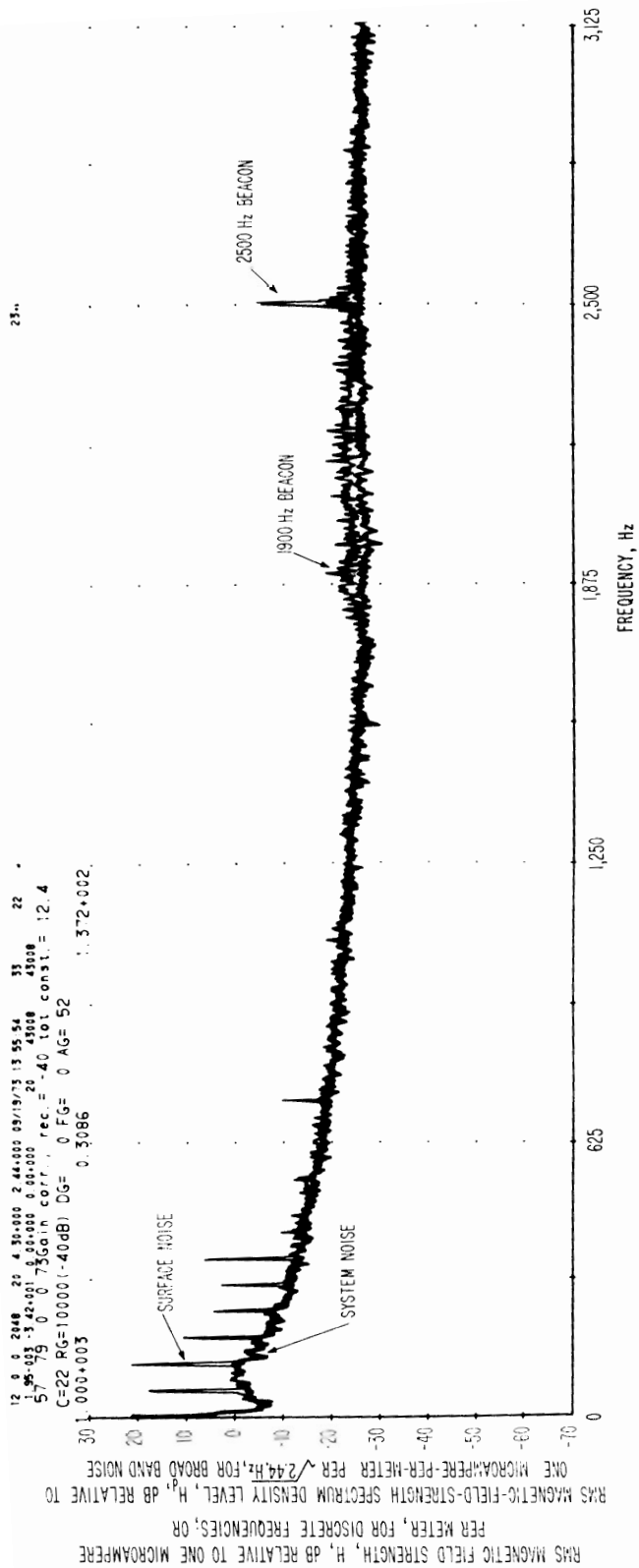


Figure 20
 3 kHz spectrum of surface EM noise at Little Canyon Overlook, over Capena Mine, Location A1 on Figure 2. The 1900 Hz beacon is barely visible; the 2500 Hz beacon is clearly visible. Minimum sensitive axis is vertical. (MILHIST. 4030 6, 6, June 12, 1973.)

12 0 0 2048 25 4 25 002 5 44 111 19/9 75 4 1 15 5
 1 95 003 6 78 001 4 20 002 1 11 001 4 35 8 45 000 5
 64 79 0 0 1 3 gain cov rec = 2 2 100 const = 12.4
 C=22 PG=10000 (-45dB) C3= 1 5 3 0 1 3 5 52
 1 000+003 1 3 286 1 5 183+002

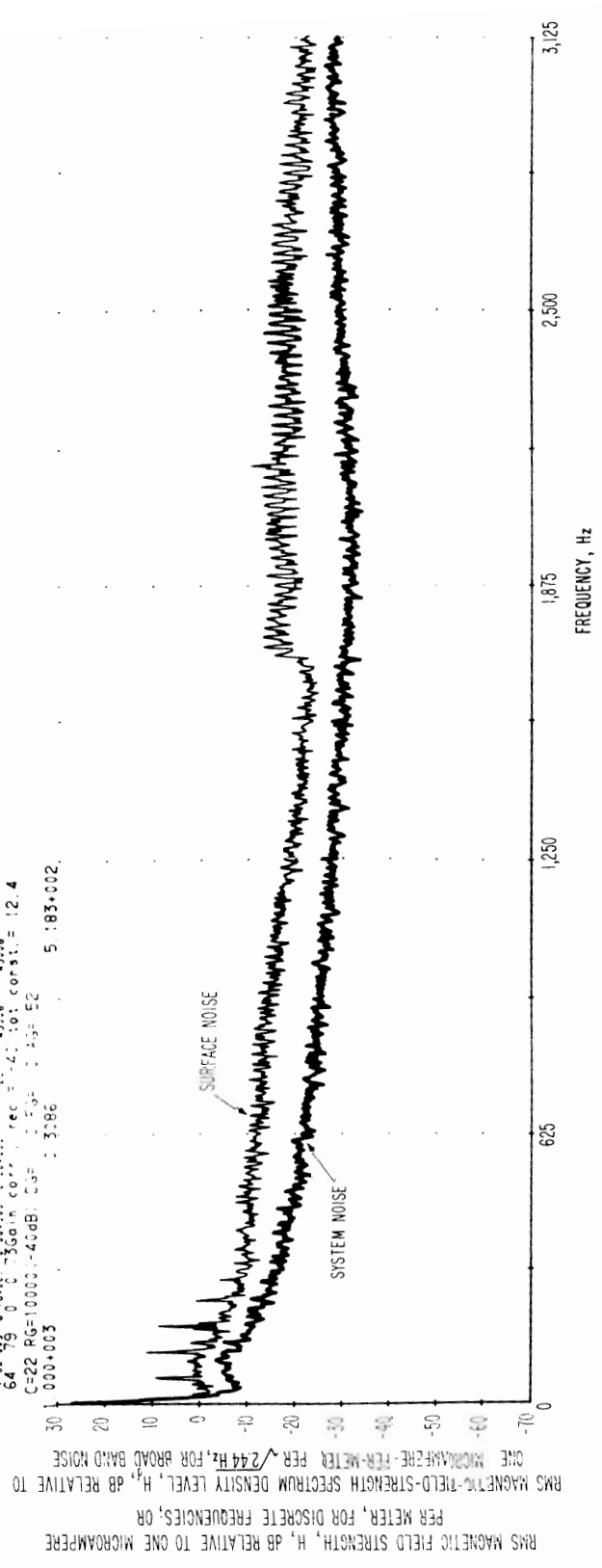
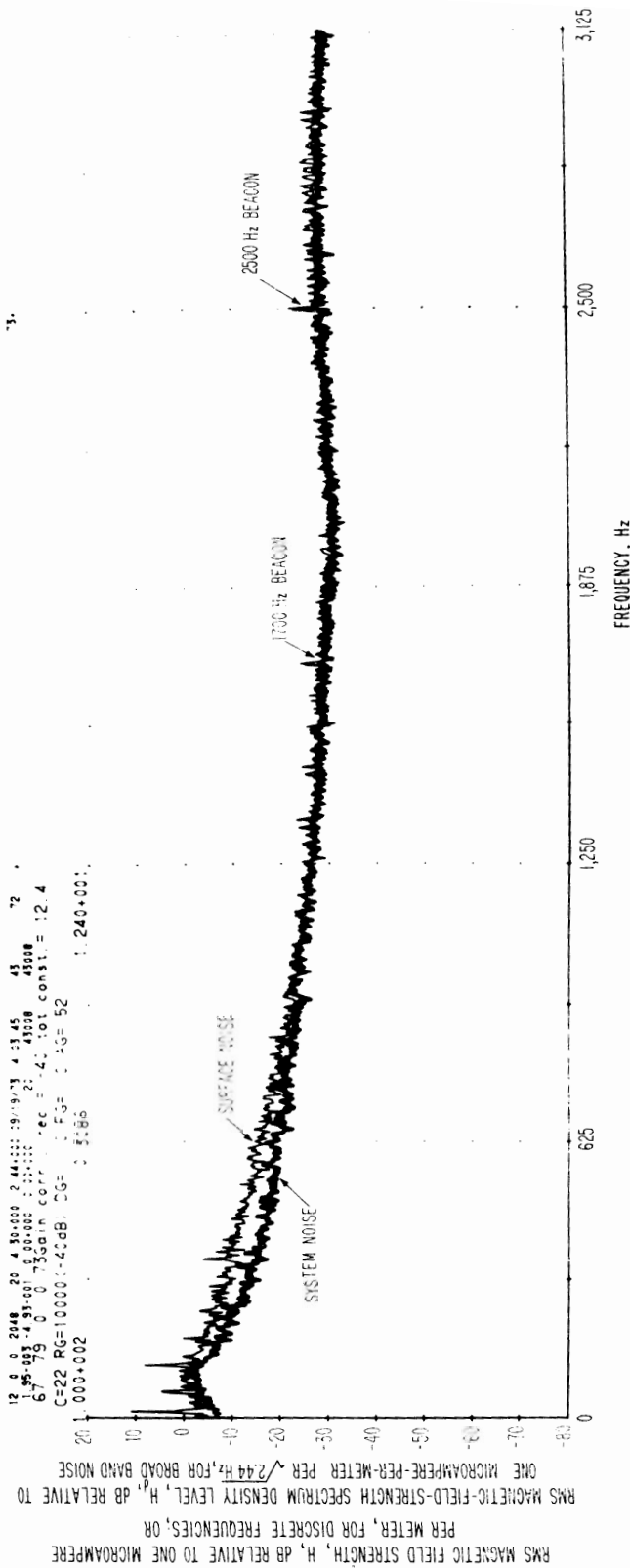


Figure 24

1 kHz spectrum of surface EM noise at Gila Canyon Overlook, near Phoenix, Arizona, location shown in Figure 2. Amplitudes are relative to one microampere per 24 Hz (horizontal line). See text for details. Date: 12/19/71.



1 kHz spectrum of surface in noise at Little Canyon overlaid.
 over ocean noise, location A) on Figure 1. Both the
 1,700 Hz and 2,500 Hz beacons are visible. The 1,700 Hz
 beacon signal is coming from about 1623 meters (1 mile)
 horizontal displacement and through 42 meters (140 ft.)
 horizontal. The 2,500 Hz beacon is directly below, through
 about 331 meters at overburden. The antenna sensitivity
 axis is horizontal (2-03), Dayline, 10:41 P.M., June 12, 1971.

Figure 25

