GL01025

REPORT ON THE PASSIVE SEISMIC SURVEYS CONDUCTED TO ASSESS THE GEOTHERMAL POTENTIAL NEAR BEOWAWE, NEVADA

FOR

STANDARD OIL OF CALIFORNIA

BY

SENTURION SCIENCES, INCORPORATED

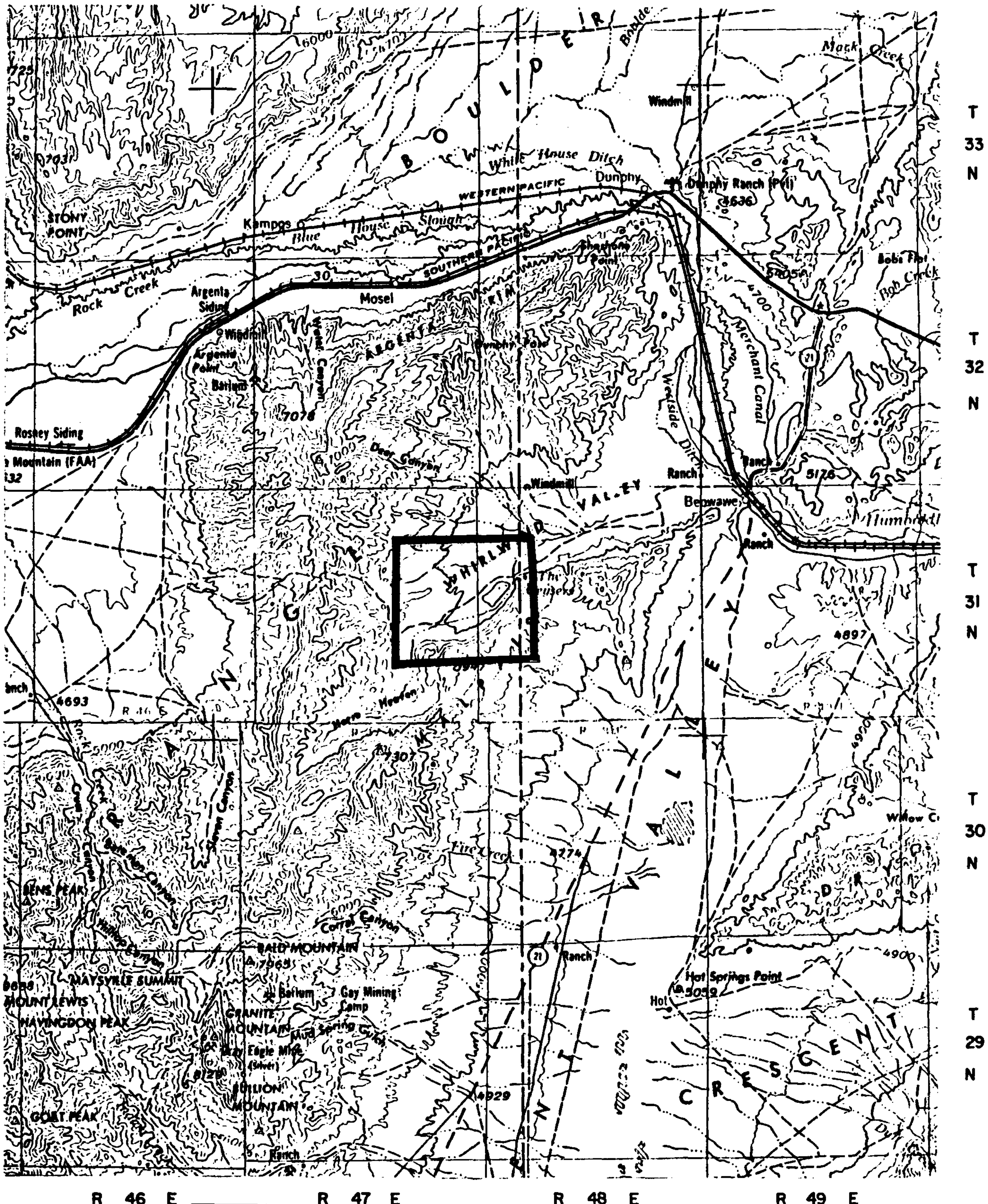
TULSA, OKLAHOMA

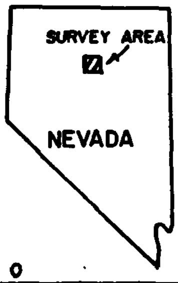
June 2, 1975

SEISMIC GROUNDNOISE SURVEY

LOCATION:	Lander Co., Nevada, sec. 13, 24, T. 31 N.; R. 47 E., sec. 18, 19, T. 31 N.; R. 48 E.
DATES:	October 29, 1974 through November 20, 1974.
CREW:	Senturion Sciences RF #5, and GN #1.
NO. OF STATIONS:	139 Data Stations, 19 Base Stations.
STATION DENSITY:	500 ft. spacing.
AREA COVERED:	Approximately 2 square miles.
GEOPHYSICISTS:	Bob Graf, Keith Westhusing*

* Preliminary maps of the Beowawe survey that were previously submitted to Standard Oil of California (Dec., 1974) were analyzed by John Bailey and did not contain corrections for the reference station. This report contains those corrections and data have been interpreted by the designated geophysicists.





BEOWAWE, NEVADA
GROUNDNOISE SURVEY

5 0 5 10 MILES

5 0 5 10 KILOMETERS

CONTOUR INTERVAL: 200 FT.

SCALE: 1:250,000

FIGURE 1

BEOWAWE, NEVADA GROUNDNOISE SURVEY

INTRODUCTION

Purpose

This survey was an experimental effort to determine the resolution capabilities of a high-density seismic groundnoise survey. In addition to the location of specific areas of geothermal interest as exhibited by anomalous noise characteristics; the delineation of structural features such as faults and other stratigraphic discontinuities have been investigated.

Geology

The Beowawe geothermal prospect is located in the Shoshone Range of north central Nevada, approximately 25 miles southeast of the town of Battle Mountain. The area has typical Basin and Range topography with generally north-trending mountain ranges. The area surveyed is situated along the southeastern margin of the northeast trending Whirlwind Valley where it is in contact with Tertiary volcanic rocks broken by steeply dipping faults. The geysers of the Beowawe area are related to the active Malpais Fault (Oesterling, 1962), the prominent normal fault bordering the southeastern margin of the valley. Basalt and basaltic andesite make up the faulted mountains southeast of the survey area. Quaternary alluvium and alluvial fan material cover the valley floor and surround the prominent topographic high inlier of basaltic andesite situated along the southeastern margin of the area surveyed. Numerous northeast-southwest trending faults such as the Malpais are present and hydrothermal solution movement along these thermally-active normal faults has caused significant alteration of andesite with replacement by silica. A number of springs associated with valley floor marginal faults have shown surface temperatures to 205°F and have caused extensive deposition of siliceous sinter (Garside, et al., 1972). Eleven wells were drilled in the area from 1959 through 1965, the deepest of which was 2,052 feet. The Chevron-ATR GINN. 1-13 well drilled near station 1 to a depth of 7,900 feet showed apparent penetration of volcanic rocks in the 800 to 2,100 feet depths. Outcrops of Plio-Pleistocene basalt to the northwest of the area surveyed gives indication of a basaltic layer overlying the andesite under valley fill. Lower Paleozoic sediments underlie the volcanic rocks of the valley floor and are considered potential reservoirs for geothermal fluids. These rocks, possibly the upper plate of the Roberts Mountain Thrust, are inferred from geologic mapping in adjacent areas and are probably, in part, limestones, which may be a productive geothermal reservoir similar to that at Larderello, Italy.

Data Acquisition

In the course of the 23 day survey, approximately 160 stations were occupied including a daily base station monitor (Station 1). See Table 1, Data Acquisition Calendar. Some stations were not used due to reasons discussed in the Data Processing Section. Senturion utilized a Radio-Frequency Telemetered System as well as a Cable System to increase the daily production rate. On November 6, 1974, the two systems recorded at the same stations. This information was processed to show compatibility and the data is summarized in Table 2. Power Spectral Density curves reflect system similarities (see following PSD's for spectral comparisons). It is felt that these results provide sufficient evidence to support the validity of two-system acquisition. Computer listings in Appendix 4 show additional calculations concerning the systems separately and in combination.

RESULTS

Data Analysis

In this survey three separate frequency bands were evaluated: 0.5 to 15.0 Hz.; 0.5 to 7.5 Hz.; and 0.5 to 3.5 Hz. The first two were derived from the same set of Power Spectral Density charts with a 0.5 frequency increment as shown in Appendix 2, while data on the 0.5 to 3.5 Hz. band was obtained from a PSD chart designed with a 0.25 Hz. frequency increment as indicated by Appendix 3.

It should be noted that varying numbers of data stations (and base stations) were useable on the three bands. This was due to the inconsistency of the high power levels on the 0.5 - 15.0 Hz. curves; and questionable data in the 0.75 - 1.50 Hz. range of the 0.5 - 7.5 Hz. curves used in the investigation of the 0.5 to 3.5 Hz. band. In the former case, the differential of the power values between 0.5 - 8.0 Hz. and the higher frequencies (10.5 - 15.0 Hz.) exceeded the scaling capability of the Signal Analyzer Integrator used in the power/frequency analysis. Consequently, some stations that were dropped in the 0.5 - 15.0 Hz. study proved to be acceptable for the 0.5 - 7.5 Hz. study. A similar situation occurred in the 0.75 - 1.50 Hz. range for the 0.5 - 3.5 Hz. analysis. PSD's not used are included for evaluation in the appendices. Comparative data and base station figures are shown below:

SPECTRUM	DATA STATIONS	BASE STATIONS
0.5 - 15.0 Hz.	125	12
0.5 - 7.5 Hz.	139	17
0.5 - 3.5 Hz.	110	19

Table 1. Data Acquisition Calendar

		STATIONS RECORDED	
DATE	BASE	RF SYSTEM	CABLE SYSTEM
10 - 29	1	3	
10 - 30	1	2, 5, 6, 8	
10 - 31	1	9, 10, 11, 12	
11 - 1	1	13, 14, 15, 16, 17	
11 - 2	1	18, 19, 20, 21, 22	
11 - 3	1	23, 24, 25, 26, 27	
11 - 4	1	28, 29, 30, 32	
11 - 5	1	31, 33, 34, 35, 36	
11 - 6*	1	37, 38, 39, 40, 41	37, 38, 39, 40, 41
11 - 7	1	42, 43, 44, 45, 46	155, 156, 157, 158, 159, 160
11 - 8	1	47, 48, 49, 50, 51	
11 - 9	1	52, 53, 54, 55, 56	140, 150, 151, 152, 153, 154
11 - 10	1	57, 58, 59, 60, 61	144, 145, 146, 147, 148
11 - 11	1	62, 63, 64, 65, 66	138, 139, 140, 141, 142, 143
11 - 12	1		132, 133, 134, 135, 136, 137
11 - 13	1	67, 68, 69, 70, 71	126, 127, 128, 129, 130, 131
11 - 14	1	72, 73, 74, 75, 76	
11 - 15	1	77, 78, 79, 80, 81	119, 120, 122, 123, 124, 125
11 - 16	1	84, 85	114, 115, 116, 117, 118
11 - 17	1	82, 83, 86, 87, 88, 89	
11 - 18	1	90, 91, 92, 94	108, 109, 110, 111, 112, 113
11 - 19	1	95, 96, 97, 98, 99	103, 104, 105, 106, 107
11 - 20	1	100, 101, 102, 161	

* Compatibility Test

Table 2. Systems Comparison
(Done for November 6, 1974)

A. Individual Stations

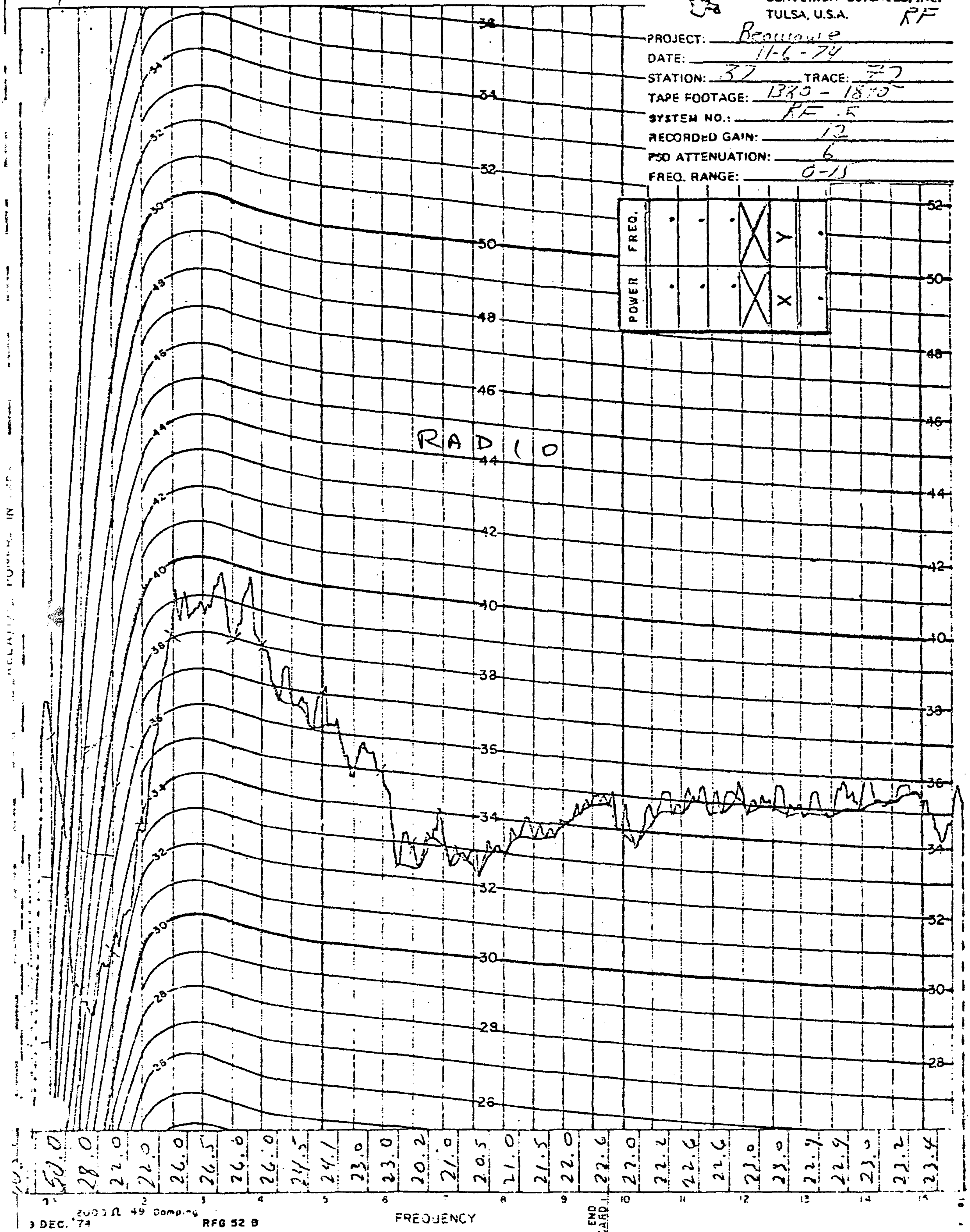
SYSTEM/ STATION	INTEGRATED POWER	MEAN FREQUENCY
37 RF (RF Telemetered)	34.2	7.36
37 CA (Cable System)	37.0	7.13
38 RF	30.1	7.15
38 CA	34.1	7.36
39 RF	30.4	6.98
39 CA	30.4	7.33
40 RF	31.2	7.09
40 CA	30.8	7.21
41 RF	28.6	7.05
41 CA	28.4	7.10

B. Statistics of all Stations

	INTEGRATED POWER			MEAN FREQUENCY		
	COMBINED	RADIO	CABLE	COMBINED	RADIO	CABLE
AVERAGE	31.50	30.87	32.12	7.18	7.13	7.23
SIGMA	2.74	2.08	3.41	.14	.14	.12
PERCENT	8.70	6.72	10.61	1.89	2.02	1.64
+ SIGMA	34.24	32.95	35.53	7.31	7.27	7.35
- SIGMA	28.76	28.80	28.71	7.04	6.98	7.11

SENTURION SCIENCES, INC.
TULSA, U.S.A. RF

PROJECT: Beauvoure
DATE: 11-6-74
STATION: 37 TRACE: 37
TAPE FOOTAGE: 1385 - 1870
SYSTEM NO.: RF .5
RECORDED GAIN: 12
PSD ATTENUATION: 6
FREQ. RANGE: 0-15

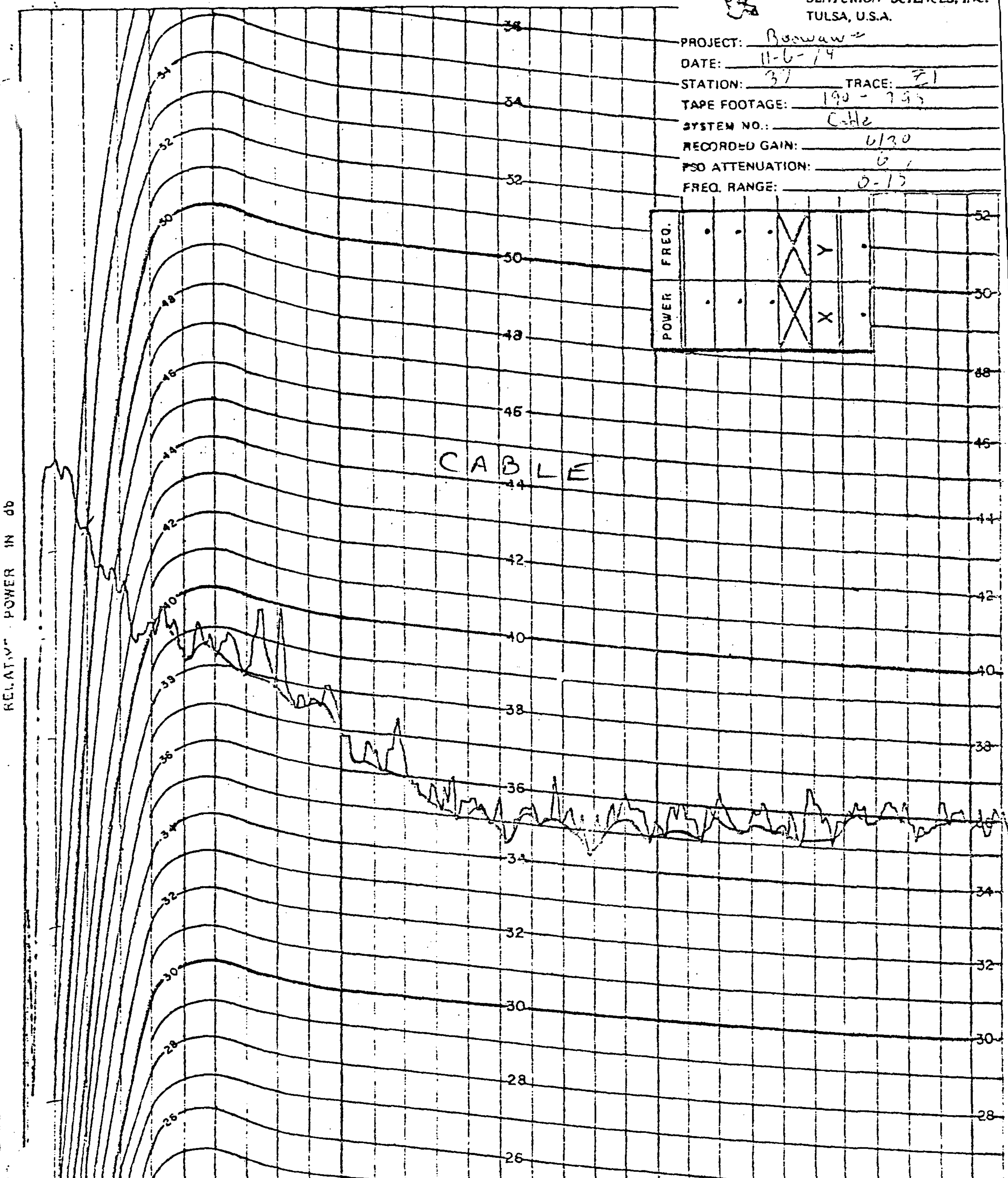


3 DEC. '74 2000 Ω .49 Damping RFG 52 B

/ 12db high

SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT: Boswaw
DATE: 11-6-74
STATION: 37 TRACE: 21
TAPE FOOTAGE: 190 - 795
SYSTEM NO.: Cable
RECORDED GAIN: 6/30
PSO ATTENUATION: 6
FREQ. RANGE: 0-15

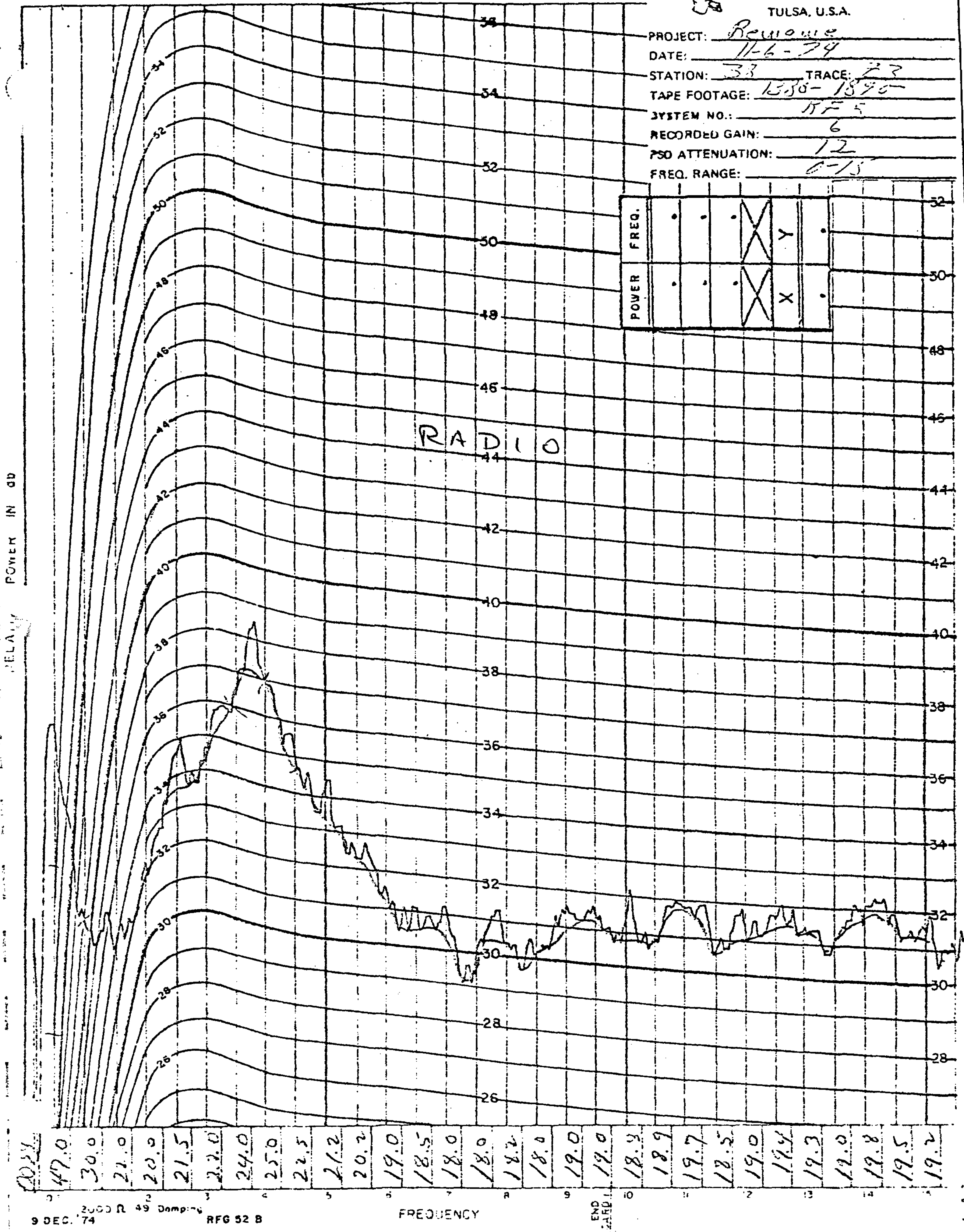


55.0	42.0	32.0	28.0	26.2	26.2	26.0	25.7	25.5	25.0	24.1	24.0	23.1	23.0	22.5	23.2	23.1	22.5	23.4	23.0	23.1	23.5	23.4	23.2	23.2	23.6	23.9	23.9

2000 Ω 49 Damping
9 DEC. '74
RFG 52 B
FREQUENCY

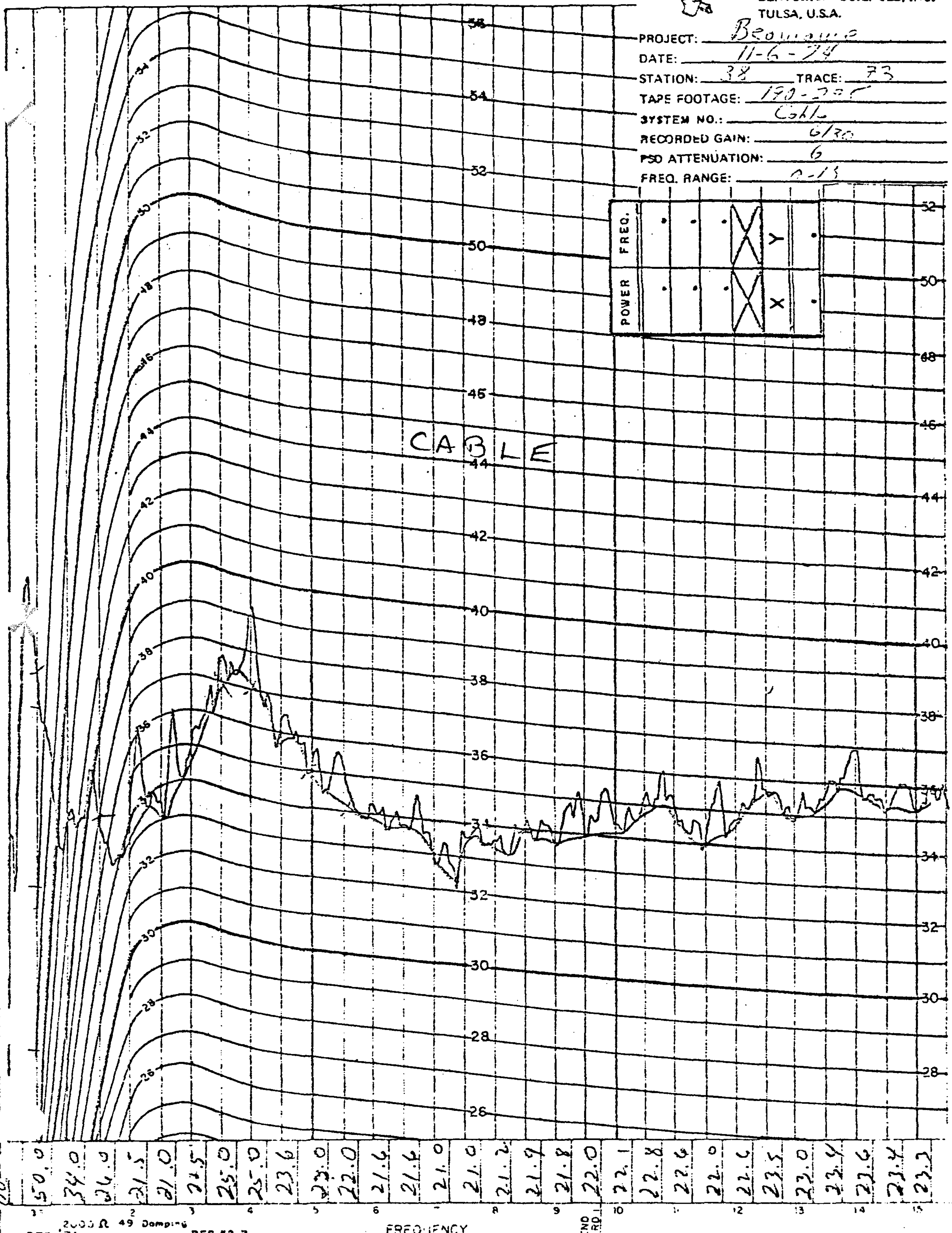
SENTURION SCIENCES, INC.
TULSA, U.S.A.

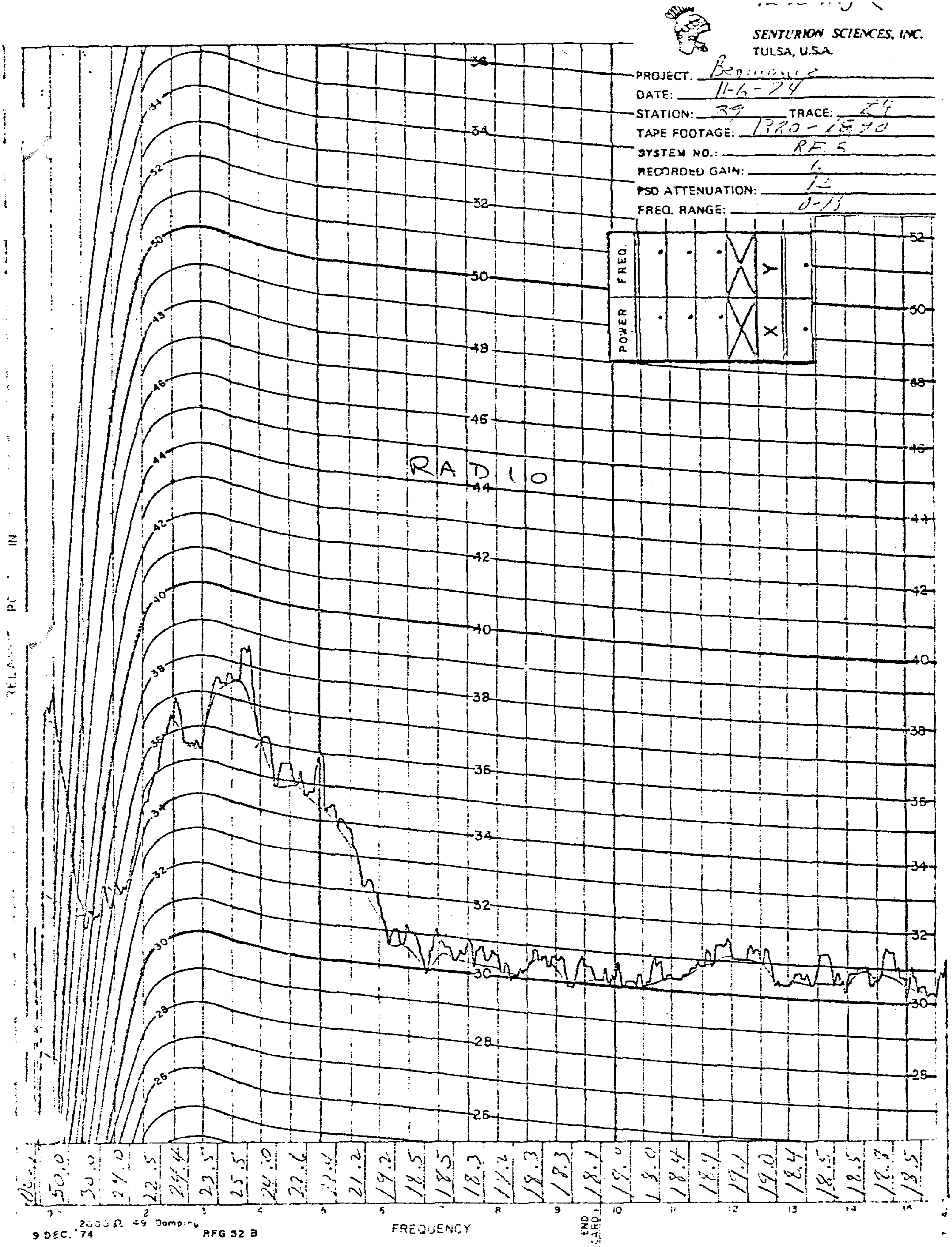
PROJECT: Beulowie
DATE: 11-6-74
STATION: 33 TRACE: 23
TAPE FOOTAGE: 1330- 1875
SYSTEM NO.: RF5
RECORDED GAIN: 6
PSD ATTENUATION: 12
FREQ. RANGE: 0-15



SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT: Beaumont [?]
DATE: 11-6-74
STATION: 38 TRACE: 73
TAPE FOOTAGE: 190-2...
SYSTEM NO.: Cable
RECORDED GAIN: 6/30
PSD ATTENUATION: 6
FREQ. RANGE: 0-13

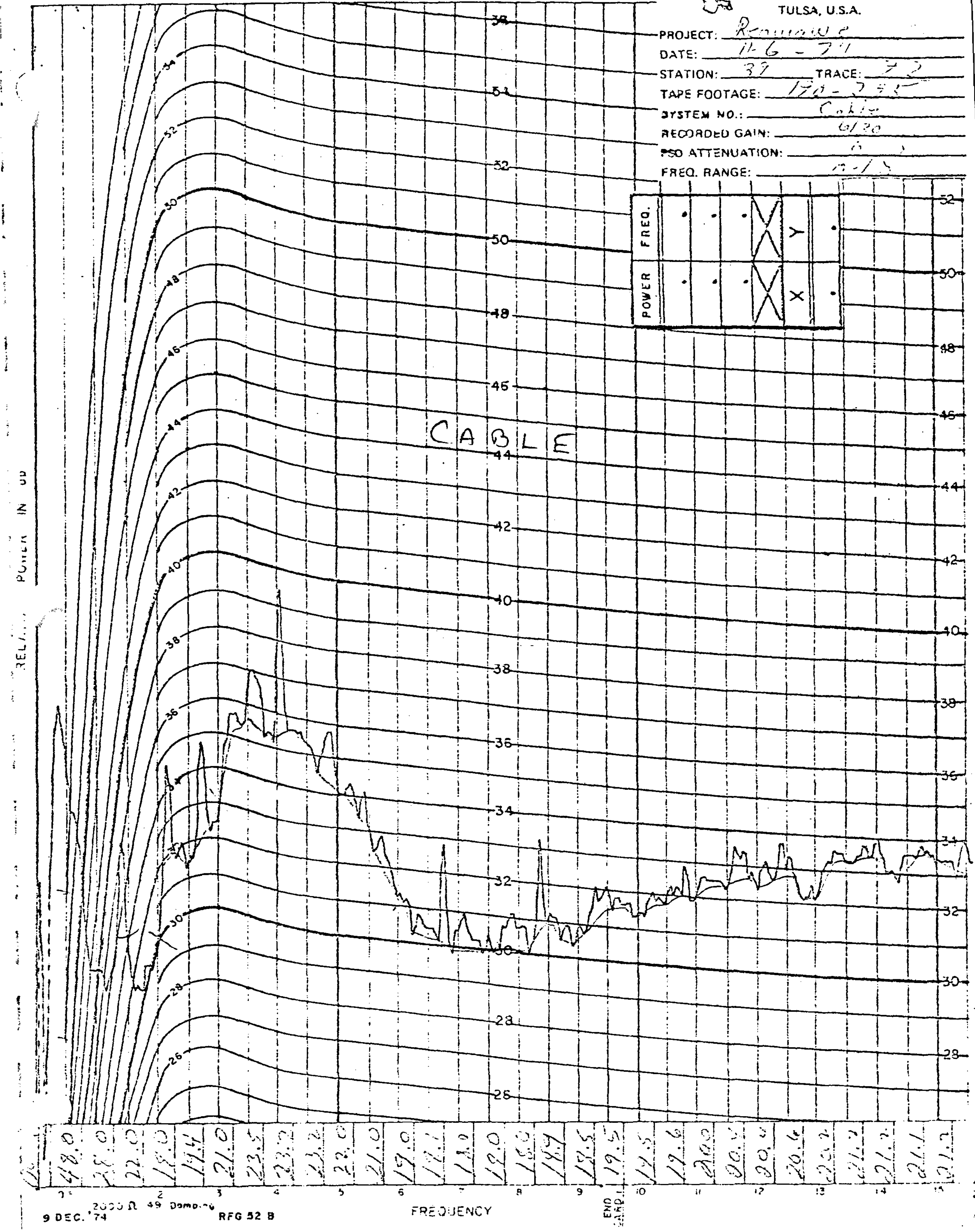




SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE: 11-6-74
STATION: 39
TRACE: Z4
TAPE FOOTAGE: 1380-1590
SYSTEM NO.: RF 5
RECORDED GAIN: 1
PSD ATTENUATION: 12
FREQ. RANGE: 0-15
FREQ.
Y
POWER
X
RADIO
50.0
30.0
27.0
22.5
24.4
23.5
25.5
24.0
22.6
22.4
21.2
19.2
18.5
18.5
18.3
17.2
18.3
18.3
18.1
19.0
18.0
18.4
18.9
19.1
19.0
18.4
18.5
18.5
18.8
18.5
2000 Ω 49 Damping
9 DEC. '74
RFG 52 B
FREQUENCY
END CARD

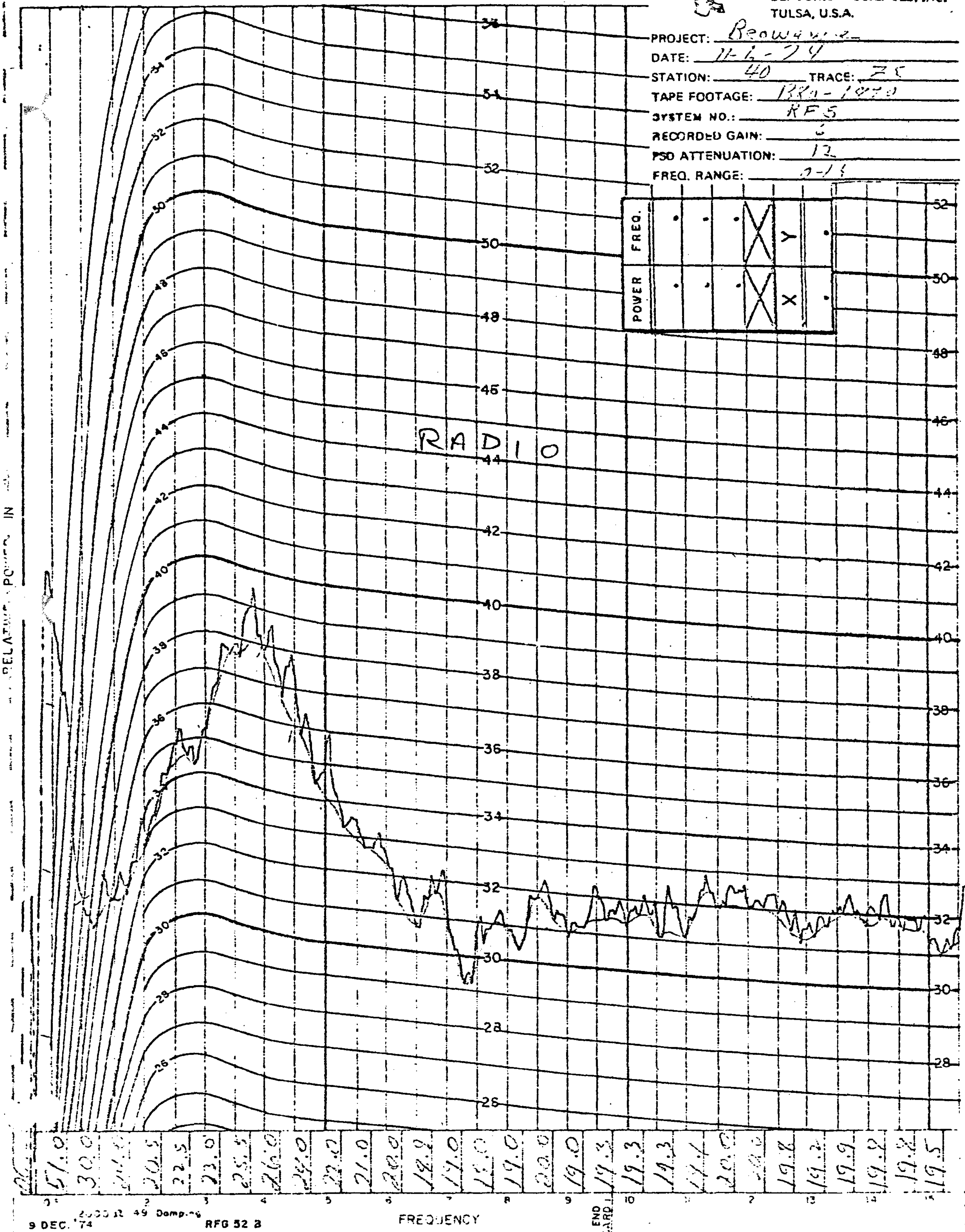
SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT: Roanoke
DATE: 11-6-7?
STATION: 39 TRACE: 72
TAPE FOOTAGE: 170-?
SYSTEM NO.: Cable
RECORDED GAIN: 6/20
PSO ATTENUATION: 6
FREQ. RANGE:



SENTURION SCIENCES, INC.
TULSA, U.S.A.

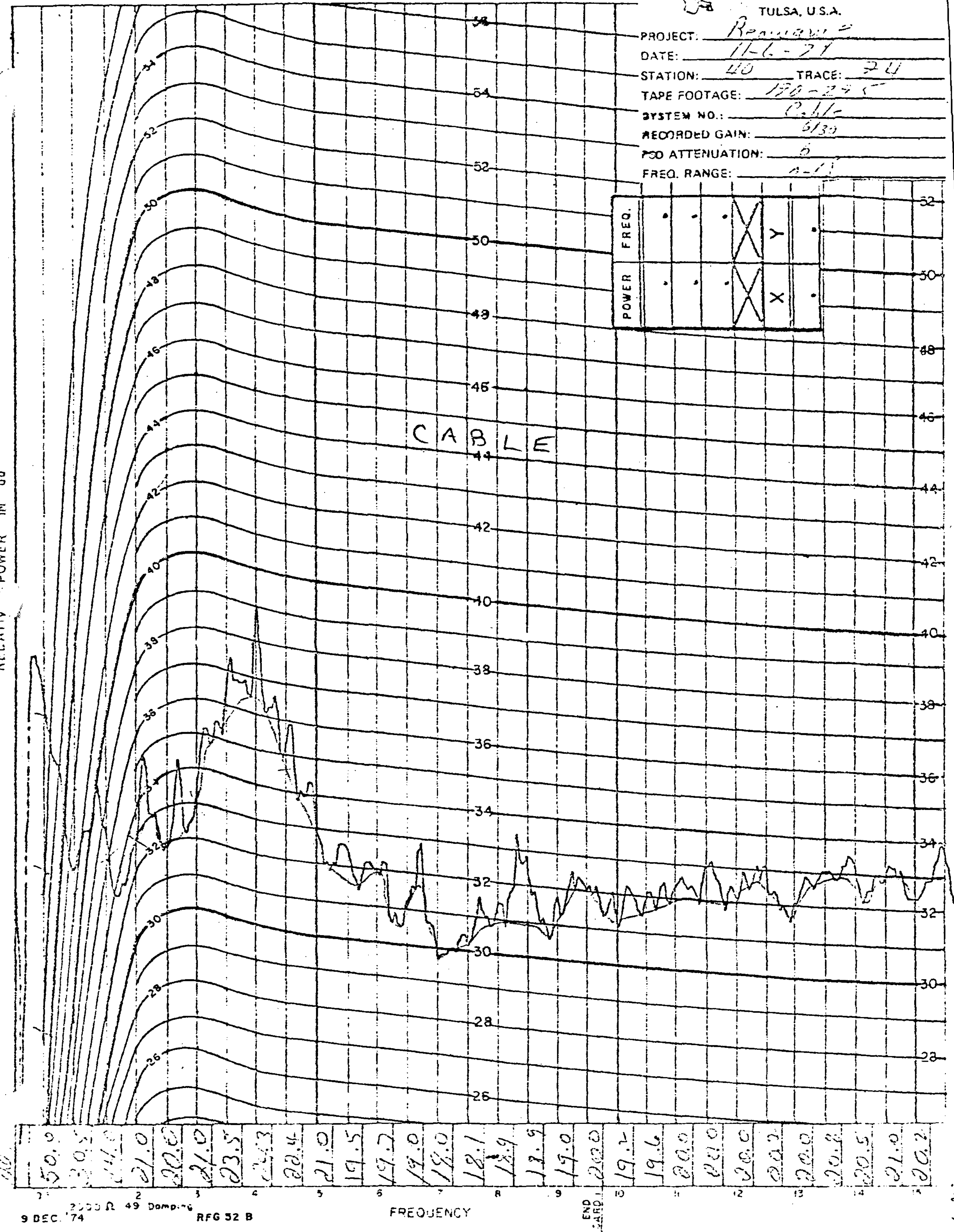
PROJECT: Beowawe
DATE: 11-4-74
STATION: 40 TRACE: ZC
TAPE FOOTAGE: 1380-1870
SYSTEM NO.: RF5
RECORDED GAIN: 6
PSD ATTENUATION: 12
FREQ. RANGE: 0-14



12 db high

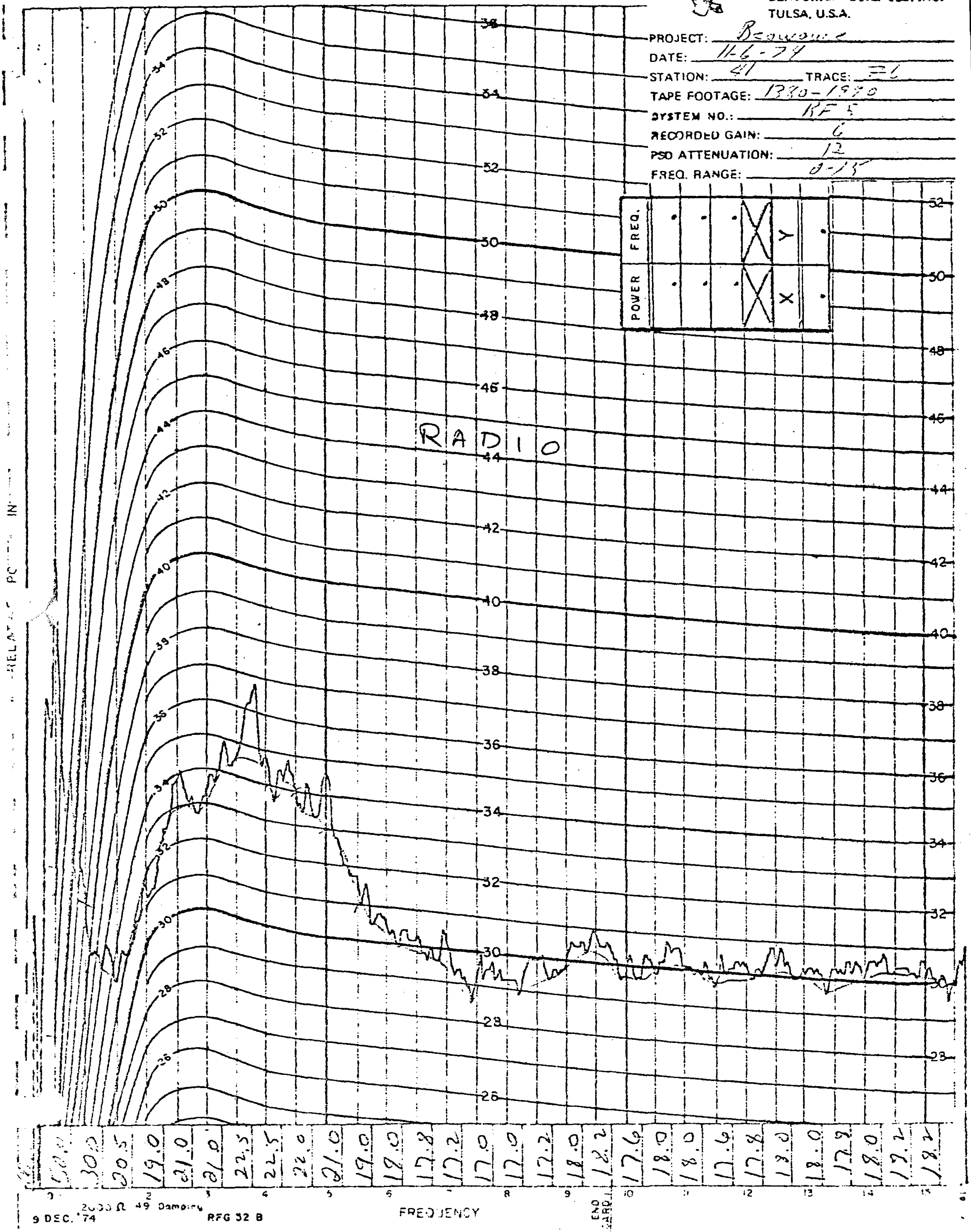
SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT: Reasuave ?
DATE: 11-6-71
STATION: 40 TRACE: 24
TAPE FOOTAGE: 180-285
SYSTEM NO.: Cable
RECORDED GAIN: 6/30
PSD ATTENUATION: 6
FREQ. RANGE: 1-15



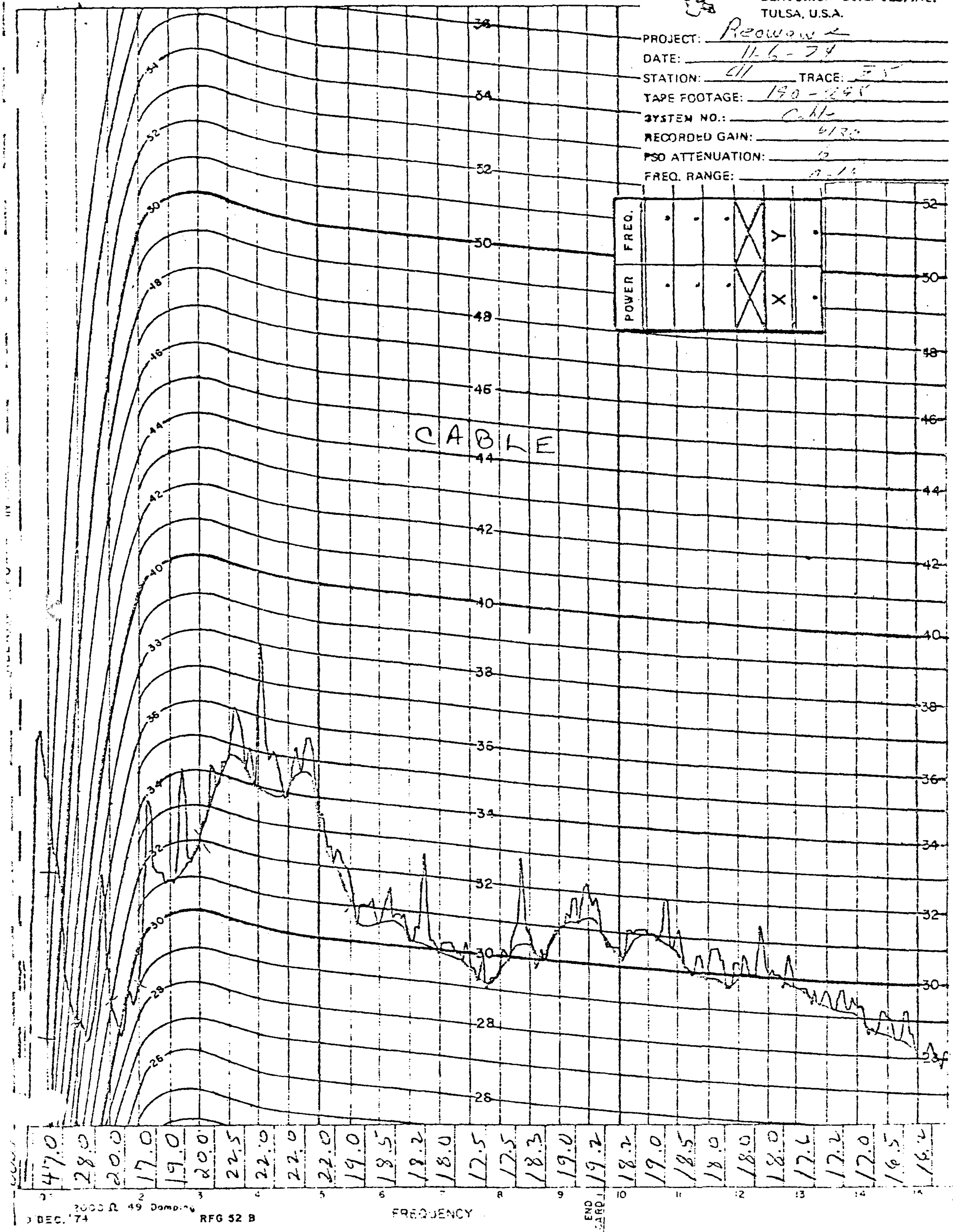
SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT: Beaumont
DATE: 11-6-74
STATION: 41 TRACE: Z1
TAPE FOOTAGE: 1330-1370
SYSTEM NO.: RF 5
RECORDED GAIN: 6
PSD ATTENUATION: 12
FREQ. RANGE: 0-15



SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT: Reowaw 2
DATE: 11-6-79
STATION: ____ TRACE: ____
TAPE FOOTAGE: 190-____
SYSTEM NO.: Cable
RECORDED GAIN: ____
PSO ATTENUATION: ____
FREQ. RANGE: ____



2000 Ω .49 Damping
DEC. '74
RFG 52 B

Data Processing

This portion of the report pertains to the three bands analyzed. In the following discussion the suffix A, B, or C will designate 0.5 - 15.0 Hz., 0.5 - 7.5 Hz., 0.5 - 3.5 Hz., respectively.

After the acceptable PSD functions were selected, the information was keypunched for subsequent input to the various data reduction applications. The processing sequence follows:

1. Calculation of integrated power, mean frequency, ratio, and statistics of the base stations.

2. Calculation of the above on uncorrected stations.

3. Evaluation and selection of the control base station. This was the base station exhibiting average power characteristics during the survey. See Tables 3A, 3B, and 3C.

4. Sort of the data stations to provide proper correction sequence and factors. In the instance where no base station was available, the particular data for that day was treated as an average day.

5. Recalculation of integrated power, mean frequency, ratio, and statistics on corrected data.

6. Computer derivation of surfaces for the above parameters.

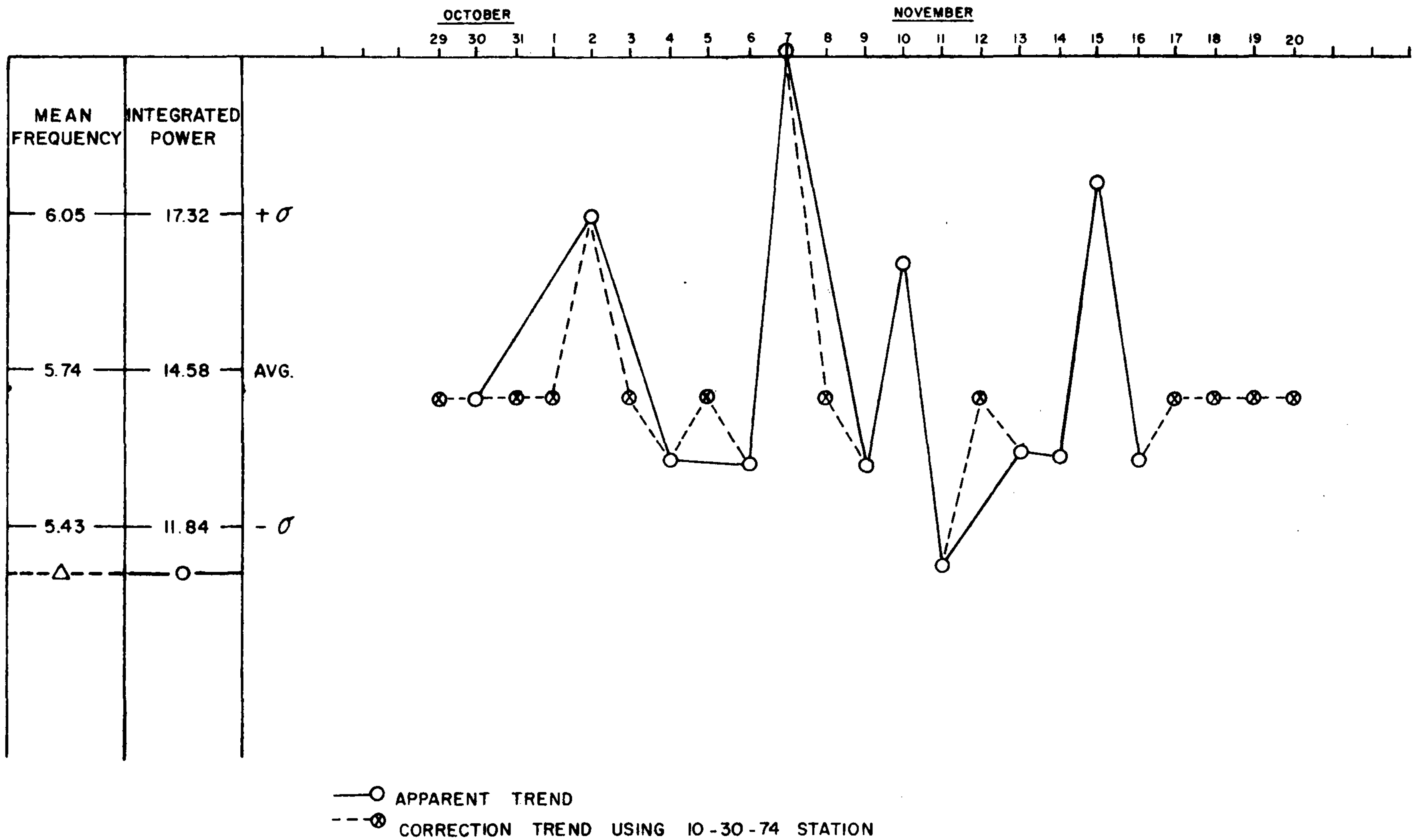
7. Contouring of the surfaces.

8. Cross section development and plot.

Computer listings for procedures 1, 2, and 5 are included in Appendix 4. Table 4 contains a statistical summary from these listings.

BEOWAWE BASE STATION I

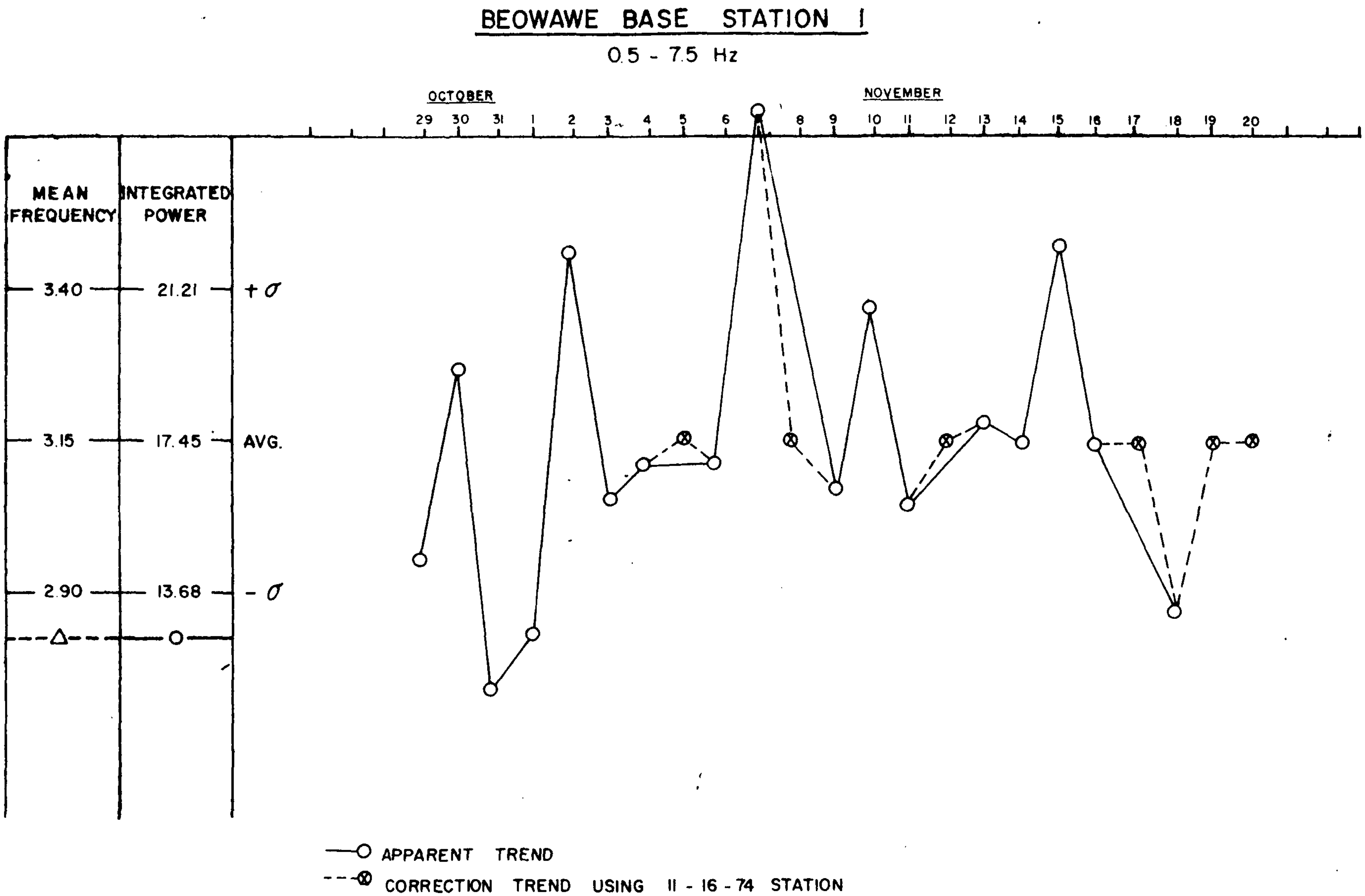
0.5 - 15.0 Hz



STD. DEV.	AVERAGE + 1 STD. DEV.	
2.74	INT. POWER	17.32
.31	MEAN FREQ.	6.05
	PRED. POWER	
	F. P. P	

TABLE 3A

SENTURION SCIENCES, INC.



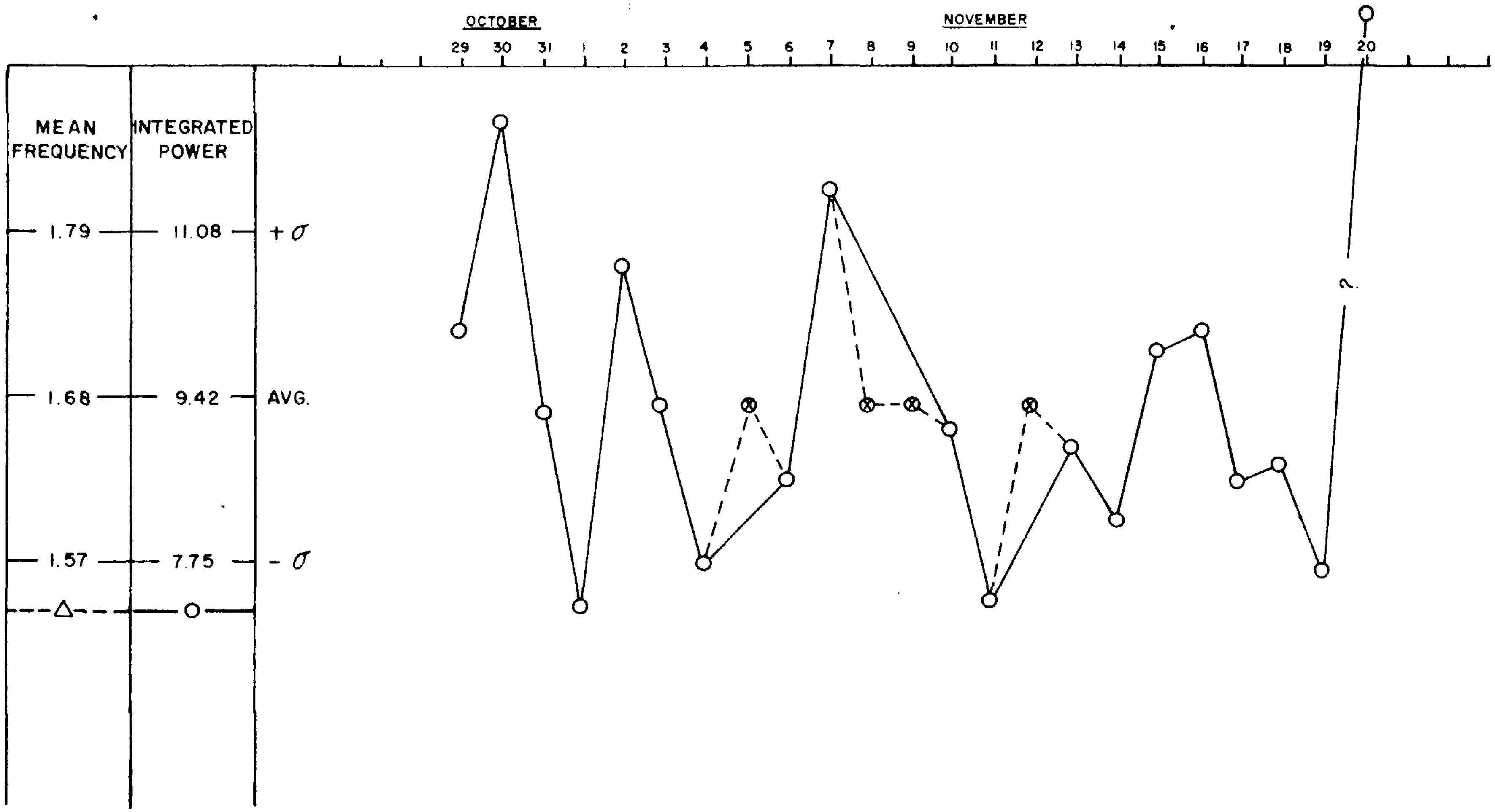
STD. DEV.	AVERAGE + 1 STD. DEV.	
3.77	INT. POWER	21.21
.25	MEAN FREQ.	3.40
	PRED. POWER	
	F.R.P.	

TABLE 3B

SENTURION SCIENCES, INC.

BEOWAWE BASE STATION I

0.5 - 3.5 Hz



—O APPARENT CORRECTION TREND

- - -⊗ CORRECTION TREND USING 11 - 03 -74 BASE STATION

STD. DEV.	AVERAGE + 1 STD. DEV.	
1.66	INT. POWER	11.08
.31	MEAN FREQ.	1.79
	PRED. POWER	
	Σ P.P.	

TABLE 3C

SENTURION SCIENCES, INC.

Table 4. Statistical Data

	A 0.5 - 15 Hz. INTEGRATED POWER	A 0.5 - 15 Hz. MEAN FREQUENCY	B 0.5 - 7.5 Hz. INTEGRATED POWER	B 0.5 - 7.5 Hz. MEAN FREQUENCY	C 0.5 - 3.5 Hz. INTEGRATED POWER	C 0.5 - 3.5 Hz. MEAN FREQUENCY
AVERAGE	14.54	5.96	17.20	3.08	9.58	1.68
STD. DEV.	4.23	.96	4.28	.39	1.67	.14
PER CENT	29.09	16.19	24.89	12.79	17.46	8.51
+ SIGMA	18.77	6.92	21.48	3.47	11.25	1.83
- SIGMA	10.31	4.99	12.92	2.69	7.91	1.54
MIN. @ STA.	5.39 @ 109	3.26 @ 123	6.18 @ 125	1.12 @ 125	4.52 @ 100	1.14 @ 100
MAX. @ STA.	24.16 @ 147	8.17 @ 147	25.29 @ 94	3.83 @ 50	14.31 @ 75	1.96 @ 76
NO. OF STATIONS	125		139		110	

STRUCTURAL INTERPRETATION

Introduction

An objective of the high-station density survey (station separations of approximately 500 feet) was to discern acoustical impedance mismatches caused by the juxtaposition of layered media of contrasting velocities and densities created by the extensive faulting known to exist in the area from surface exposures. Such acoustical impedance contrasts are indicated on cross sectional displays of Integrated Power and Mean Frequency by crossings of these computed values (Appendix 1). Crossover points can be caused by both faulting and flow fronts and are not readily distinguished from the computed data. Basalt underlying the valley floor outcrops approximately 1 1/3 mile northwest of the survey area indicating a southeastward dip to the volcanic basement surface. Individual flow units of basalt are not known nor are they distinguishable with groundnoise data. Accordingly, while flow front contacts are capable of causing acoustical impedance mismatches when in contact with less dense, lower velocity alluvial fill, they are not distinguishable from fault discontinuities and are not, therefore, mapped. All discontinuities reflected by crossovers of mean frequency and integrated power are indicated on plan maps as faults and joined in lineaments according to the general structural trends indicated by the topography and geology of the surveyed area.

Major lineaments occur in northeast-southwest trends such as the South and North Malpais Horst faults and in the northwest-southeast trending cross-faults that bound the topographic high located along the southeast corner of the surveyed area. These faults extend out into the Whirlwind Valley and apparently have possible bifurcations and numerous associated short-length segments of varying directions. Displacement direction or sense of faults is interpreted from the relation of mean frequency to integrated power. Where the mean frequency value is greater than integrated power an upthrown side is indicated; where the integrated power value exceeds mean frequency, a downthrown relationship is indicated. Measured fault displacements were not obtained from the interpreted data because accurate depth control was not established. Well log data from Chevron-ATR-GINN 1-13 well located near station #1 was examined as a depth control reference; however, the well velocity log showed considerable velocity variation for the large number of layers penetrated and the integrated power and mean frequency values computed from the power spectral density curves gave no indication of resolving the many layer parameter changes that occurred with depth. Senturion is currently in the process of combining telluric measurements with groundnoise measurements to provide more accurate determination of the depth function. Extreme northwest ends of cross sections G, M, F, and E for the 0.5 to 15 Hz and 0.5 to 7.5 Hz shown mean frequency values greater than integrated power values and with MF values having upward slopes which may be indicative of thinning of the alluvial layer toward the northwest where the known outcrops of basalt occurs. Alluvial thickness appears to be less than 1,000 feet within the valley and thinning of fill material is indicated toward the northwest.

Frequency Band Fault Mapping

Fault maps were prepared from integrated power and mean frequency computations in the frequency band .5 to 15 Hz., .5 to 15 Hz., and .5 to 3.5 Hz. Fault locations are indicated on the fault maps as double lines implying the limits of resolution of the method. Since station separation is approximately 500 feet fault location accuracies can be no less than that value. Accordingly, actual fault locations may occur anywhere between the two stations whose measured values were used in computing the integrated power - mean frequency values.

0.5 to 15 Hz. Band Fault Delineations

Figure 3A shows faults mapped from IP/MF data in the frequency band .5 to 15 Hz. As previously mentioned major fault lineations were selected on the geologic-topographic reasonableness of structures and with consideration of the sense of fault displacement as indicated by the integrated power-mean frequency values measured on cross sections. The North and South Malpais Horst faults define the upthrown blocks along the southeast border of the area surveyed. The Southwest Cross Fault splits the horst block with the upthrown eastern portion forming the prominent topographic high of basaltic andesite. This cross fault extends out into Whirlwind Valley where it may have two or possibly three branches. The region of intersection of the North Malpais Horst Fault (NMHF) and the Southwest Cross Fault (SWCF) is not adequately resolved which may result from severe scattering and attenuation of seismic energy. The region along NMHF between stations 118 and 119 (Profile MM') has a reversal of fault displacement. This area is also an anomalous area, hence, power and frequency values may be affected to the extent that structural interpretation is obviated. The Northwest Cross Fault (NWCF) bounds the horst block on the northeast and extends northwestward into Whirlwind Valley.

Areas of geothermal interest are around stations 114, 116, and 117 where the major fault NMHF intersects the anomalous area shown in Figure 3A, and associated with the extension of the major fault, SMHF, at stations 74, 76, and 85 where an intersection of the fault occurs with the anomalies mapped for each of the three frequency bands.

0.5 to 7.5 Hz. Band Fault Delineations

The four major faults delineated by the 0.5 to 15 Hz. band are again delineated on the map shown in Figure 3B. The intersection of the Southwest Cross Fault (SWCF) and the North Malpais Horst Fault (NMHF) remains unresolved and the possible branching of SWCF is more complicated with a graben structure indicated between the two branches north of NWHF. The Northeast Cross Fault is again defined as is the short fault to the northeast. The displacement sense change occurs again between stations 118 and 119 where a geothermal anomaly exists.

More numerous short-length faults occur over the surveyed area. If it can be considered that this lower frequency band samples deeper structure, the implication is that deeper layers of andesitic material may be more extensively fractured than the overlying basaltic material; however, the acoustical impedance differences between basalt and andesite are not considered to be substantially different and therefore differences in quantity and direction of faulting probably not discernible.

Geothermal areas of interest are near station 5 where the fault zone intersects an anomalous area (Figure 2) and stations 85, 75, 74, and 73 where the major South Malpais Horst Fault intersects the four station anomaly.

0.5 to 3.5 Hz. Band Fault Delineations

Three of the major faults are demarked from computations of data in the 0.5 to 3.5 Hz. band (Figure 3C). The Northeast Cross Fault is not defined owing to nonlinearities in narrowband data for stations in the northeast section of the area surveyed. Accordingly, these stations were deleted from the data base. Inversion of displacement sense along portions of the South Malpais Horst Fault is not easily explained. If the longer wavelength waves of this low-frequency band sample deeper layers, more complicated relative movements may occur along the fault zone. Variation in directions of short segment faults also occur compared to directions indicated for similar faults shown on the two previous fault delineation maps. No ready explanation other than the previous statement can be made at this time. It is believed that this narrow, low frequency band is the one most likely to be composed of surface waves and, therefore, contain less contribution of energy from body waves. Accordingly, the band has the potential for sampling deeper structure, and, therefore, capable of sensing more accurately the direction of displacements of faults at greater depths. This hypothesis has not been adequately verified and is, at this time, only supposition.

Geothermal areas of interest in the extreme southwest corner of the area surveyed. Stations 65, 76, 75, and 99 are associated with the probable intersection of the South Malpais Horst Fault and warrant further study by other geophysical methods. The 0.5 to 3.5 Hz. anomaly around stations 83 and 89 may be related to extensions of the numerous faults detected in that area and also warrants further examination.

ANOMALOUS AREAS

The Anomalous Areas Composite, Figure 2, indicates three major areas of interest.

1. Northern Anomaly - located in the center of sec. 18, T. 31 N., R. 48 E, (Stations 105, 106, 128, 114, 116, and 117), is situated due west of the hot spring and The Geysers and north of the topographic high in the southeastern quarter of sec. 18. Parameters of coinci-

dence at mean +1 standard deviation include 0.5 - 15.0 Hz IP and MF, 0.5 - 7.5 Hz. IP. and 0.5 - 3.5 Hz IP. The proximity to the surface geothermal manifestations are favorable indications of a local heat/energy source at depth. The anomalous zone can also be related to the North Malpais Horst Fault and the Northeast Cross Fault that are delineated by groundnoise.

2. Western Anomaly - on the western border of the survey, sec. 13, T. 31 N., R. 47 E. (stations 5 and 51). This anomaly has expression on the low-lying relatively flat expanse of alluvium in the center of Whirlwind Valley. Characteristics exceeding mean +1 standard deviation are 0.5 - 15.0 Hz IP, 0.5 - 7.5 Hz IP and MF. The lower frequency spectra possibly reflect a thicker alluvial accumulation in this area which filters the higher frequencies. The anomaly may be associated with an east-west trending cross fault bounding the topographic high on the south.

3. The Southern Anomaly - found in the southeast quarter of sec. 24, T. 31 N., R. 47 E., (stations 83, 88, and 89 and stations 74, 75, 76, 85, and 99). Anomalous groundnoise conditions encompass most of the southern tip of the survey. All parameters (0.5 - 15.0 Hz IP and MF, 0.5 - 7.5 Hz IP and MF, and 0.5 - 3.5 Hz IP and MF) are indicated anomalous at Stations 76 and 89, with 74, 75, and 88 anomalous through five of the parameters. This high coincidence establishes the very interesting possibility of a separate geothermal reservoir untapped by prior drilling if the surface manifestations to the northeast are associated with the source underlying the Northern Anomaly. Again, association with the apparent northeast-southwest trending South Malpais Horst Fault is indicated adding credence to the possibility of a potential productive geothermal source.

COMMENTS - RECOMMENDATIONS

1. The survey exhibits "edge anomalies"; however, examination of specific station values confirms the fact that anomalous conditions are indeed present. Furthermore, the validity of such anomalies is reinforced by the detected presence of fault systems with linear trend relations to surface geothermal manifestations and high temperature measurements resulting from drilling.

2. The Southern Anomaly, with its high coincidence of anomalous parameters, is a primary area of interest. Additional work is recommended. Heat flow test holes and a resistivity survey would give further indications of the geothermal potential in this specific locale.

3. The GINN 1-13 well location and Station 1 are situated north of a 0.5 - 3.5 Hz integrated power high near the intersection of two fault systems (SWCF and NMHF) but not in an indicated anomalous area.

4. Isolated single-station anomalies are evident on the various anomaly maps some of which correlate with fault structures determined from acoustic impedance differences.

5. All station data has been saved for additional processing if required.

BEOWAWE , THE FOLLOWING ARE PERCENTAGE DEVIA

STATISTICS AND DEVIATIONS

0.5 - 15.0 Hz

	INTEGRATED		MEAN			PREDOMINANT				
STA.	POWER	PCDEV.	FREQ.	PCDEV.		POWER	PCDEV.	FREQ.	PCDEV.	POWER
0001	12.8	-11.9	5.42	-9.2		-0.0	0.0	-0.00	0.0	.423
0002	14.5	-.2	5.02	-15.8	10-30	-0.0	0.0	-0.00	0.0	.346
0005	19.1	31.5	6.37	6.8		-0.0	0.0	-0.00	0.0	.333
0006	15.4	6.1	5.65	-5.2		-0.0	0.0	-0.00	0.0	.366
0008	12.4	-14.8	5.14	-13.7		-0.0	0.0	-0.00	0.0	.415
0003	12.9	-11.5	4.98	-16.5		-0.0	0.0	-0.00	0.0	.387
0009	10.5	-27.8	5.75	-3.5		-0.0	0.0	-0.00	0.0	.548
0013	11.0	-24.1	5.26	-11.8		-0.0	0.0	-0.00	0.0	.476
0014	9.5	-34.8	4.44	-25.6		-0.0	0.0	-0.00	0.0	.468
0015	11.1	-23.8	5.35	-10.2		-0.0	0.0	-0.00	0.0	.483
0023	17.8	22.6	6.28	5.3		-0.0	0.0	-0.00	0.0	.352
0024	17.8	22.4	6.35	6.4		-0.0	0.0	-0.00	0.0	.357
0025	12.4	-14.7	4.64	-22.2		-0.0	0.0	-0.00	0.0	.374
0027	12.0	-17.4	4.91	-17.7		-0.0	0.0	-0.00	0.0	.409
0031	15.9	9.0	6.21	4.1		0.0	0.0	0.00	0.0	.392
0033	13.2	-9.4	5.68	-4.8		0.0	0.0	0.00	0.0	.431
0034	17.4	19.9	6.22	4.2		0.0	0.0	0.00	0.0	.357
0035	9.3	-36.0	5.97	.2		0.0	0.0	0.00	0.0	.641
0036	16.9	16.5	6.55	9.8		0.0	0.0	0.00	0.0	.386
0047	14.8	1.5	5.85	-1.9		0.0	0.0	0.00	0.0	.396
0048	15.5	6.7	5.95	-.2		0.0	0.0	0.00	0.0	.384
0049	11.9	-18.1	5.51	-7.6		0.0	0.0	0.00	0.0	.463
0050	20.3	39.8	6.91	15.8		0.0	0.0	0.00	0.0	.340
0051	17.5	20.6	6.30	5.6		0.0	0.0	0.00	0.0	.359
0133	9.3	-36.4	6.87	15.2		-0.0	0.0	-0.00	0.0	.743
0134	12.4	-15.0	6.82	14.4		-0.0	0.0	-0.00	0.0	.552
0135	11.6	-20.0	7.23	21.3		-0.0	0.0	-0.00	0.0	.622
0136	13.7	-5.5	6.13	2.8		-0.0	0.0	-0.00	0.0	.446
0082	14.8	1.7	5.66	-5.1		-0.0	0.0	-0.00	0.0	.382
0083	15.4	6.0	5.39	-9.6		-0.0	0.0	-0.00	0.0	.350
0087	16.6	14.4	5.98	.2		-0.0	0.0	-0.00	0.0	.359
0088	24.1	65.7	7.65	28.3		-0.0	0.0	-0.00	0.0	.318
0089	20.7	42.7	6.92	16.0		-0.0	0.0	-0.00	0.0	.333
0090	13.3	-8.8	5.05	-15.3		-0.0	0.0	-0.00	0.0	.381
0092	14.2	-2.6	5.25	-12.0		-0.0	0.0	-0.00	0.0	.370
0094	18.1	24.8	6.29	5.5		-0.0	0.0	-0.00	0.0	.347
0108	11.7	-19.8	6.51	9.2		-0.0	0.0	-0.00	0.0	.558
0109	5.3	-63.5	3.85	-35.4		-0.0	0.0	-0.00	0.0	.726
0110	12.8	-11.7	7.02	17.7		-0.0	0.0	-0.00	0.0	.547
0111	15.4	6.1	6.69	12.2		-0.0	0.0	-0.00	0.0	.434
0112	12.5	-14.0	6.82	14.4		-0.0	0.0	-0.00	0.0	.545
0113	18.3	25.8	6.50	8.9		-0.0	0.0	-0.00	0.0	.355
0095	11.7	-19.3	5.45	-8.6		-0.0	0.0	-0.00	0.0	.464
0096	14.1	-3.1	6.49	8.9		-0.0	0.0	-0.00	0.0	.461
0097	11.5	-21.2	5.10	-14.5		-0.0	0.0	-0.00	0.0	.445
0099	18.1	24.7	6.73	12.9		-0.0	0.0	-0.00	0.0	.371
0103	13.9	-4.2	7.57	27.0		-0.0	0.0	-0.00	0.0	.543
0104	17.6	20.9	7.60	27.5		-0.0	0.0	-0.00	0.0	.432
0105	20.7	42.1	7.27	22.0		-0.0	0.0	-0.00	0.0	.352
0106	22.7	55.8	6.89	15.5		-0.0	0.0	-0.00	0.0	.304
0107	18.0	23.9	6.46	8.4		-0.0	0.0	-0.00	0.0	.359
0100	10.3	-29.2	5.56	-6.7		-0.0	0.0	-0.00	0.0	.540
0101	13.9	-4.7	5.14	-13.8		-0.0	0.0	-0.00	0.0	.371
0102	15.8	8.9	5.63	-5.5		-0.0	0.0	-0.00	0.0	.356
0161	20.3	39.7	6.57	10.2		-0.0	0.0	-0.00	0.0	.324

0107	18.0	23.9	6.46	8.4		-0.0	0.0	-0.00	0.0	.359
0100	10.3	-29.2	5.56	-6.7		-0.0	0.0	-0.00	0.0	.540
0101	13.9	-4.7	5.14	-13.8		-0.0	0.0	-0.00	0.0	.371
0102	15.8	8.9	5.63	-5.5		-0.0	0.0	-0.00	0.0	.356
0161	20.3	39.7	6.57	10.2		-0.0	0.0	-0.00	0.0	.324
0018	15.8	8.5	5.64	-5.5		-0.0	0.0	-0.00	0.0	.357
0019	17.5	20.5	5.99	.5	11-2	-0.0	0.0	-0.00	0.0	.342
0020	14.6	.8	5.38	-9.8		-0.0	0.0	-0.00	0.0	.367
0021	11.8	-19.0	4.55	-23.8		-0.0	0.0	-0.00	0.0	.386
0022	13.0	-10.3	5.19	-13.0		-0.0	0.0	-0.00	0.0	.398
0028	14.3	-1.6	5.21	-12.6		0.0	0.0	0.00	0.0	.364
0030	13.8	-5.1	4.76	-20.2	11-4	0.0	0.0	0.00	0.0	.345
0032	11.8	-18.8	4.87	-18.4		0.0	0.0	0.00	0.0	.412
0037	19.1	31.4	7.05	18.2		0.0	0.0	0.00	0.0	.369
0038	18.4	26.4	7.05	18.2	11-6	0.0	0.0	0.00	0.0	.383
0039	15.6	7.6	6.30	5.6		0.0	0.0	0.00	0.0	.402
0040	14.5	-.6	6.39	7.2		0.0	0.0	0.00	0.0	.442
0041	17.1	17.7	6.88	15.5		0.0	0.0	0.00	0.0	.402
0042	13.3	-8.4	5.77	-3.2		0.0	0.0	0.00	0.0	.434
0043	13.2	-9.5	5.56	-6.7	11-7	0.0	0.0	0.00	0.0	.423
0044	14.2	-2.4	5.34	-10.4		0.0	0.0	0.00	0.0	.376
0045	12.7	-12.5	5.05	-15.4		0.0	0.0	0.00	0.0	.397
0046	13.6	-6.5	5.25	-12.0		0.0	0.0	0.00	0.0	.386
0156	6.7	-53.6	4.88	-18.2		-0.0	0.0	-0.00	0.0	.723
0158	10.4	-28.1	5.61	-6.0		-0.0	0.0	-0.00	0.0	.537
0160	6.1	-57.8	4.84	-18.9		-0.0	0.0	-0.00	0.0	.788
0053	15.5	6.3	5.49	-8.0		0.0	0.0	0.00	0.0	.355
0054	12.7	-12.8	5.14	-13.8	11-9	0.0	0.0	0.00	0.0	.405
0154	13.2	-8.9	5.30	-11.1		-0.0	0.0	-0.00	0.0	.400
0057	9.5	-34.9	5.45	-8.7		0.0	0.0	0.00	0.0	.575
0058	12.6	-13.2	5.31	-10.9	11-10	0.0	0.0	0.00	0.0	.421
0060	10.6	-27.2	4.54	-23.9		0.0	0.0	0.00	0.0	.429
0061	13.6	-6.2	5.95	-.2		0.0	0.0	0.00	0.0	.437
0144	8.0	-45.2	4.87	-18.3		-0.0	0.0	-0.00	0.0	.611
0147	24.2	66.2	8.17	37.0		-0.0	0.0	-0.00	0.0	.338
0148	7.0	-51.8	3.69	-38.2		-0.0	0.0	-0.00	0.0	.526
0065	15.0	3.2	6.27	5.1		0.0	0.0	0.00	0.0	.417
0066	12.7	-12.8	6.03	1.1	11-11	0.0	0.0	0.00	0.0	.476
0138	9.3	-36.1	4.35	-27.0		-0.0	0.0	-0.00	0.0	.468
0139	12.0	-17.2	6.36	6.6		-0.0	0.0	-0.00	0.0	.528
0140	14.9	2.5	6.61	10.8		-0.0	0.0	-0.00	0.0	.443
0141	10.8	-25.9	5.73	-3.9		-0.0	0.0	-0.00	0.0	.532
0142	12.5	-13.9	5.98	.3		-0.0	0.0	-0.00	0.0	.478
0067	13.9	-4.3	5.77	-3.2		-0.0	0.0	-0.00	0.0	.415
0068	11.5	-20.7	5.68	-4.8	11-13	-0.0	0.0	-0.00	0.0	.492
0069	17.8	22.5	6.05	1.5		-0.0	0.0	-0.00	0.0	.340
0071	16.2	11.2	5.95	-.2		-0.0	0.0	-0.00	0.0	.368
0126	11.6	-20.3	6.90	15.8		-0.0	0.0	-0.00	0.0	.596
0127	13.3	-8.8	7.32	22.8		-0.0	0.0	-0.00	0.0	.552
0128	19.3	32.5	7.69	29.0		-0.0	0.0	-0.00	0.0	.399
0129	17.8	22.5	7.07	18.6		-0.0	0.0	-0.00	0.0	.397
0130	12.9	-11.0	7.01	17.5		-0.0	0.0	-0.00	0.0	.541
0131	7.5	-48.1	4.01	-32.7		-0.0	0.0	-0.00	0.0	.532
0072	15.4	5.7	5.23	-12.3		-0.0	0.0	-0.00	0.0	.340
0073	15.6	7.2	5.36	-10.1	11-14	-0.0	0.0	-0.00	0.0	.344
0074	23.3	60.5	7.11	19.2		-0.0	0.0	-0.00	0.0	.305
0075	21.6	48.5	6.55	9.9		-0.0	0.0	-0.00	0.0	.303
0076	23.9	64.1	7.03	18.0		-0.0	0.0	-0.00	0.0	.295
0077	14.0	-3.9	5.89	-1.2		-0.0	0.0	-0.00	0.0	.422
0078	12.9	-11.2	6.03	1.2	11-15	-0.0	0.0	-0.00	0.0	.467
0079	13.5	-7.1	5.38	-9.7		-0.0	0.0	-0.00	0.0	.399
0080	14.6	.7	5.93	-.5		-0.0	0.0	-0.00	0.0	.405
0081	14.5	-.0	5.49	-7.9		-0.0	0.0	-0.00	0.0	.377
0119	15.0	3.2	7.81	31.0		-0.0	0.0	-0.00	0.0	.521

0131	7.5	-48.1	4.01	-32.7		-0.0	0.0	-0.00	0.0	.53
0072	15.4	5.7	5.23	-12.3		-0.0	0.0	-0.00	0.0	.34
0073	15.6	7.2	5.36	-10.1	11-14	-0.0	0.0	-0.00	0.0	.34
0074	23.3	60.5	7.11	19.2		-0.0	0.0	-0.00	0.0	.30
0075	21.6	48.5	6.55	9.9		-0.0	0.0	-0.00	0.0	.30
0076	23.9	64.1	7.03	18.0		-0.0	0.0	-0.00	0.0	.29
0077	14.0	-3.9	5.89	-1.2		-0.0	0.0	-0.00	0.0	.42
0078	12.9	-11.2	6.03	1.2	11-15	-0.0	0.0	-0.00	0.0	.46
0079	13.5	-7.1	5.38	-9.7		-0.0	0.0	-0.00	0.0	.39
0080	14.6	.7	5.93	-.5		-0.0	0.0	-0.00	0.0	.40
0081	14.5	-.0	5.49	-7.9		-0.0	0.0	-0.00	0.0	.37
0119	15.0	3.2	7.81	31.0		-0.0	0.0	-0.00	0.0	.52
0120	7.5	-48.4	6.37	6.9		-0.0	0.0	-0.00	0.0	.84
0122	7.4	-49.0	4.79	-19.7		-0.0	0.0	-0.00	0.0	.64
0123	5.3	-63.3	3.26	-45.4		-0.0	0.0	-0.00	0.0	.60
0124	7.3	-49.6	4.86	-18.5		-0.0	0.0	-0.00	0.0	.66
0084	20.2	38.8	6.30	5.7		-0.0	0.0	-0.00	0.0	.31
0085	20.6	41.8	6.22	4.3	11-16	-0.0	0.0	-0.00	0.0	.30
0114	23.1	58.7	8.11	36.0		-0.0	0.0	-0.00	0.0	.35
0115	18.2	25.0	7.52	26.2		-0.0	0.0	-0.00	0.0	.41
0116	22.9	57.5	7.81	31.0		-0.0	0.0	-0.00	0.0	.34
0117	23.9	64.5	7.29	22.3		-0.0	0.0	-0.00	0.0	.305
0118	22.3	53.5	6.92	16.0		-0.0	0.0	-0.00	0.0	.31

NO. OF STATIONS 125 0

	INTEGRATED POWER	MEAN FREQUENCY	PREDOMINANT POWER	PREDOMINANT FREQUENCY	POWE
AVERAGE	14.54	5.96	0.000	0.000	.
SIGMA	4.23	.96	0.000	0.000	.
PER CENT	29.08	16.13	0.000	0.000	24.
+ SIGMA	18.77	6.92	0.000	0.000	.
- SIGMA	10.31	5.00	0.000	0.000	.
MIN/STA	5.31/0109	3.26/0123	*0.00/0001	*0.00/0001	.29/
MAX/STA	24.16/0147	8.17/0147	0.00/0001	0.00/0001	.85/

BEOWAWE
STATISTICS AND DEVIATIONS
0.5 - 7.5 Hz.

THE FOLLOWING ARE PERCENTAGE DEV

	INTEGRATED		MEAN			PREDOMINANT				
STA.	POWER	PCDEV.	FREQ.	PCDEV.		POWER	PCDEV.	FREQ.	PCDEV.	POW
0001	17.4	1.0	3.17	2.8		-0.0	0.0	-0.00	0.0	.1
0084	23.4	36.4	3.39	10.1	11-16	-0.0	0.0	-0.00	0.0	.1
0085	24.6	43.2	3.47	12.8		-0.0	0.0	-0.00	0.0	.1
0114	17.4	1.3	3.34	8.4		-0.0	0.0	-0.00	0.0	.1
0115	15.5	-10.1	3.16	2.6		-0.0	0.0	-0.00	0.0	.2
0116	19.2	11.9	3.46	12.4		-0.0	0.0	-0.00	0.0	.1
0117	22.7	32.2	3.40	10.4		-0.0	0.0	-0.00	0.0	.1
0118	22.7	31.8	3.28	6.6		-0.0	0.0	-0.00	0.0	.1
0031	19.1	11.3	3.05	-.9		0.0	0.0	0.00	0.0	.1
0033	17.4	1.4	3.03	-1.6		0.0	0.0	0.00	0.0	.1
0034	21.2	23.5	3.19	3.7		0.0	0.0	0.00	0.0	.1
0035	11.6	-32.8	2.97	-3.5		0.0	0.0	0.00	0.0	.2
0036	19.6	13.8	3.26	5.8		0.0	0.0	0.00	0.0	.1
0047	19.5	13.6	3.47	12.8		0.0	0.0	0.00	0.0	.1
0048	20.1	16.6	3.53	14.6		0.0	0.0	0.00	0.0	.1
0049	15.7	-8.4	2.90	-5.7		0.0	0.0	0.00	0.0	.1
0050	21.0	22.3	3.83	24.3		0.0	0.0	0.00	0.0	.1
0051	21.9	27.5	3.60	17.0		0.0	0.0	0.00	0.0	.1
0133	9.0	-47.4	2.60	-15.6		-0.0	0.0	-0.00	0.0	.2
0134	12.7	-26.3	2.79	-9.3		-0.0	0.0	-0.00	0.0	.2
0135	11.1	-35.6	2.89	-6.0		-0.0	0.0	-0.00	0.0	.2
0136	16.3	-5.4	2.96	-3.9		-0.0	0.0	-0.00	0.0	.1
0082	19.3	12.4	3.17	3.0		-0.0	0.0	-0.00	0.0	.1
0083	21.4	24.7	3.36	9.0		-0.0	0.0	-0.00	0.0	.1
0086	18.6	8.1	2.98	-3.4		-0.0	0.0	-0.00	0.0	.1
0087	21.1	22.5	3.31	7.4		-0.0	0.0	-0.00	0.0	.1
0088	22.6	31.5	3.54	14.9		-0.0	0.0	-0.00	0.0	.1
0089	22.5	30.9	3.48	12.9		-0.0	0.0	-0.00	0.0	.1
0095	15.7	-8.5	3.12	1.2		-0.0	0.0	-0.00	0.0	.1
0096	16.0	-7.0	3.27	6.2		-0.0	0.0	-0.00	0.0	.2
0097	16.1	-6.3	2.94	-4.6		-0.0	0.0	-0.00	0.0	.1
0098	13.4	-22.1	2.74	-10.9		-0.0	0.0	-0.00	0.0	.2
0099	20.5	19.0	3.43	11.2		-0.0	0.0	-0.00	0.0	.1
0100	13.6	-21.2	3.14	2.1		-0.0	0.0	-0.00	0.0	.2
0101	19.8	15.3	3.17	2.9		-0.0	0.0	-0.00	0.0	.1
0102	20.8	21.2	3.18	3.3		-0.0	0.0	-0.00	0.0	.1
0161	23.1	34.3	3.45	12.1		-0.0	0.0	-0.00	0.0	.1
0103	12.5	-27.4	3.10	.6		-0.0	0.0	-0.00	0.0	.2
0104	15.9	-7.5	3.05	-.8		-0.0	0.0	-0.00	0.0	.1
0105	20.0	16.3	3.14	1.9		-0.0	0.0	-0.00	0.0	.15
0106	24.3	41.4	3.28	6.6		-0.0	0.0	-0.00	0.0	.1
0107	20.8	20.9	3.08	-.1		-0.0	0.0	-0.00	0.0	.14
0003	22.2	29.3	3.44	11.7	10-29	-0.0	0.0	-0.00	0.0	.15
0002	20.2	17.6	3.38	9.8		-0.0	0.0	-0.00	0.0	.1
0005	21.6	25.6	3.53	14.6	10-30	-0.0	0.0	-0.00	0.0	.1
0006	18.7	8.9	3.34	8.6		-0.0	0.0	-0.00	0.0	.17
0008	16.2	-5.6	3.29	6.8		-0.0	0.0	-0.00	0.0	.20
0009	19.3	12.4	3.23	5.0		-0.0	0.0	-0.00	0.0	.16
0010	20.7	20.4	3.28	6.4	10-31	-0.0	0.0	-0.00	0.0	.15
0011	19.6	14.0	3.16	2.5		-0.0	0.0	-0.00	0.0	.1
0013	19.9	15.7	3.16	2.6		-0.0	0.0	-0.00	0.0	.1
0014	19.2	11.5	3.12	1.5	11-1	-0.0	0.0	-0.00	0.0	.1
0015	19.9	15.6	3.16	2.6		-0.0	0.0	-0.00	0.0	.1
0016	16.0	-6.7	2.85	-7.6		-0.0	0.0	-0.00	0.0	.17
0018	19.3	12.2	3.17	3.0		-0.0	0.0	-0.00	0.0	.1
0019	[illegible]	[illegible]	[illegible]	[illegible]	11-2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

0105	20.0	16.3	3.14	1.9		-0.0	0.0	-0.00	0.0	.1
0106	24.3	41.4	3.28	6.6		-0.0	0.0	-0.00	0.0	.1
0107	20.8	20.9	3.08	-.1		-0.0	0.0	-0.00	0.0	.1
0003	22.2	29.3	3.44	11.7	10-29	-0.0	0.0	-0.00	0.0	.1
0002	20.2	17.6	3.38	9.8		-0.0	0.0	-0.00	0.0	.1
0005	21.6	25.6	3.53	14.6	10-30	-0.0	0.0	-0.00	0.0	.1
0006	18.7	8.9	3.34	3.6		-0.0	0.0	-0.00	0.0	.1
0008	16.2	-5.6	3.29	6.8		-0.0	0.0	-0.00	0.0	.2
0009	19.3	12.4	3.23	5.0		-0.0	0.0	-0.00	0.0	.1
0010	20.7	20.4	3.28	6.4	10-31	-0.0	0.0	-0.00	0.0	.1
0011	19.6	14.0	3.16	2.5		-0.0	0.0	-0.00	0.0	.16
0013	19.9	15.7	3.16	2.6		-0.0	0.0	-0.00	0.0	.15
0014	19.2	11.5	3.12	1.5	11-1	-0.0	0.0	-0.00	0.0	.16
0015	19.9	15.6	3.16	2.6		-0.0	0.0	-0.00	0.0	.15
0016	16.0	-6.7	2.85	-7.6		-0.0	0.0	-0.00	0.0	.17
0018	19.3	12.2	3.17	3.0		-0.0	0.0	-0.00	0.0	.16
0019	20.3	18.3	3.25	5.5	11-2	-0.0	0.0	-0.00	0.0	.16
0020	18.3	6.5	2.95	-4.1		-0.0	0.0	-0.00	0.0	.16
0021	16.5	-4.0	2.73	-11.4		-0.0	0.0	-0.00	0.0	.16
0022	16.9	-1.9	2.97	-3.4		-0.0	0.0	-0.00	0.0	.17
0023	23.6	37.0	3.46	12.4		-0.0	0.0	-0.00	0.0	.14
0024	22.3	29.7	3.41	10.8	11-3	-0.0	0.0	-0.00	0.0	.15
0025	20.0	16.3	3.06	-.6		-0.0	0.0	-0.00	0.0	.15
0026	18.1	5.3	2.89	-6.1		-0.0	0.0	-0.00	0.0	.16
0027	18.8	9.2	3.19	3.7		-0.0	0.0	-0.00	0.0	.17
0028	18.5	7.8	2.89	-6.1		0.0	0.0	0.00	0.0	.15
0030	18.6	8.0	2.77	-9.9	11-4	0.0	0.0	0.00	0.0	.14
0032	15.7	-8.9	2.70	-12.2		0.0	0.0	0.00	0.0	.17
0037	18.2	6.0	3.08	-.1		0.0	0.0	0.00	0.0	.1
0038	17.6	2.6	3.15	2.3	11-6	0.0	0.0	0.00	0.0	.17
0039	17.2	-.2	2.83	-8.1		0.0	0.0	0.00	0.0	.16
0040	15.2	-11.8	2.74	-10.9		0.0	0.0	0.00	0.0	.18
0041	16.8	-2.5	3.08	-.1		0.0	0.0	0.00	0.0	.18
0156	8.2	-52.1	2.30	-25.2		-0.0	0.0	-0.00	0.0	.27
0158	12.5	-27.2	2.75	-10.8	11-7	-0.0	0.0	-0.00	0.0	.22
0160	7.1	-58.9	2.18	-29.1		-0.0	0.0	-0.00	0.0	.30
0042	15.9	-7.8	3.03	-1.6		0.0	0.0	0.00	0.0	.19
0043	16.6	-3.2	3.10	.8		0.0	0.0	0.00	0.0	.18
0044	18.6	8.3	3.19	3.5		0.0	0.0	0.00	0.0	.17
0045	17.4	1.4	3.14	1.9		0.0	0.0	0.00	0.0	.18
0046	18.3	6.7	3.18	3.3		0.0	0.0	0.00	0.0	.17
0053	20.2	17.5	3.37	9.6		0.0	0.0	0.00	0.0	.16
0054	16.3	-5.4	2.99	-2.9	11-9	0.0	0.0	0.00	0.0	.18
0055	14.9	-13.6	3.07	-.5		0.0	0.0	0.00	0.0	.20
0154	16.8	-2.4	3.42	10.9		-0.0	0.0	-0.00	0.0	.20
0144	10.4	-39.6	2.62	-14.8		-0.0	0.0	-0.00	0.0	.25
0147	18.9	10.2	3.59	16.6	11-10	-0.0	0.0	-0.00	0.0	.19
0148	9.9	-42.3	1.85	-40.0		-0.0	0.0	-0.00	0.0	.18
0057	11.1	-35.5	2.57	-16.5		0.0	0.0	0.00	0.0	.23
0058	15.8	-8.3	3.13	1.6		0.0	0.0	0.00	0.0	.19
0059	12.3	-28.7	2.28	-26.1		0.0	0.0	0.00	0.0	.18
0060	14.7	-14.6	2.63	-14.7		0.0	0.0	0.00	0.0	.17
0061	15.6	-9.0	2.86	-7.0		0.0	0.0	0.00	0.0	.18
0138	12.7	-26.0	2.60	-15.7	11-11	-0.0	0.0	-0.00	0.0	.20
0139	12.9	-24.9	3.19	3.7		-0.0	0.0	-0.00	0.0	.24
0140	15.1	-11.9	3.06	-.6		-0.0	0.0	-0.00	0.0	.20
0141	12.0	-30.1	2.78	-9.7		-0.0	0.0	-0.00	0.0	.23
0142	13.6	-20.8	2.97	-3.6		-0.0	0.0	-0.00	0.0	.21
0062	14.4	-16.5	2.95	-4.2		0.0	0.0	0.00	0.0	.20
0063	16.4	-4.7	3.17	3.0		0.0	0.0	0.00	0.0	.19
0064	17.6	2.6	3.20	4.0		0.0	0.0	0.00	0.0	.18
0065	16.3	-5.0	3.40	10.4		0.0	0.0	0.00	0.0	.20
0066	13.6	-20.7	2.99	-2.9		0.0	0.0	0.00	0.0	.21
0126	10.9	-35.6	2.96	-3.9	11-13	-0.0	0.0	-0.00	0.0	.27

0127	11.3	-34.1	3.04	-1.1		-0.0	0.0	-0.00	0.0	.2
0128	16.1	-6.5	3.22	4.4		-0.0	0.0	-0.00	0.0	.2
0129	16.8	-2.5	3.19	3.7		-0.0	0.0	-0.00	0.0	.3
0130	11.6	-32.7	2.90	-5.9		-0.0	0.0	-0.00	0.0	.2
0131	10.4	-39.3	2.27	-26.2		-0.0	0.0	-0.00	0.0	.2
0067	16.7	-2.8	3.49	13.3		-0.0	0.0	-0.00	0.0	.2
0068	13.5	-21.7	3.04	-1.3		-0.0	0.0	-0.00	0.0	.2
0069	20.9	21.7	3.51	14.1		-0.0	0.0	-0.00	0.0	.1
0070	13.0	-24.2	2.68	-12.8		-0.0	0.0	-0.00	0.0	.2
0071	19.4	13.1	3.28	6.4		-0.0	0.0	-0.00	0.0	.1
0072	20.3	18.1	3.23	4.9		-0.0	0.0	-0.00	0.0	.1
0073	21.0	21.9	3.44	11.6	11-14	-0.0	0.0	-0.00	0.0	.1
0074	23.9	38.8	3.58	16.3		-0.0	0.0	-0.00	0.0	.1
0075	24.2	40.6	3.50	13.5		-0.0	0.0	-0.00	0.0	.1
0076	24.7	43.4	3.67	19.1		-0.0	0.0	-0.00	0.0	.1
0119	11.5	-32.9	3.29	7.0		-0.0	0.0	-0.00	0.0	.2
0120	7.0	-59.1	2.51	-18.5	11-15	-0.0	0.0	-0.00	0.0	.3
0122	9.6	-44.0	2.49	-19.0		-0.0	0.0	-0.00	0.0	.2
0123	7.1	-58.5	1.21	-60.8		-0.0	0.0	-0.00	0.0	.1
0124	9.4	-45.0	2.66	-13.7		-0.0	0.0	-0.00	0.0	.2
0125	6.2	-64.1	1.12	-63.5		-0.0	0.0	-0.00	0.0	.1
0077	15.9	-7.5	3.03	-1.7		-0.0	0.0	-0.00	0.0	.1
0078	14.0	-18.7	3.08	.1		-0.0	0.0	-0.00	0.0	.2
0079	16.8	-2.4	3.26	5.7		-0.0	0.0	-0.00	0.0	.1
0080	16.3	-5.4	3.06	-.5		-0.0	0.0	-0.00	0.0	.1
0081	18.2	5.9	3.11	.9		-0.0	0.0	-0.00	0.0	.1
0108	17.1	-.8	3.14	2.0		-0.0	0.0	-0.00	0.0	.1
0109	12.6	-26.4	2.85	-7.4	11-18	-0.0	0.0	-0.00	0.0	.2
0110	17.3	.8	3.33	8.1		-0.0	0.0	-0.00	0.0	.1
0111	20.9	21.7	3.31	7.4		-0.0	0.0	-0.00	0.0	.1
0112	17.2	.2	3.28	6.4		-0.0	0.0	-0.00	0.0	.1
0113	25.0	45.4	3.27	6.1		-0.0	0.0	-0.00	0.0	.1
0090	23.3	35.6	3.36	9.1		-0.0	0.0	-0.00	0.0	.1
0091	21.4	24.3	3.28	6.4		-0.0	0.0	-0.00	0.0	.1
0092	24.2	40.5	3.49	13.2		-0.0	0.0	-0.00	0.0	.1
0094	25.3	47.1	3.42	10.9		-0.0	0.0	-0.00	0.0	.1

NO. OF STATIONS 139 0

	INTEGRATED POWER	MEAN FREQUENCY	PREDOMINANT POWER	PREDOMINANT FREQUENCY	PO
AVERAGE	17.20	3.08	0.000	0.000	
SIGMA	4.28	.39	0.000	0.000	
PER CENT	24.89	12.79	0.000	0.000	20
+ SIGMA	21.48	3.47	0.000	0.000	
- SIGMA	12.92	2.69	0.000	0.000	
MIN/STA	6.18/0125	1.12/0125	*0.00/0001	*0.00/0001	.1
MAX/STA	25.29/0094	3.83/0050	0.00/0001	0.00/0001	.3

BEOWAWE
STATISTICS AND DEVIATIONS
0.5 - 3.5 Hz

SPAN IS 3.00 HER

110 STATIONS

RANGE OF	.50		0.00		0.00		0.00		0.00	
FREQUENCY¢	3.50		0.00		0.00		0.00		0.00	

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	STATION	POW.	FRQ.	POW.	FRQ.	POW.	FRQ.	POW.	FRQ.	POW.	FRQ.	P(
	0023	11.91	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
11-03	0024	11.56	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0025	11.60	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0026	11.18	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0027	10.37	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0031	10.73	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0033	8.98	1.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0034	11.14	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0035	6.64	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0036	9.41	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0047	7.90	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0048	8.44	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0049	7.98	1.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0050	8.27	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0051	8.34	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0052	9.14	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0054	7.93	1.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0055	6.84	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
10-29	0003	10.23	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0001	9.34	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
10-30	0002	9.56	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0005	9.92	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0006	9.20	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0008	7.81	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0009	9.91	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
10-31	0010	10.75	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0011	10.24	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0012	9.11	1.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0013	11.79	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
11-1	0014	11.09	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0015	10.25	1.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0016	9.46	1.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0017	10.62	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0018	10.27	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
11-2	0019	11.02	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0020	11.15	1.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0021	10.24	1.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0022	9.94	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0028	10.65	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
11-4	0030	11.21	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0032	9.14	1.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0037	9.41	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
11-6	0038	9.16	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0039	9.75	1.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0040	8.63	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0041	8.81	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
	0042	9.63	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
11-7	0043	10.17	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0044	10.82	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0045	10.08	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0046	10.12	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0156	5.59	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	0038	9.18	1.7[illegible]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	[illegible]
	0039	9.75	1.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	[illegible]
	0040	8.63	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	[illegible]
	0041	8.81	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	[illegible]
	0042	9.63	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	[illegible]
11-7	0043	10.17	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0044	10.82	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0045	10.08	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0046	10.12	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0156	5.59	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0158	6.16	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0057	7.34	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
11-10	0058	9.21	1.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0059	8.87	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0060	10.05	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0061	9.11	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0145	6.71	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0147	8.16	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0148	7.42	1.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0062	9.22	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
11-11	0063	9.72	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0064	10.07	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0065	8.66	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0066	8.56	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0067	7.09	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
11-13	0068	7.46	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0069	11.36	1.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0070	8.46	1.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0071	9.78	1.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0131	7.67	1.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0072	11.78	1.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
11-14	0073	10.04	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0074	11.81	1.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0075	14.31	1.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0076	11.88	1.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0077	8.58	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
11-15	0078	8.21	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0079	9.25	1.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0080	9.76	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0081	10.53	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0119	10.01	1.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0122	4.96	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0125	6.39	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0084	10.77	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
11-16	0085	11.51	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0116	7.36	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0082	11.09	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
11-17	0083	11.68	1.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0086	11.02	1.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0087	10.93	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0088	11.53	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0089	12.23	1.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0090	10.73	1.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
11-18	0091	9.77	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0092	9.82	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0093	8.33	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0094	8.01	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0113	11.28	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0095	8.22	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
11-19	0096	9.44	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0097	9.95	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0098	9.80	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0099	12.47	1.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0107	12.28	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]							

	0070	8.46	1.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0071	9.78	1.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0131	7.67	1.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0072	11.78	1.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
11-14	0073	10.04	1.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0074	11.81	1.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0075	14.31	1.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0076	11.88	1.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0077	8.58	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
11-15	0078	8.21	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0079	9.25	1.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0080	9.76	1.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0081	10.53	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0119	10.01	1.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0122	4.96	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0125	6.39	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0084	10.77	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
11-16	0085	11.51	1.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0116	7.36	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0082	11.09	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
11-17	0083	11.68	1.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0086	11.02	1.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0087	10.93	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0088	11.53	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0089	12.23	1.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0090	10.73	1.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
11-18	0091	9.77	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0092	9.82	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
	0093	8.33	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0094	8.01	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0113	11.28	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0095	8.22	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
11-19	0096	9.44	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0097	9.95	1.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0098	9.80	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0099	12.47	1.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0107	12.28	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0100	4.52	1.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
11-20	0101	9.26	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0102	9.49	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
	0161	10.41	1.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.

RANGE OF	.50		0.00		0.00		0.00		0.00		
FREQUENCY¢	3.50		0.00		0.00		0.00		0.00		
	**********		**********		**********		**********		**********		**
AVERAGE	9.58	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
SIGMA	1.67	.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
PER CENT	17.46	8.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
+ SIGMA	11.25	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
- SIGMA	7.91	1.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
MINIMUM	4.52	1.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
STATION	0100	0100									
MAXIMUM	14.31	1.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
STATION	0075	0076									

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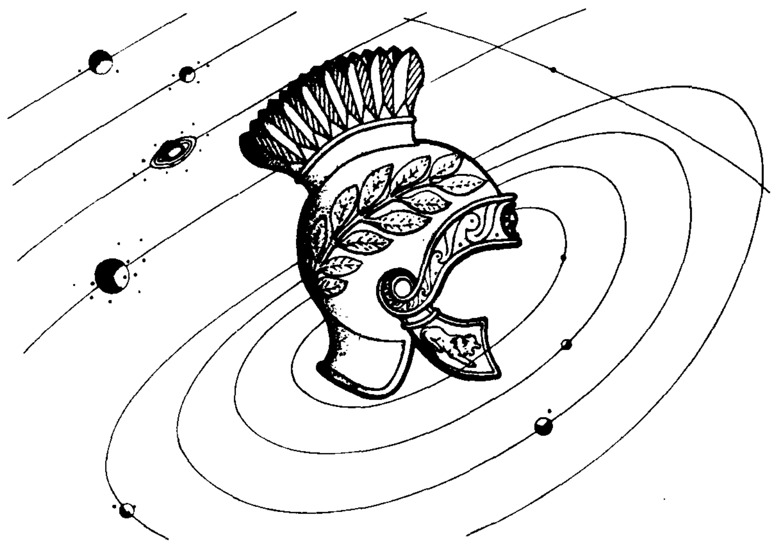
McKee, E.H., and J.H. Stewart, 1971, Stratigraphy and Potassium - Argon Ages of Some Tertiary Tuffs from Lander and Churchill Counties, Central Nevada, U.S.G.S. Bulletin 1311-B, 28 p.

Oesterling, W.A., 1962, Geothermal power potential of northern Nevada: Southern Pacific Company report. Geologic map of Beowawe and Vicinity, Eureka and Lander Counties, Nevada.



BEOWAWE CROSS SECTIONS

for

CHEVRON OIL COMPANY

SENTURION SCIENCES, INC.

TULSA, U.S.A.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION A-A'

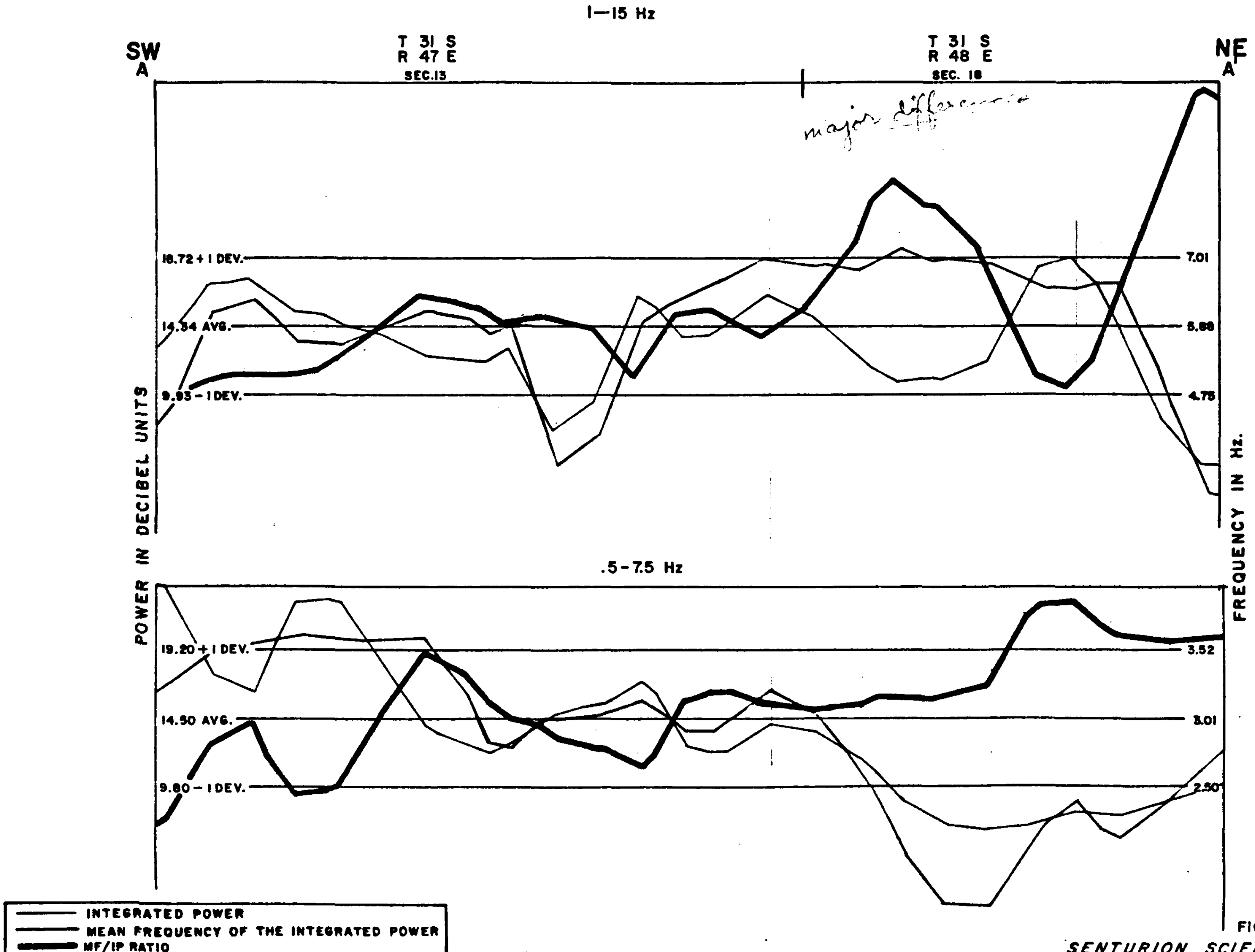


FIGURE 8

SENTURION SCIENCES, INC.

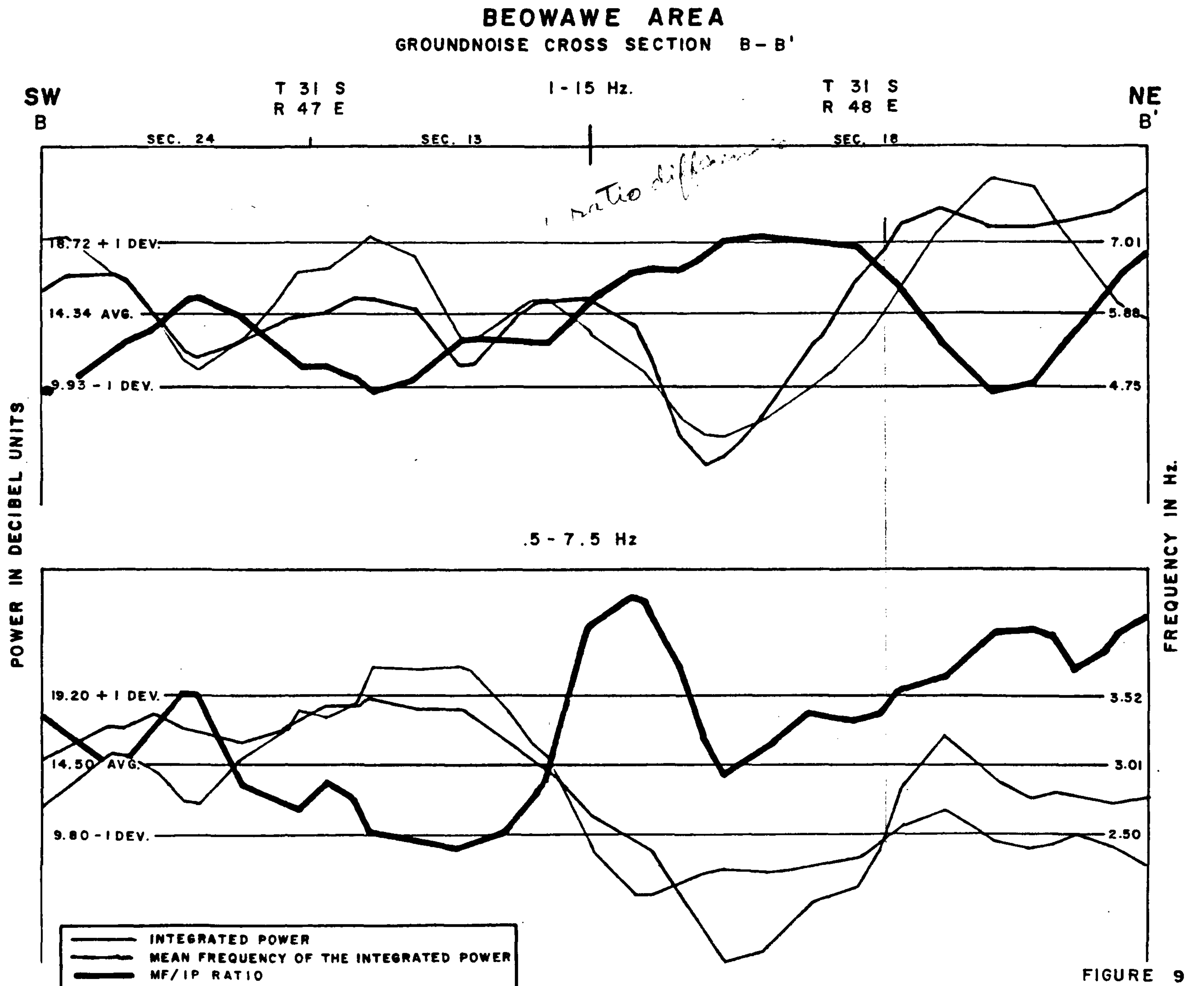


FIGURE 9

SENTURION SCIENCES, INC.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION C - C'

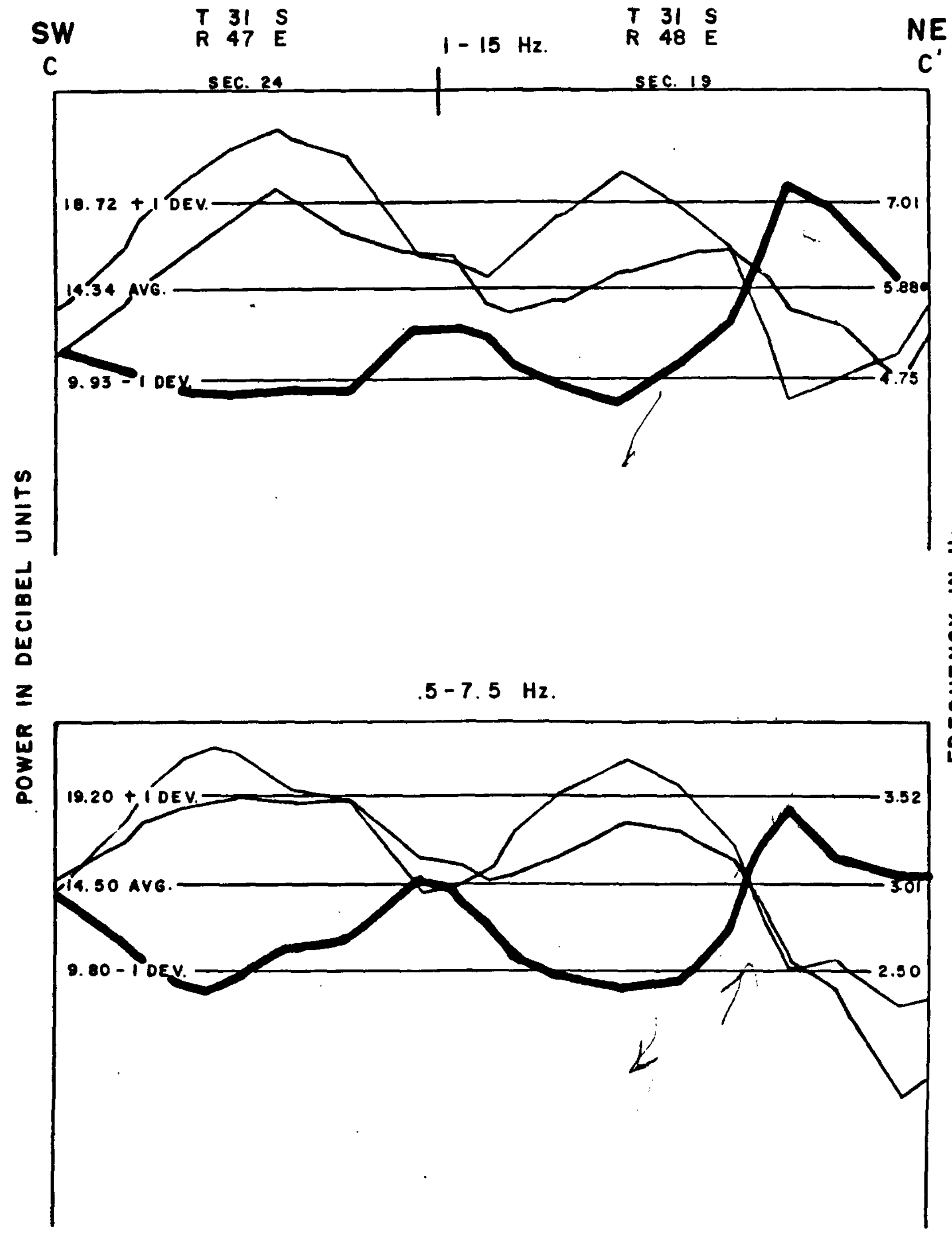


FIGURE 10

SENTURION SCIENCES, INC.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION D-D'

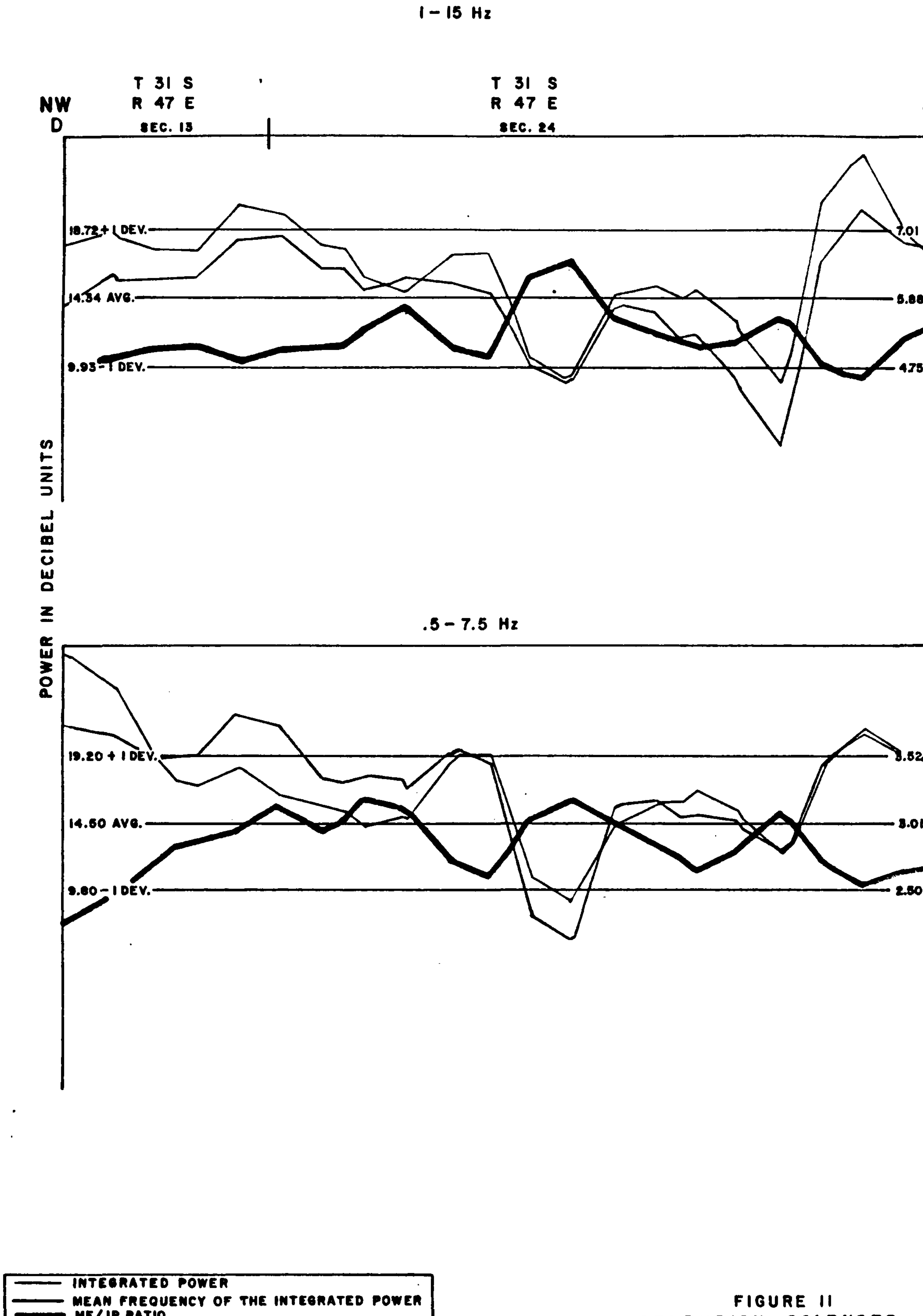


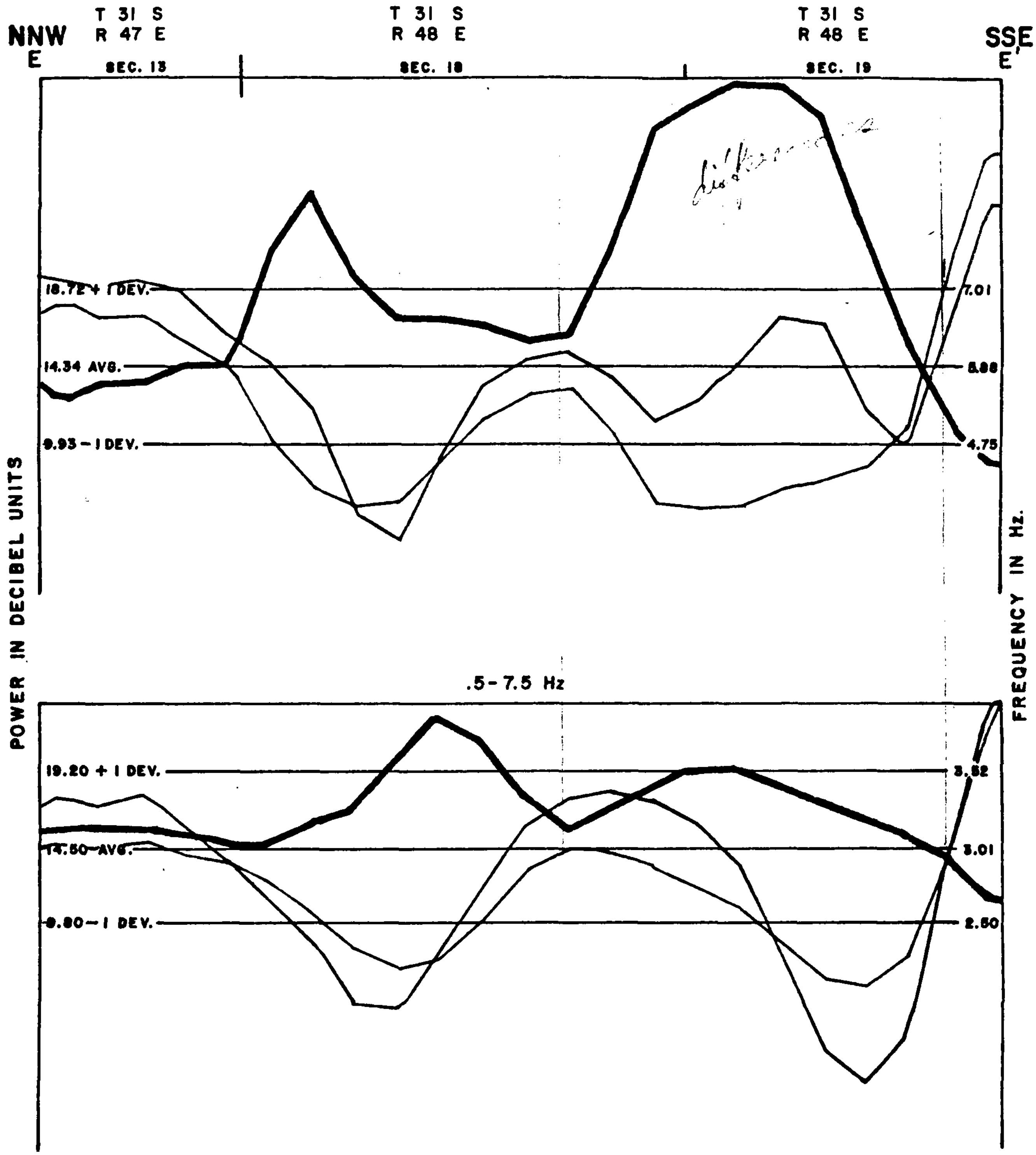
FIGURE II

SENTURION SCIENCES, INC.

BEOWAWE AREA

GROUNDNOISE CROSS SECTION E-E'

1-15 Hz



INTEGRATED POWER
MEAN FREQUENCY OF THE INTEGRATED POWER
MF/IP RATIO

FIGURE 12

SENTURION SCIENCES, INC.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION F-F'

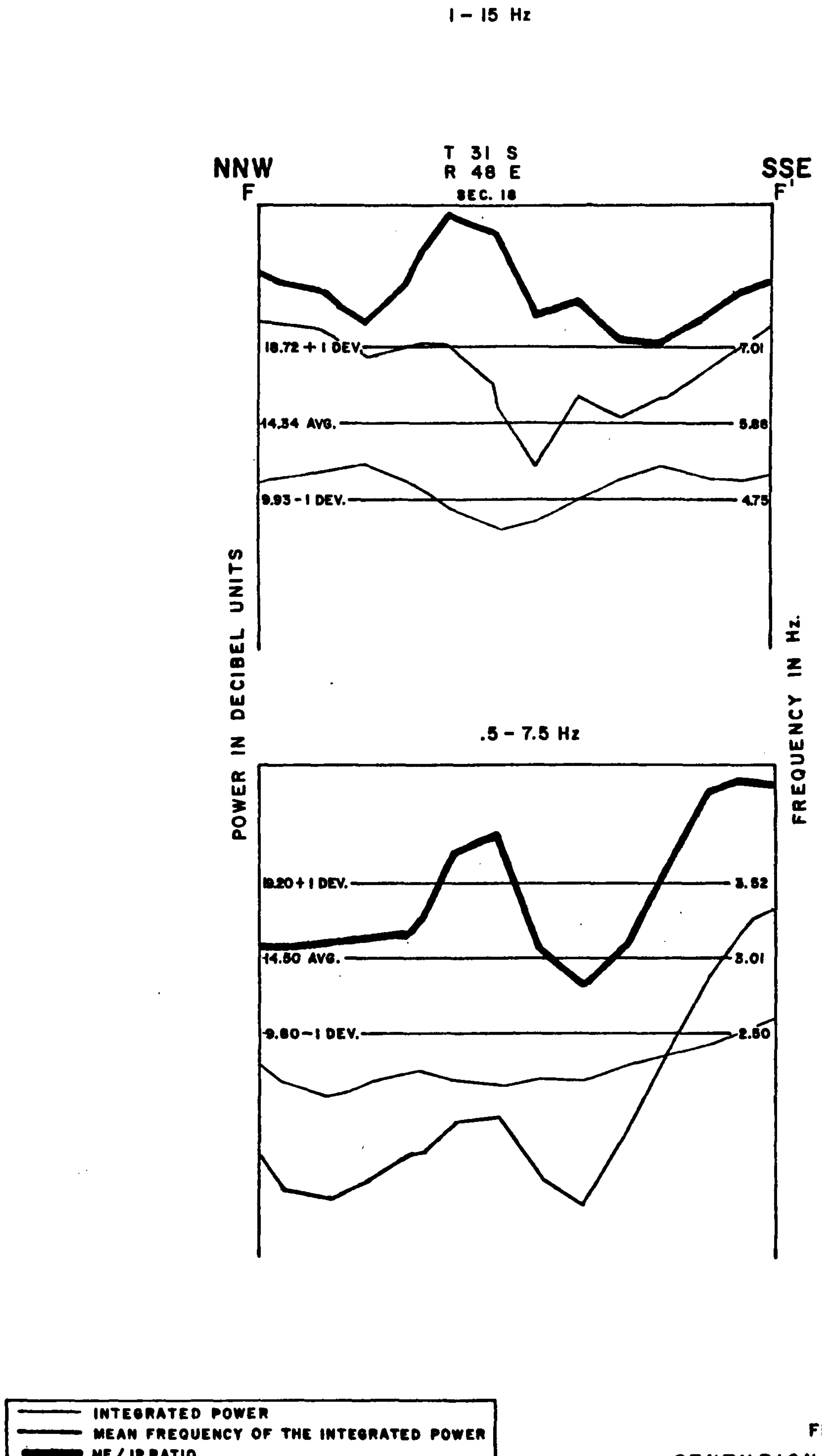


FIGURE 13

SENTURION SCIENCES, INC.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION G-G'

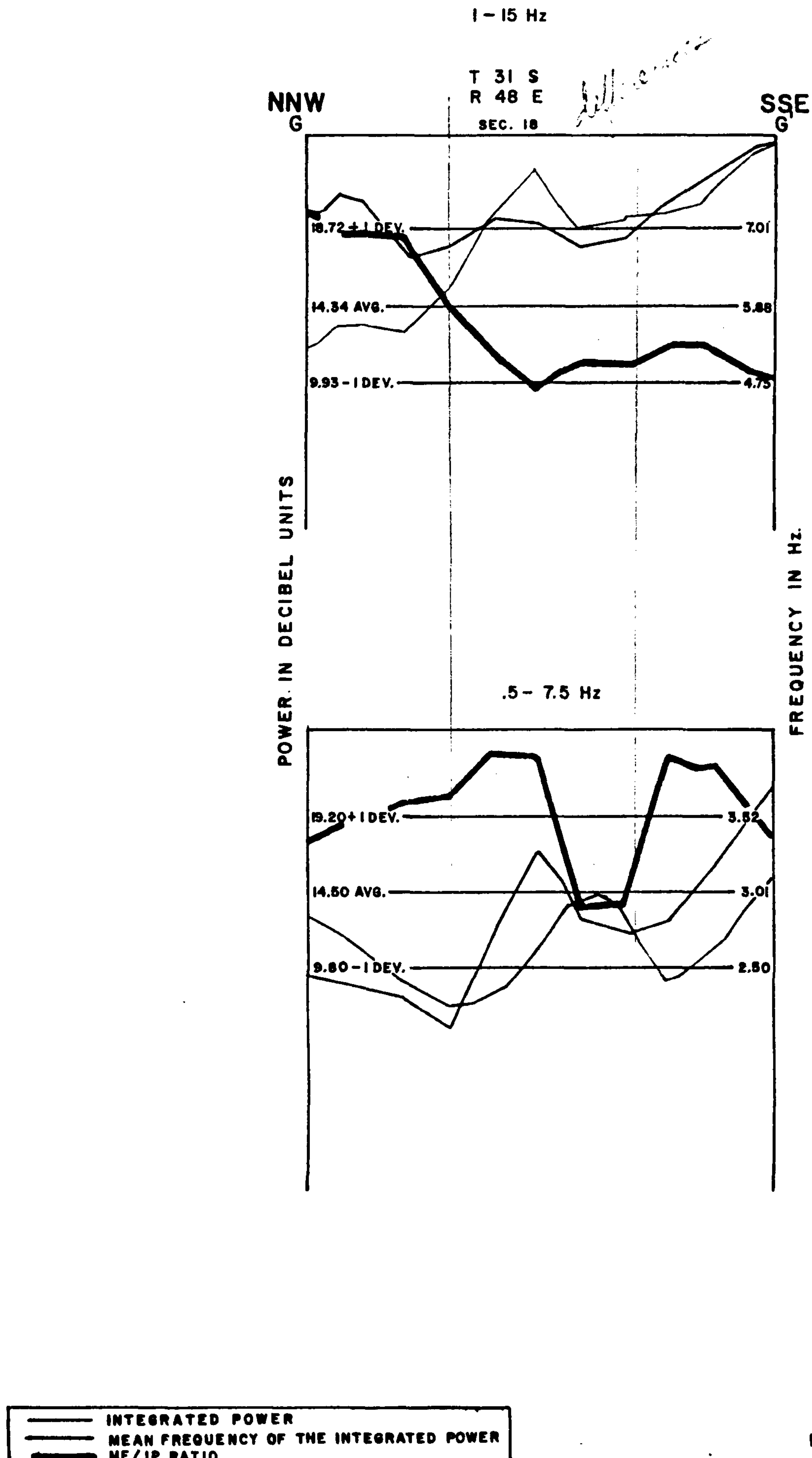


FIGURE 14

SENTURION SCIENCES, INC.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION H-H'

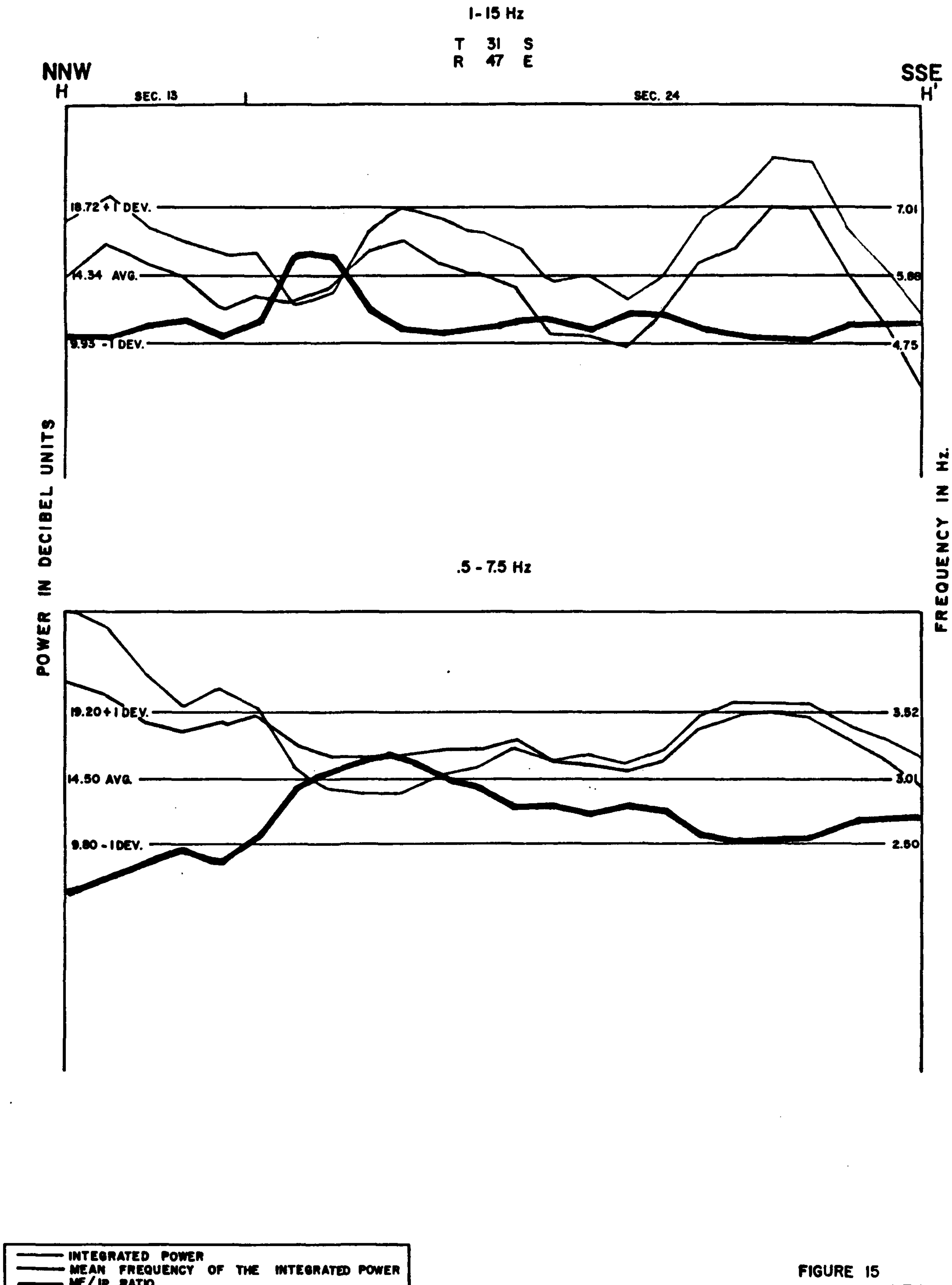


FIGURE 15

SENTURION SCIENCES, INC.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION I-I'

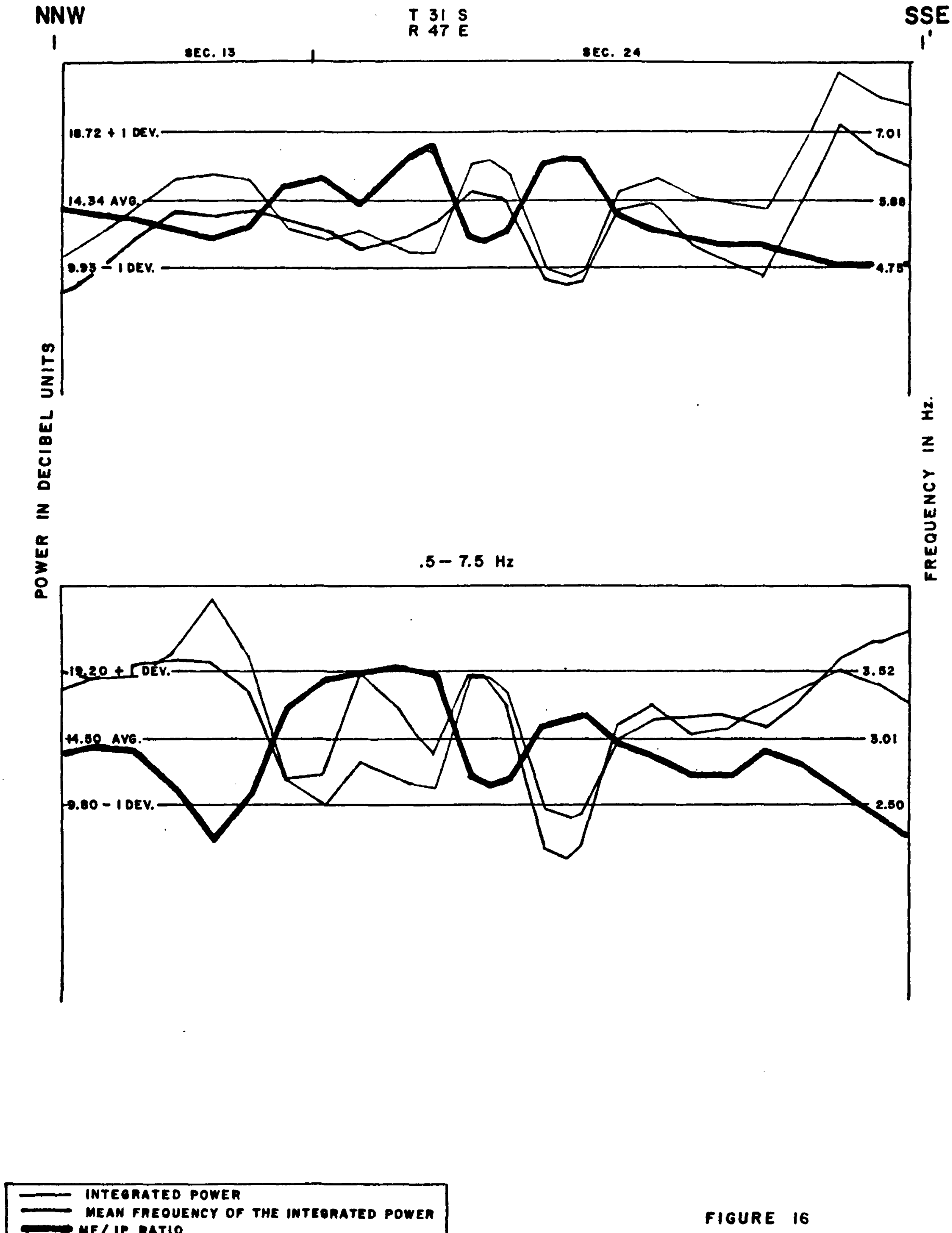


FIGURE 16

SENTURION SCIENCES, INC.

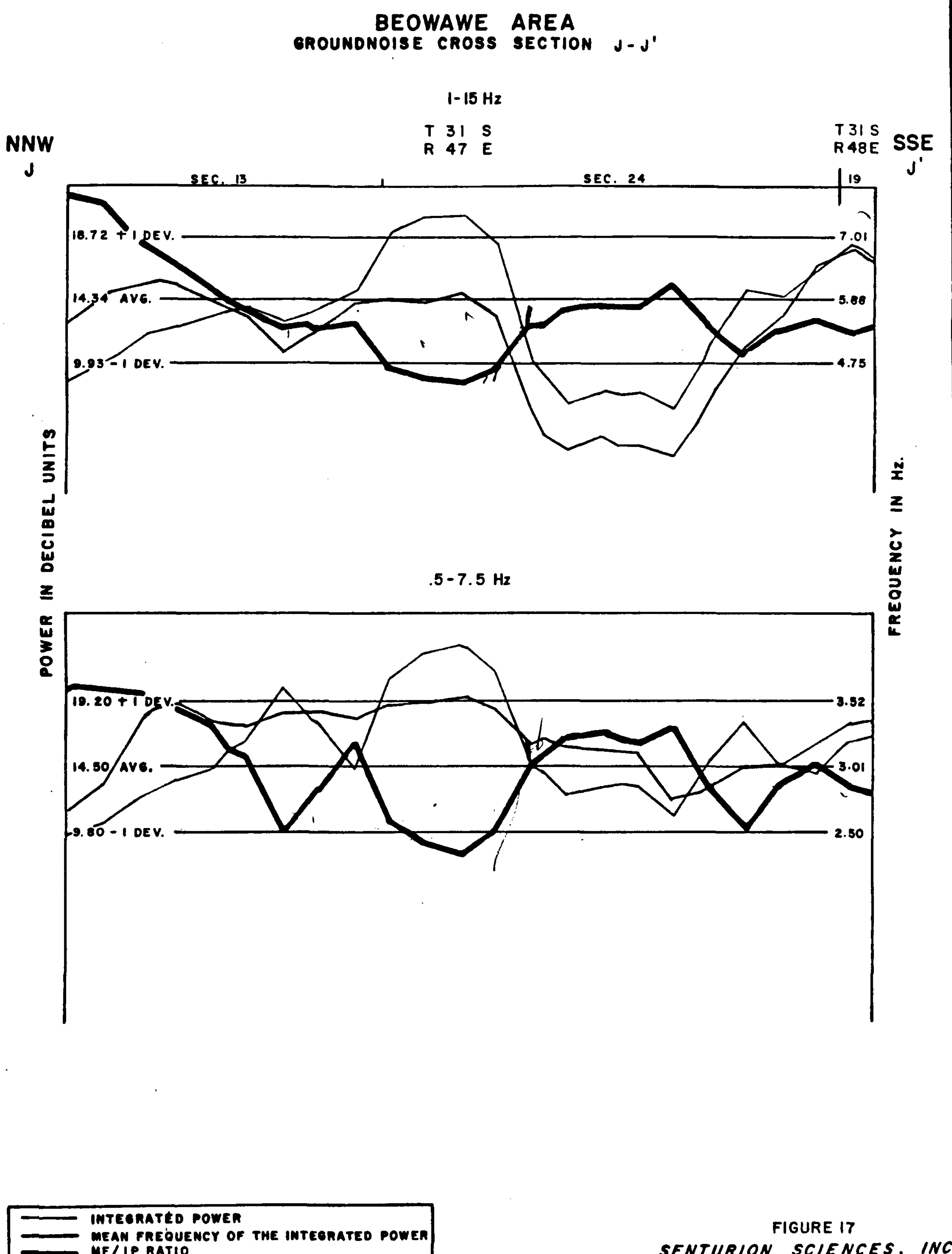


FIGURE 17

SENTURION SCIENCES, INC.

BEOWAWE AREA

GROUNDNOISE CROSS SECTION K-K'

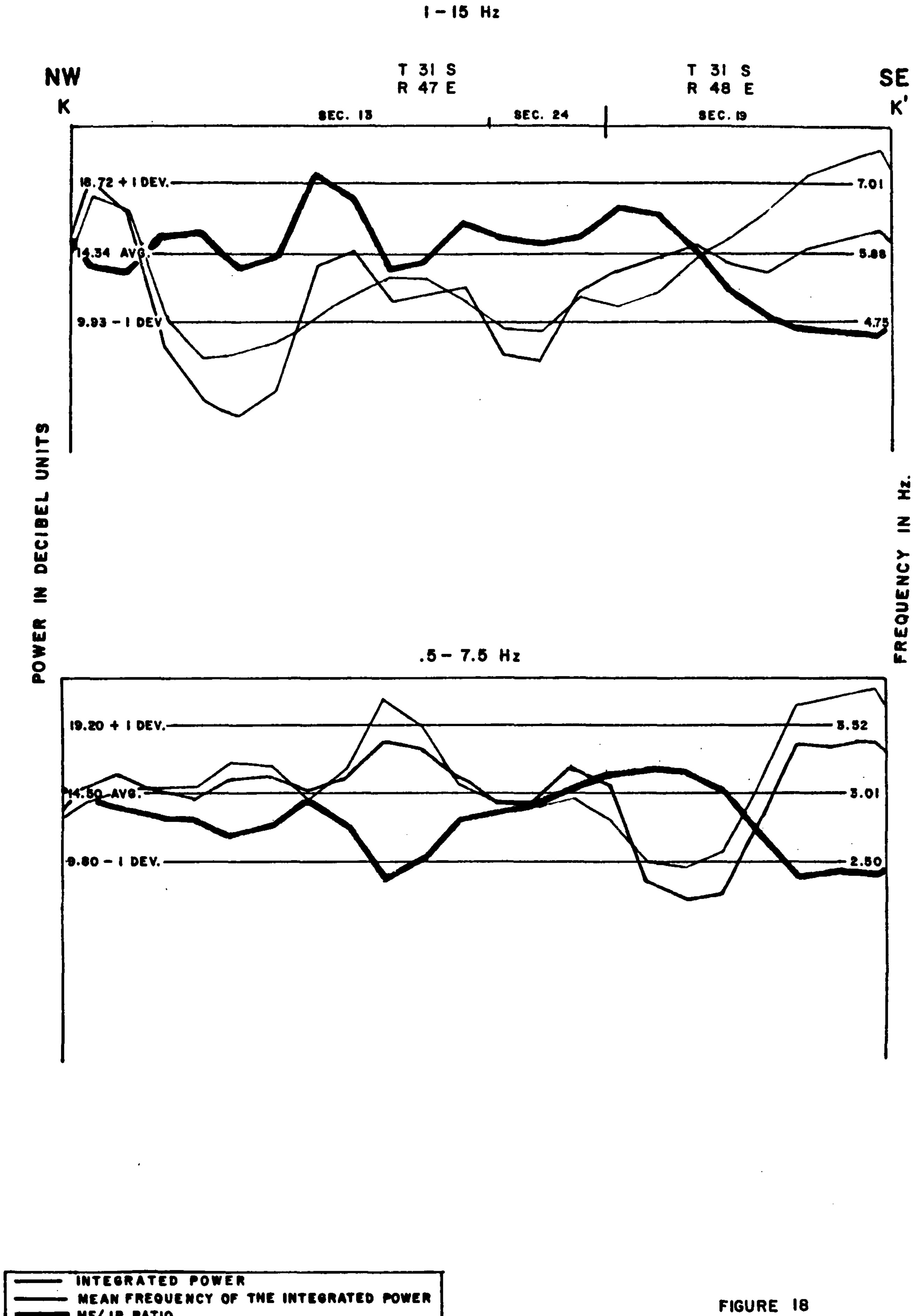


FIGURE 18

SENTURION SCIENCES, INC.

BEOWAWE AREA

GROUNDNOISE CROSS SECTION L - L'

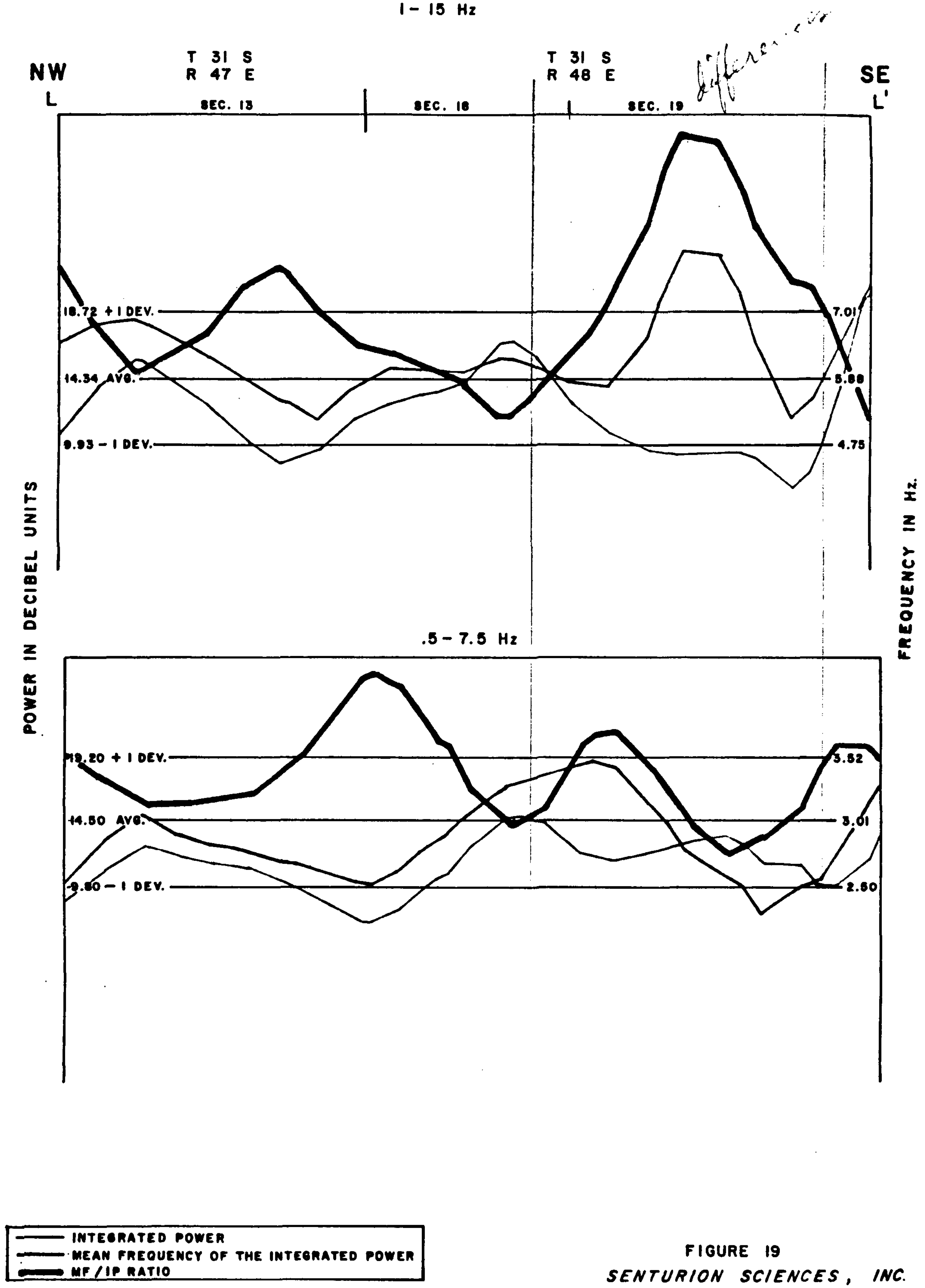
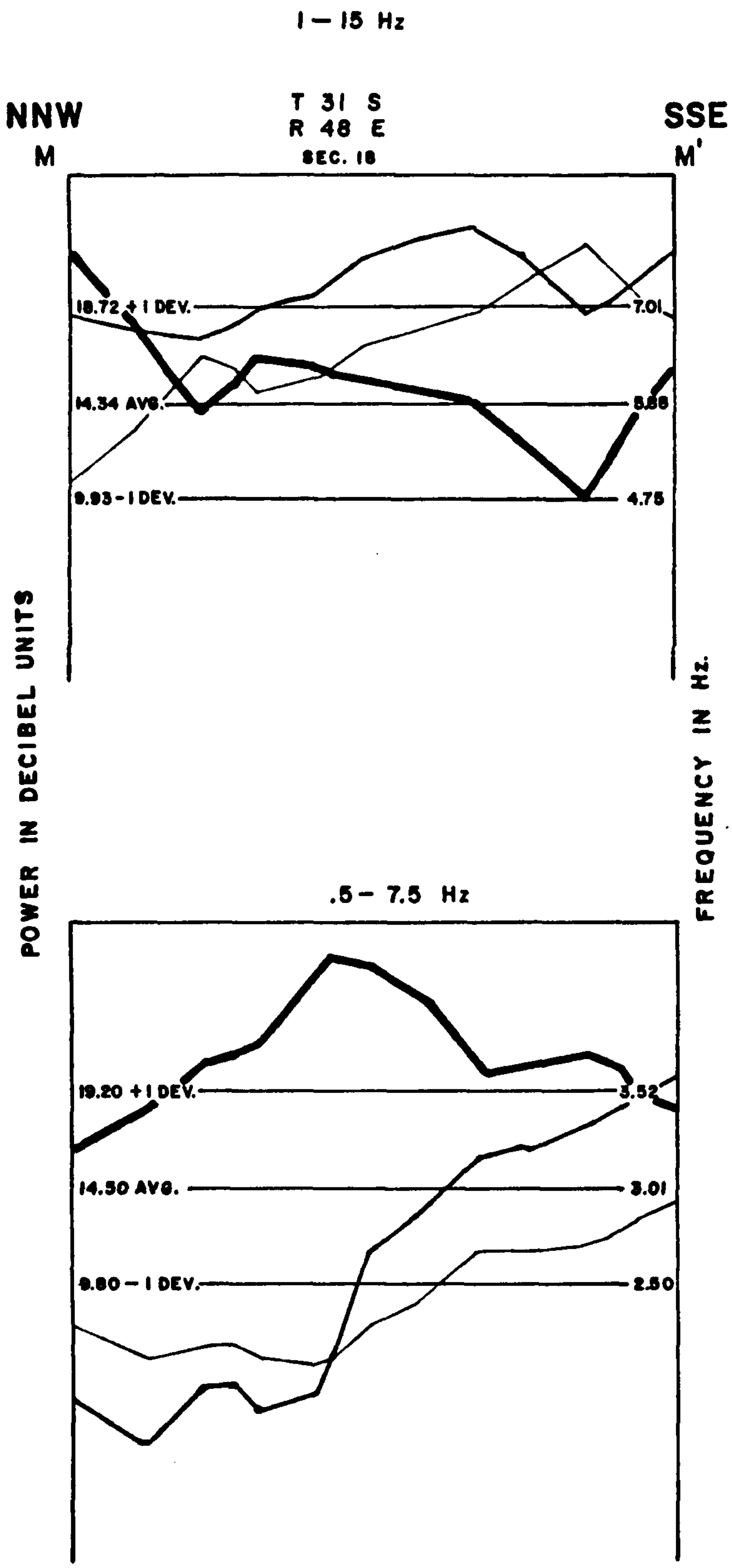


FIGURE 19

SENTURION SCIENCES, INC.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION M-M'



INTEGRATED POWER
MEAN FREQUENCY OF THE INTEGRATED POWER
MF/IP RATIO

FIGURE 20
SENTURION SCIENCES, INC.

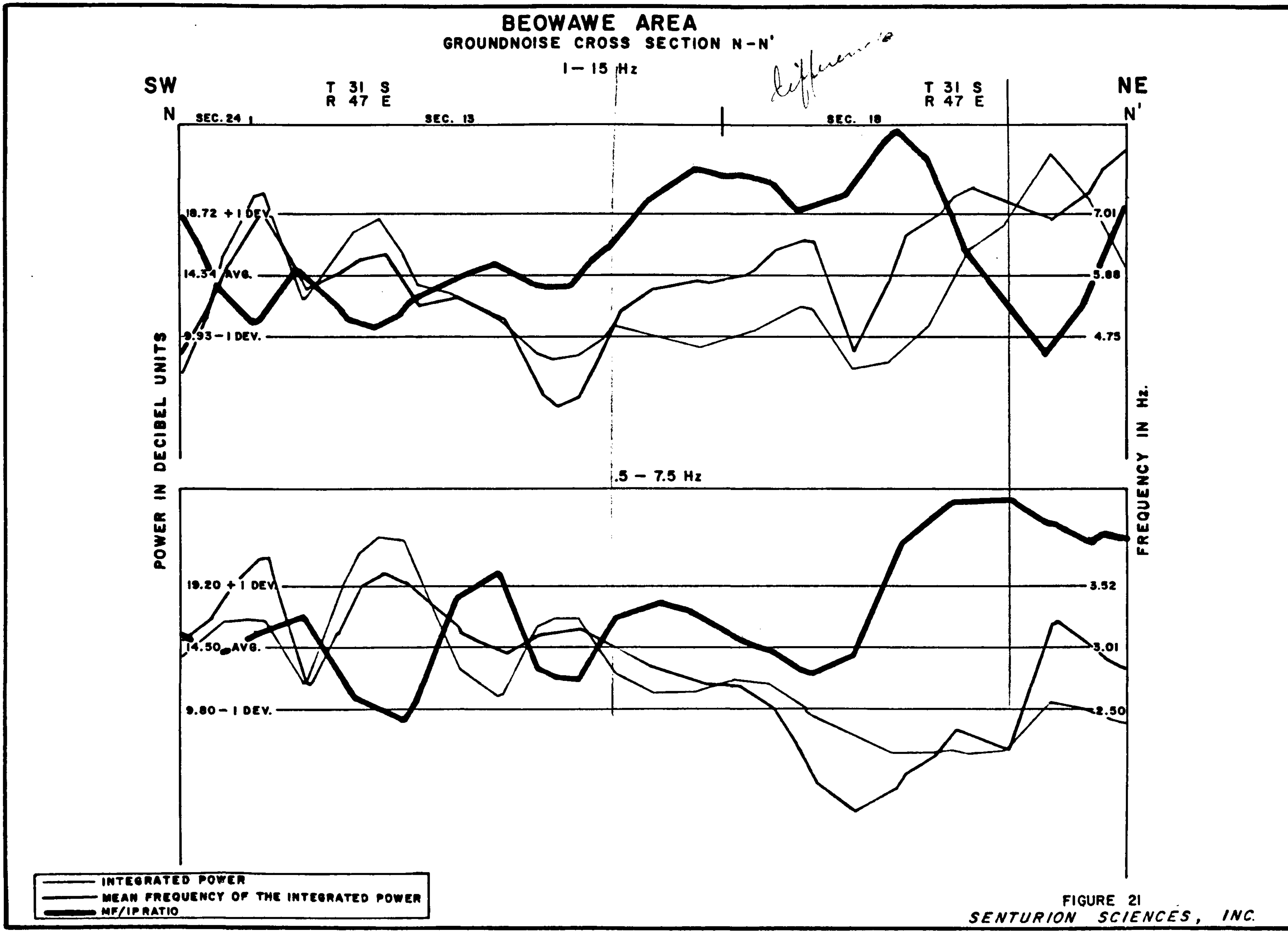


FIGURE 21
SENTURION SCIENCES, INC.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION O-O'

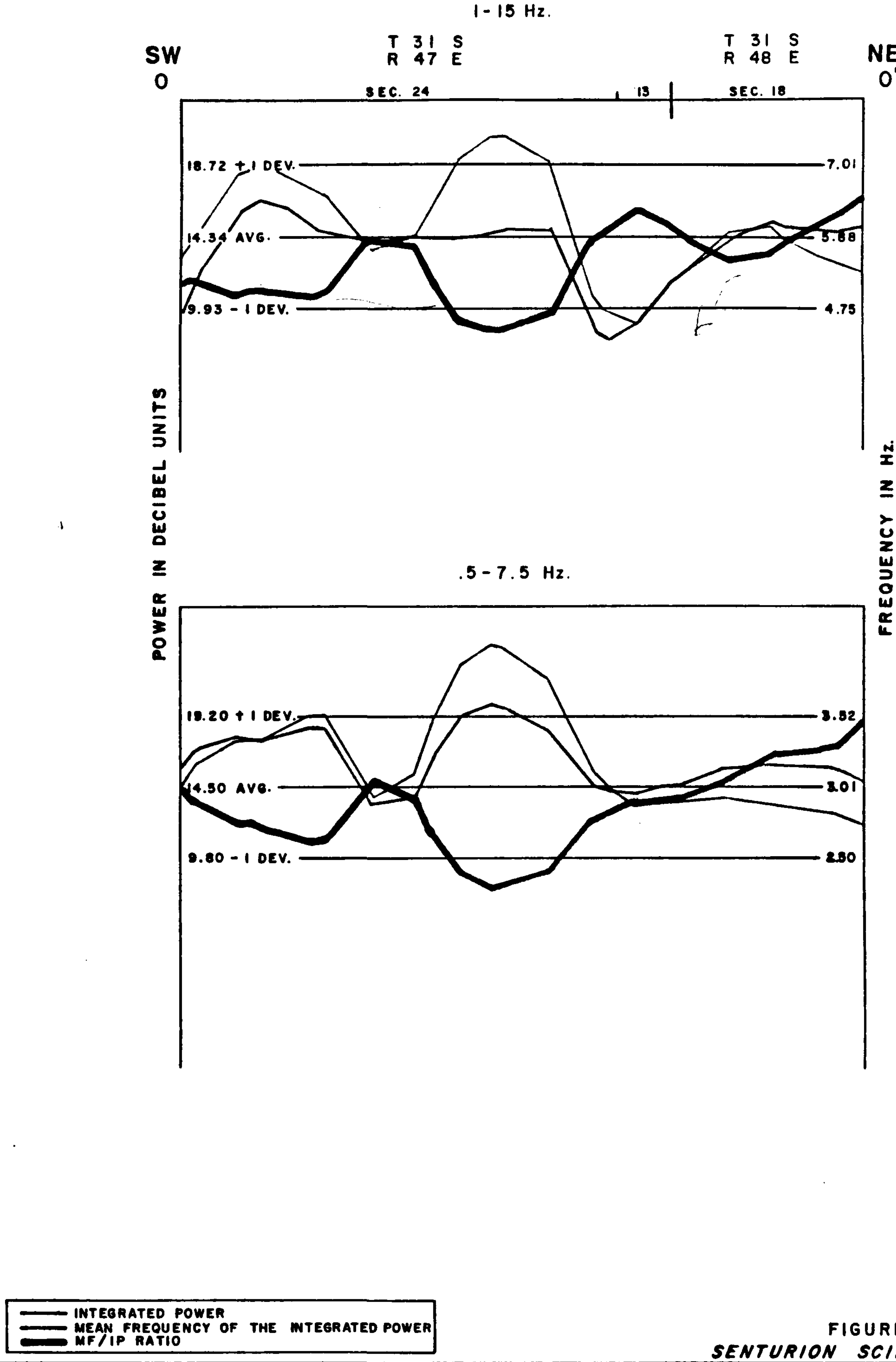


FIGURE 22

SENTURION SCIENCES, INC.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION P-P'

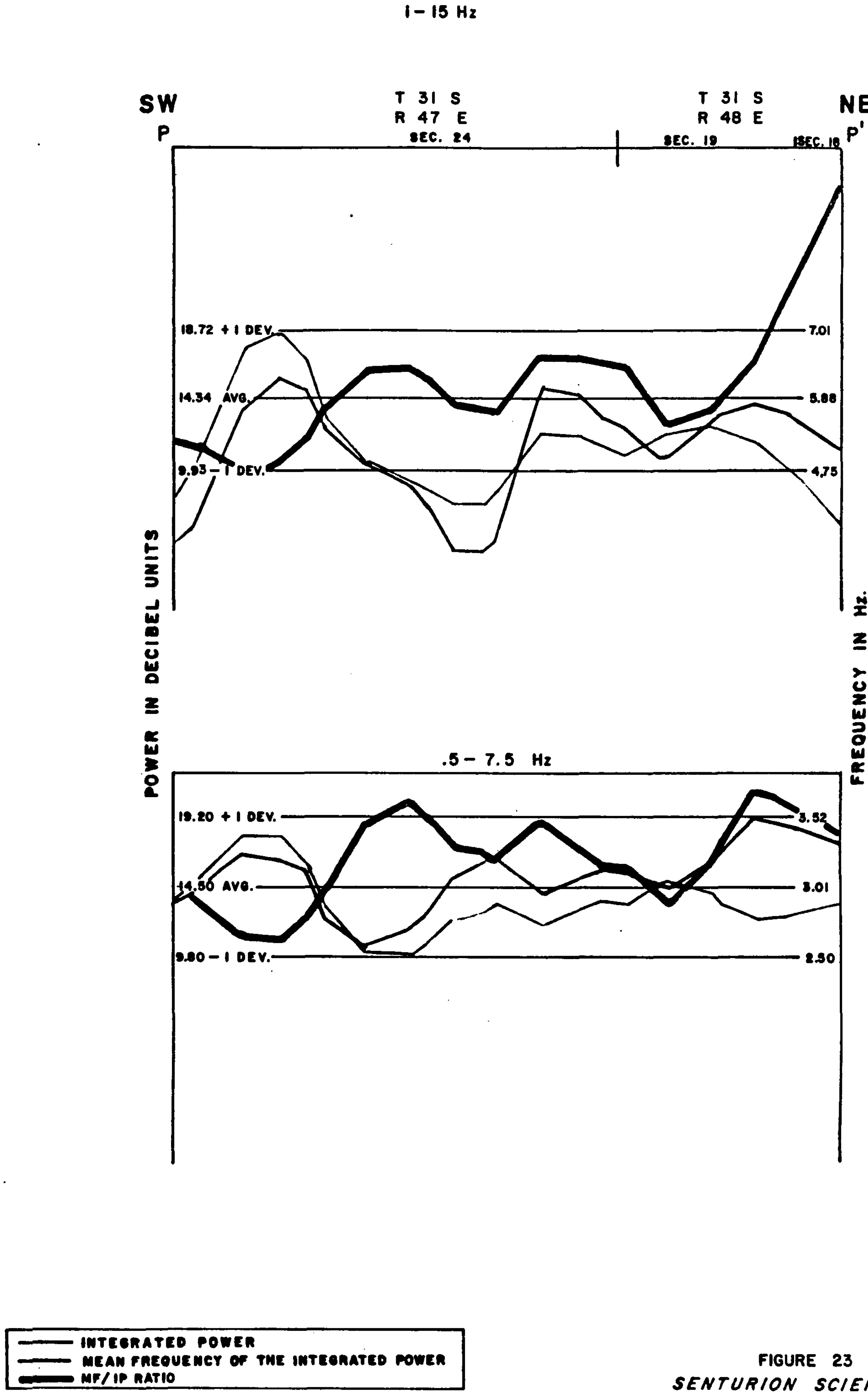
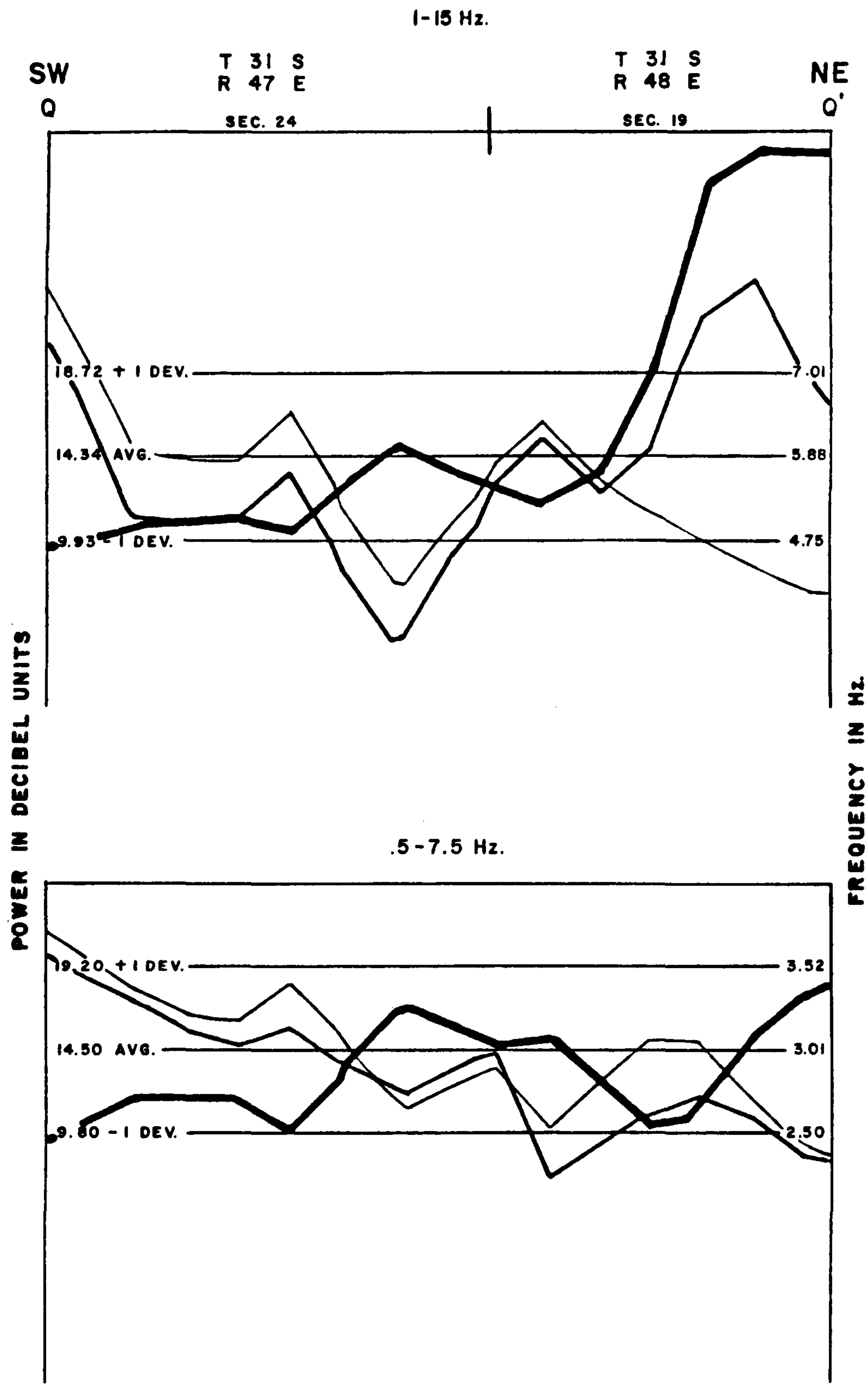


FIGURE 23

SENTURION SCIENCES, INC.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION, Q-Q'



INTEGRATED POWER
MEAN FREQUENCY OF THE INTEGRATED POWER
MF/IP RATIO

FIGURE 24

SENTURION SCIENCES, INC.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION R-R'
1 - 15 Hz

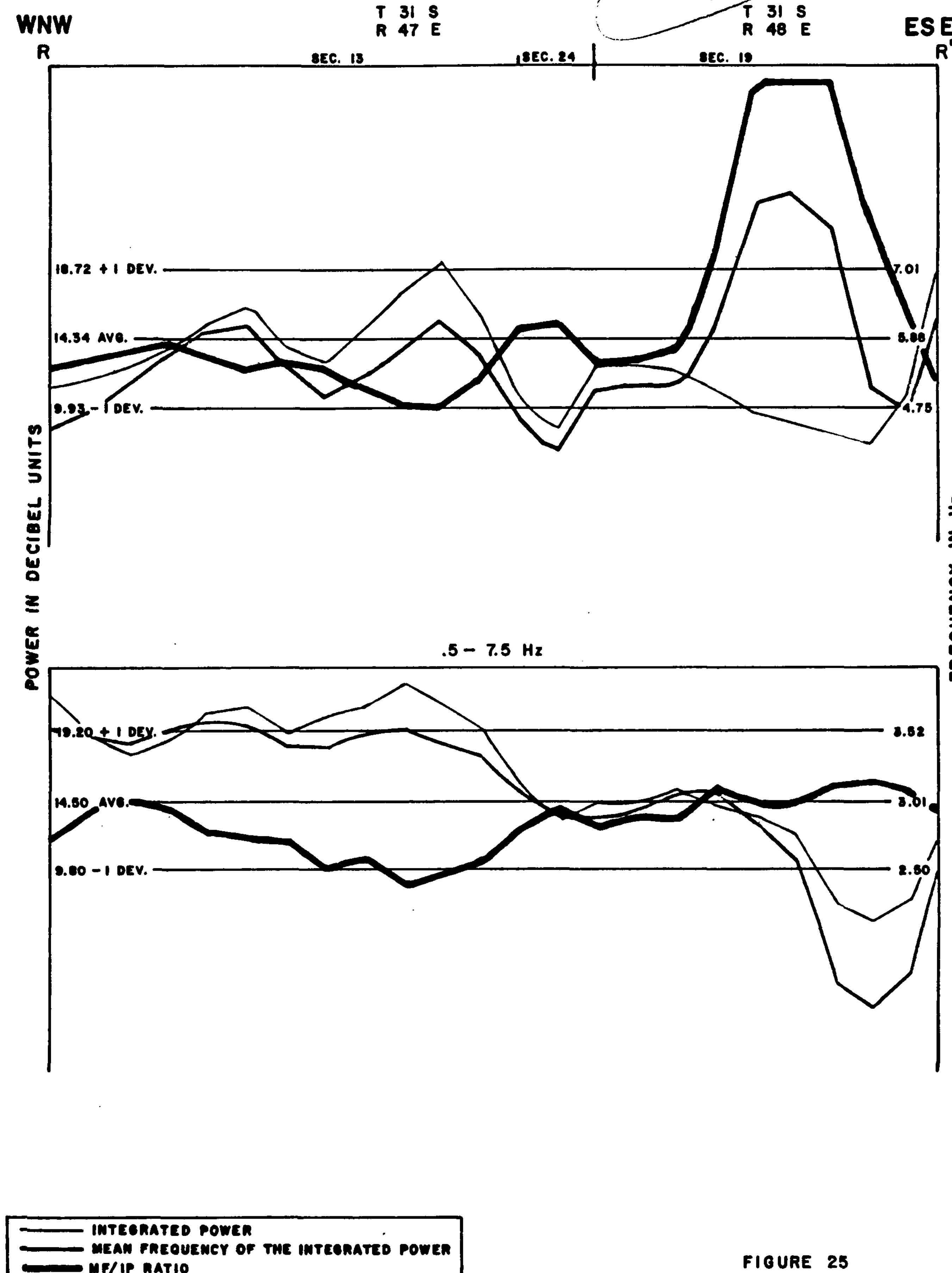


FIGURE 25
SENTURION SCIENCES, INC.

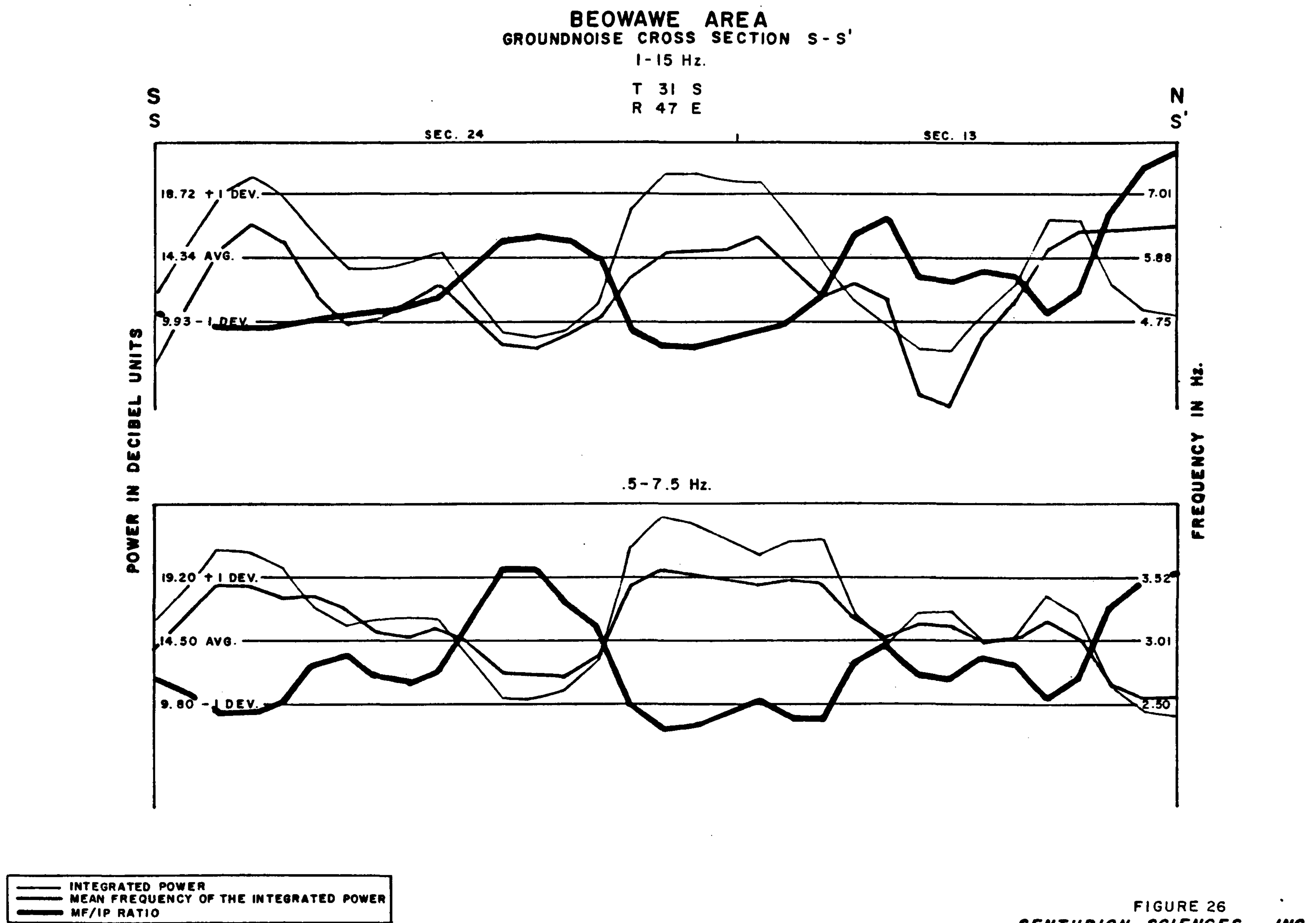


FIGURE 26
SENTURION SCIENCES, INC.

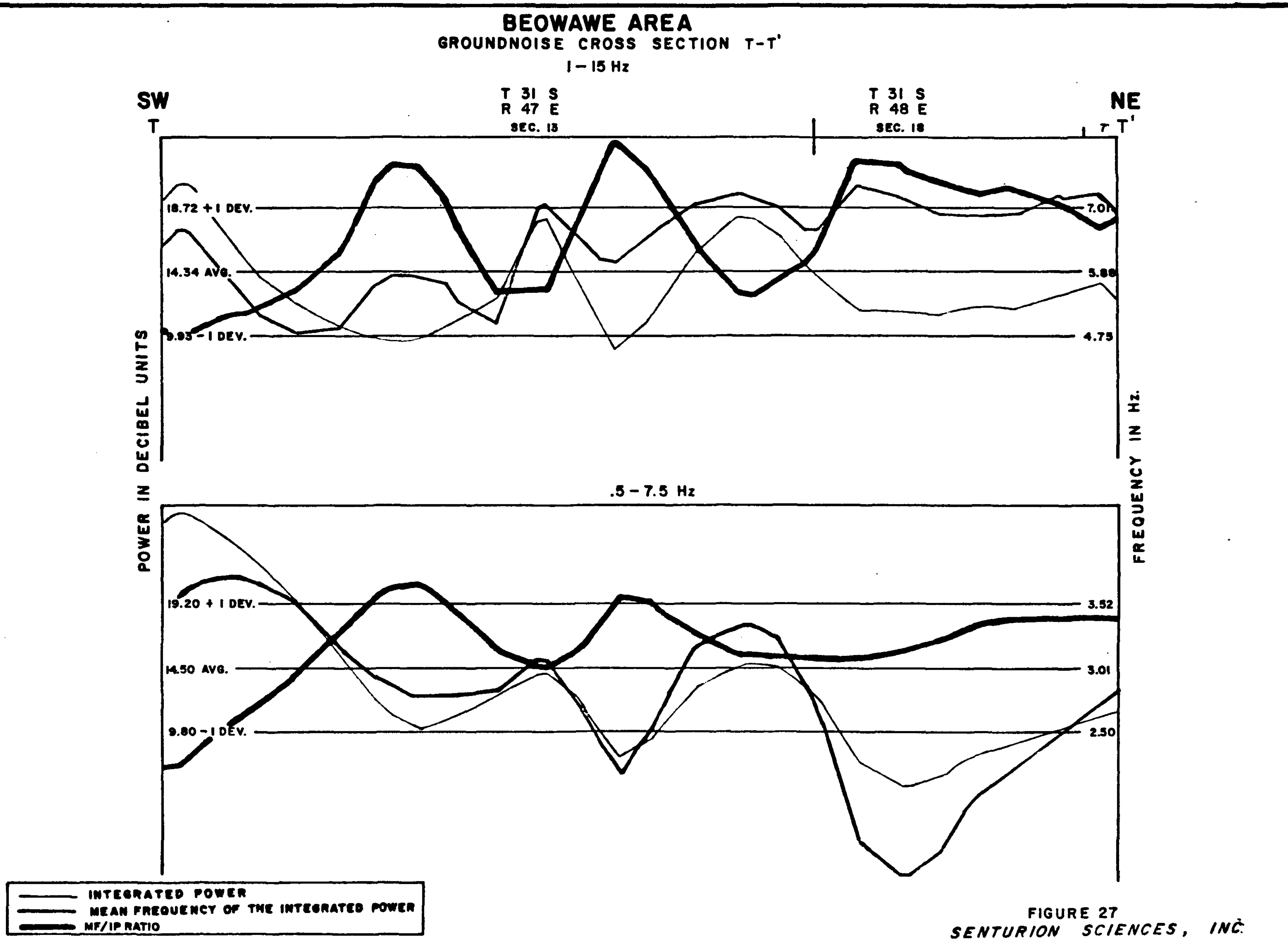


FIGURE 27
SENTURION SCIENCES, INC.

APPENDIX 1a

BEOWAWE, NEVADA

INTEGRATED POWER/MEAN FREQUENCY

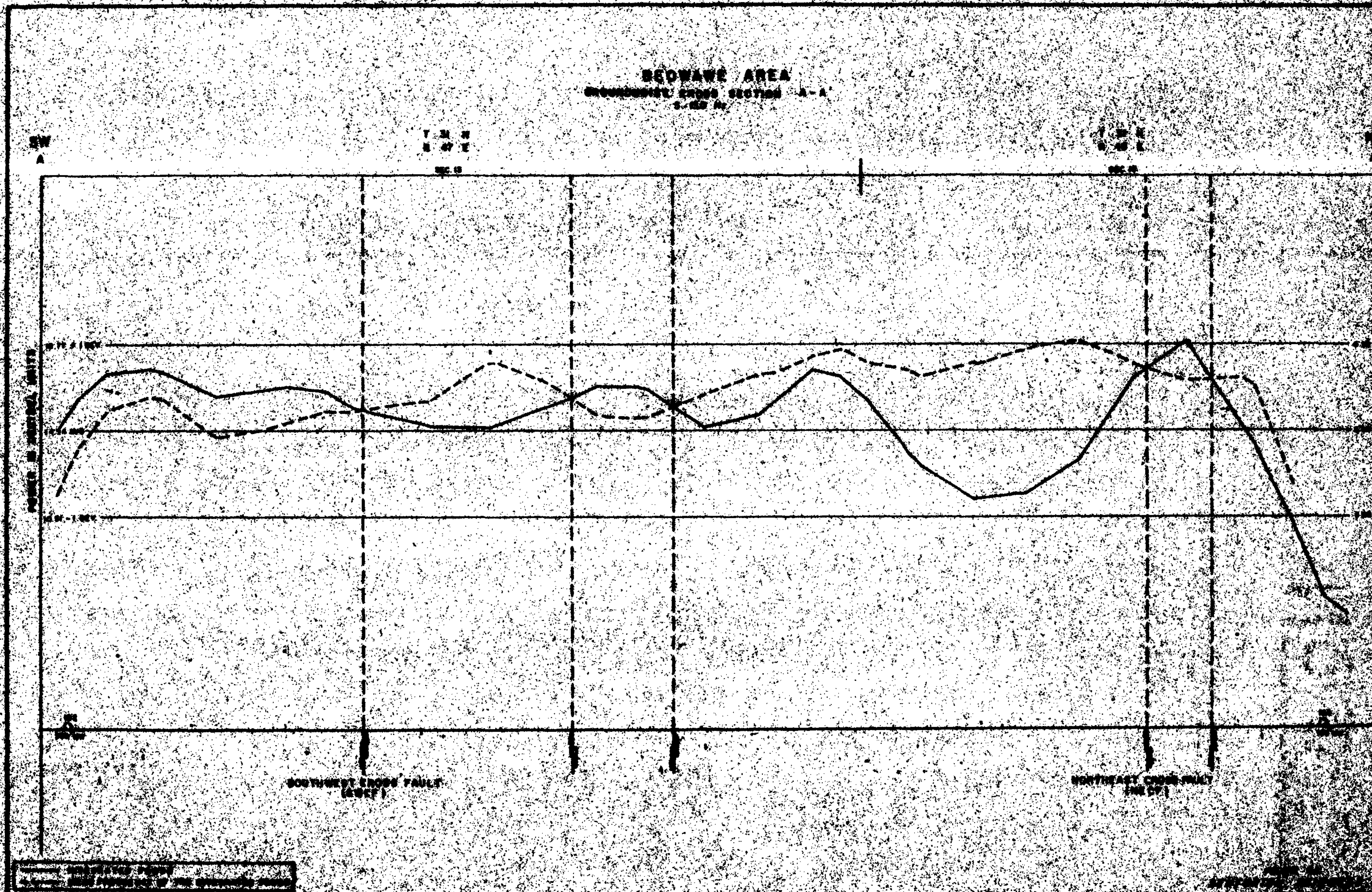
CROSS SECTIONS

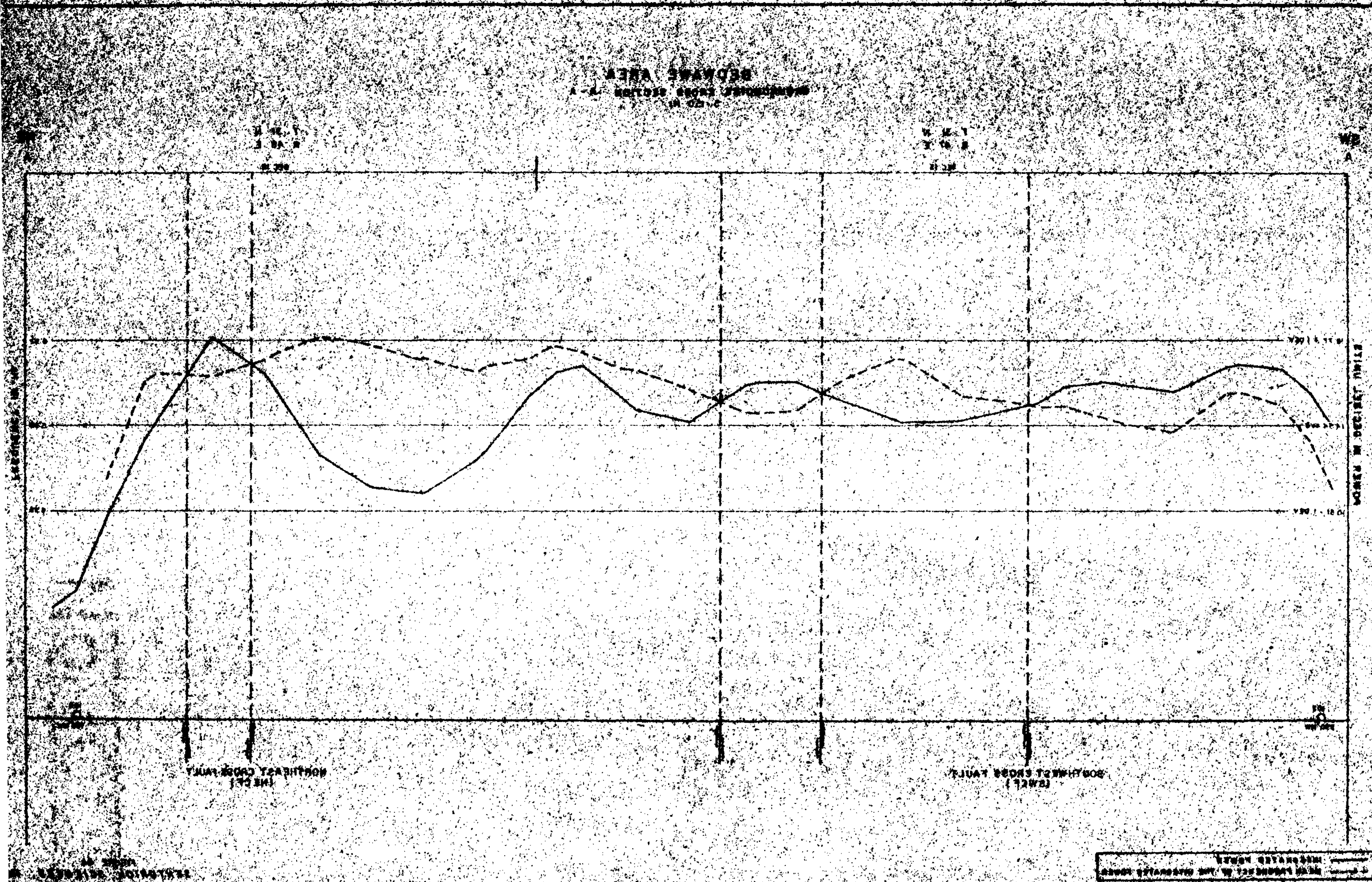
SENTURION SCIENCES, INC.

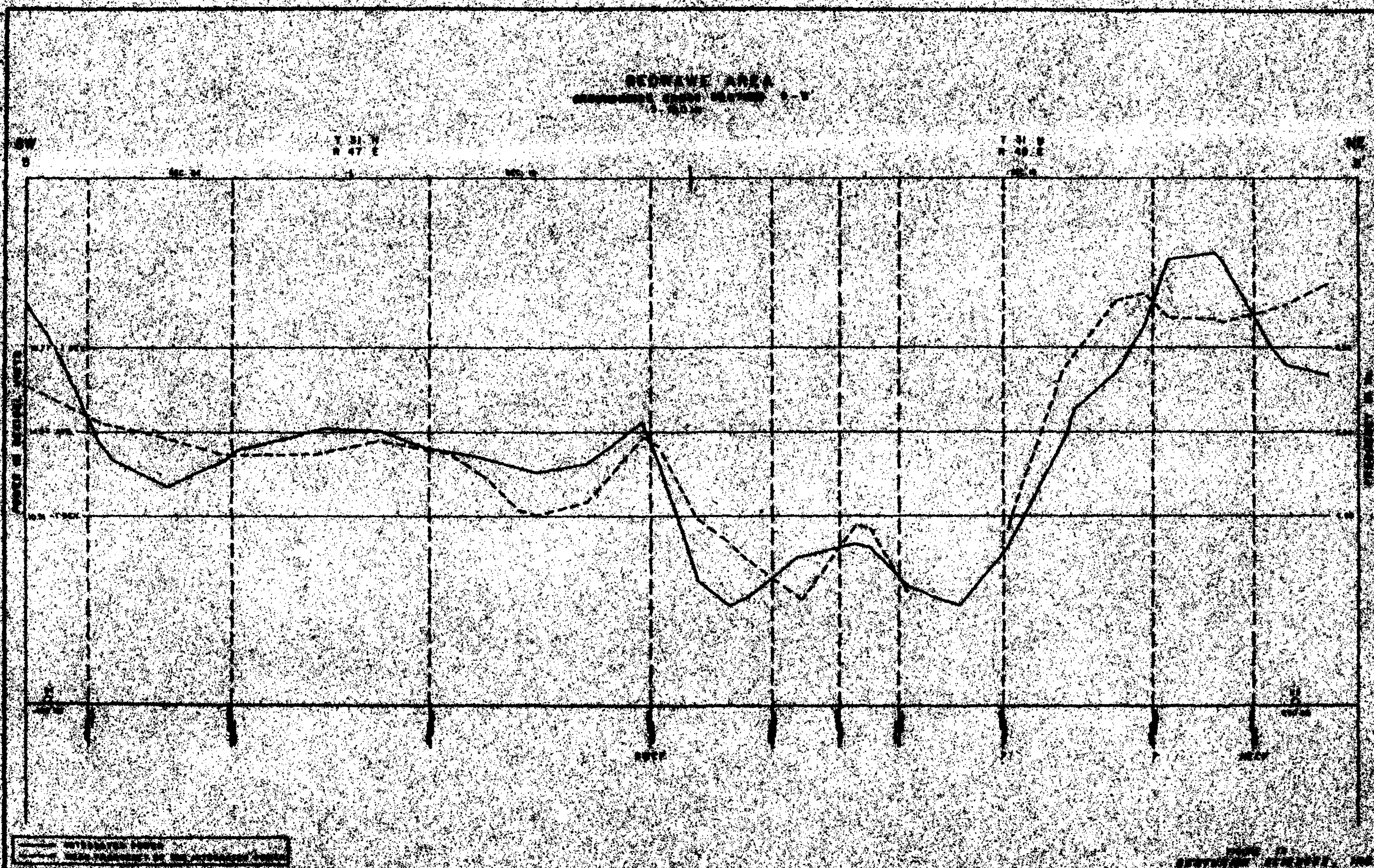
TULSA, U.S.A.

SENTURION SCIENCES, INC.

1539 NORTH 105TH EAST AVENUE, TULSA, OKLAHOMA
P.O. BOX 15447, TULSA, OKLAHOMA 74115
PHONE (918) 836-6746


BEOWAWE AREA
SW
A
SOUTHWEST CROSS FAULT
NORTHEAST CROSS FAULT

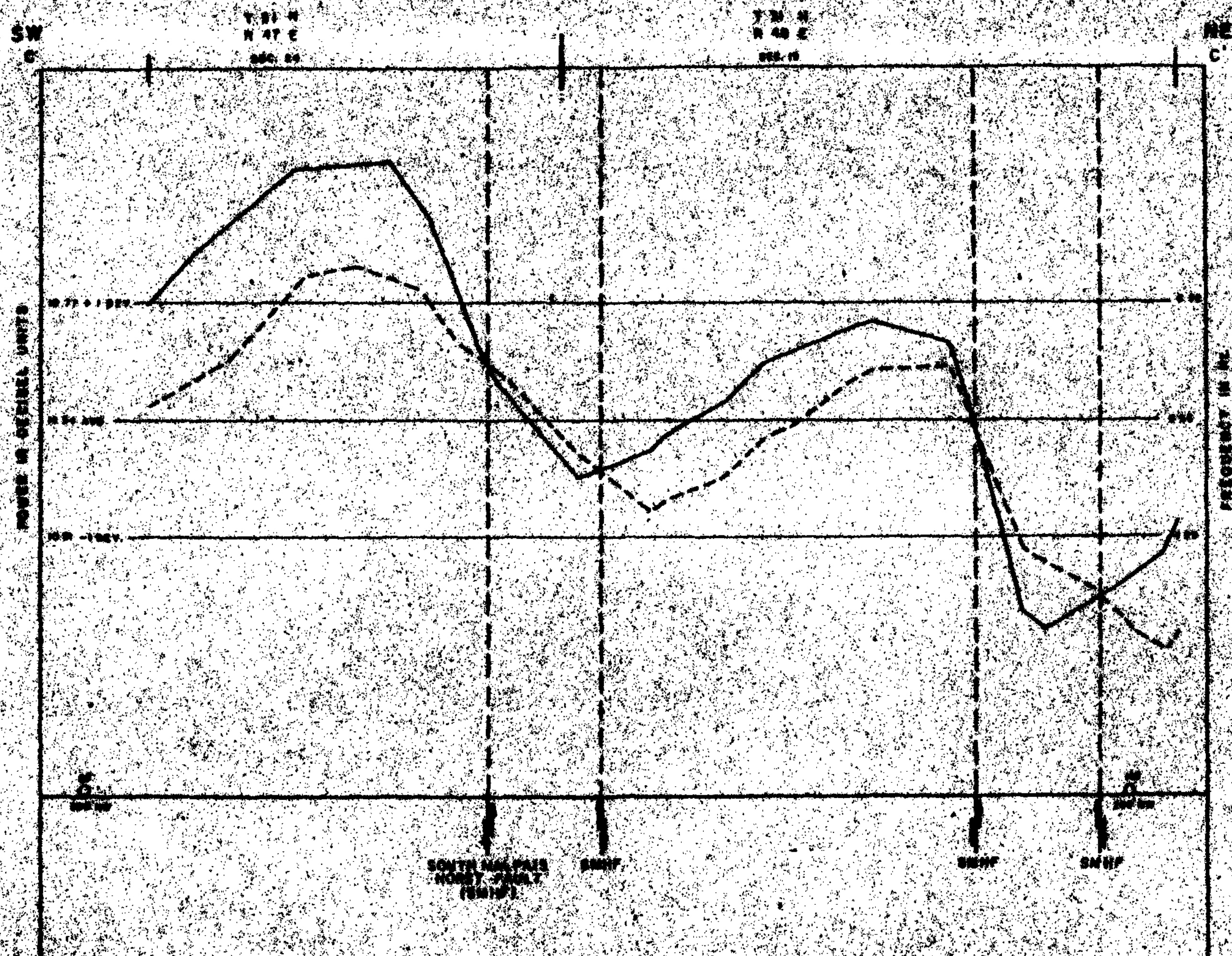




REDWAVE AREA
SW
T 31 N
R 47 E
T 31 N
R 48 E
NE

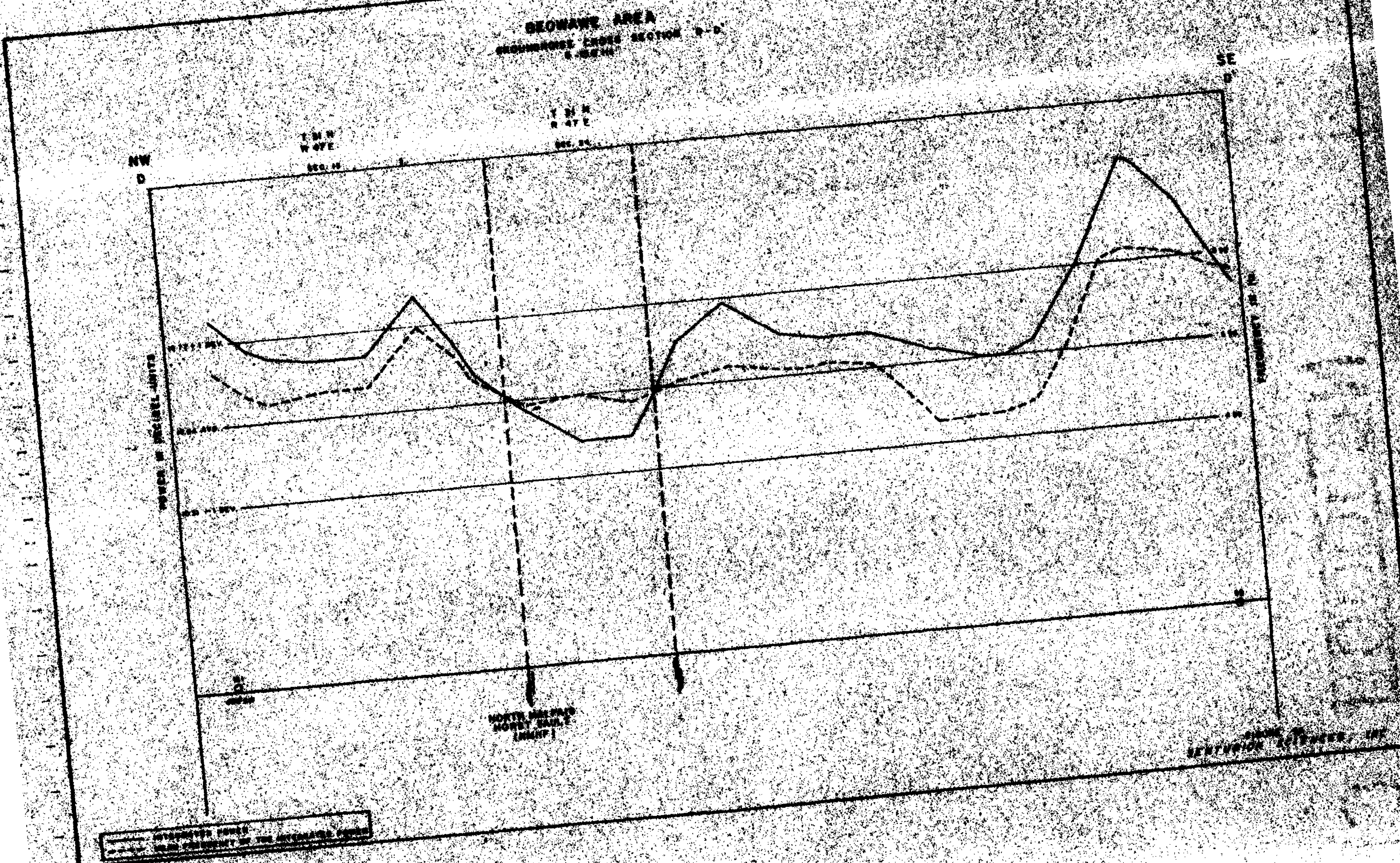
SEDWANE AREA

GROUNDNOISE CROSS SECTION C-C'

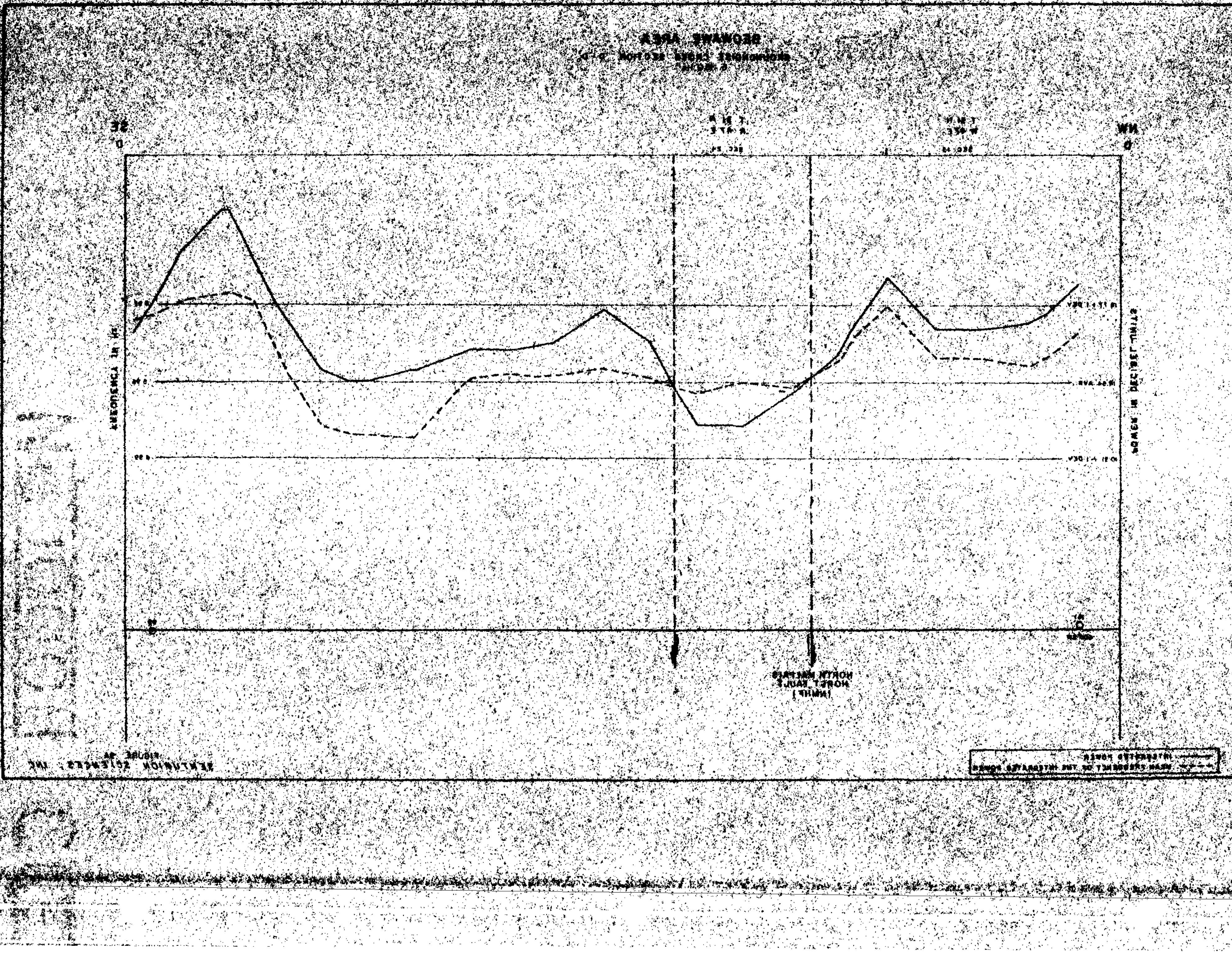


INTEGRATED POWER
MEAN FREQUENCY OF THE INTEGRATED POWER

CENTURION SCIENCES, INC.



BEOWAWE AREA
NW
D
SE
D'
POWER IN DECIBEL UNITS
FREQUENCY IN Hz



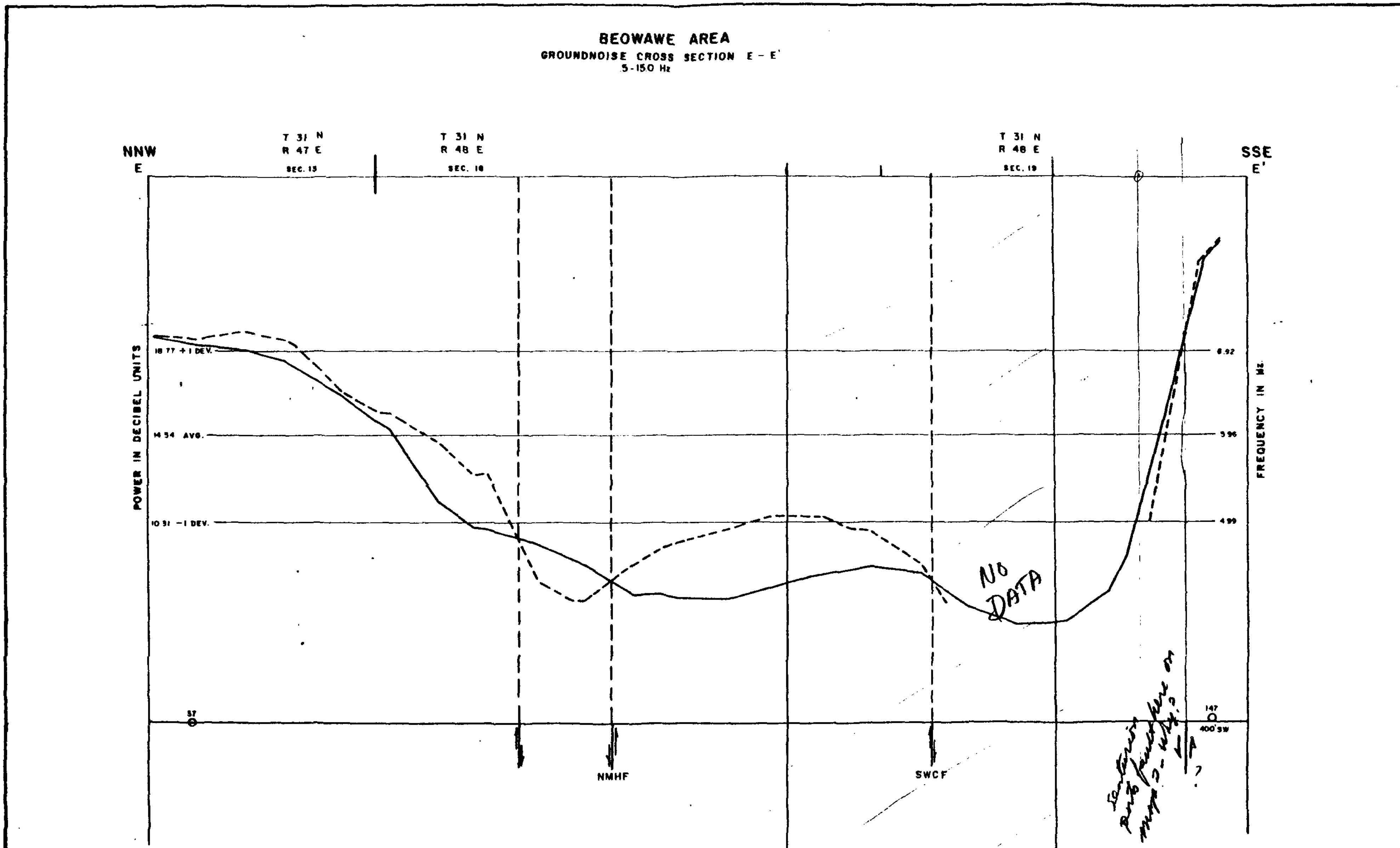
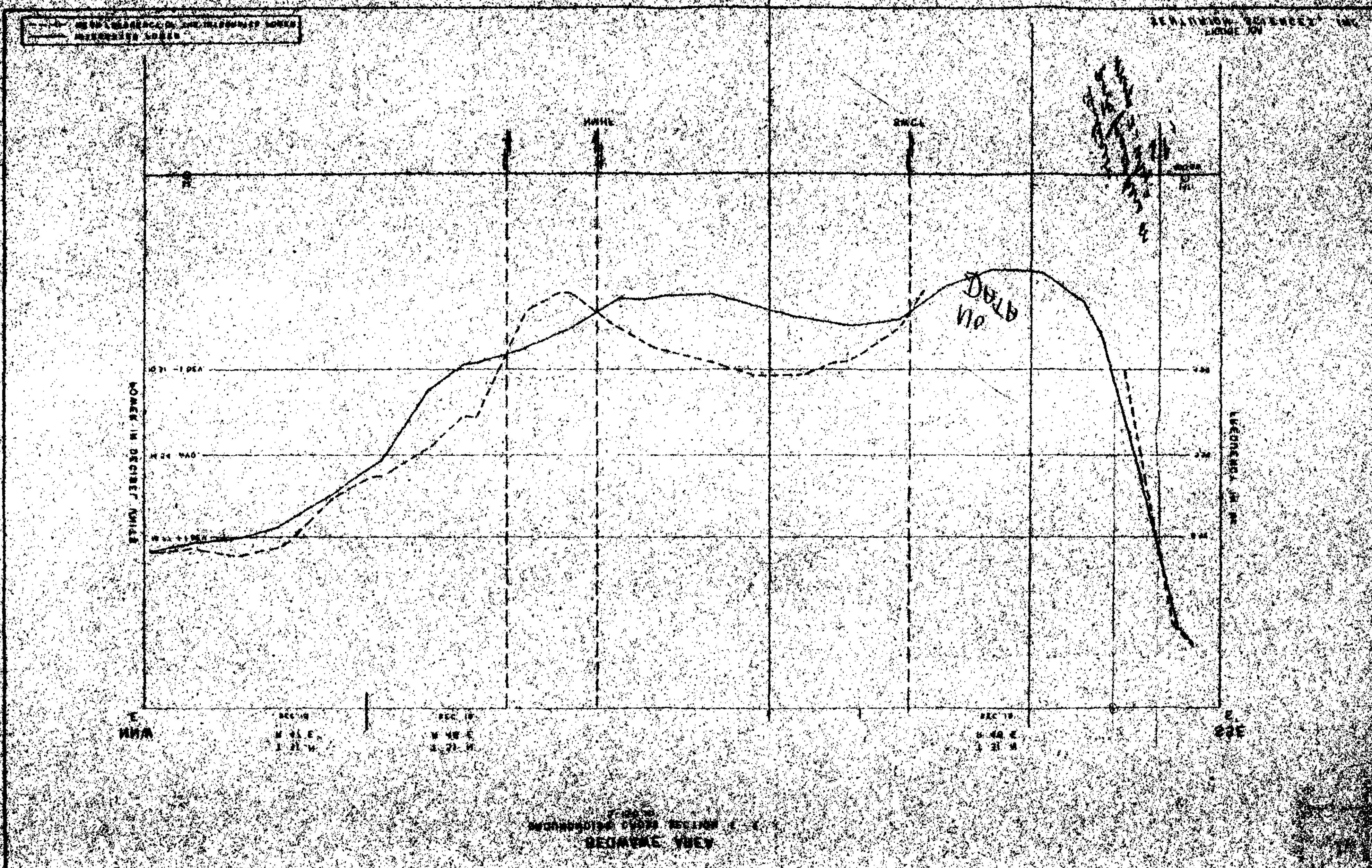


FIGURE 10A
SENTURION SCIENCES, INC.



BEOWAWE AREA
GROUNDNOISE CROSS SECTION F-F'

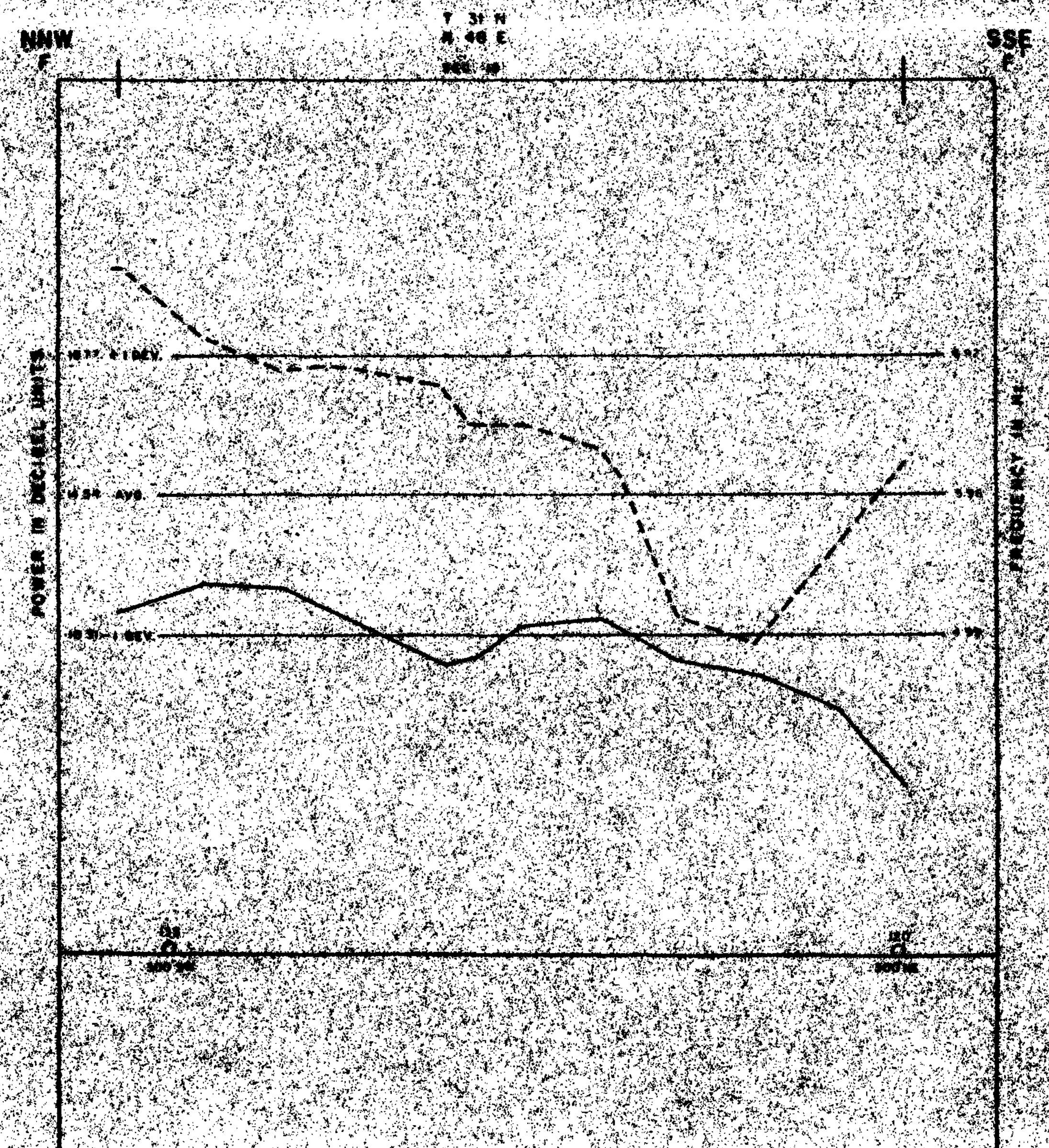
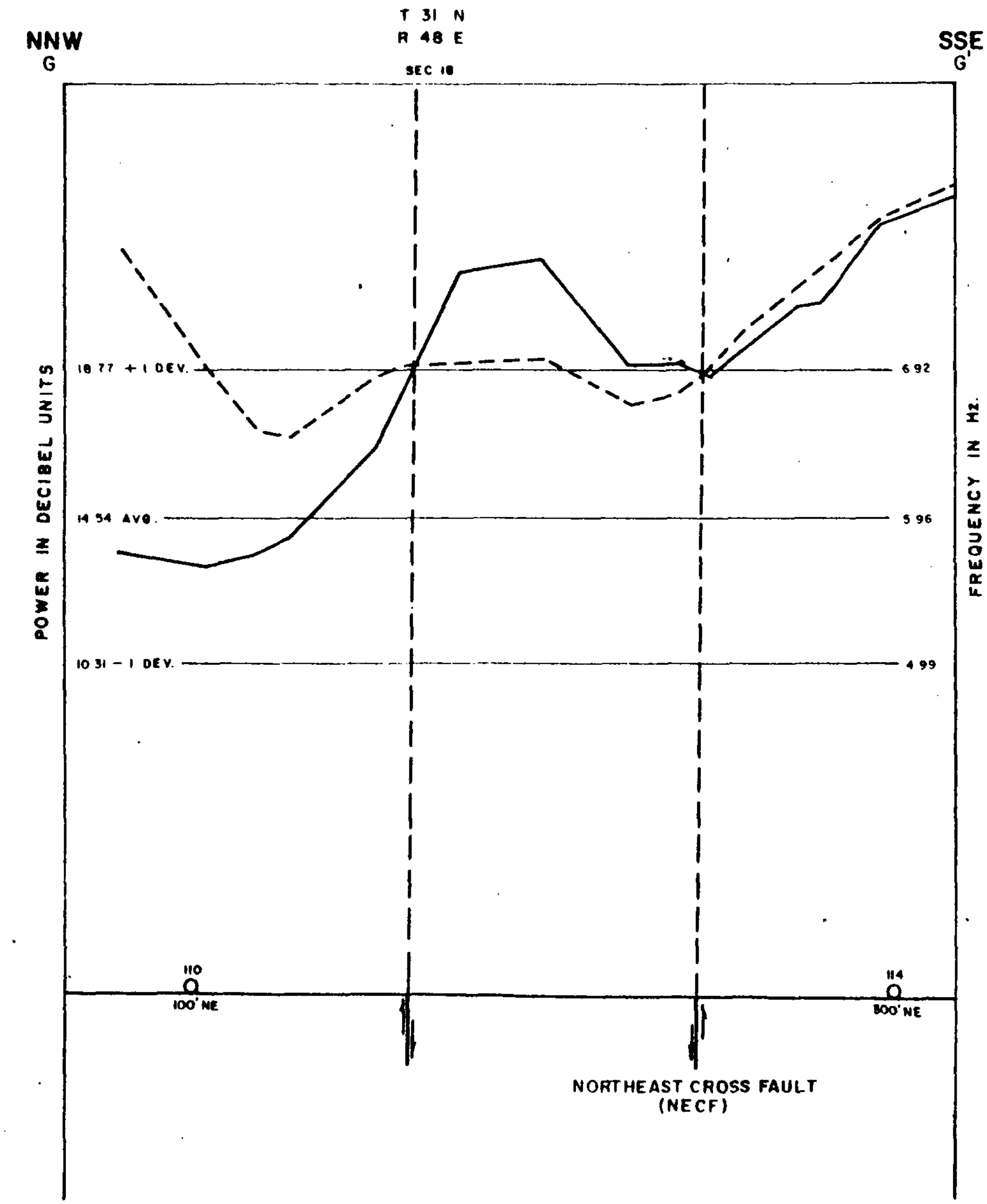


FIGURE IIA
SENTURION SCIE[illegible]S, INC.

BEOWAWE AREA

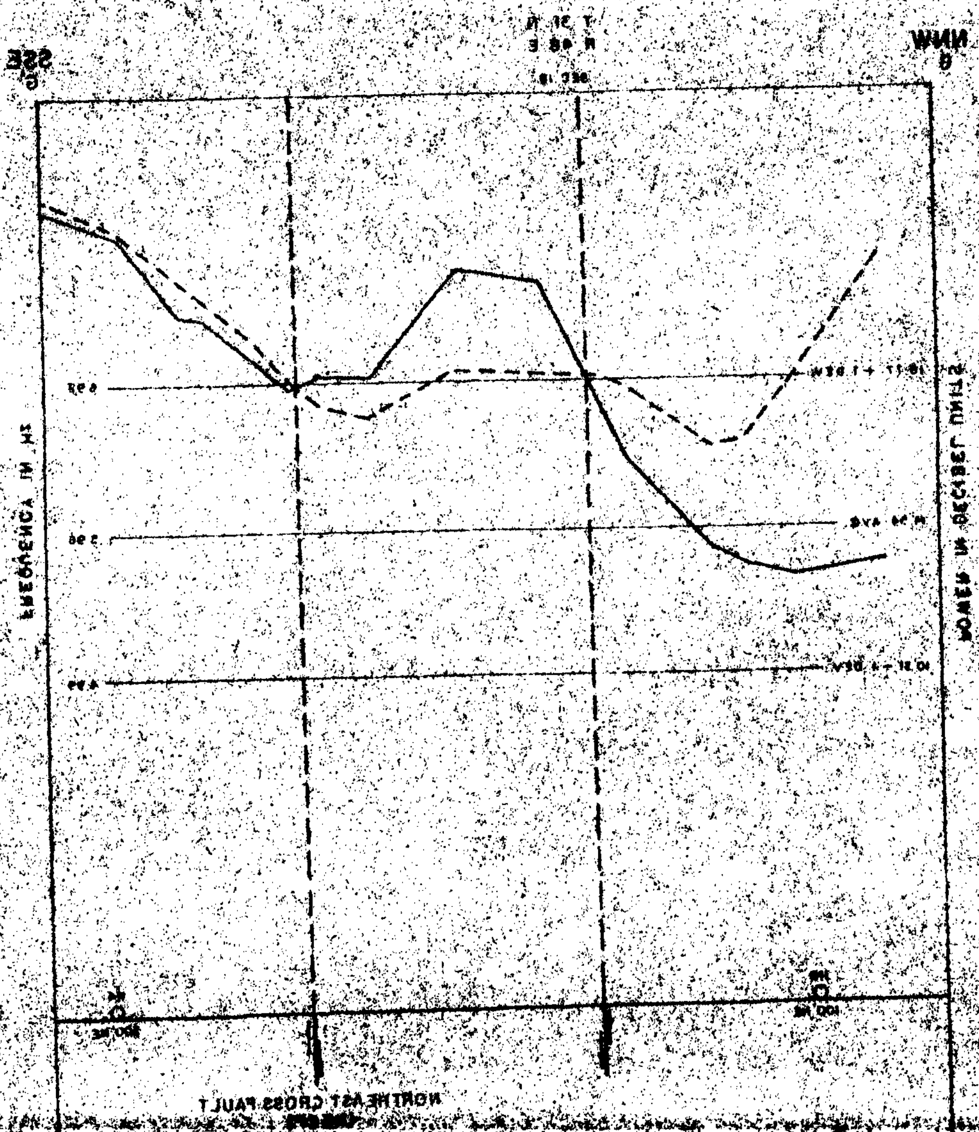
GROUNDNOISE CROSS SECTION G-G'

5-15.0 Hz



BEOWAWE AREA

GROUNDNOISE CROSS SECTION G-G'



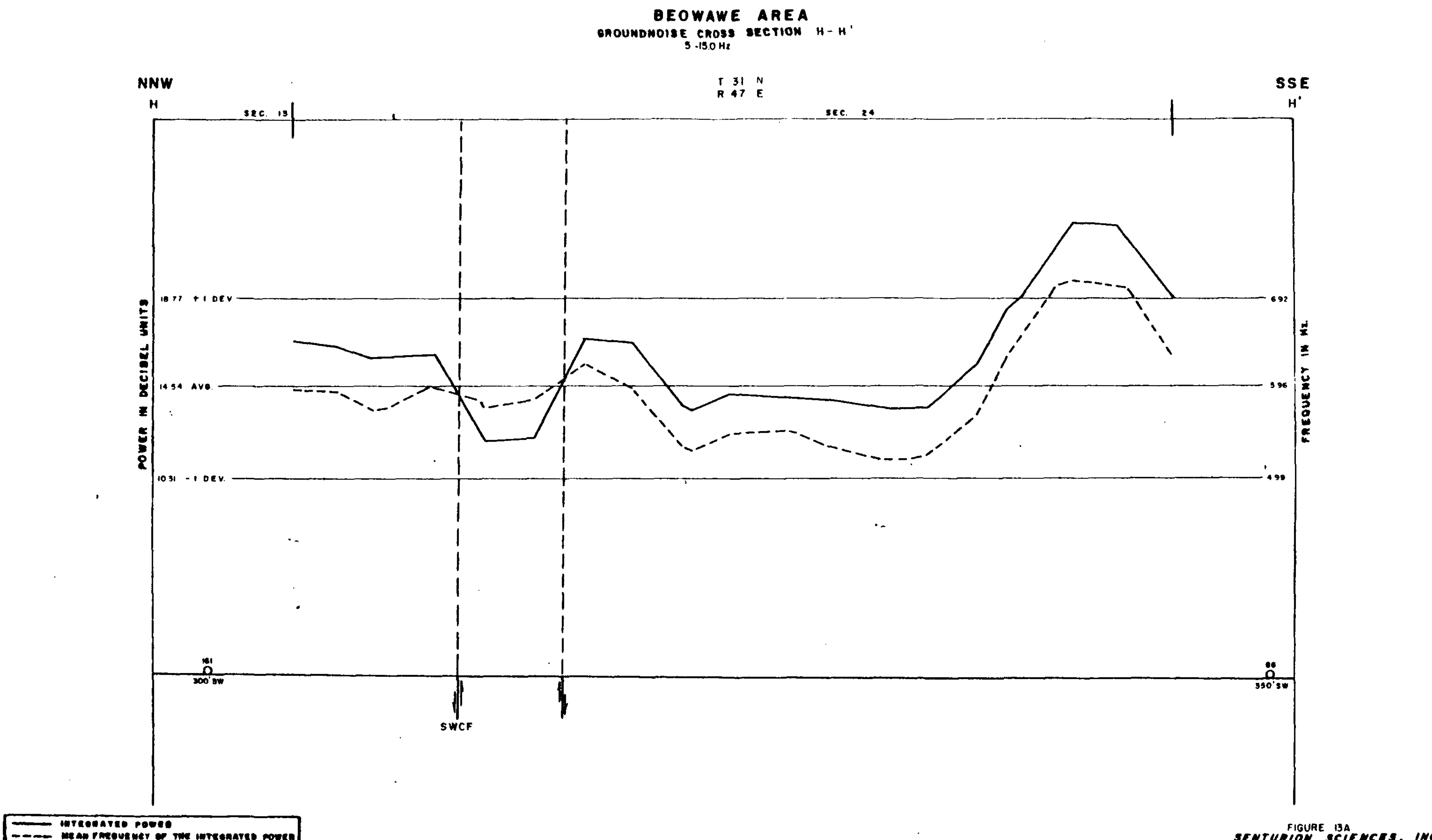


FIGURE 13A
SENTURION SCIENCES, INC

BEOWAWE AREA

GROUNDNOISE CROSS SECTION 1-1'
5-150 Hz

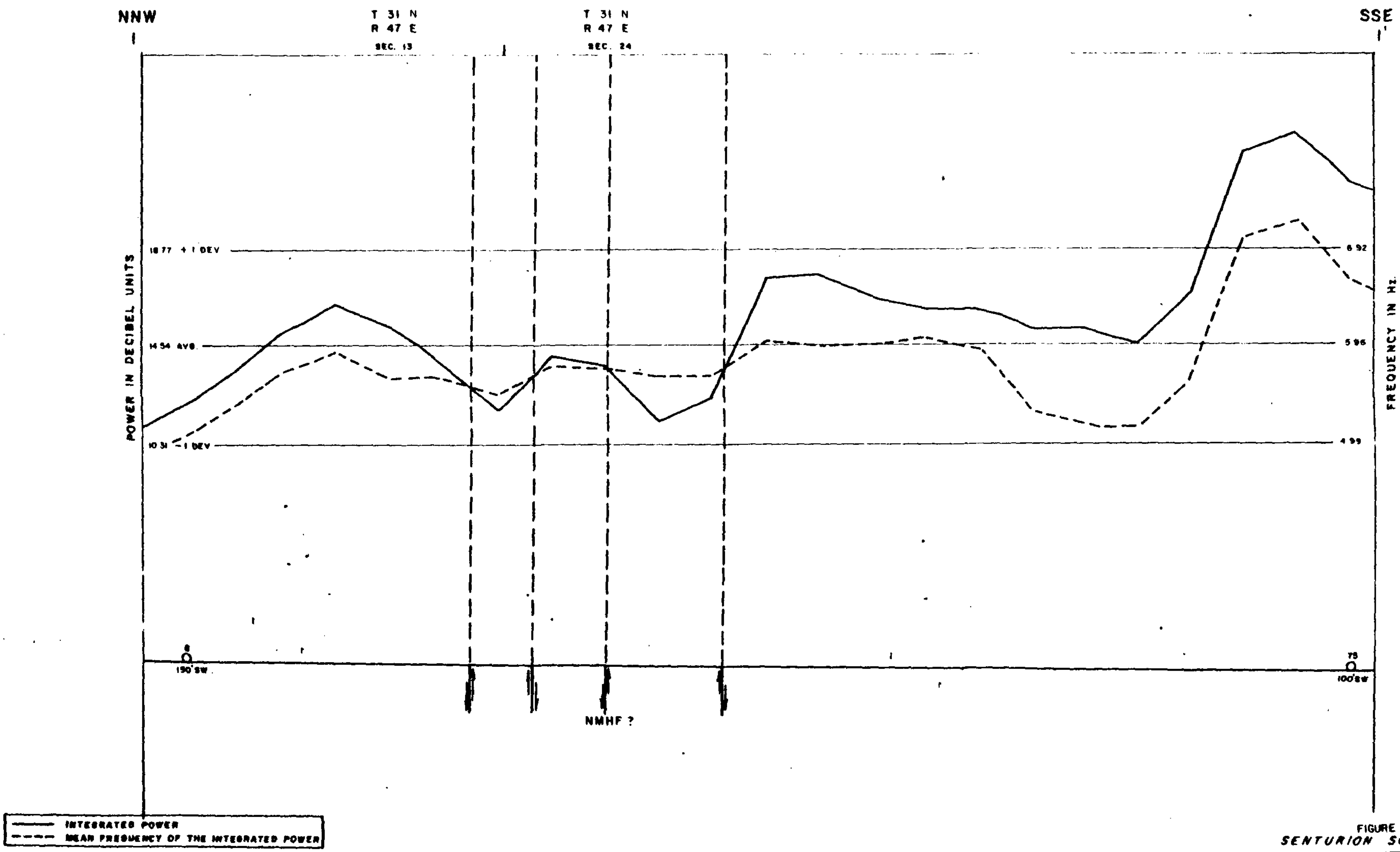


FIGURE 14A

SENTURION SCIENCES, INC.

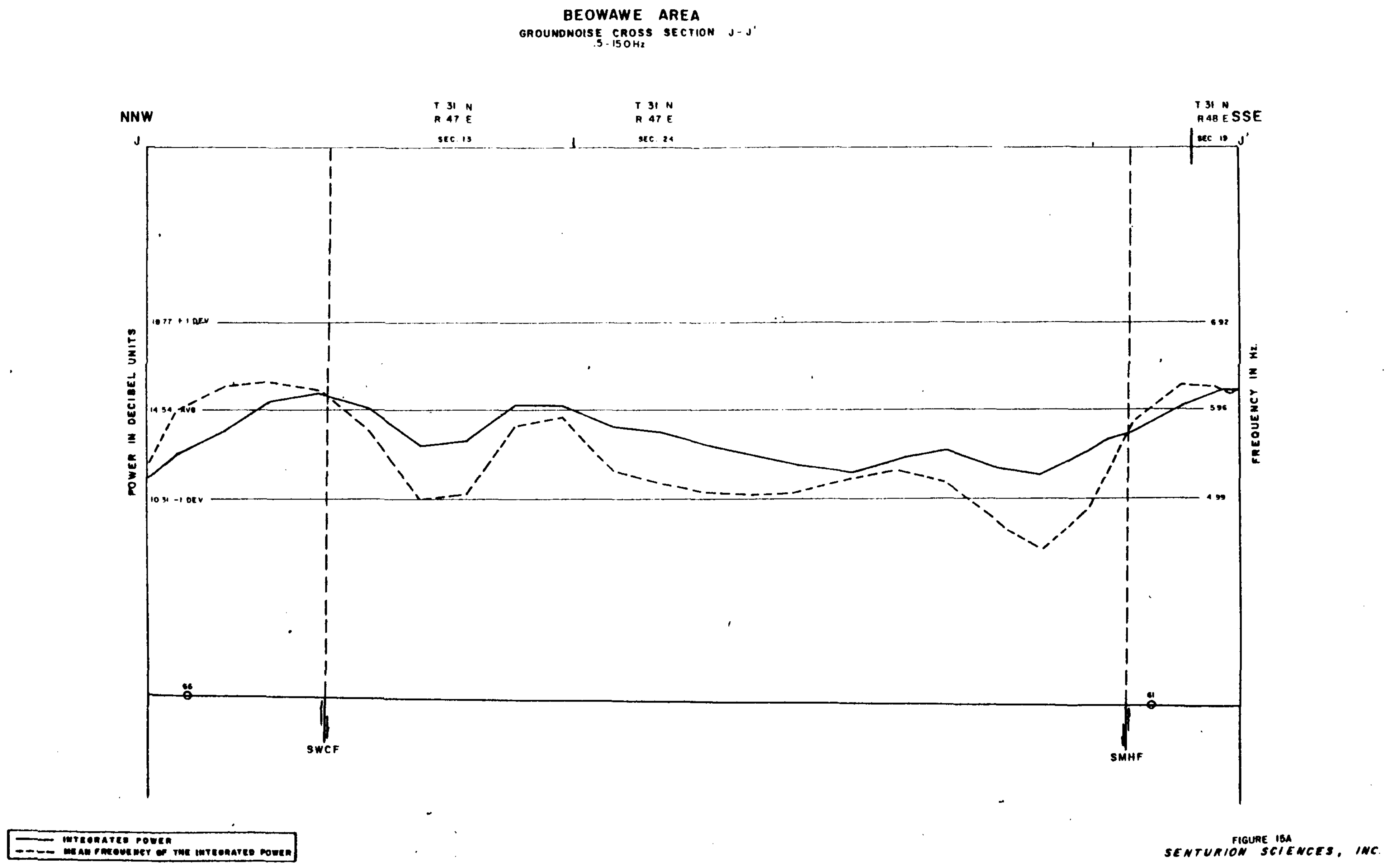


FIGURE 16A

SENTURION SCIENCES, INC.

BEOWAWE AREA
GROUNDNOISE CROSS SECTION K - K'
.5-150 Hz

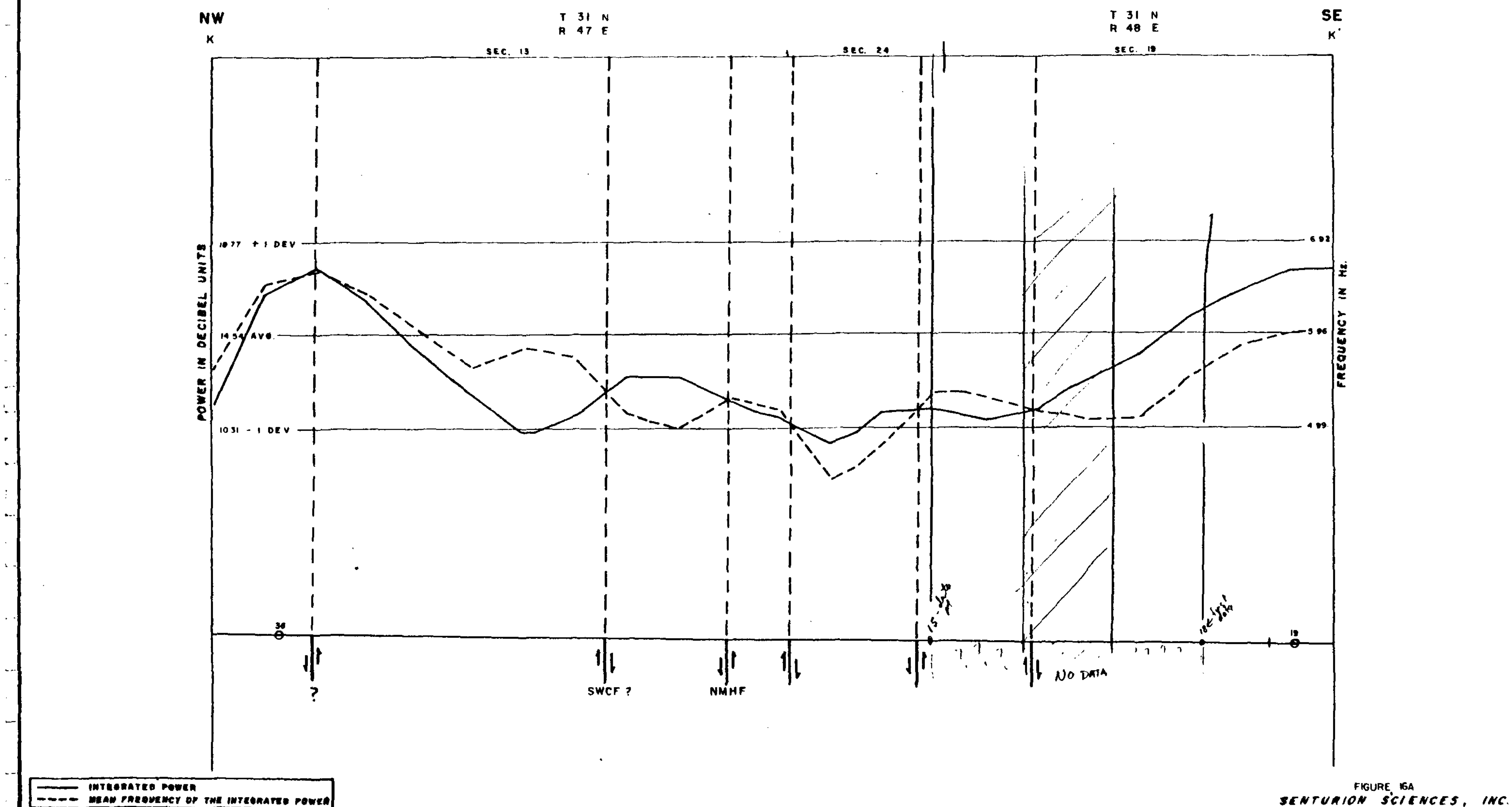
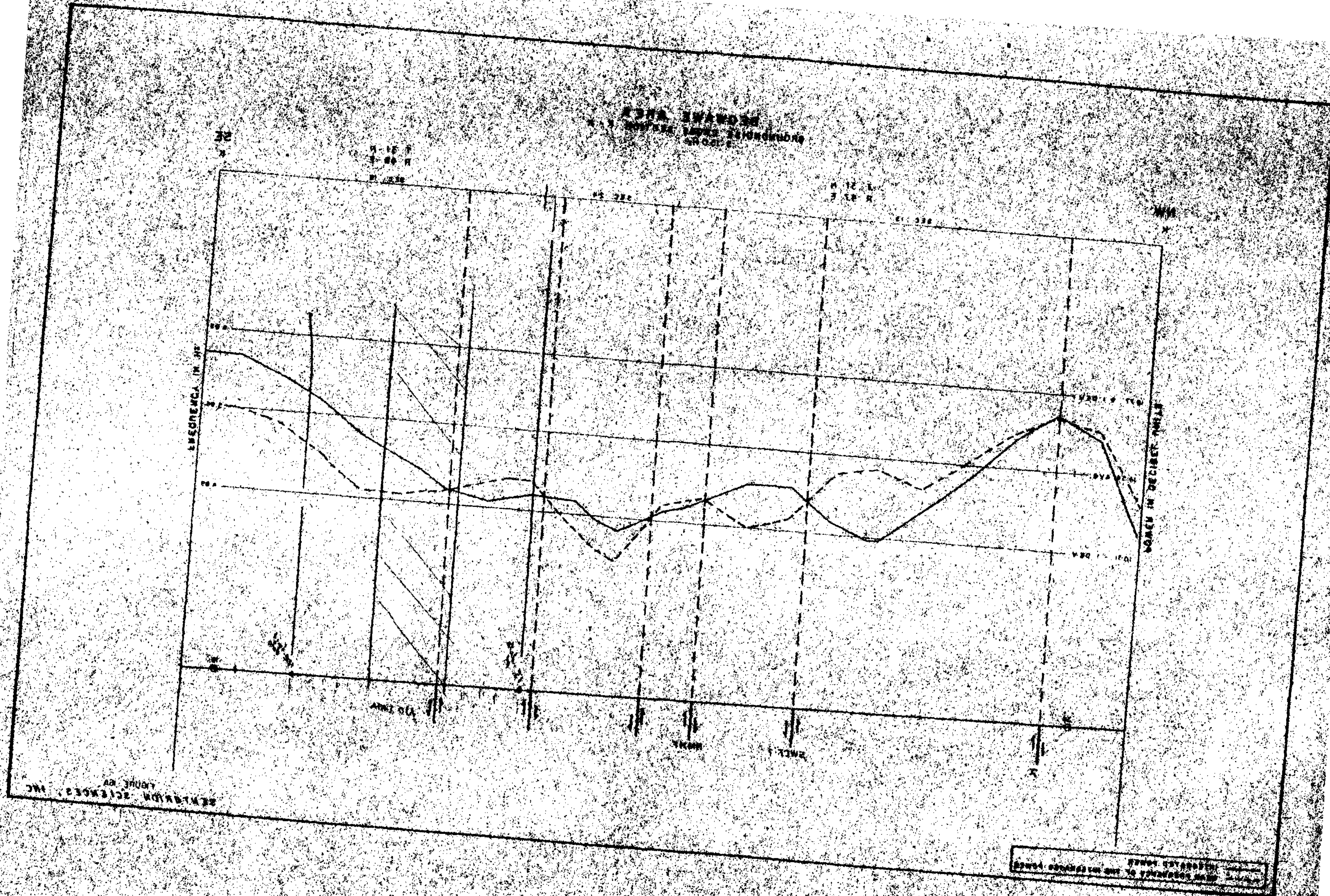
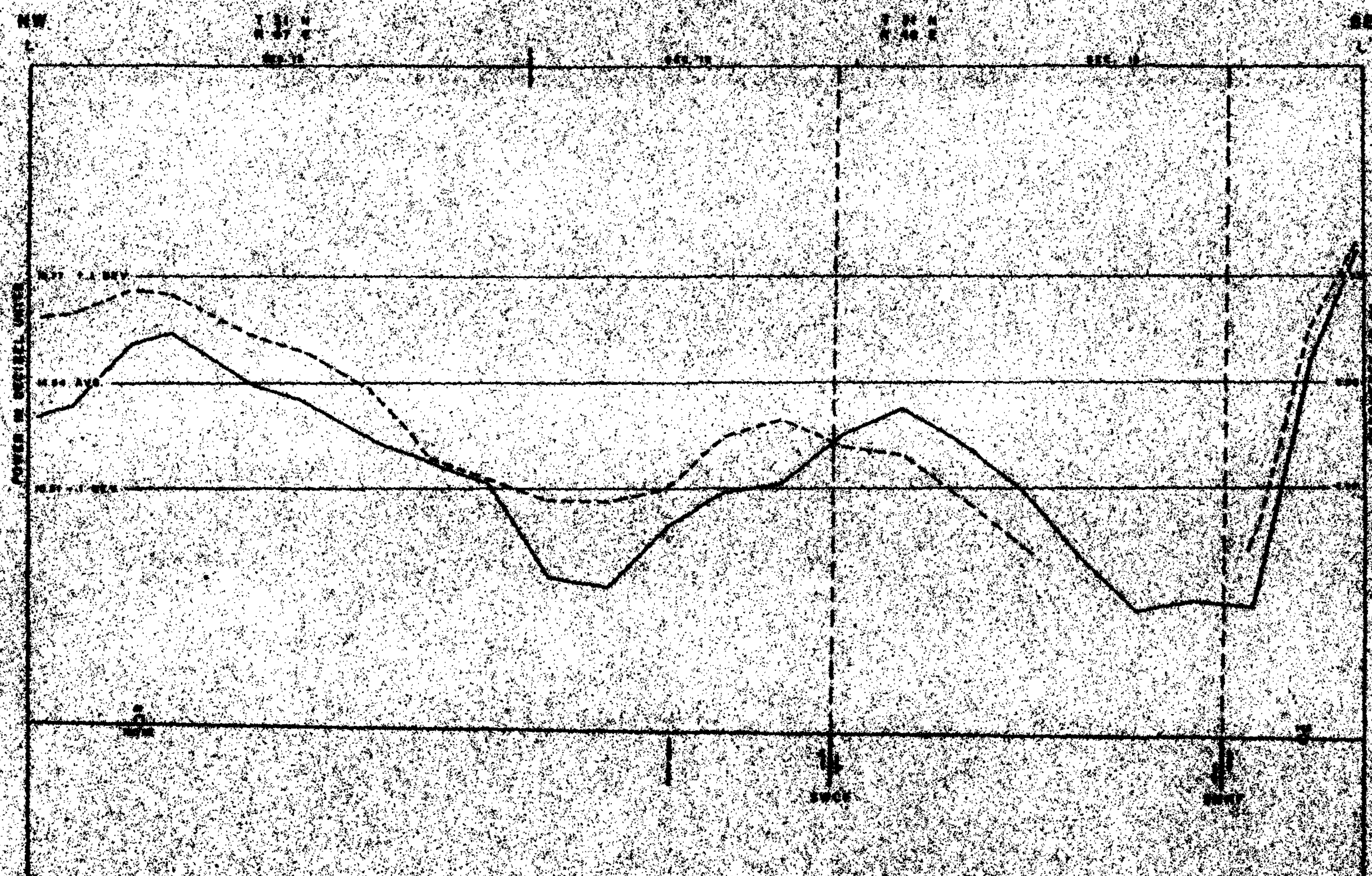


FIGURE 16A
SENTURION SCIENCES, INC.



BEOWAWE AREA
GROUNDNOISE CROSS SECTION L - L'
0-15.0 Hz



BEOWAWE AREA

GROUNDNOISE CROSS SECTION M-M'
.5-15.0 Hz

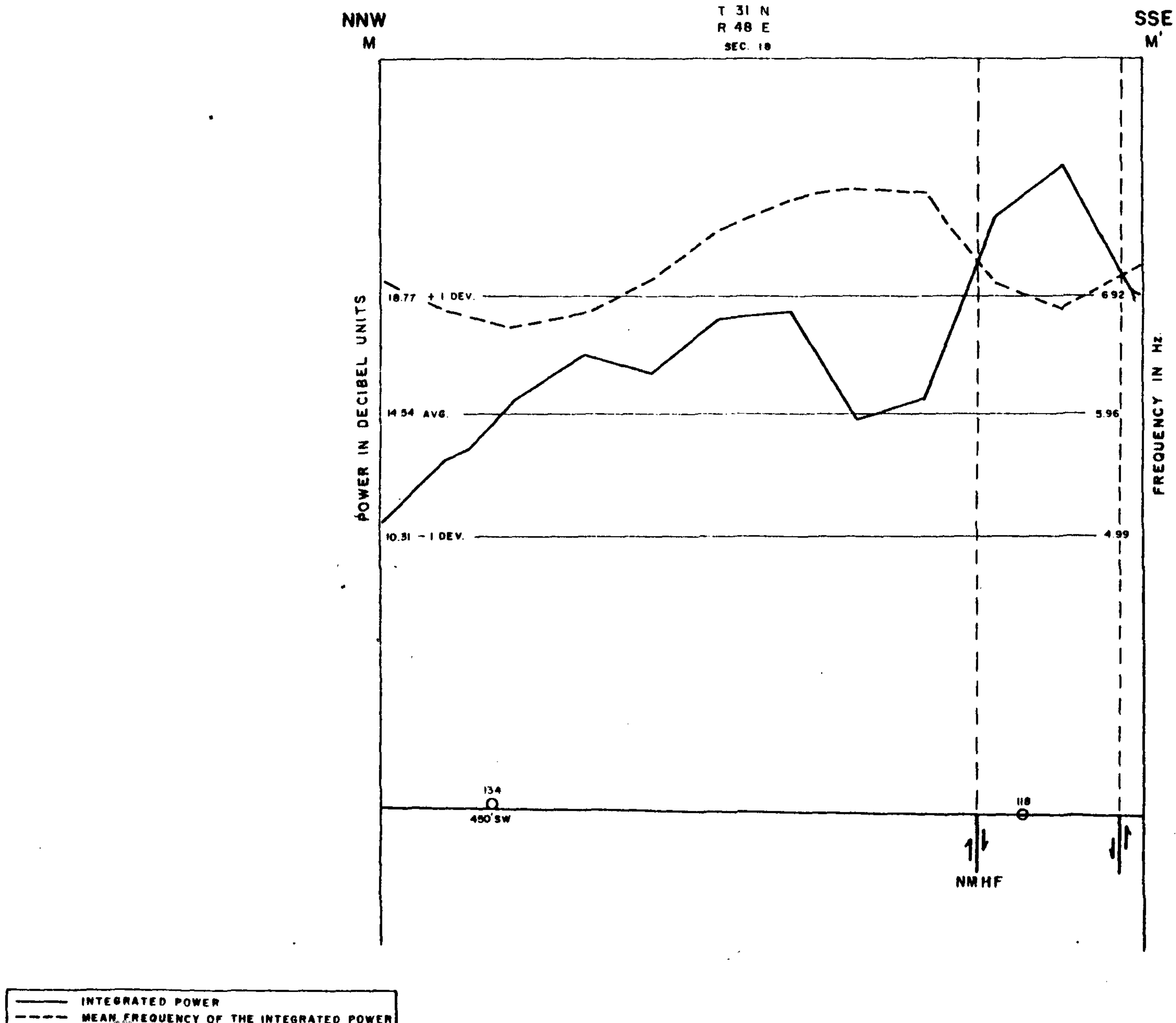


FIGURE 18A
SENTURION SCIEN , INC

BEOWAWE AREA
GROUNDNOISE CROSS SECTION W-W

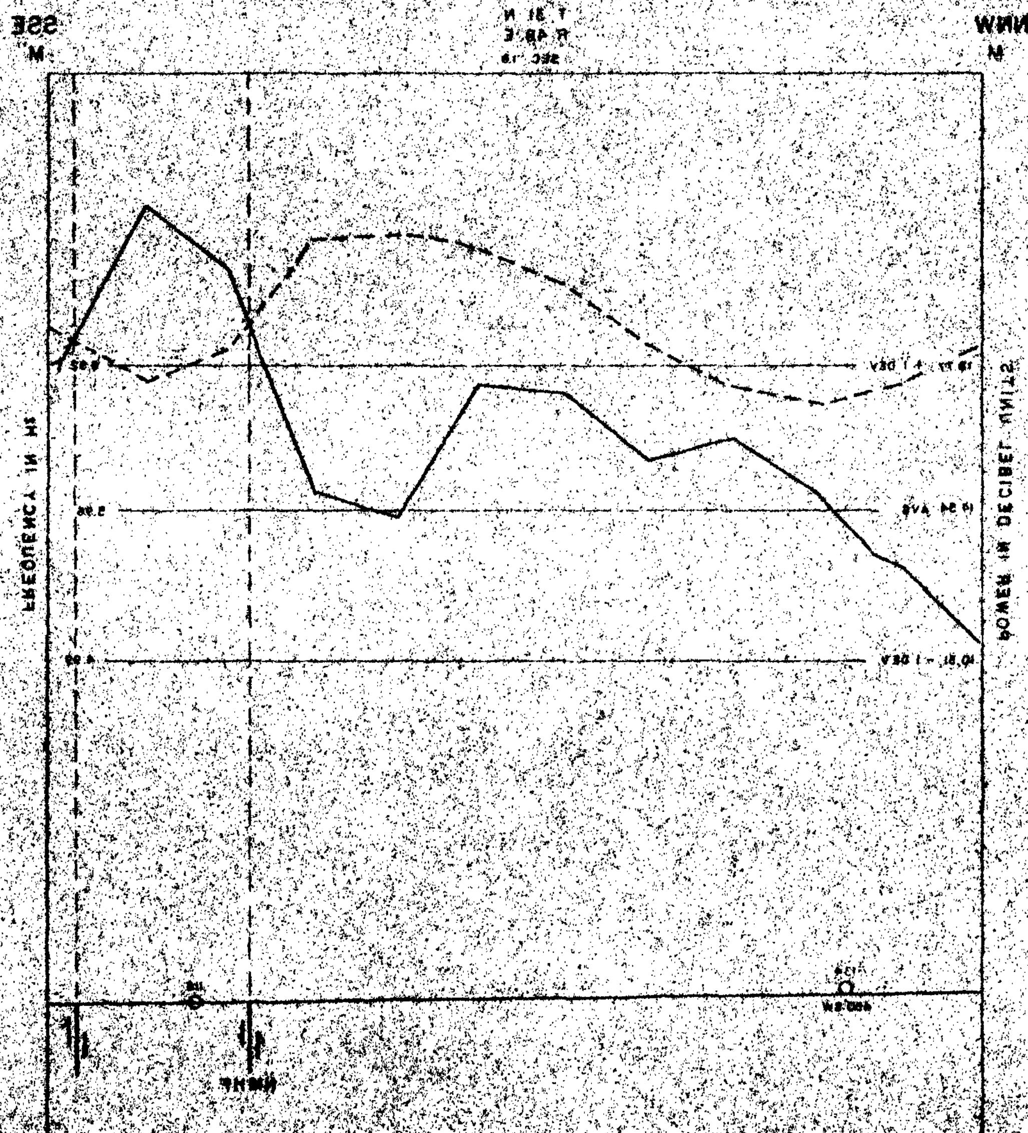
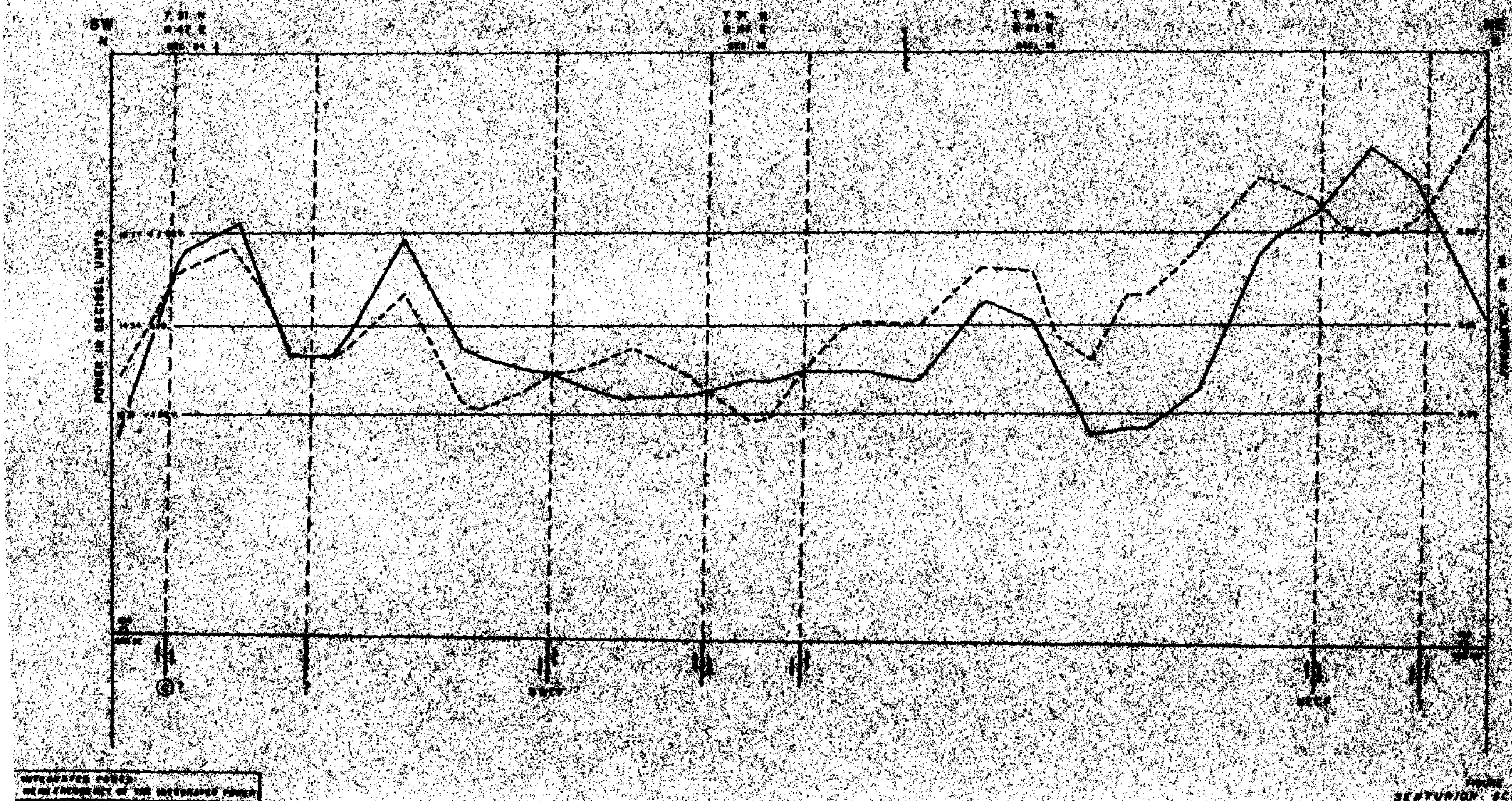


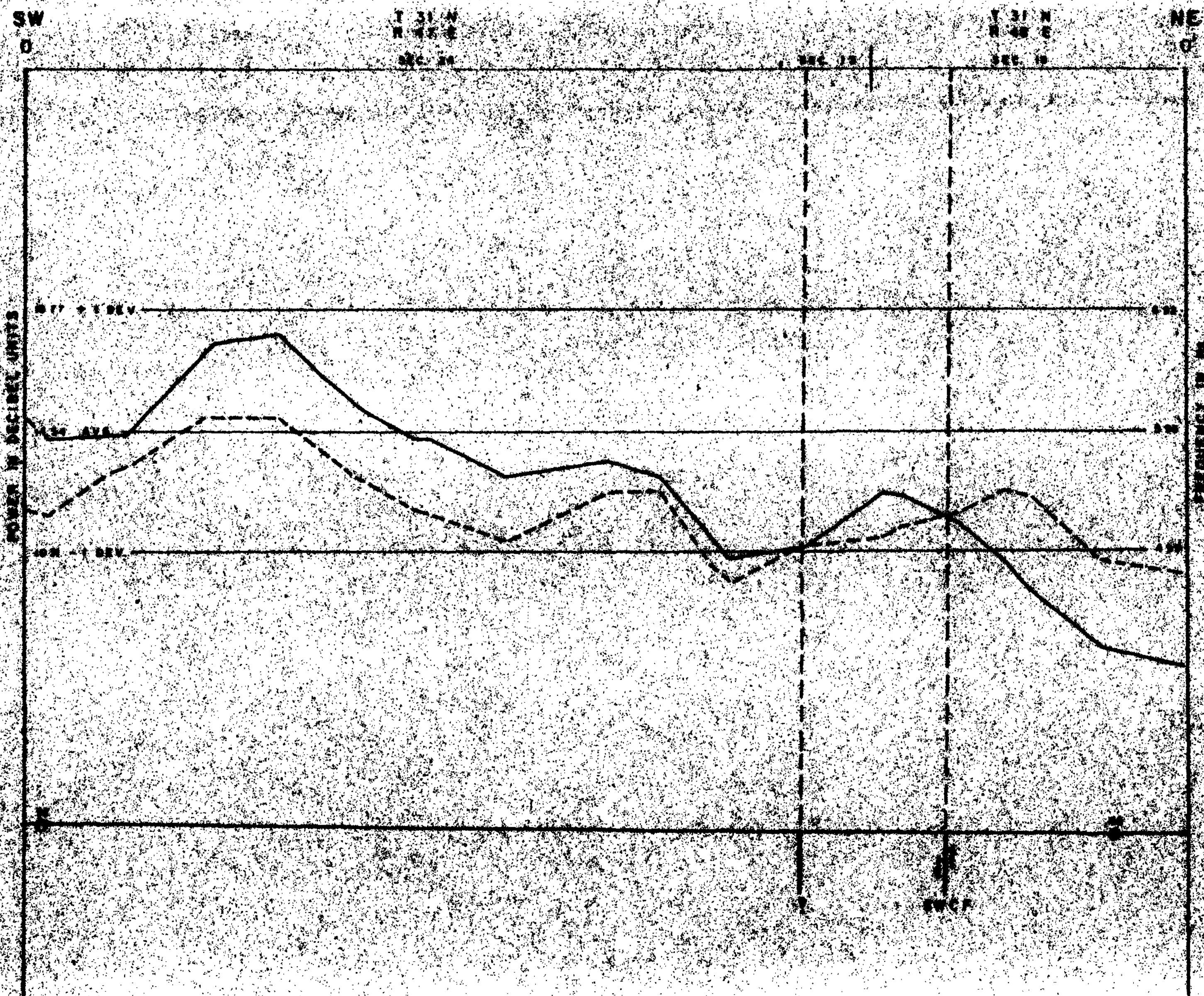
FIGURE 16A

BEOWAWE AREA

GROUNDNOISE CROSS SECTION N - N'



BEOWAWE AREA
GROUNDNOISE CROSS SECTION O-O'



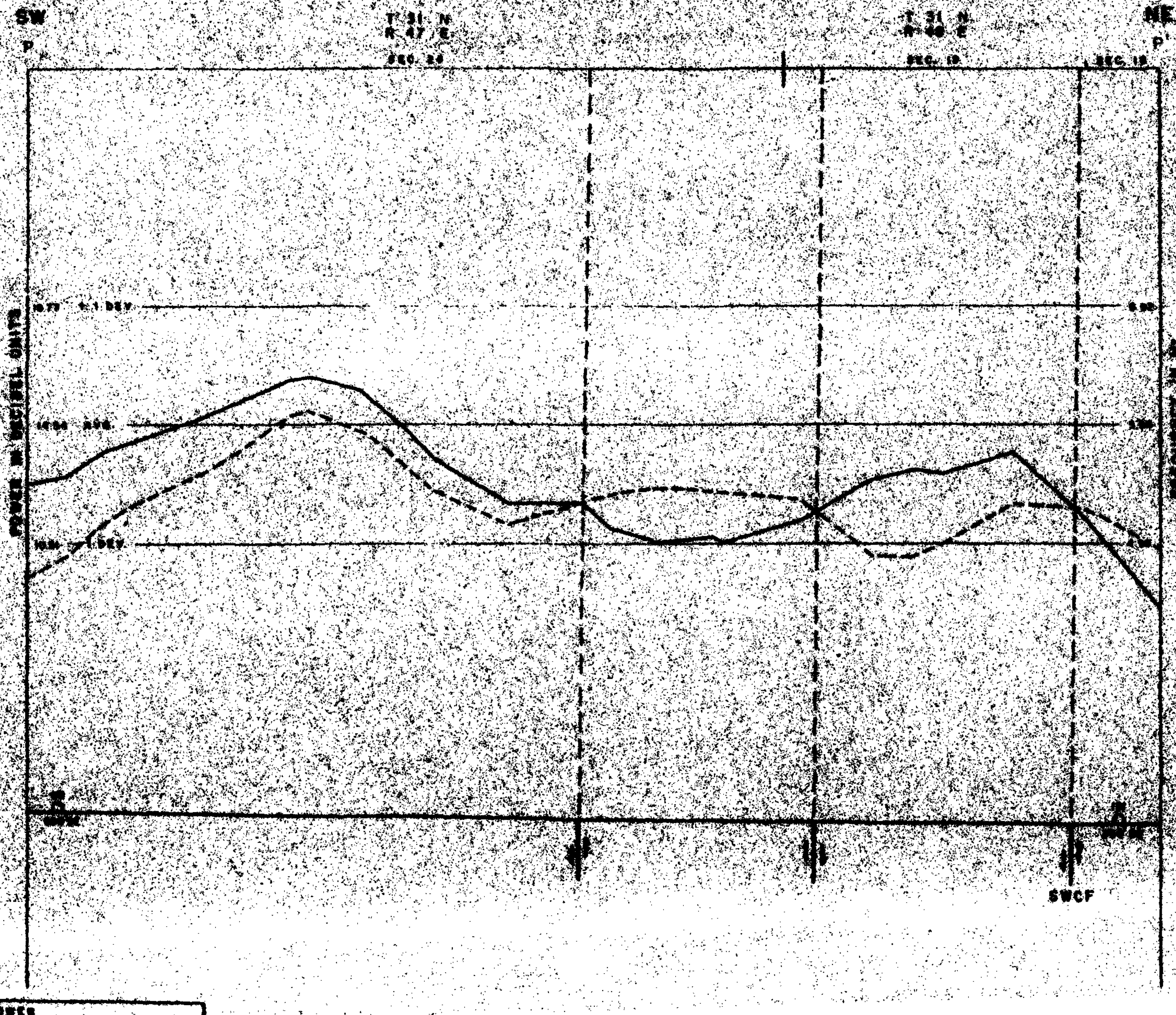
INTEGRATED POWER
MEAN FREQUENCY OF THE INTEGRATED POWER

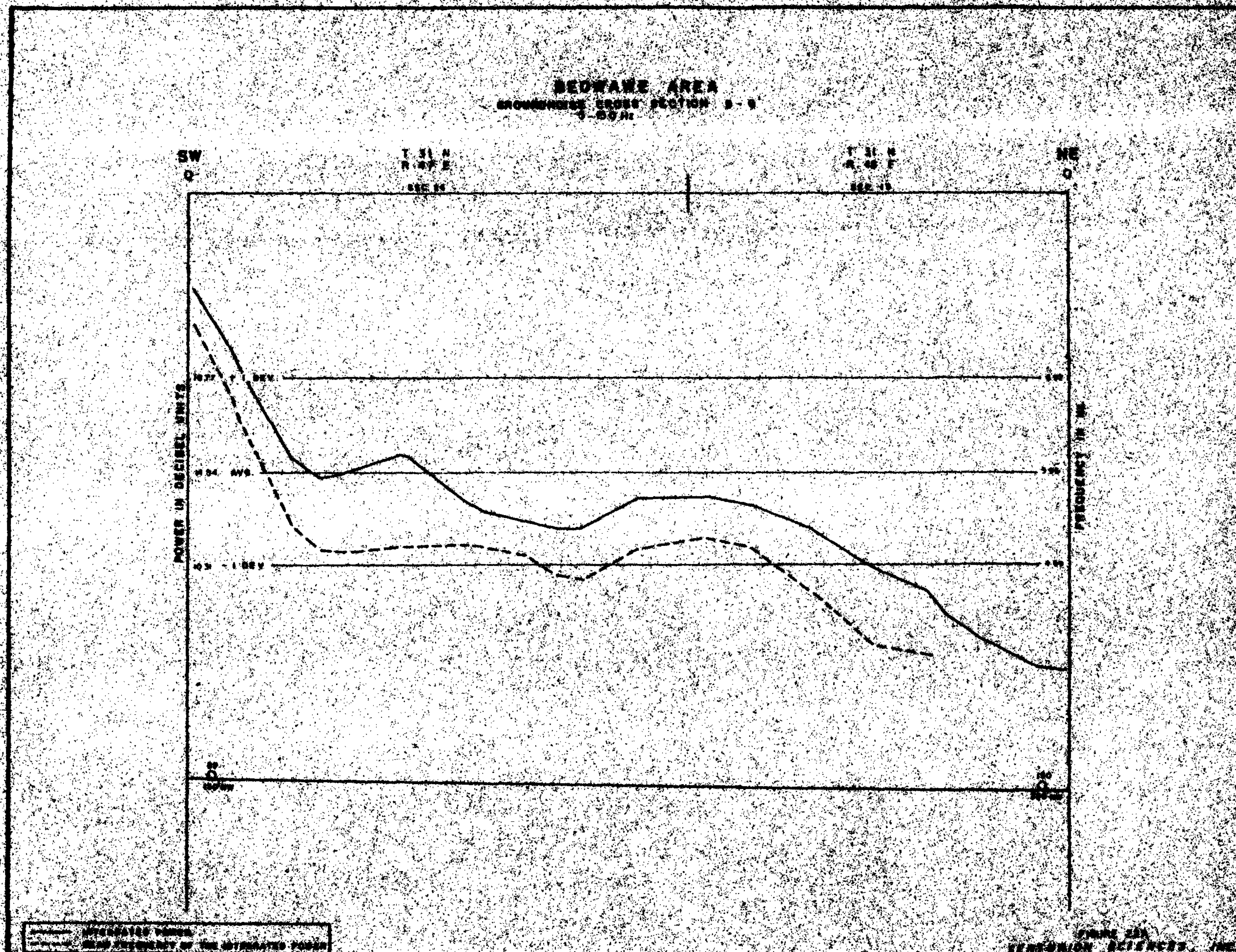
FIGURE

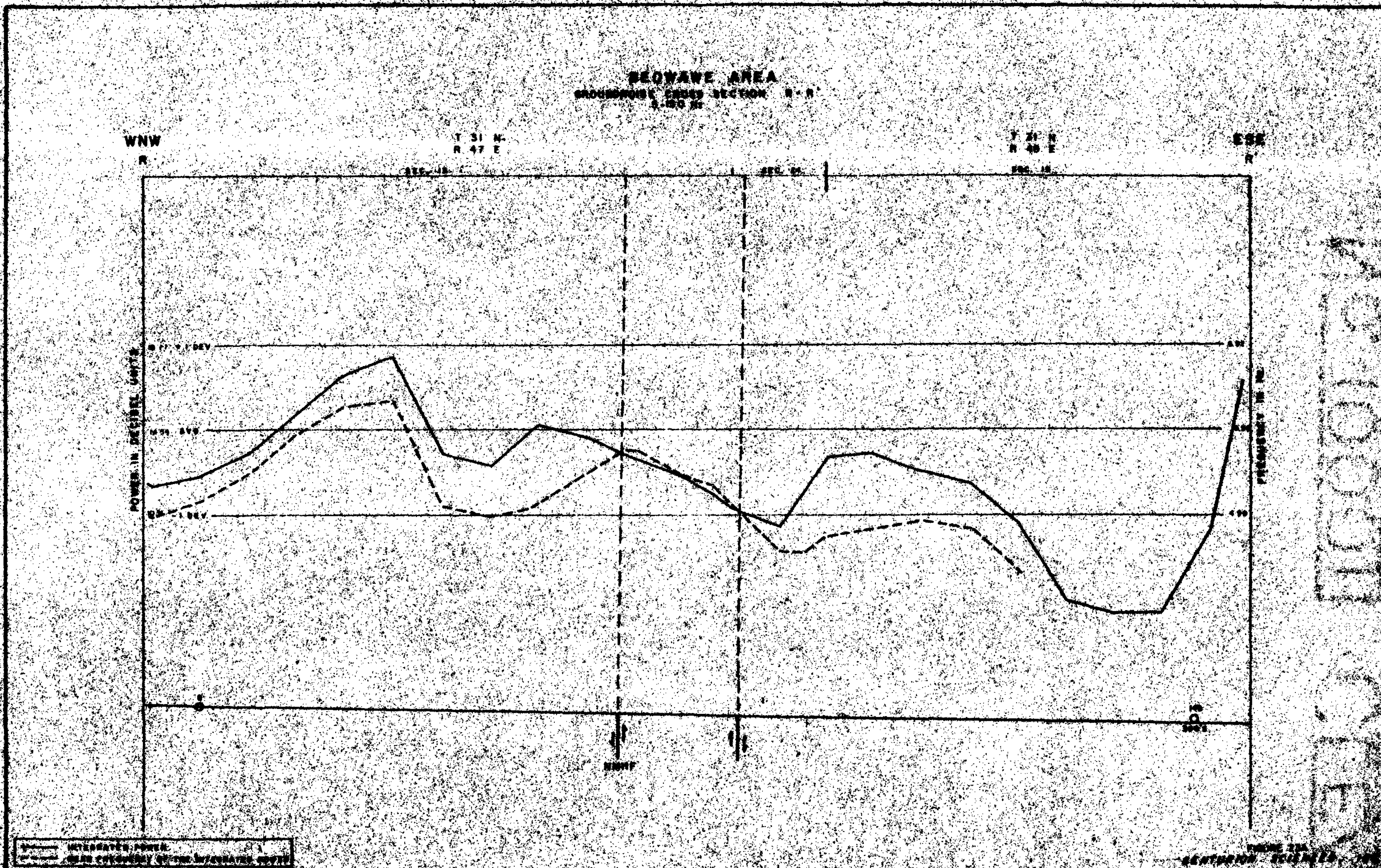
SENTURION S NCES, INC.

BEOWAWE AREA

GROUNDNOISE CROSS SECTION P-P'

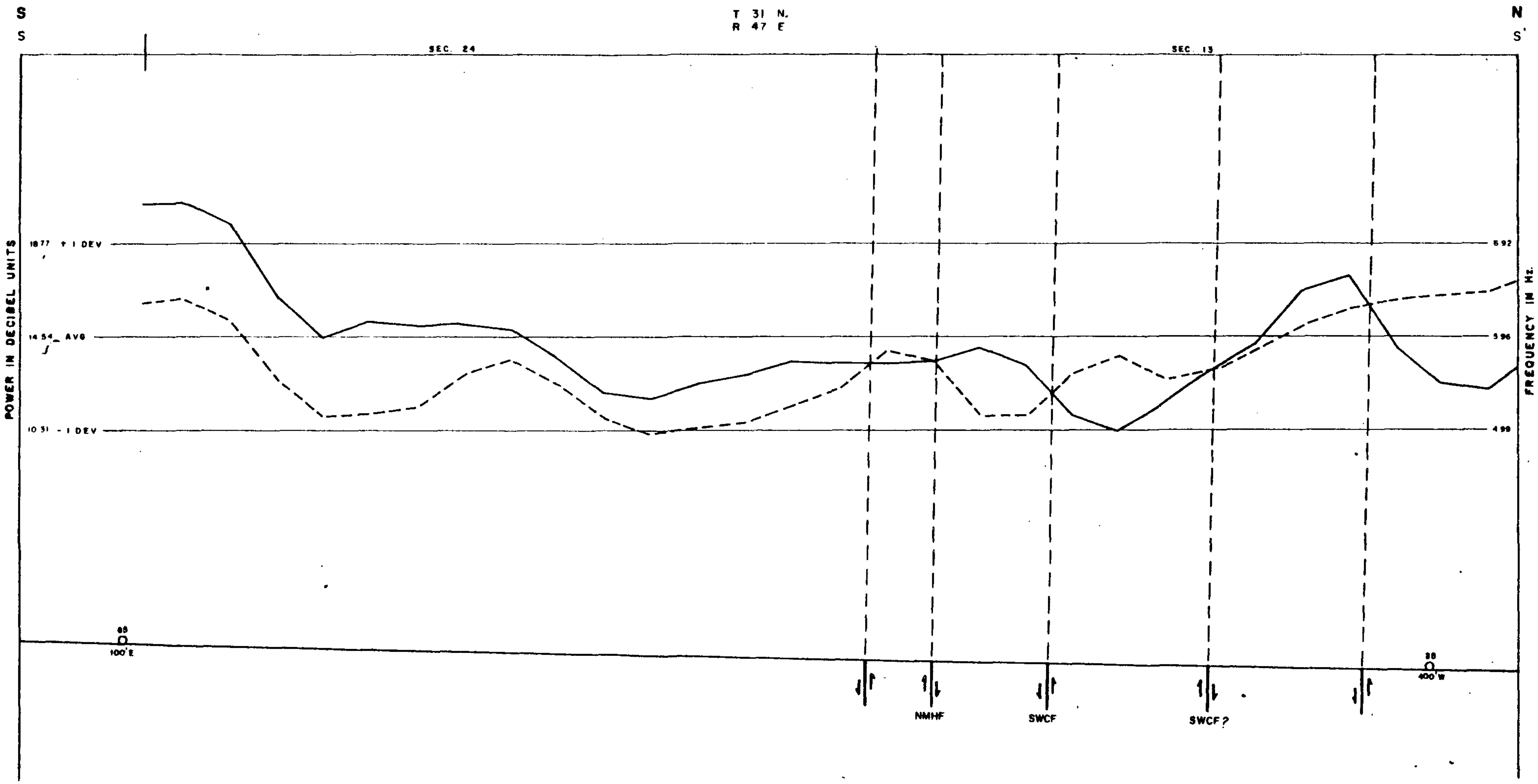



BEOWAWE AREA
SW
NE
T 31 N
T 31 N
POWER IN DECIBEL UNITS
FREQUENCY IN Hz
AVG.
DEV.


BEOWAWE AREA
WNW
R
T 31 N
R 47 E
ESE
POWER IN DECIBEL UNITS
FREQUENCY IN HZ
INTEGRATED POWER

BEOWAWE AREA

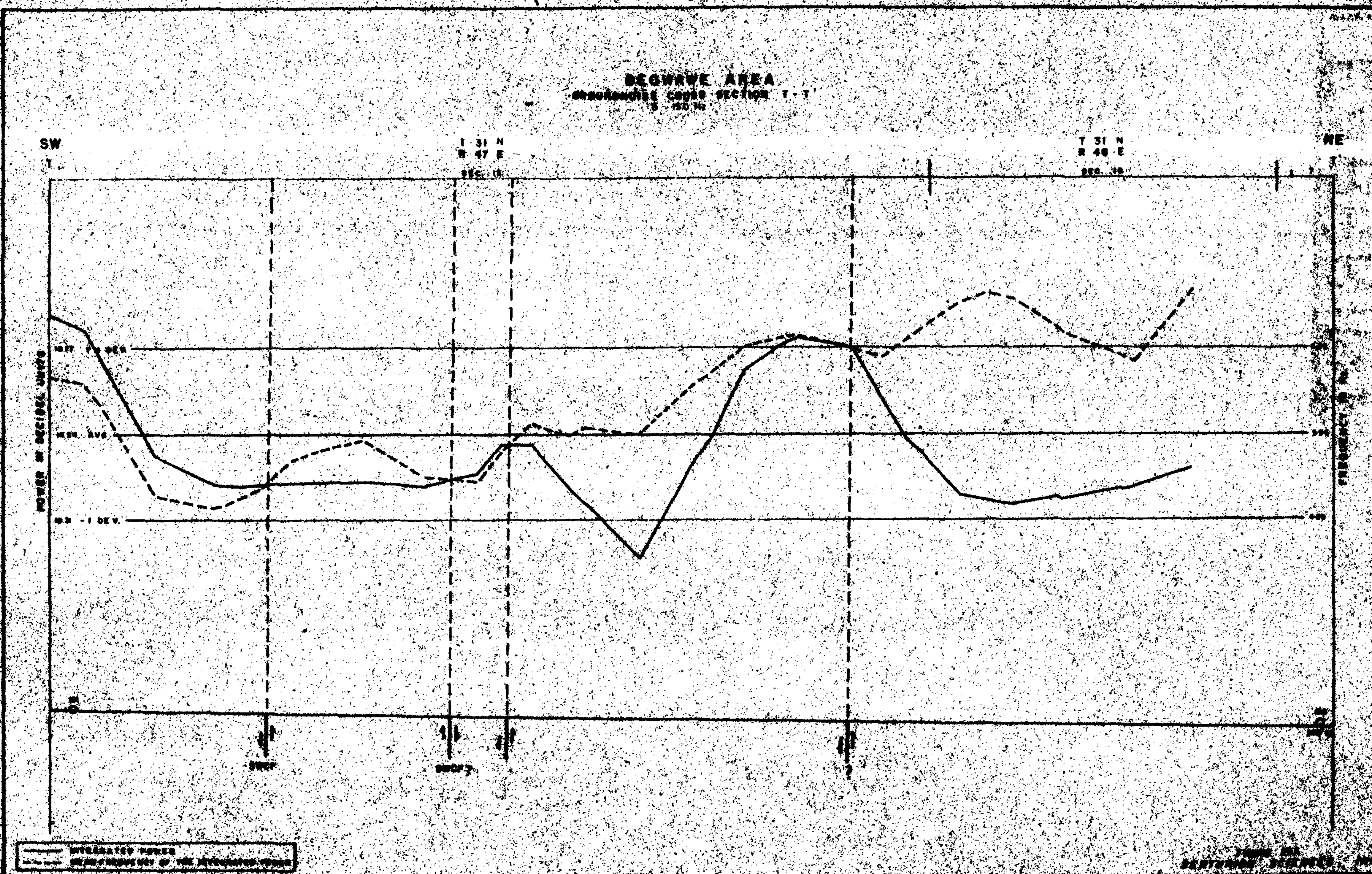
GROUNDNOISE CROSS SECTION S - S'
5 -15.0 Hz

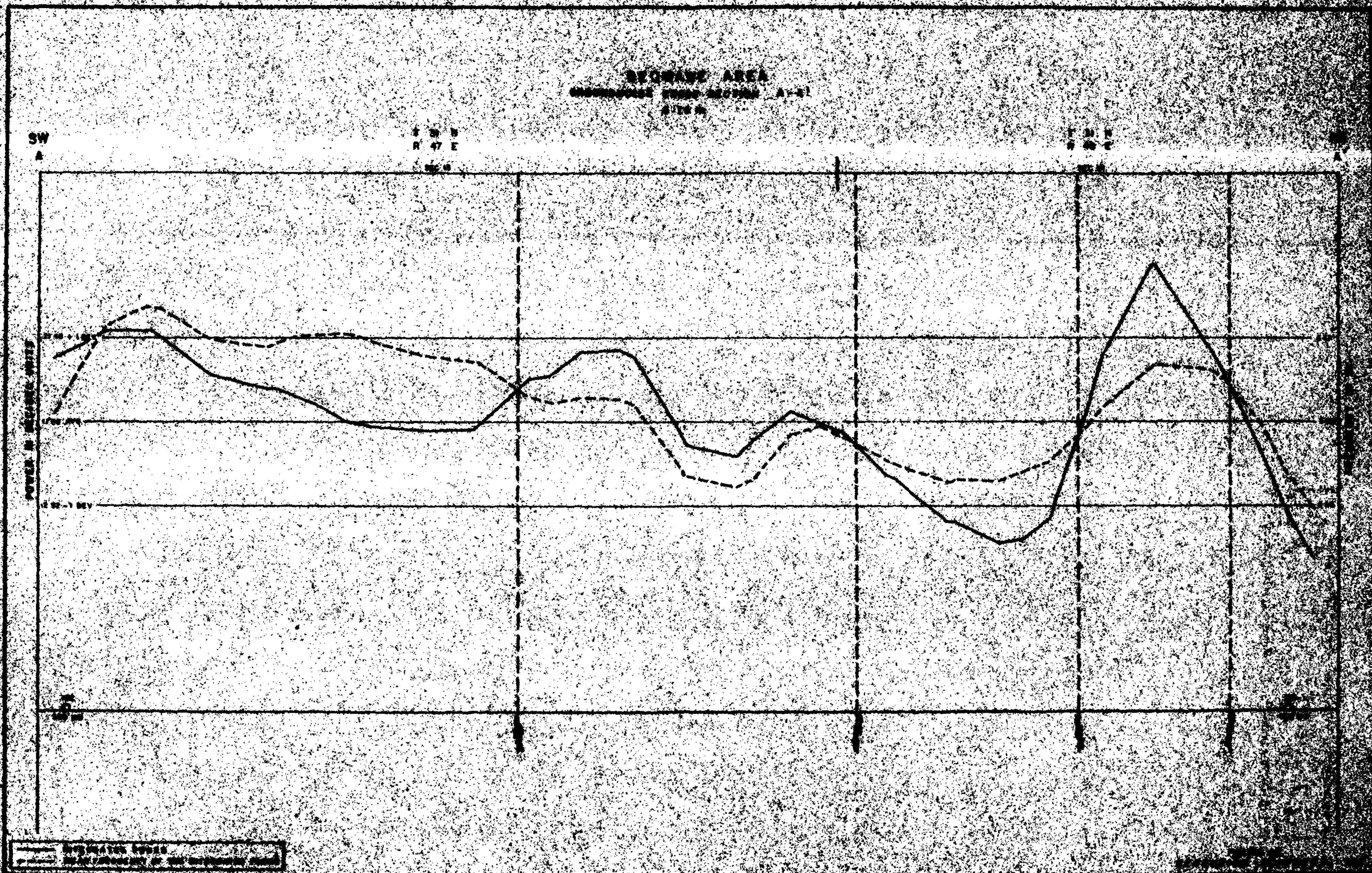


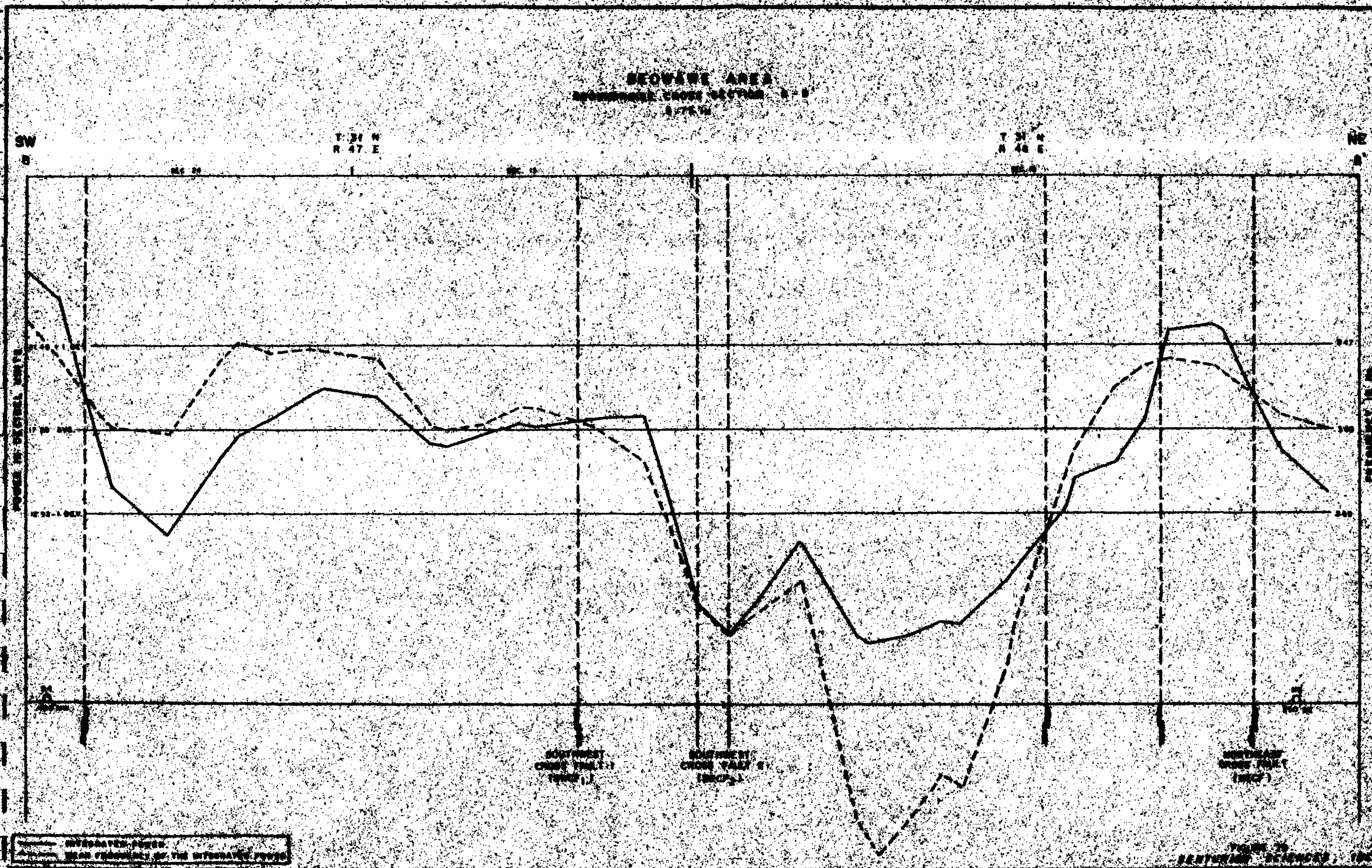
INTEGRATED POWER
MEAN FREQUENCY OF THE INTEGRATED POWER

FIGURE

SENTURION SCI

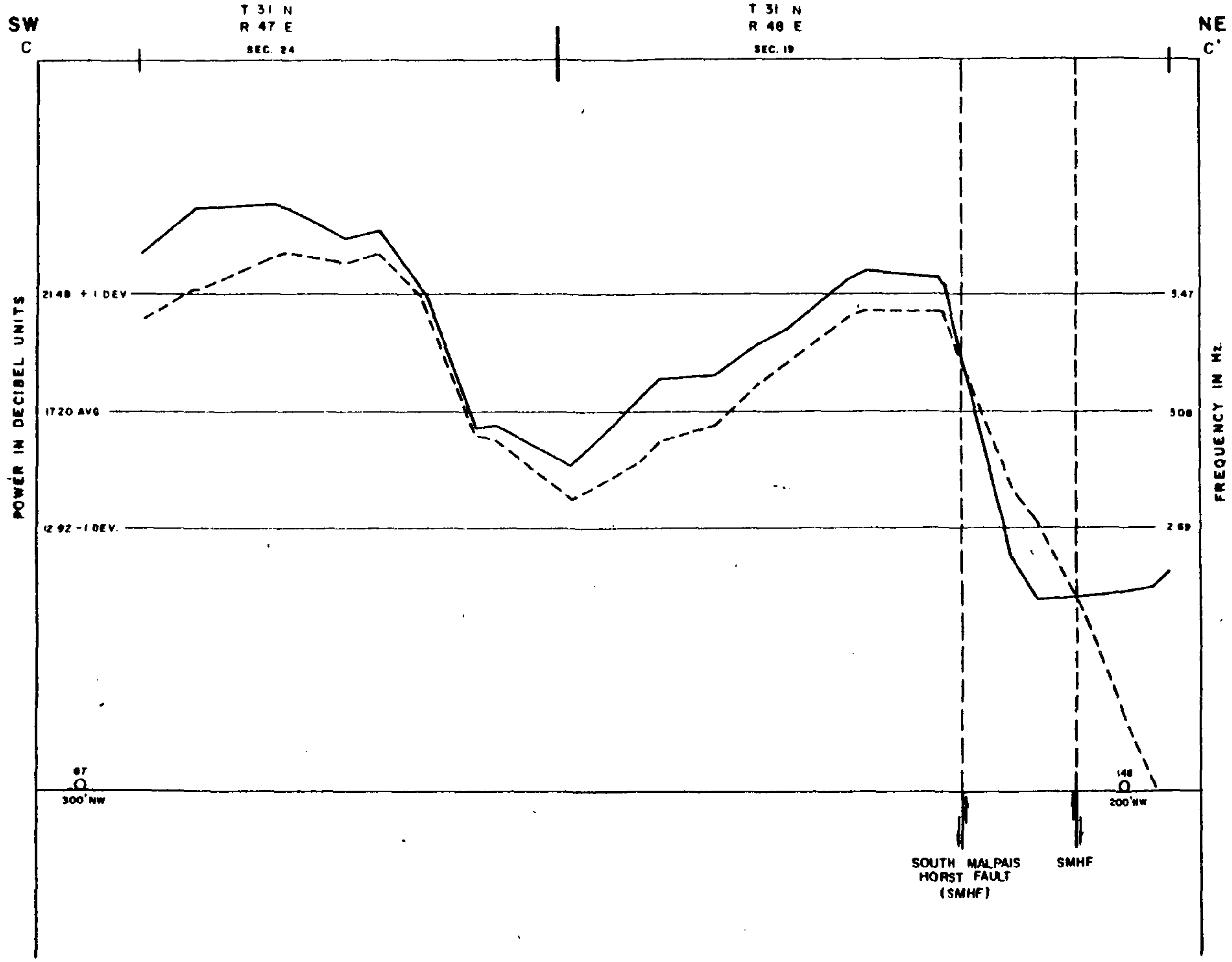

SW
NE
T 31 N
R 47 E
T 31 N
R 48 E


AREA
SW
A
R 47 E
A



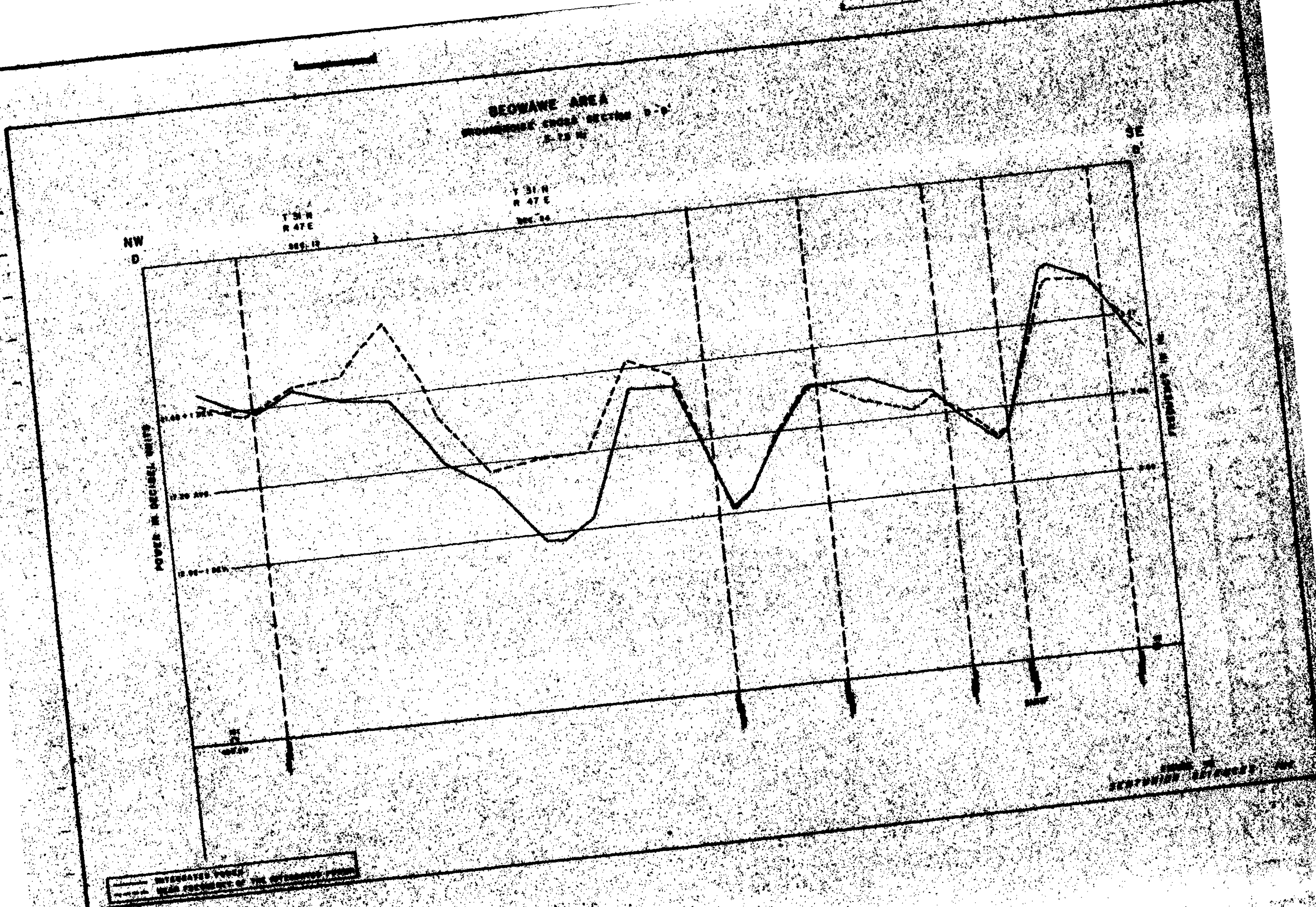
BEOWAWE AREA
SW
NE
T 31 N
R 47 E
T 31 N
R 48 E

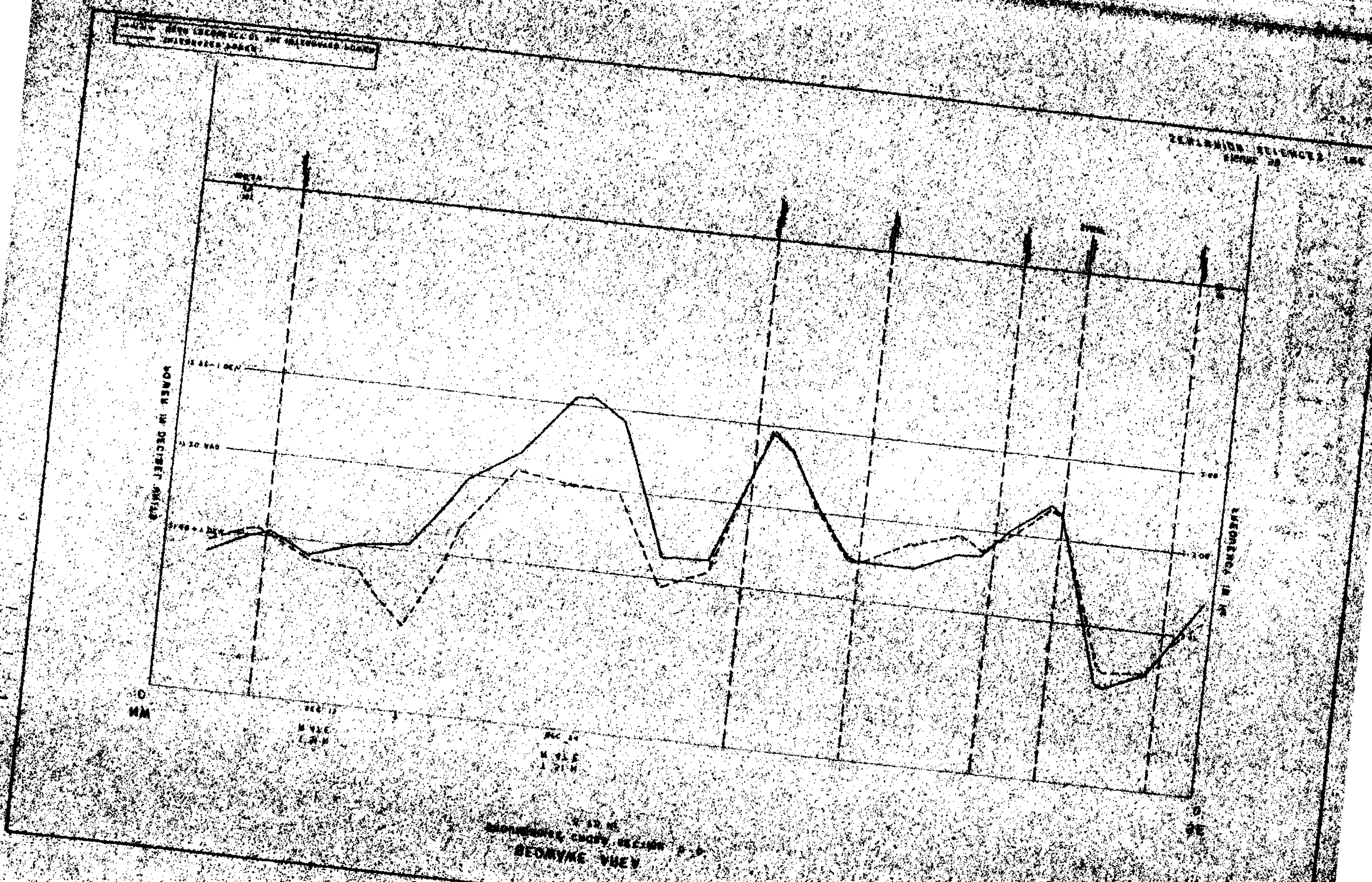
BEOWAWE AREA
GROUNDNOISE CROSS SECTION C-C'
.5-7.5 Hz

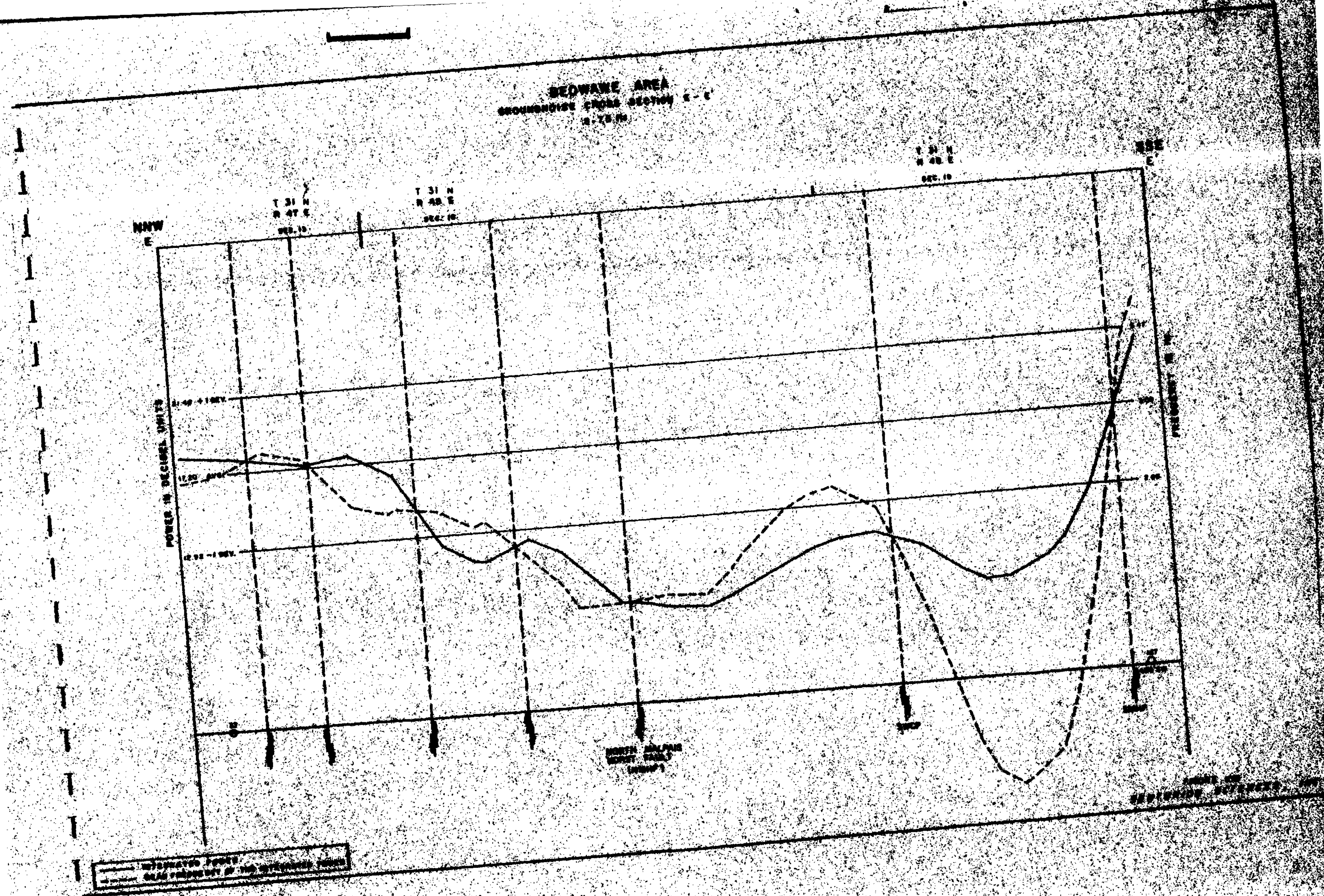


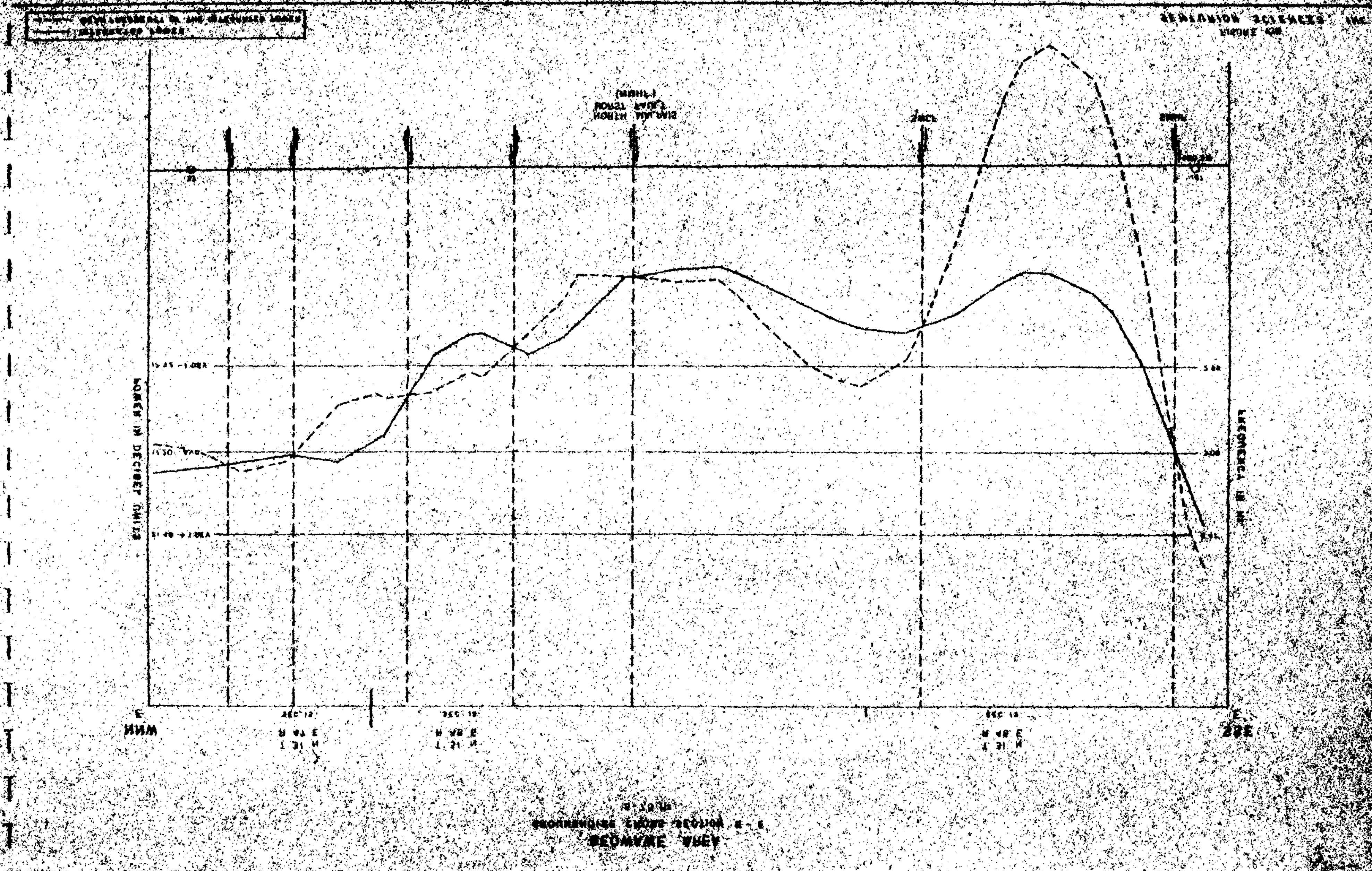
INTEGRATED POWER
MEAN FREQUENCY OF THE INTEGRATED POWER

FIGURE 8B
SENTURION SCIENCES, INC.


BEOWAWE AREA
NW
SE
B'
T 31 N
R 47 E
T 31 N
R 47 E




AREA
CROSS SECTION E - E'
NNW
E
ESE
E'
T 31 N
R 47 E
SEC. 13
T 31 N
R 48 E
SEC. 16
SEC. 19
POWER IN DECIBEL UNITS
INTEGRATED POWER



BEOWAWE AREA
GROUNDNOISE CROSS SECTION F-F'

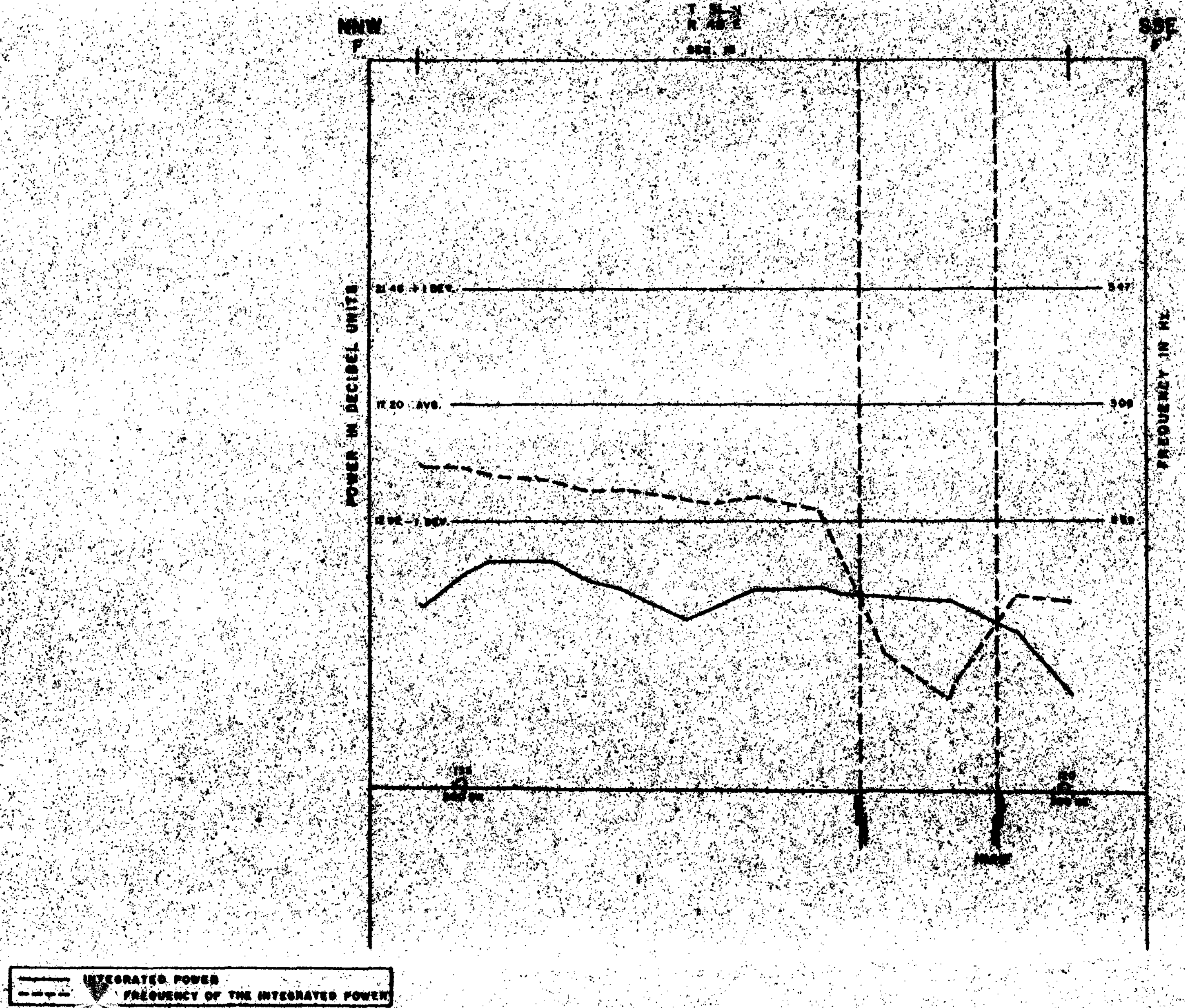


FIGURE 11B
SENTURION SCI... S, INC

BEOWAWE AREA

GROUNDNOISE CROSS SECTION

5-15 Hz

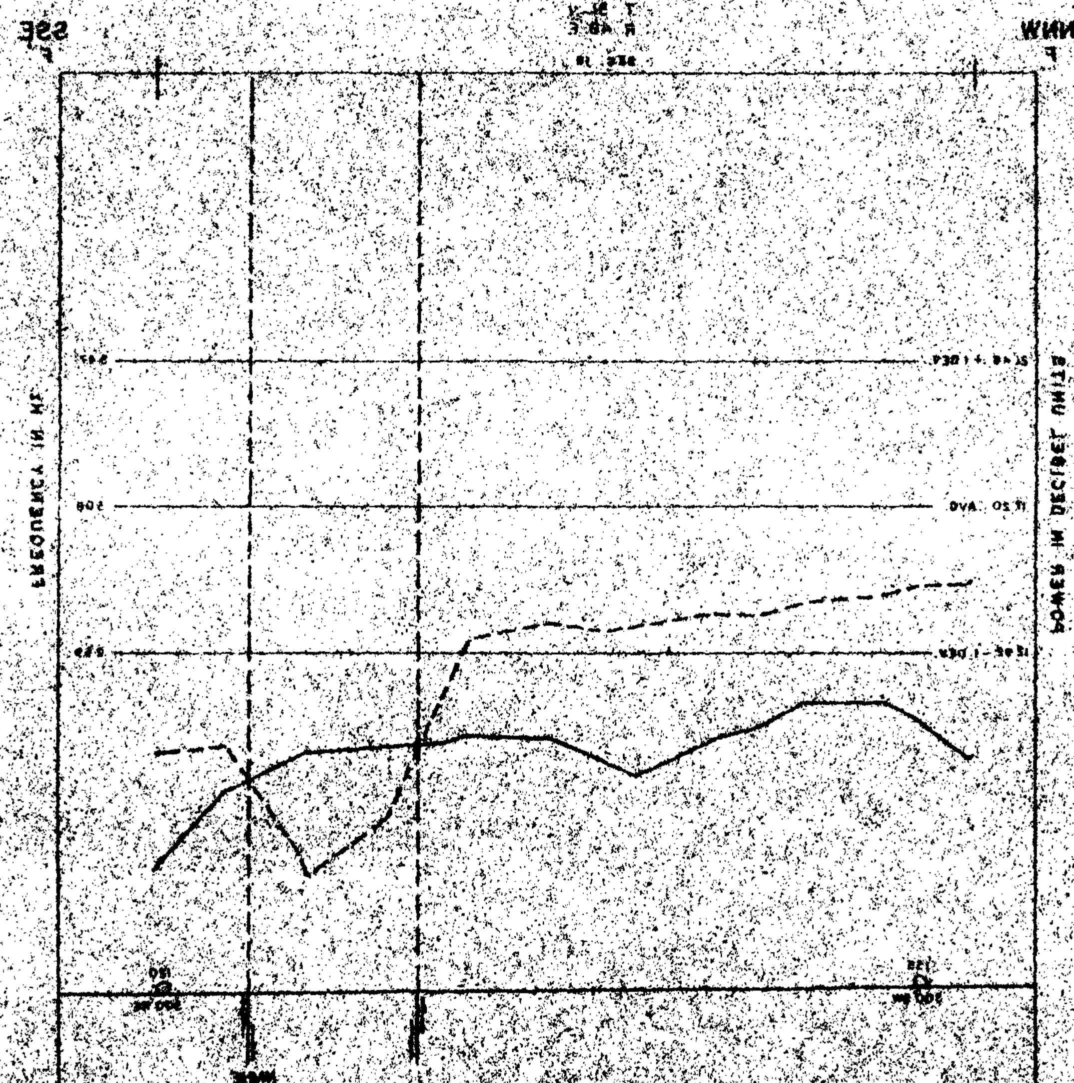
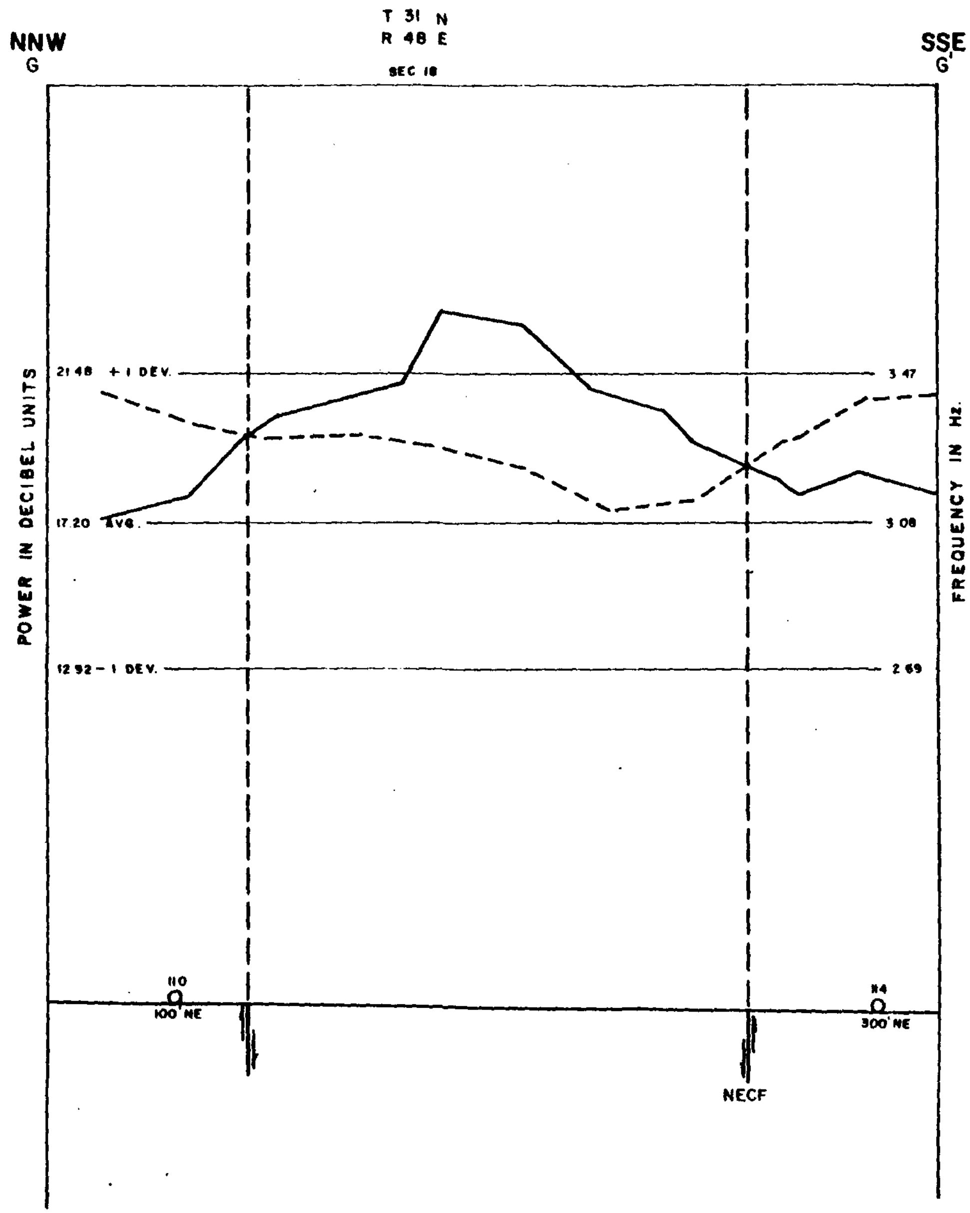


FIGURE 18

BEOWAWE AREA

GROUNDNOISE CROSS SECTION G-G'
5 - 7.5 Hz



GROUNDNOISE CROSS SECTION C-C
BEOWAWE AREA

GEOWAVE AREA
GROUNDNOISE CROSS SECTION H-H'
2-7.5 HZ

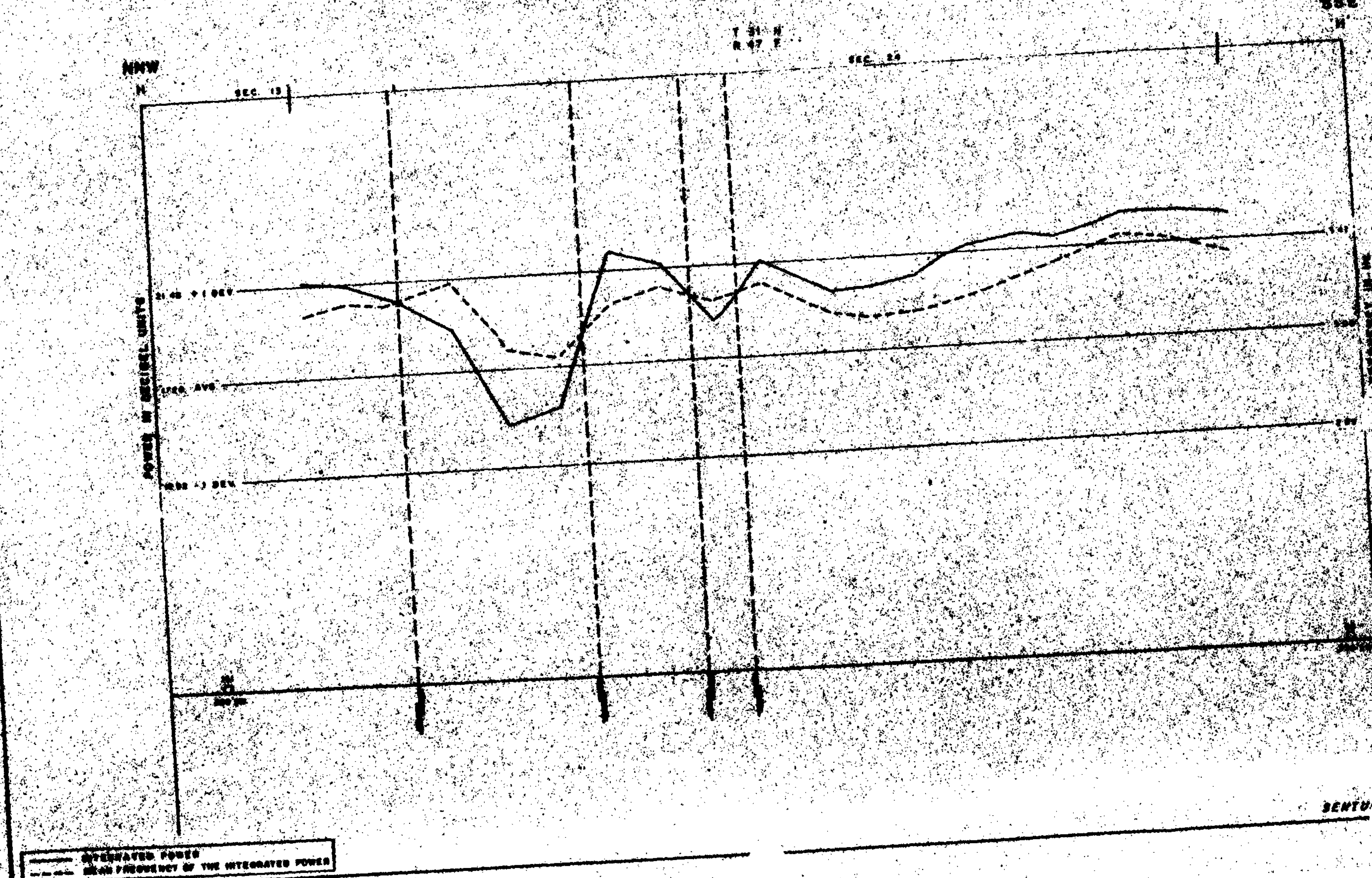


FIGURE 13B

SENTU[illegible] SCIENCES, INC.

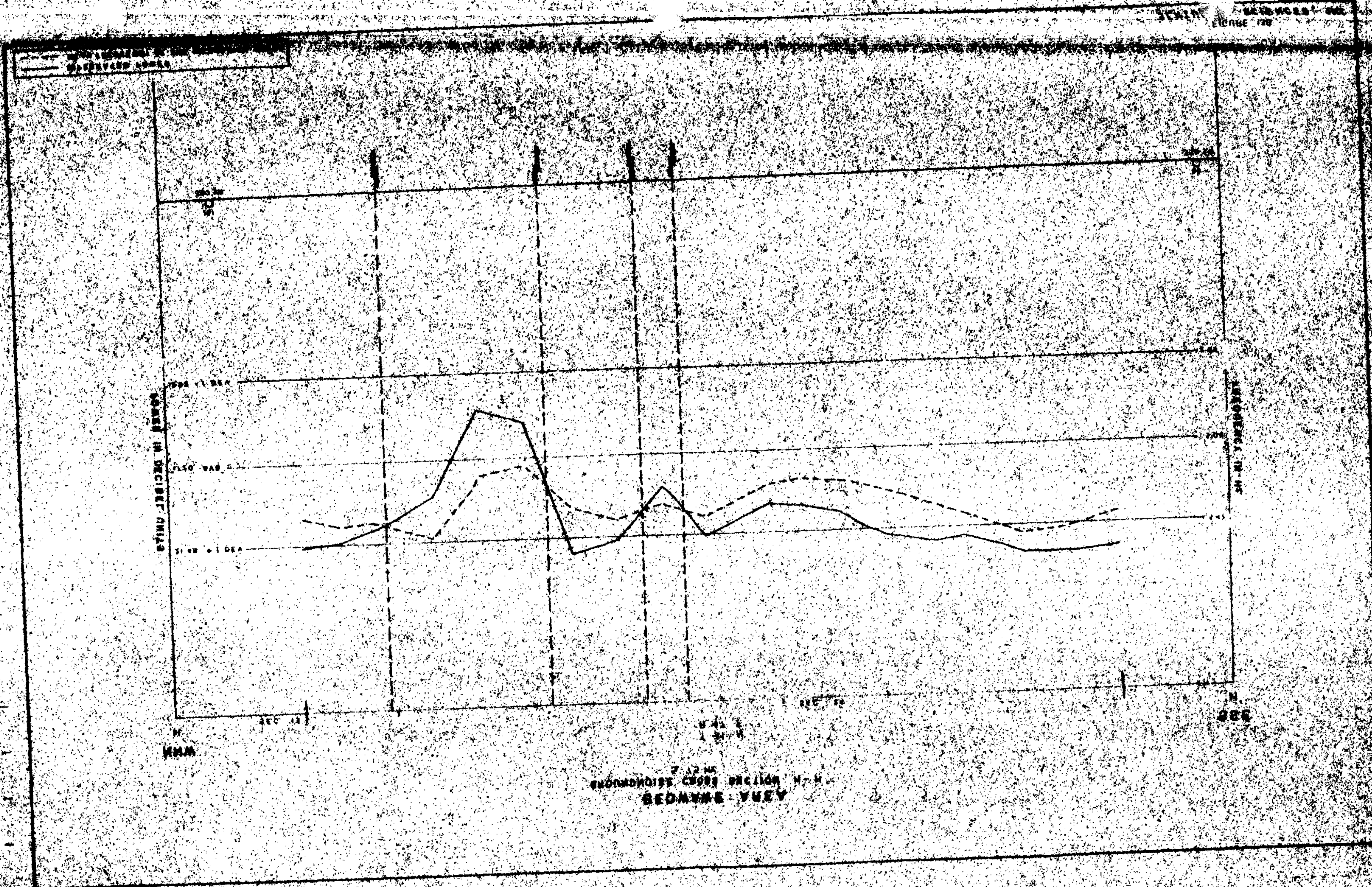
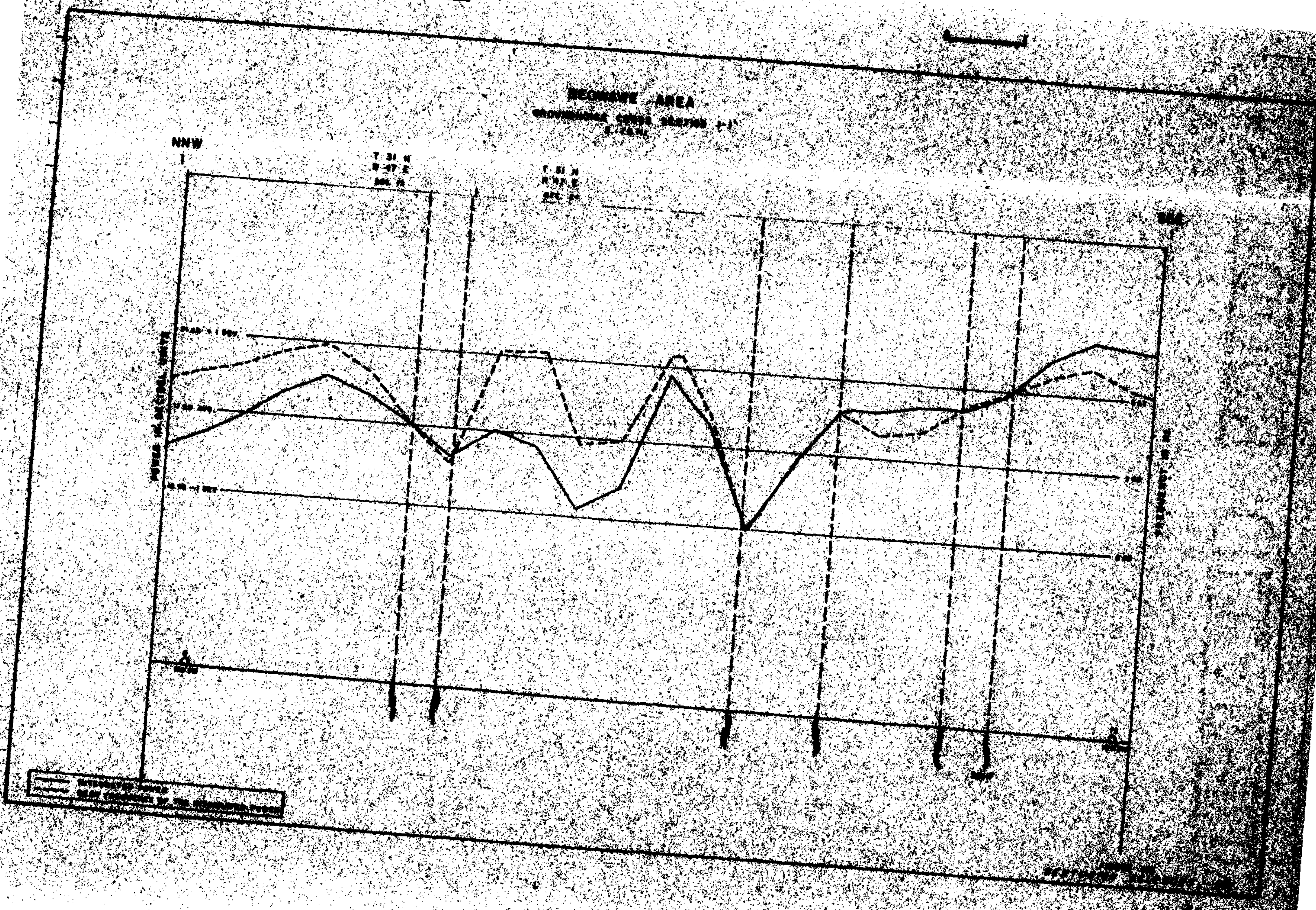
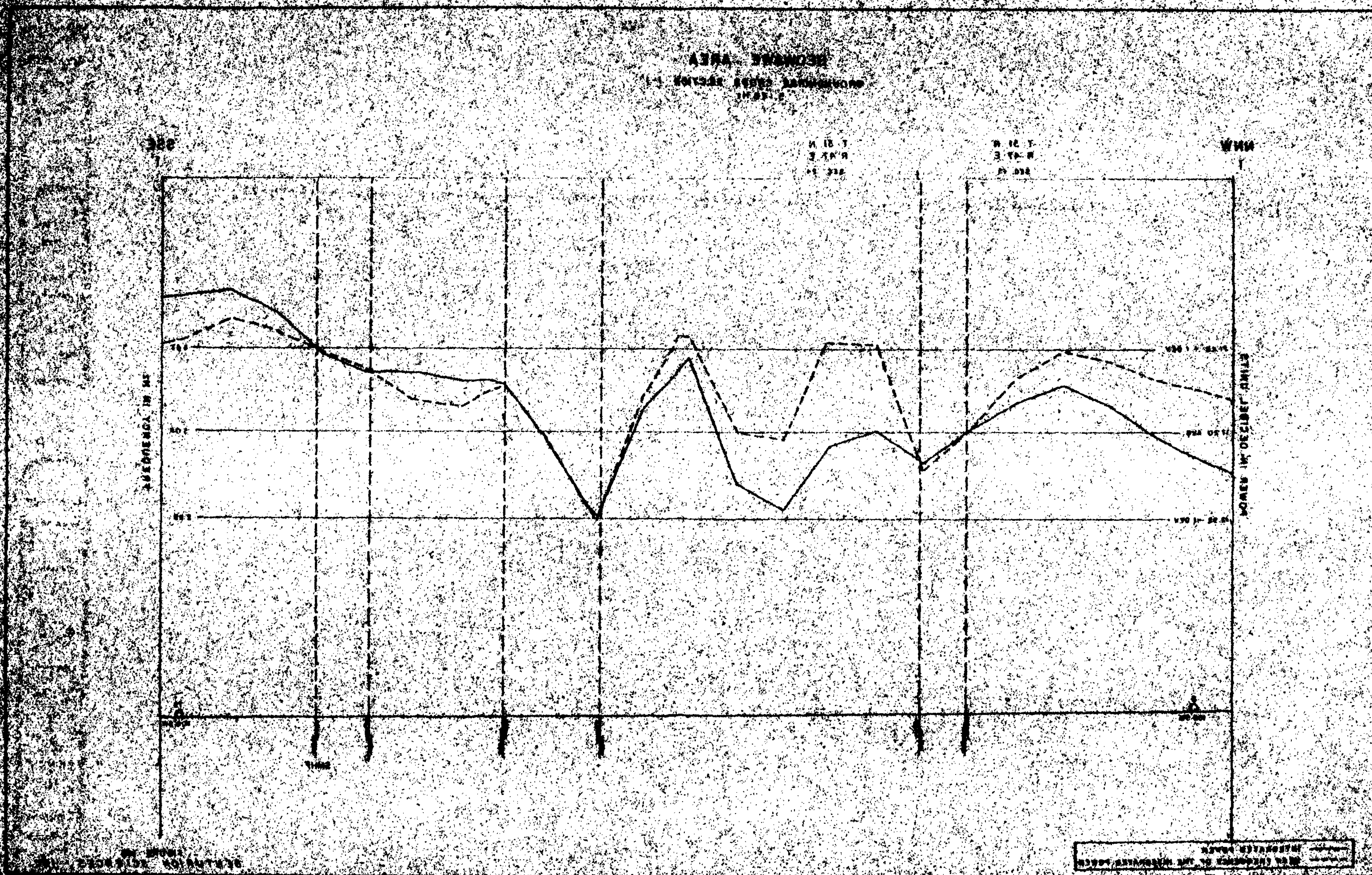
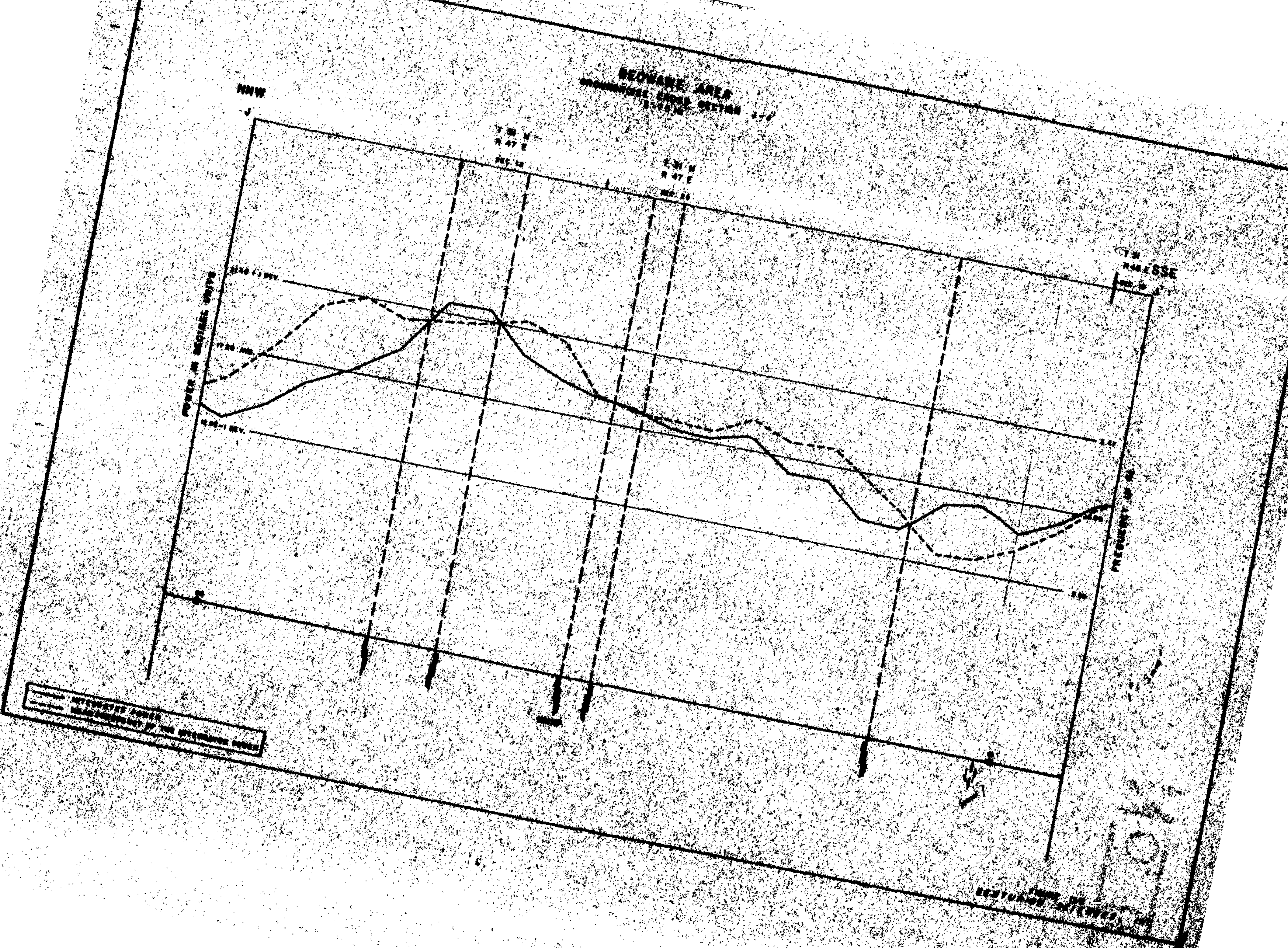
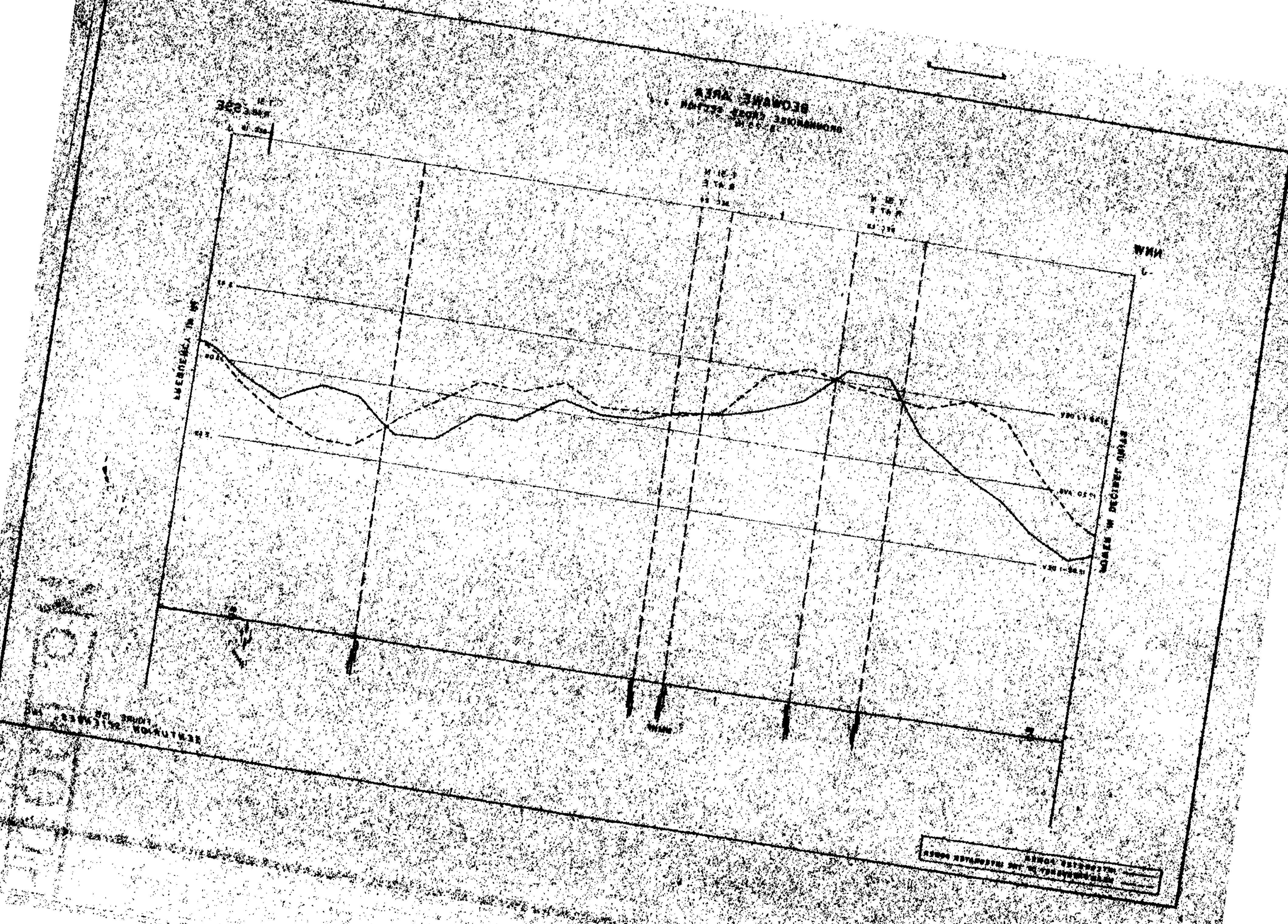


FIGURE 128
POWER IN DECIBEL UNITS
FREQUENCY IN HZ
NNW
SSE
GROUNDNOISE CROSS SECTION N-N


AREA
NNW




BEOWAWE AREA
NNW
T 31 N
R 47 E
SSE


BEOWAWE AREA
GROUNDWATER CROSS SECTION
SSE
NNW

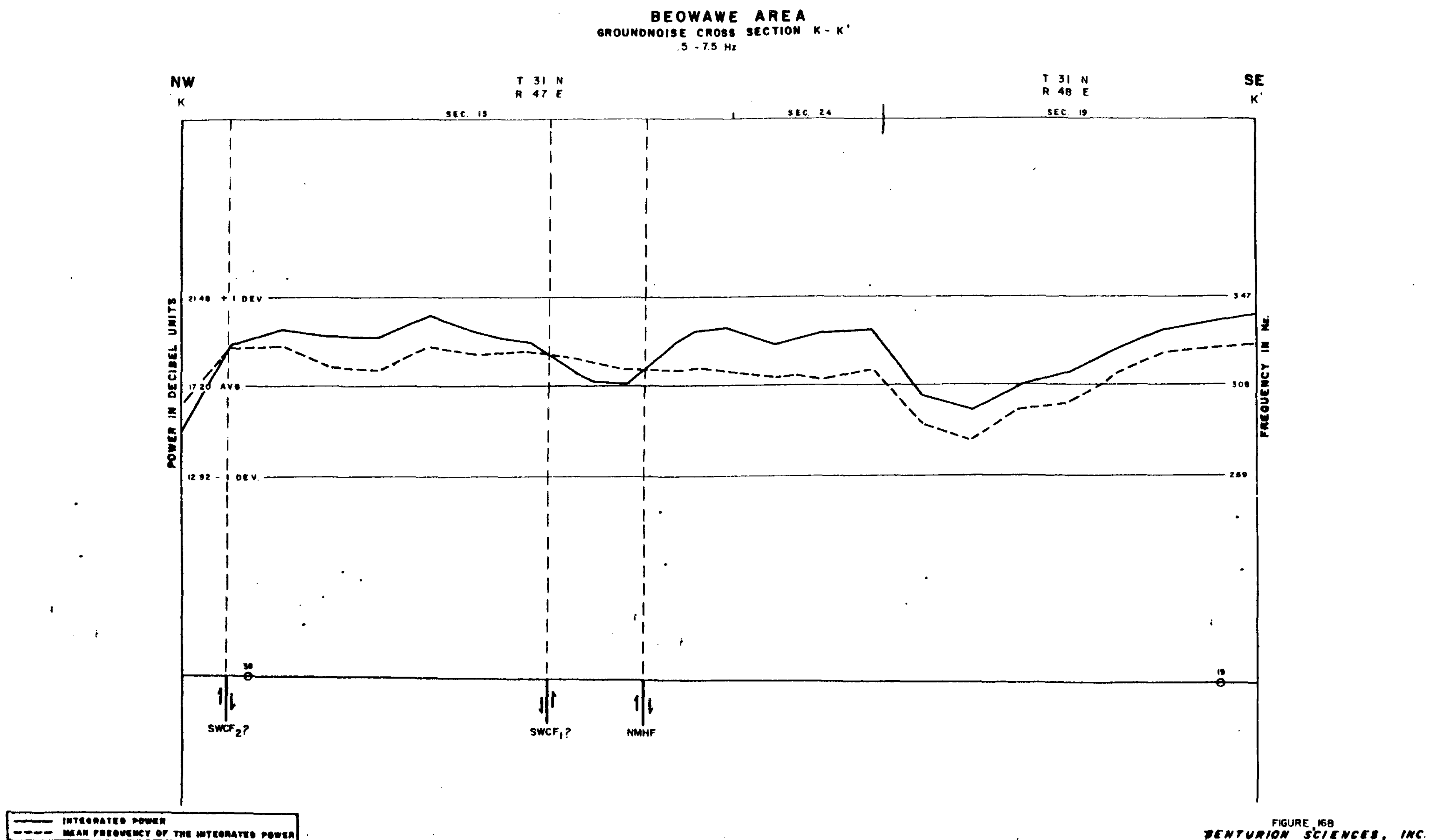
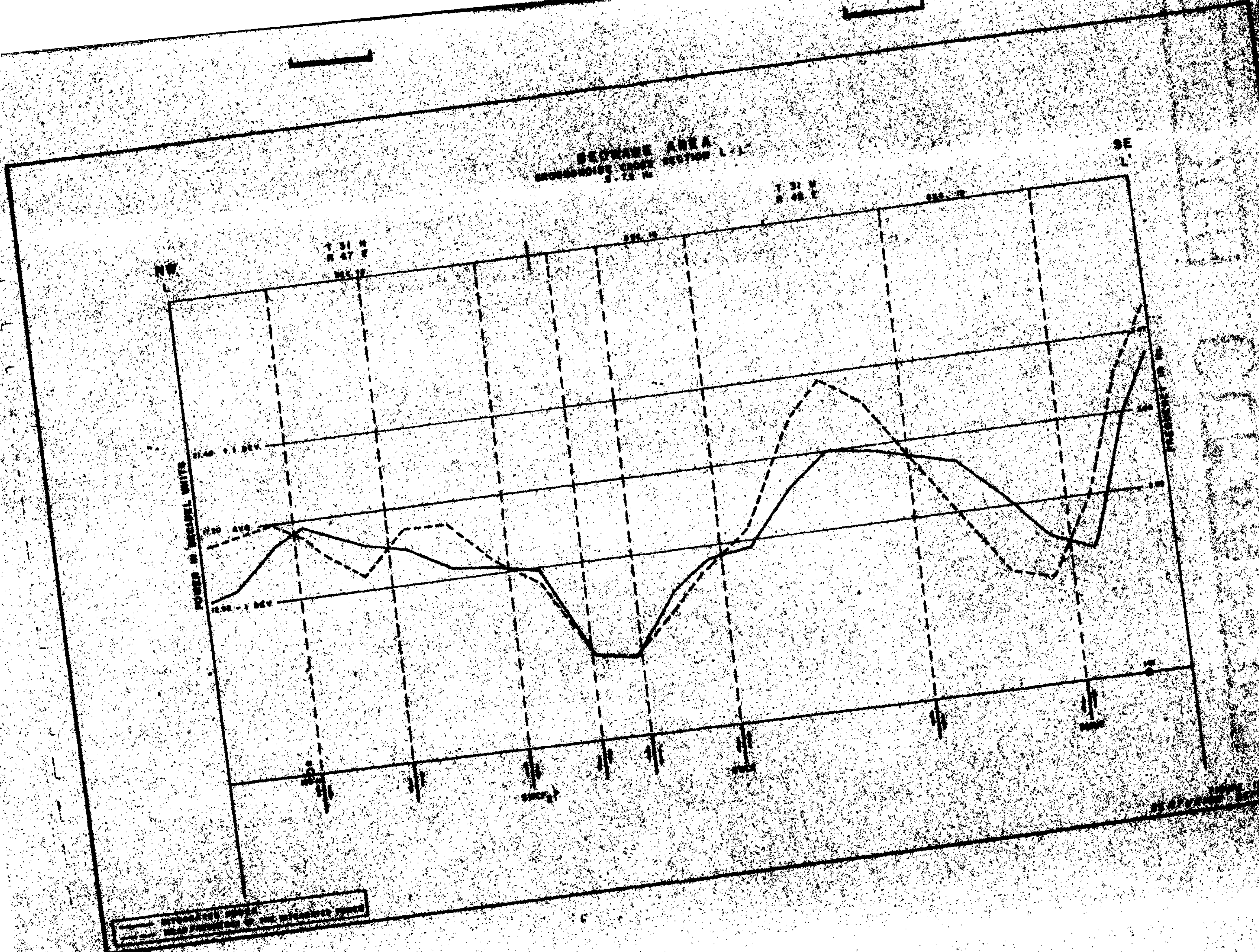


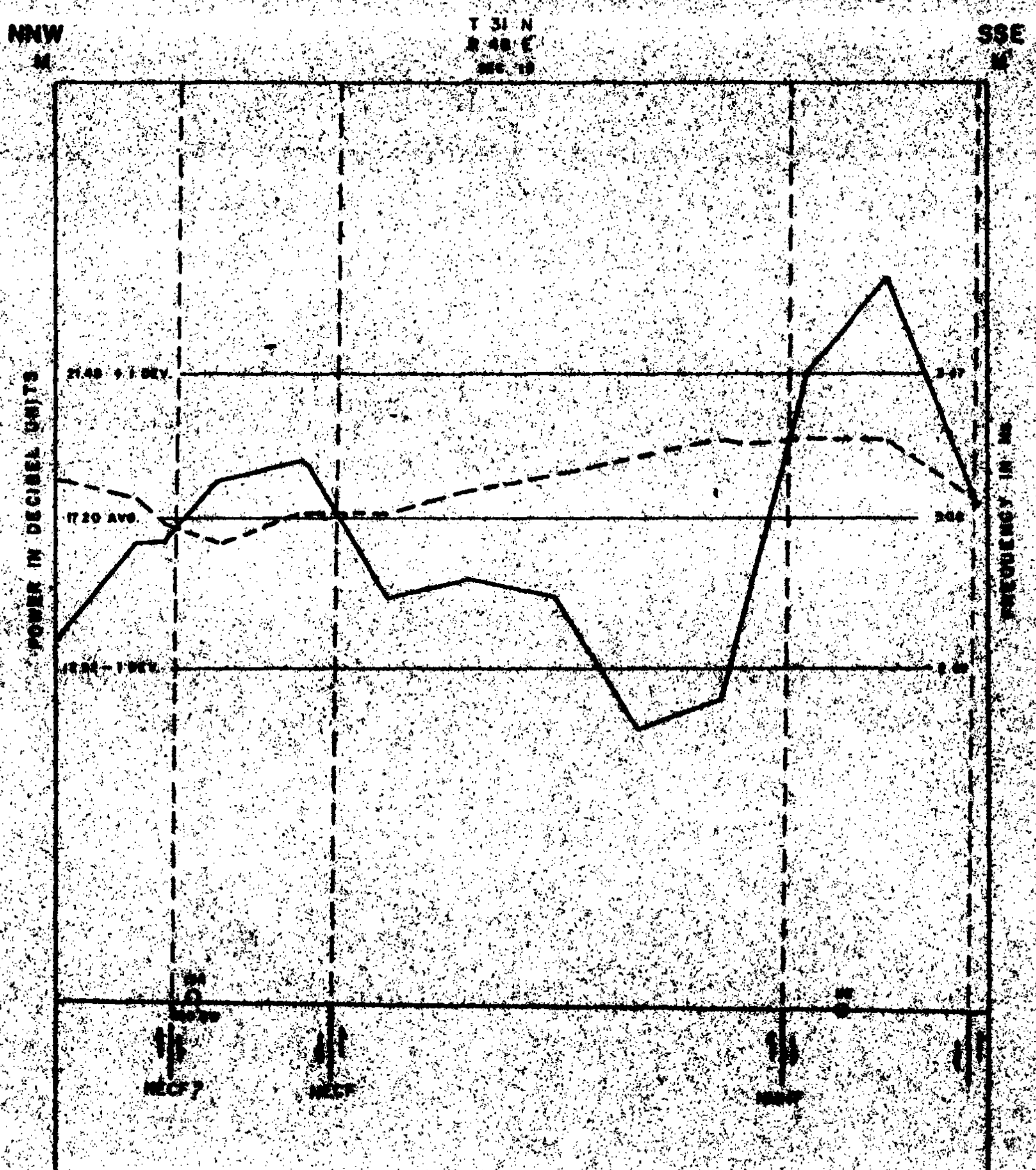
FIGURE 16B

CENTURION SCIENCES, INC.



NW
L
SE
L'
T 31 N
R 47 E
T 31 N
R 48 E
AVG.
+1 DEV.
-1 DEV.

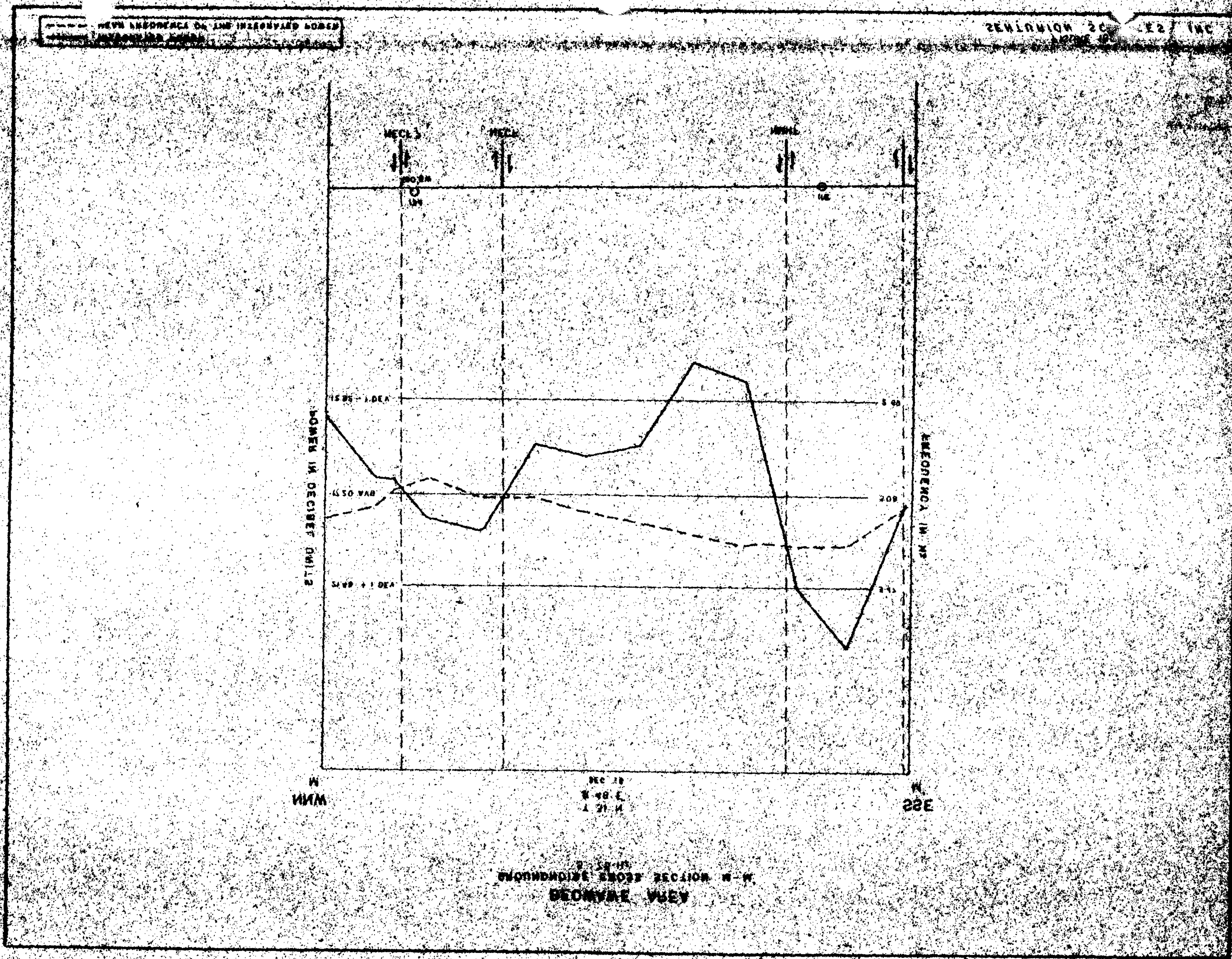
BEOWAWE AREA
GROUNDNOISE CROSS SECTION M-M'



——— INTEGRATED POWER
– – – MEAN FREQUENCY OF THE INTEGRATED POWER

FIGURE 18

SENTURION SC[illegible]ES INC


BEOWAWE AREA
GROUNDNOISE CROSS SECTION M-M
NNW
SSE
M
M
SEC 18
T 31 N
R 48 E
POWER IN DECIBEL UNITS
FREQUENCY IN HZ
MEAN FREQUENCY OF THE INTEGRATED POWER
INTEGRATED POWER
SENTURION SC ES INC

BEOWAWE AREA

GROUNDNOISE CROSS SECTION N - N'

5 - 75 Hz

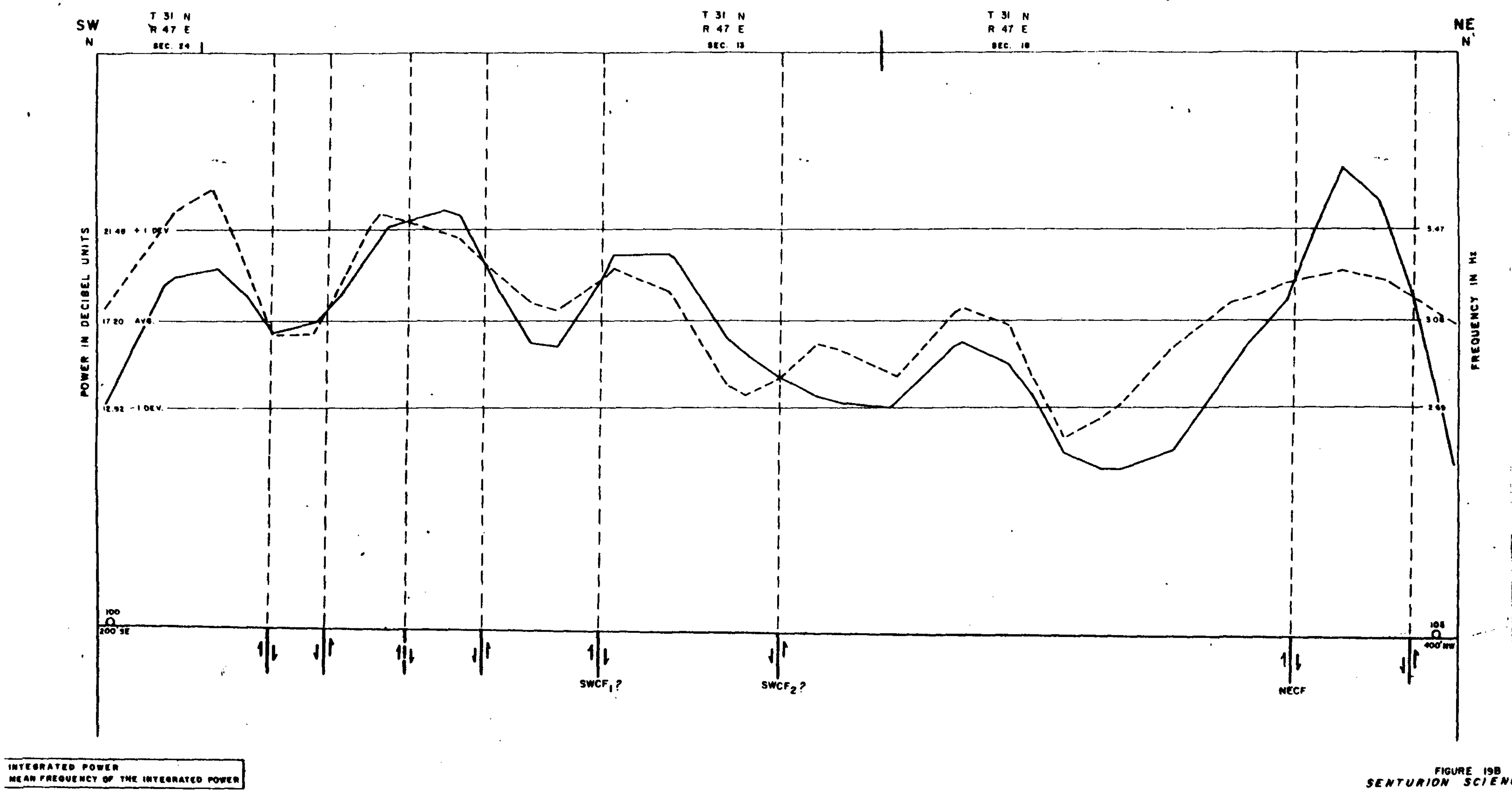
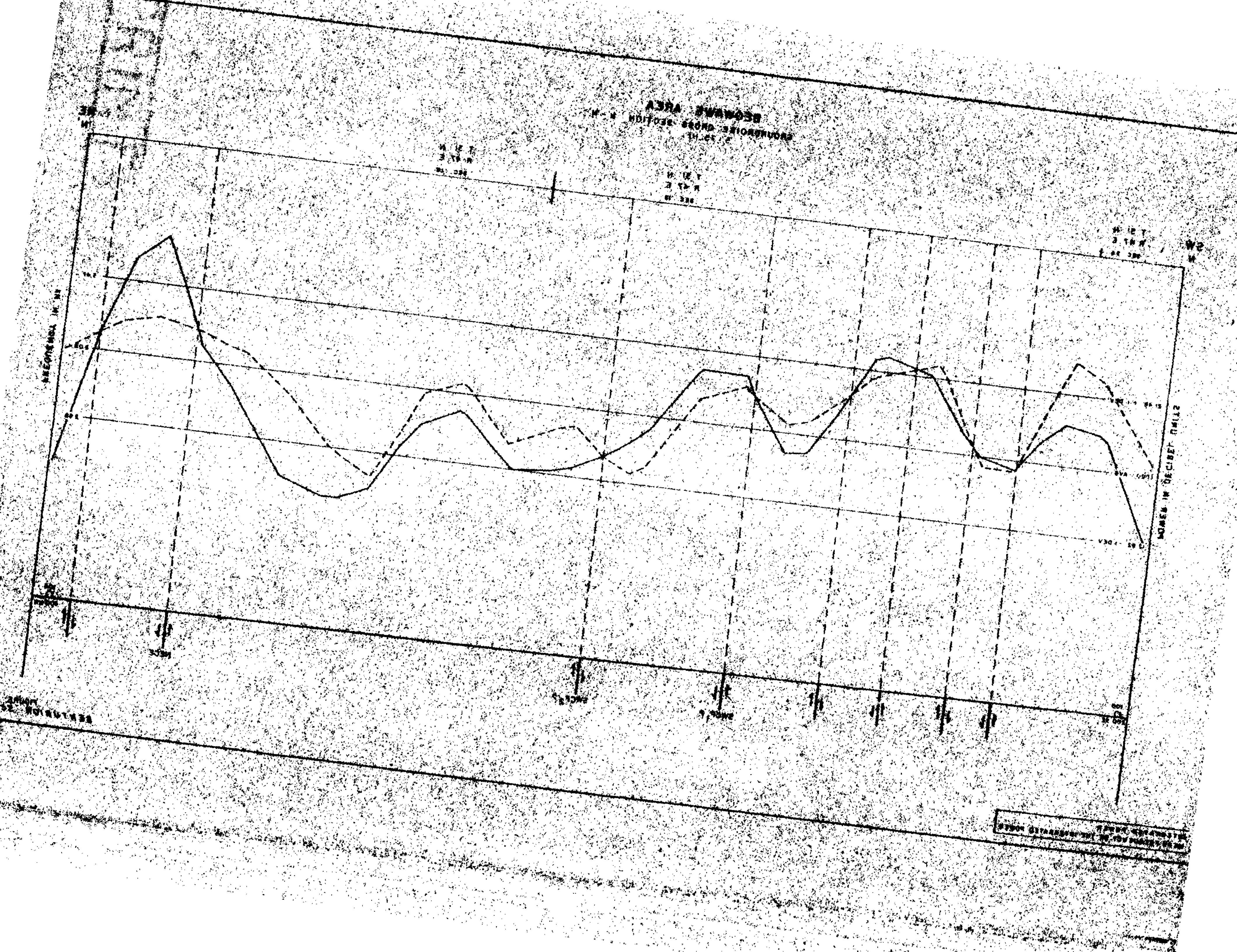


FIGURE 19B

SENTURION SCIEN


BEOWAWE AREA
POWER IN DECIBEL UNITS

BEOWAWE AREA
GROUNDWAVE CROSS SECTION D-D'

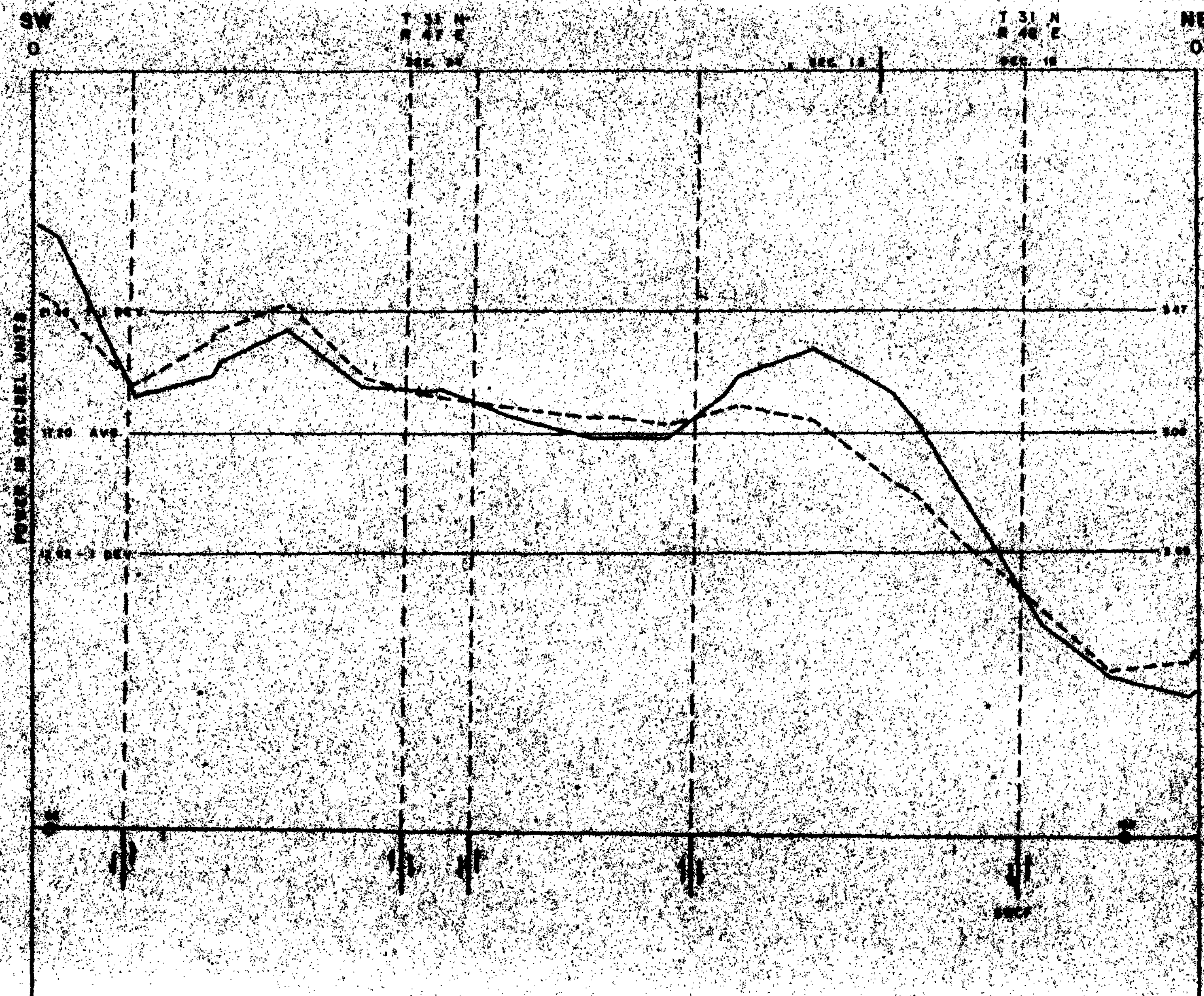
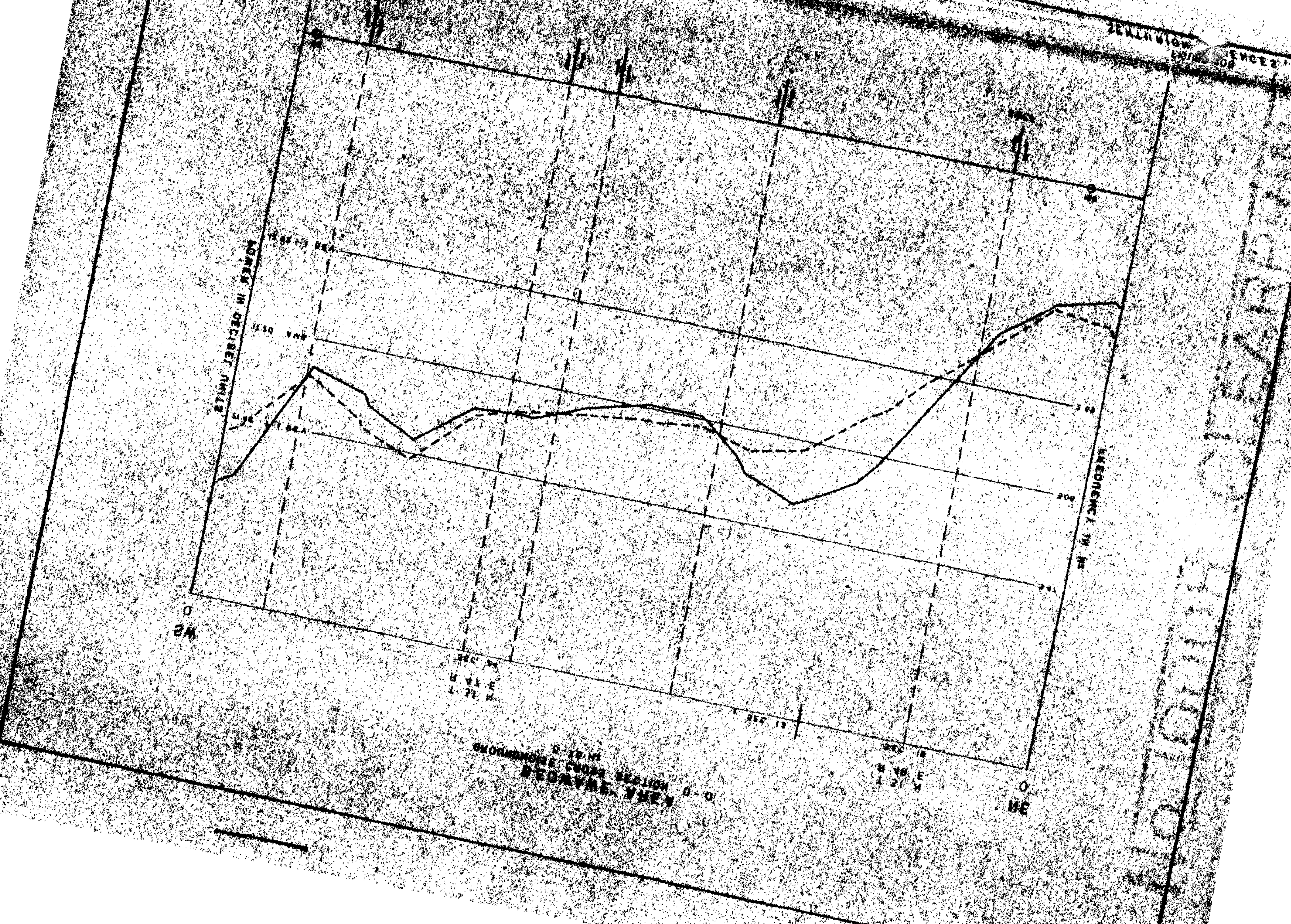
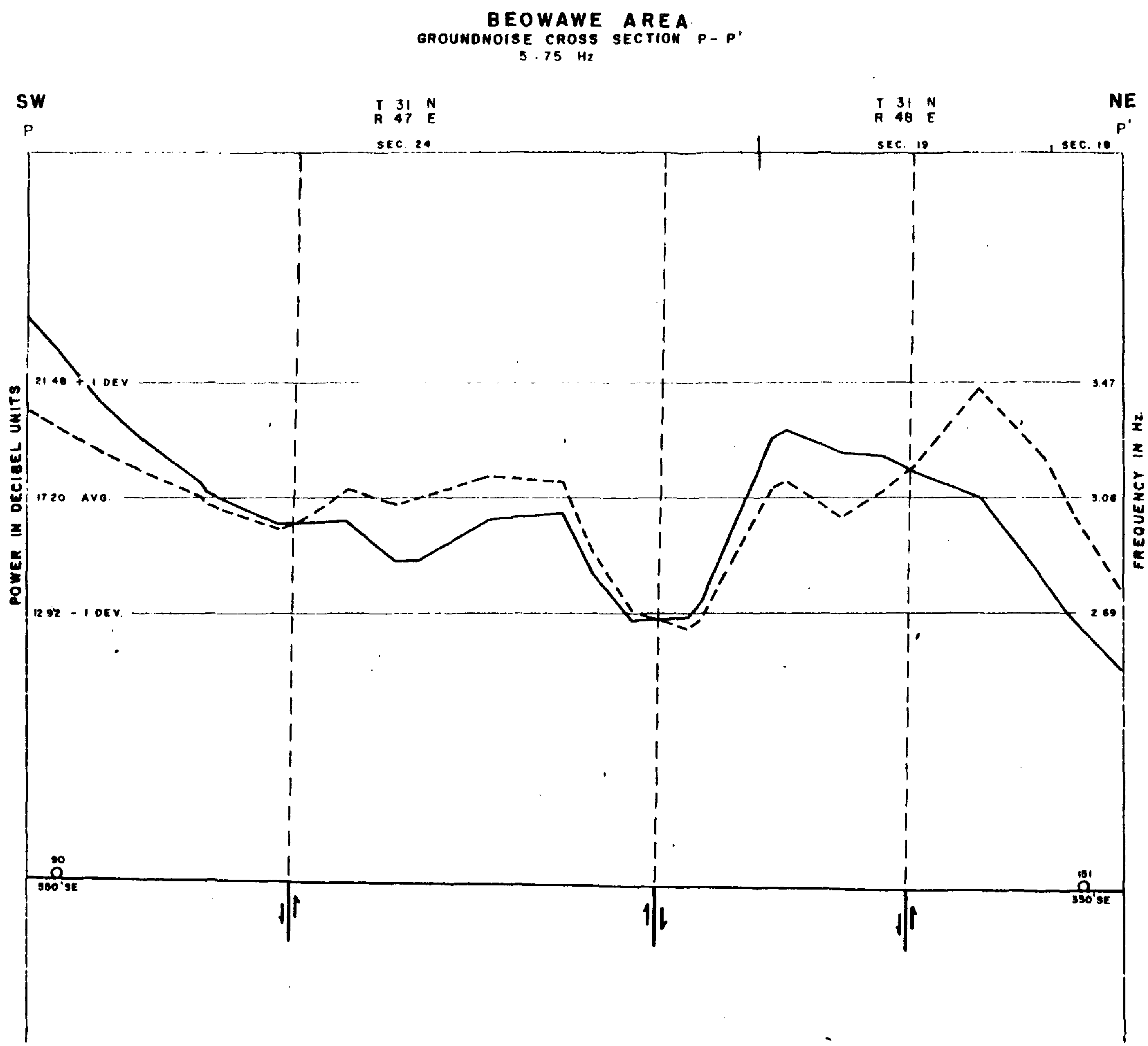


FIGURE 20B
SENTURION ...ENCES, INC.

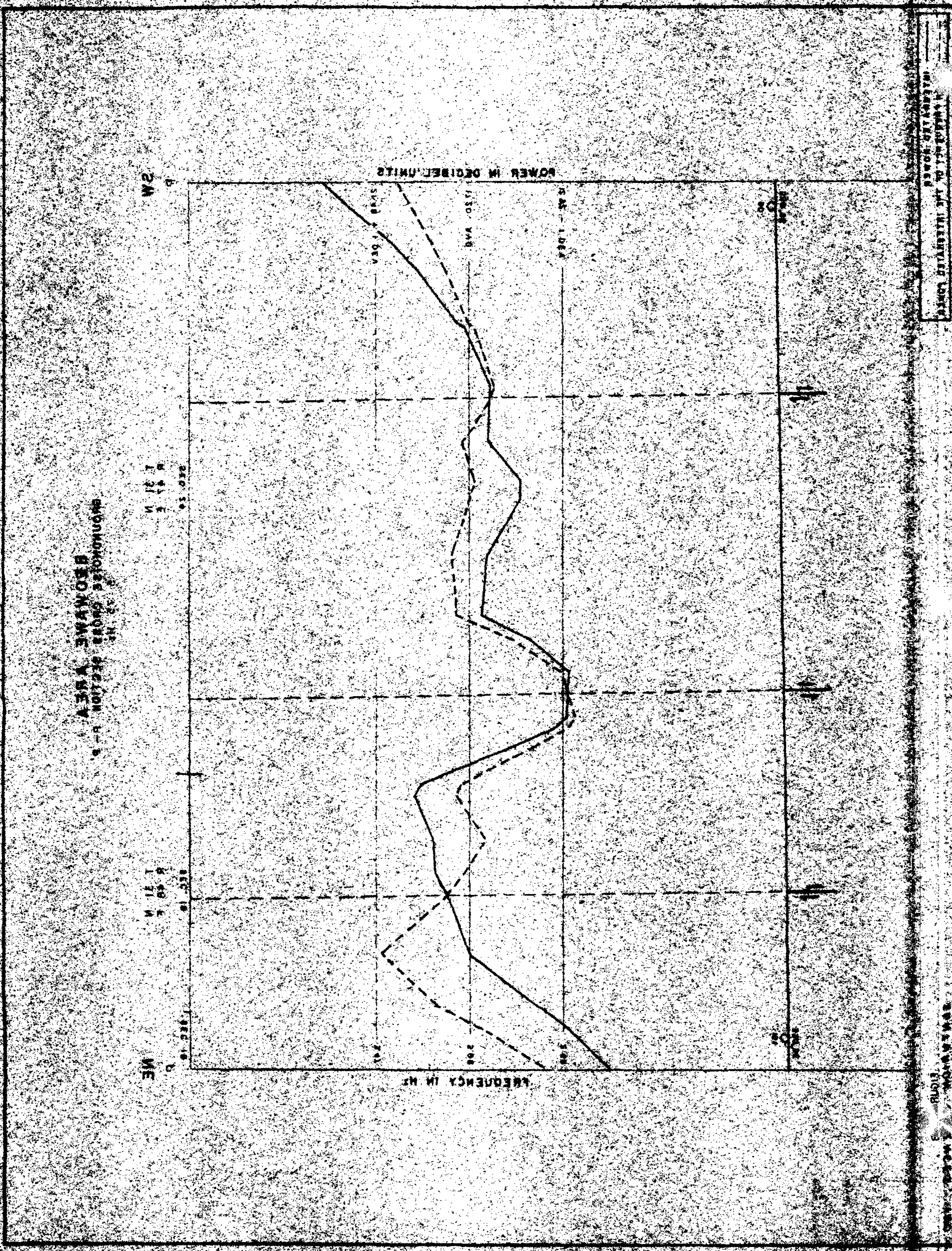

BEOWAWE AREA
SW
NE



INTEGRATED POWER
N FREQUENCY OF THE INTEGRATED POWER

FIGUR 3

SENTURION . ENCES, INC


NE
SW
FREQUENCY IN HZ
POWER IN DECIBEL UNITS

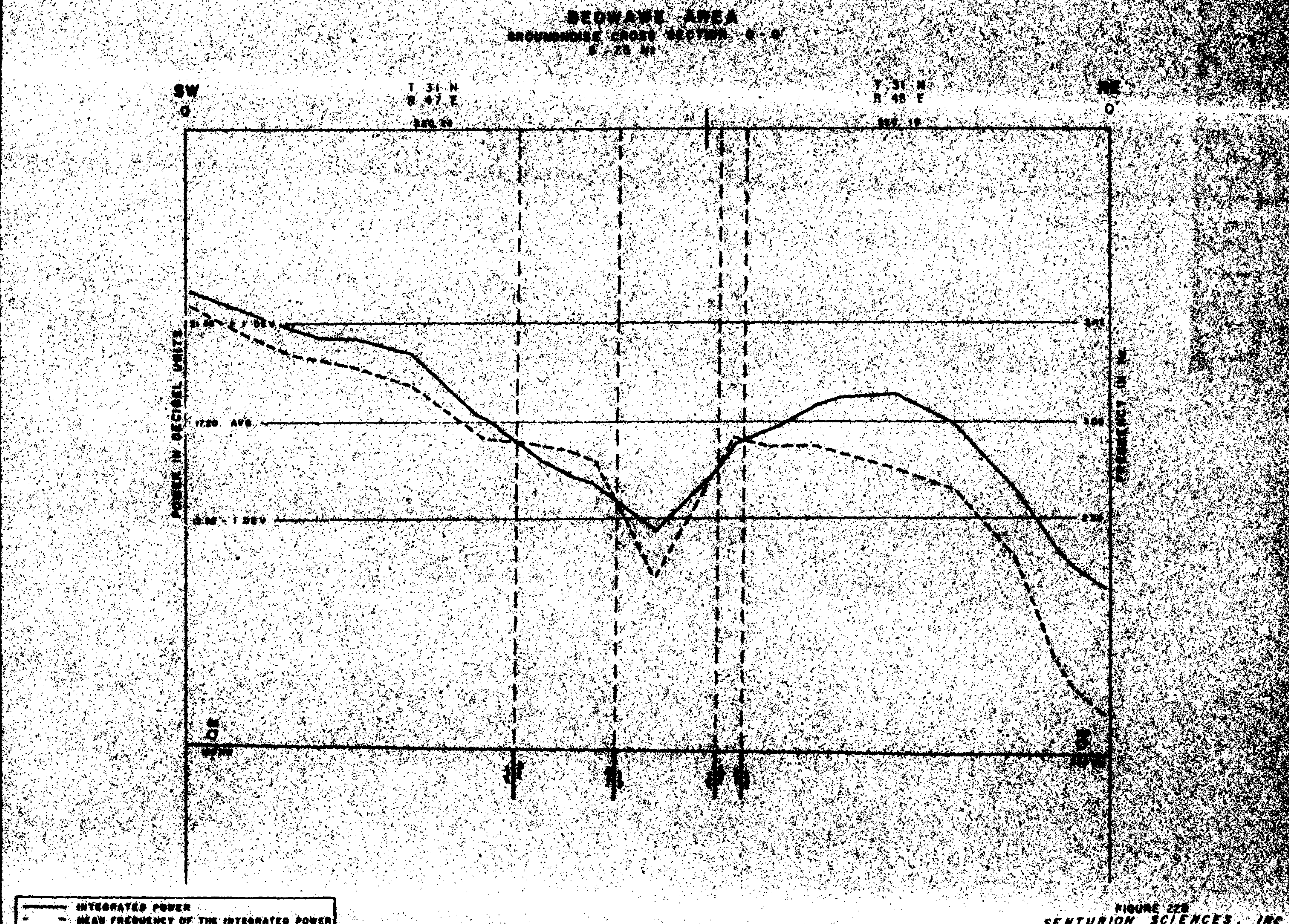
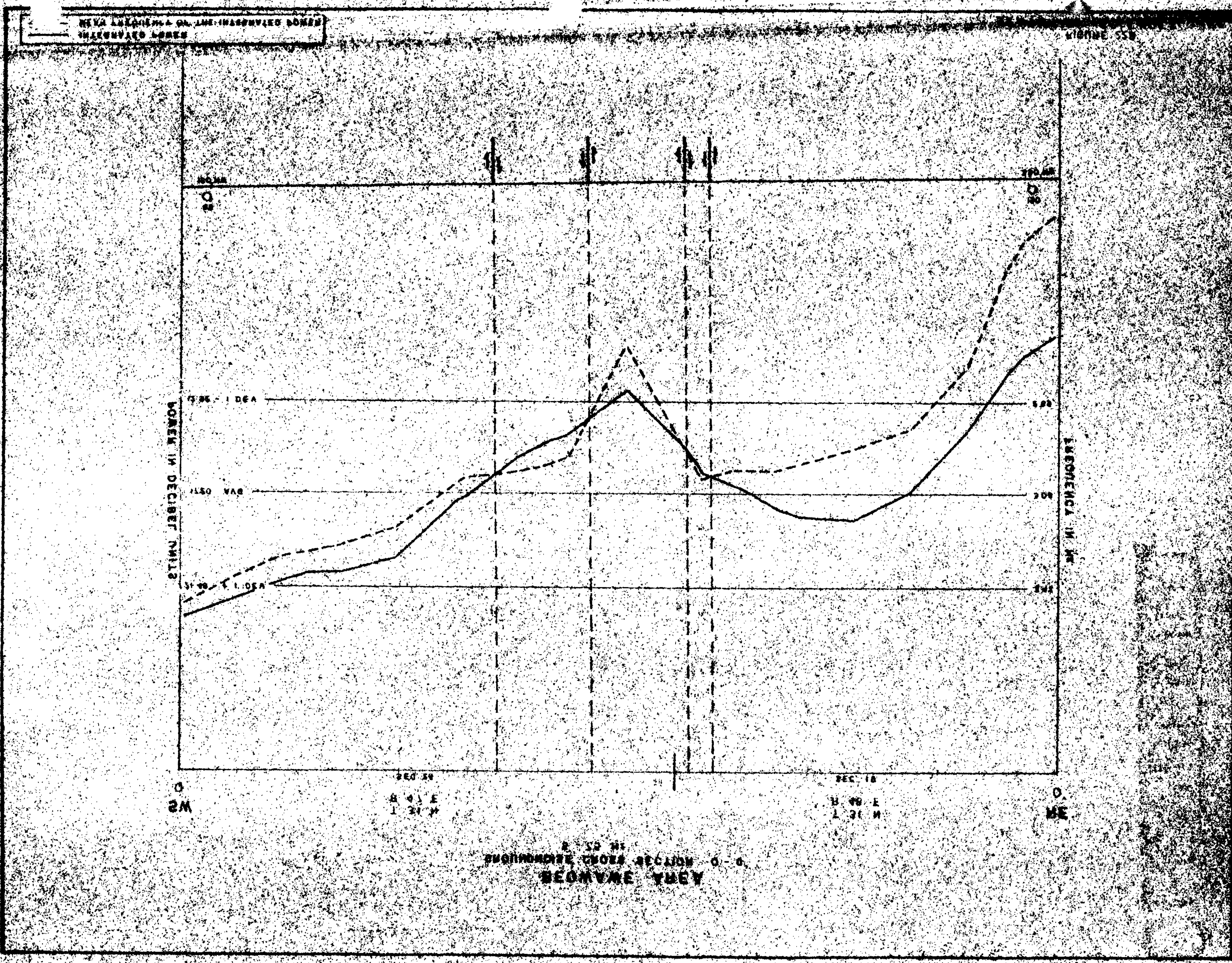
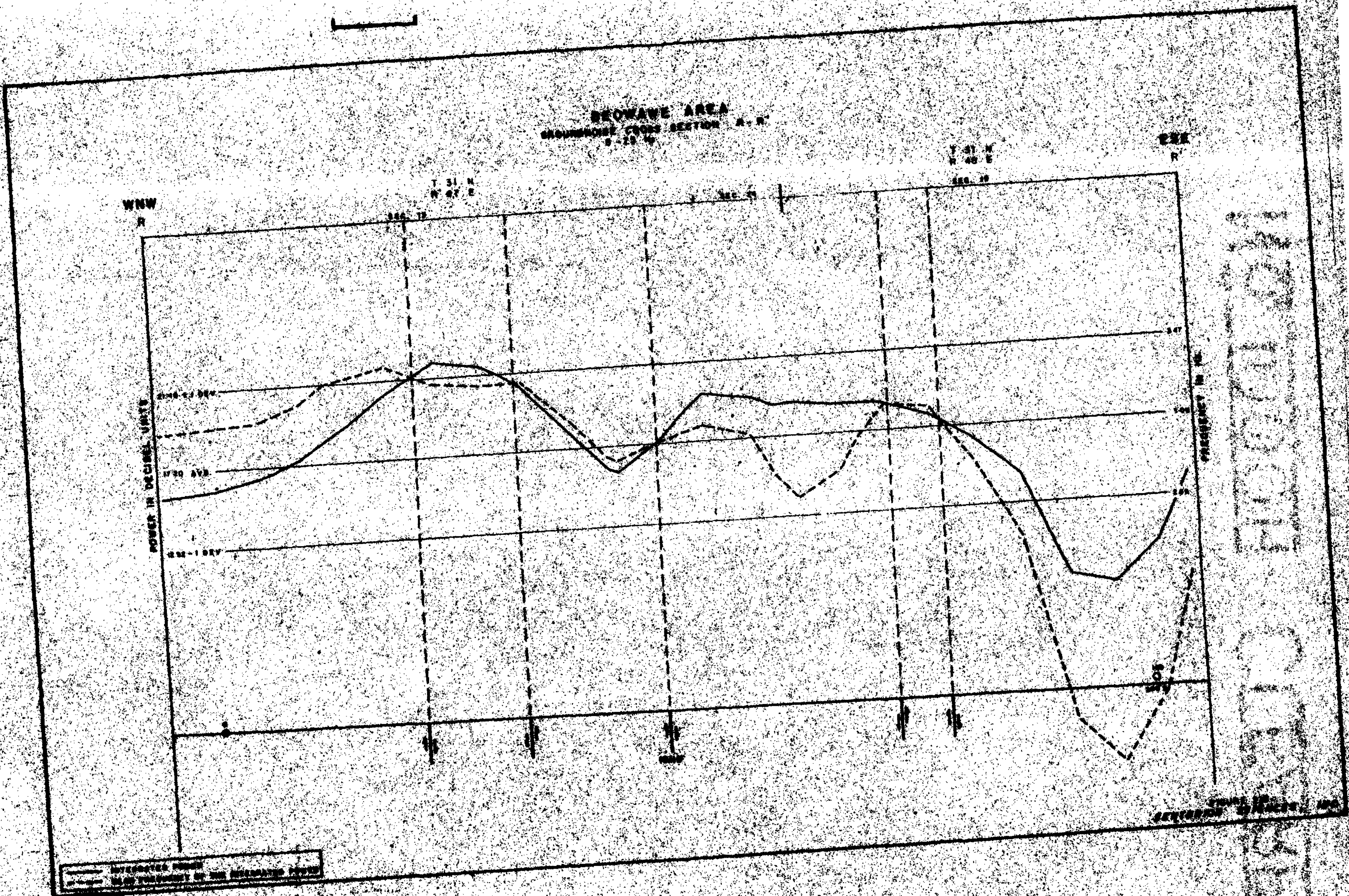
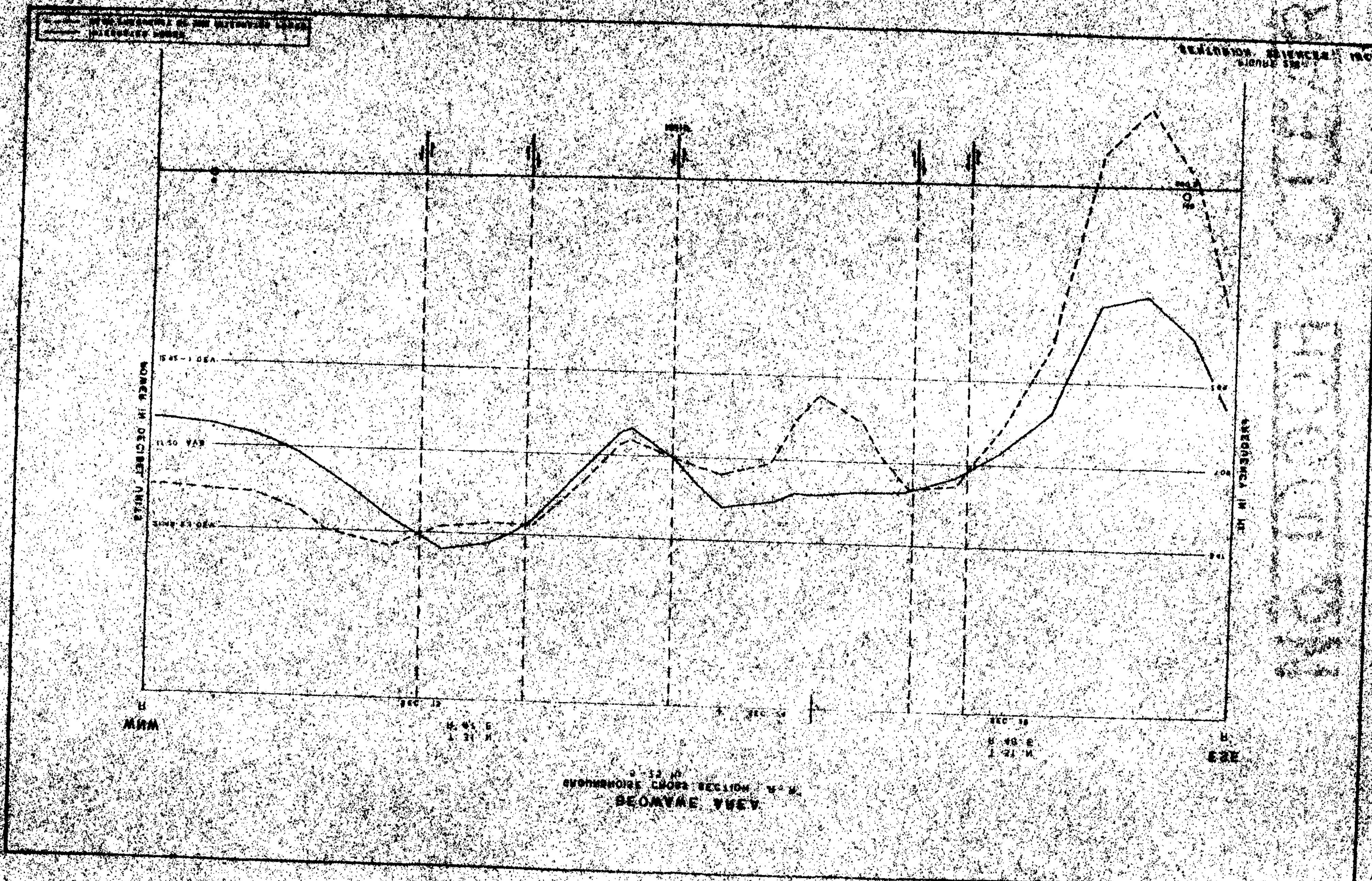


FIGURE 22B
SENTURION SCIENCES, INC


BEOWAWE AREA
GROUNDNOISE CROSS SECTION O-O
SW
NE
T 31 N
R 47 E
T 31 N
R 48 E
SEC 24
SEC 18
POWER IN DECIBEL UNITS
FREQUENCY IN HZ
AVG
INTEGRATED POWER
MEAN FREQUENCY OF THE INTEGRATED POWER


BEOWAWE AREA
WNW
R
T 31 N
T 31 N


BEOWAWE AREA
GROUNDNOISE CROSS SECTION
WNW
ESE

BEOWAWE AREA
GROUNDNOISE CROSS SECTION S - S'
5 - 75 Hz

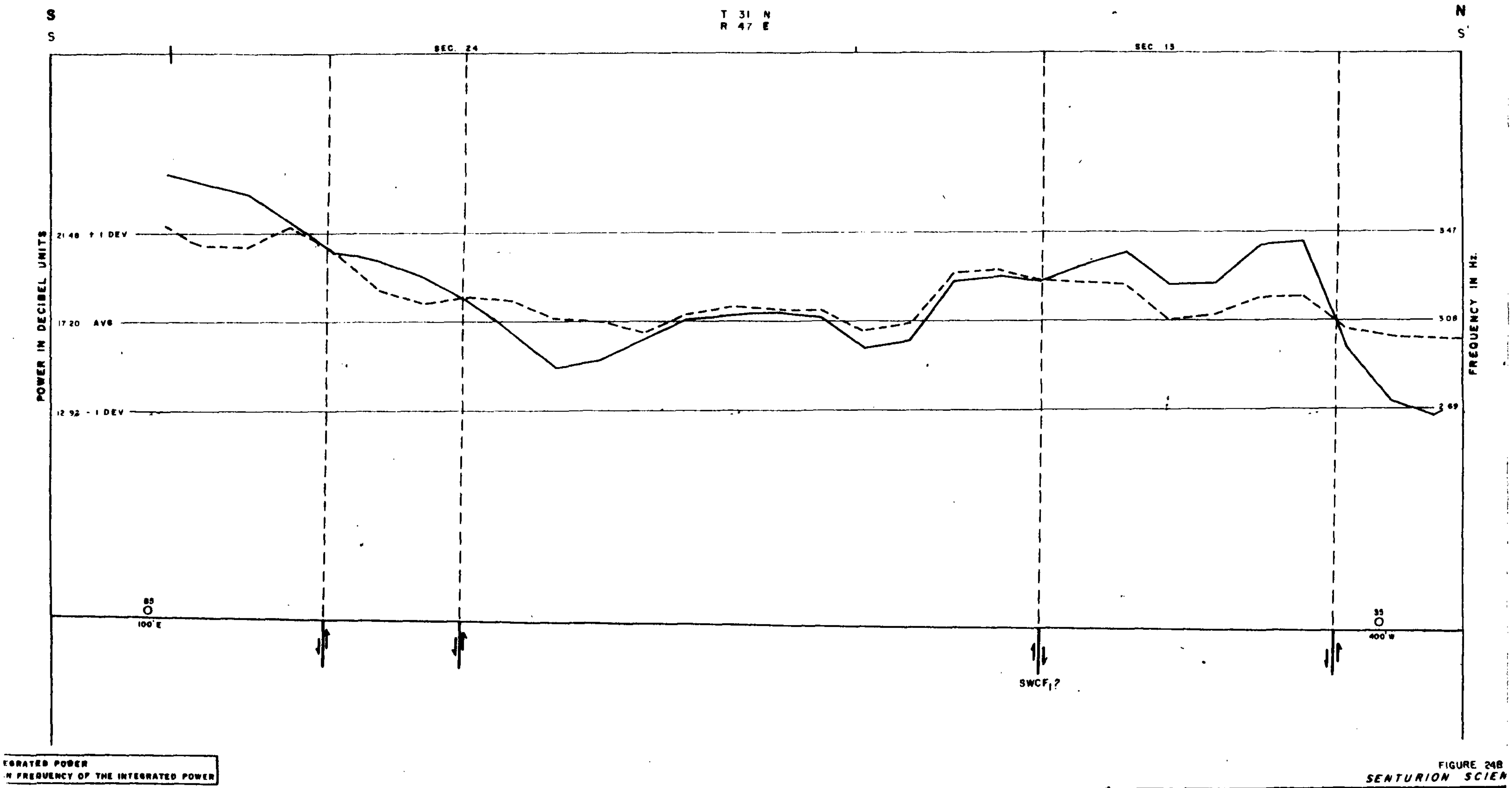
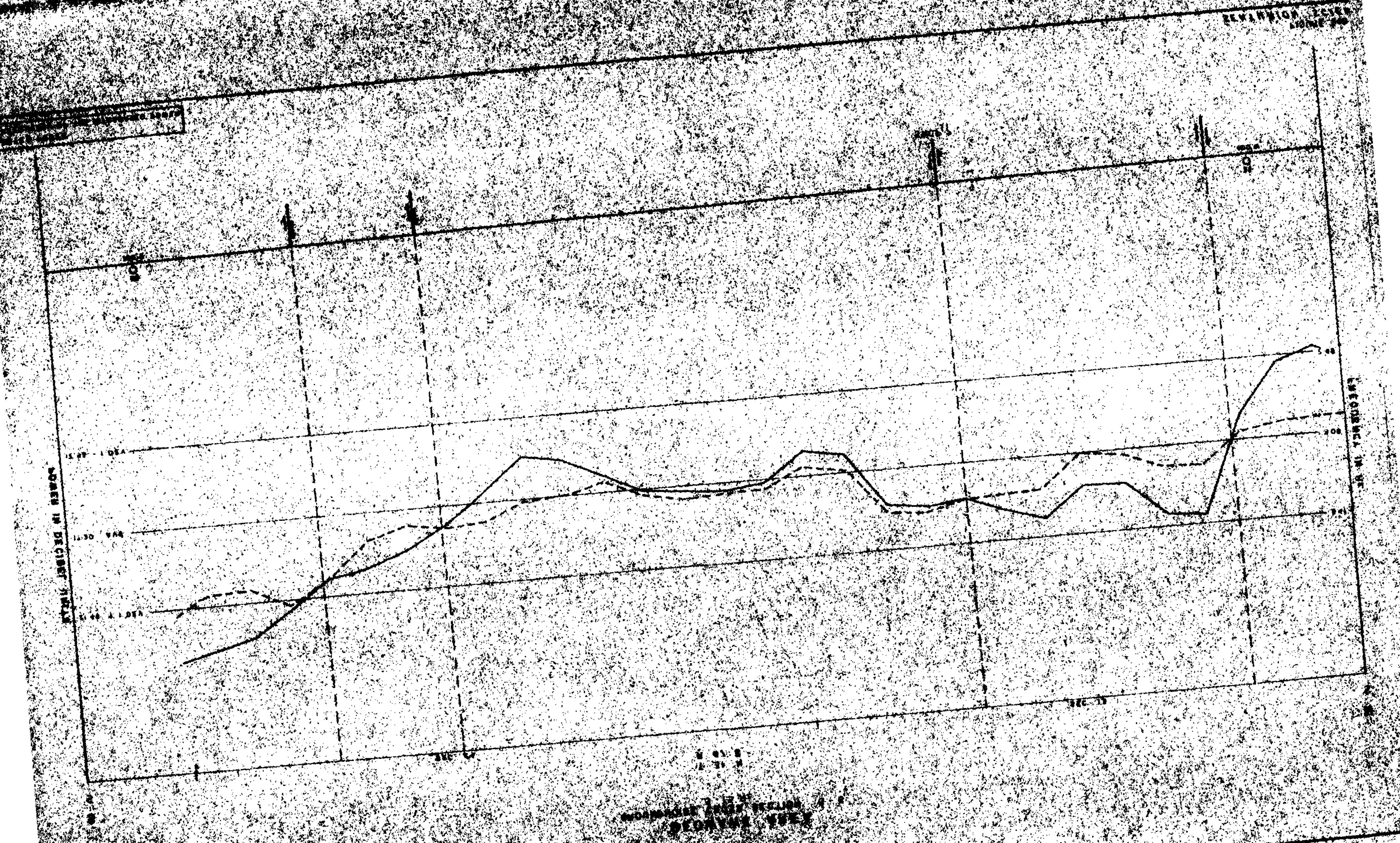
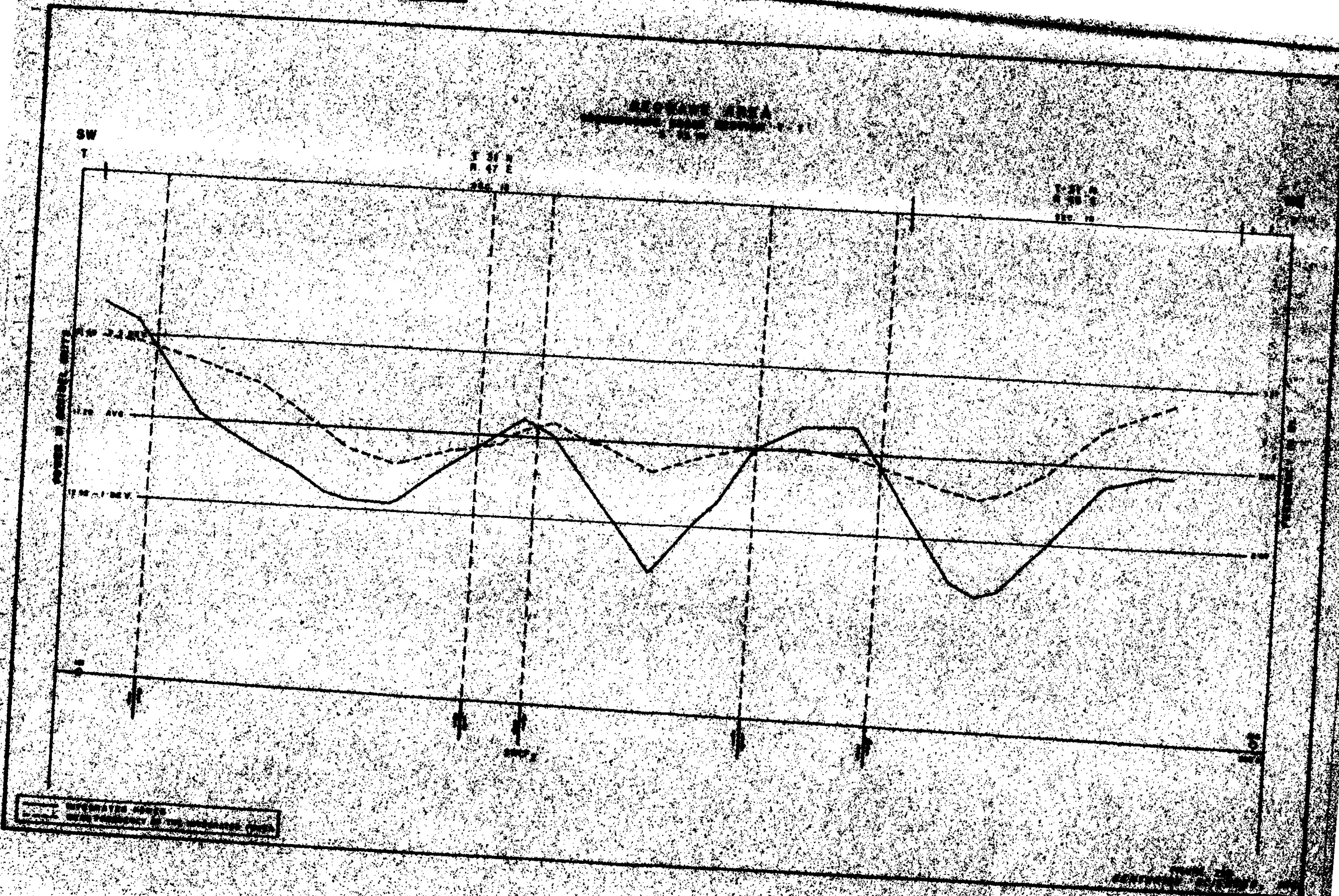
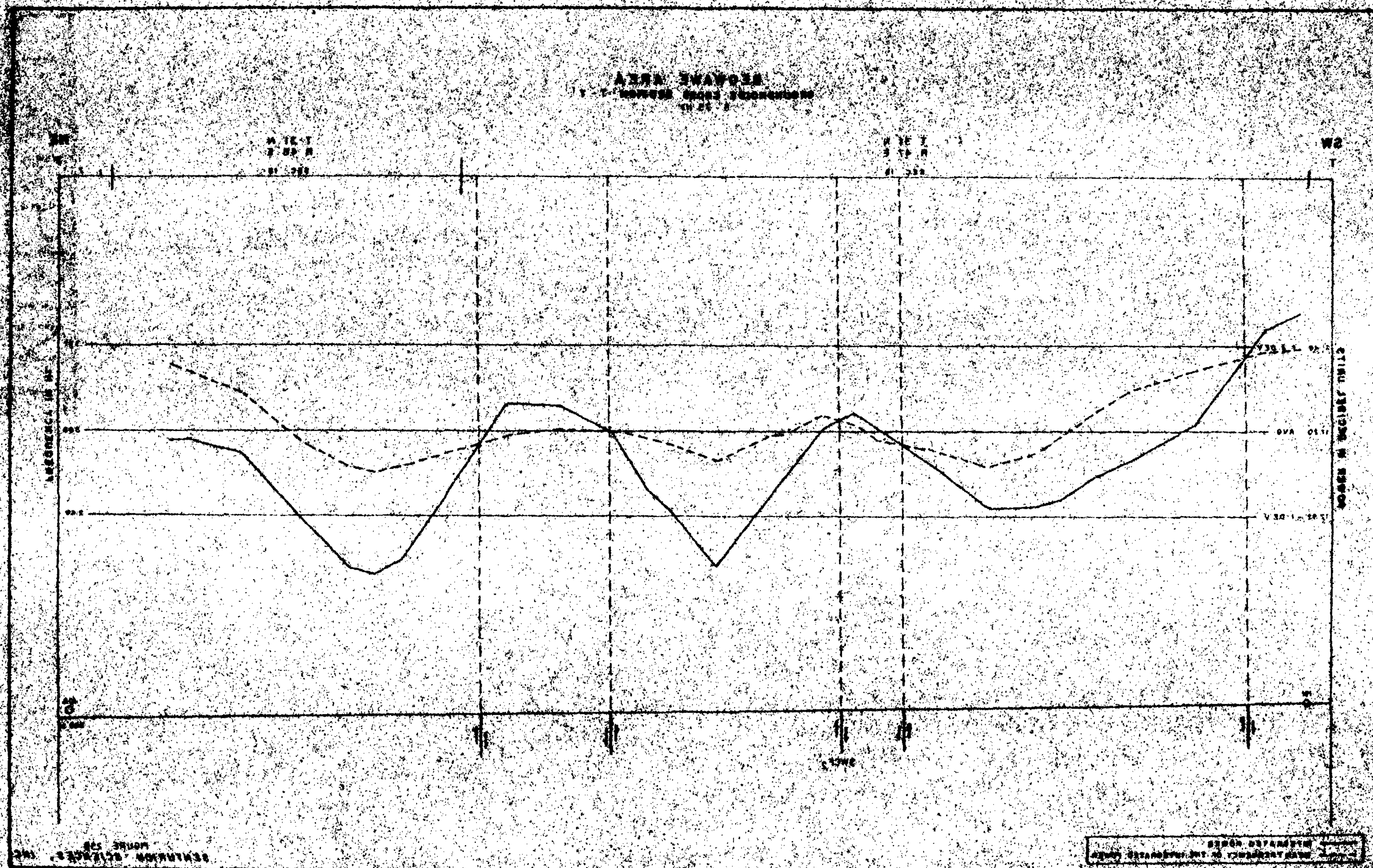


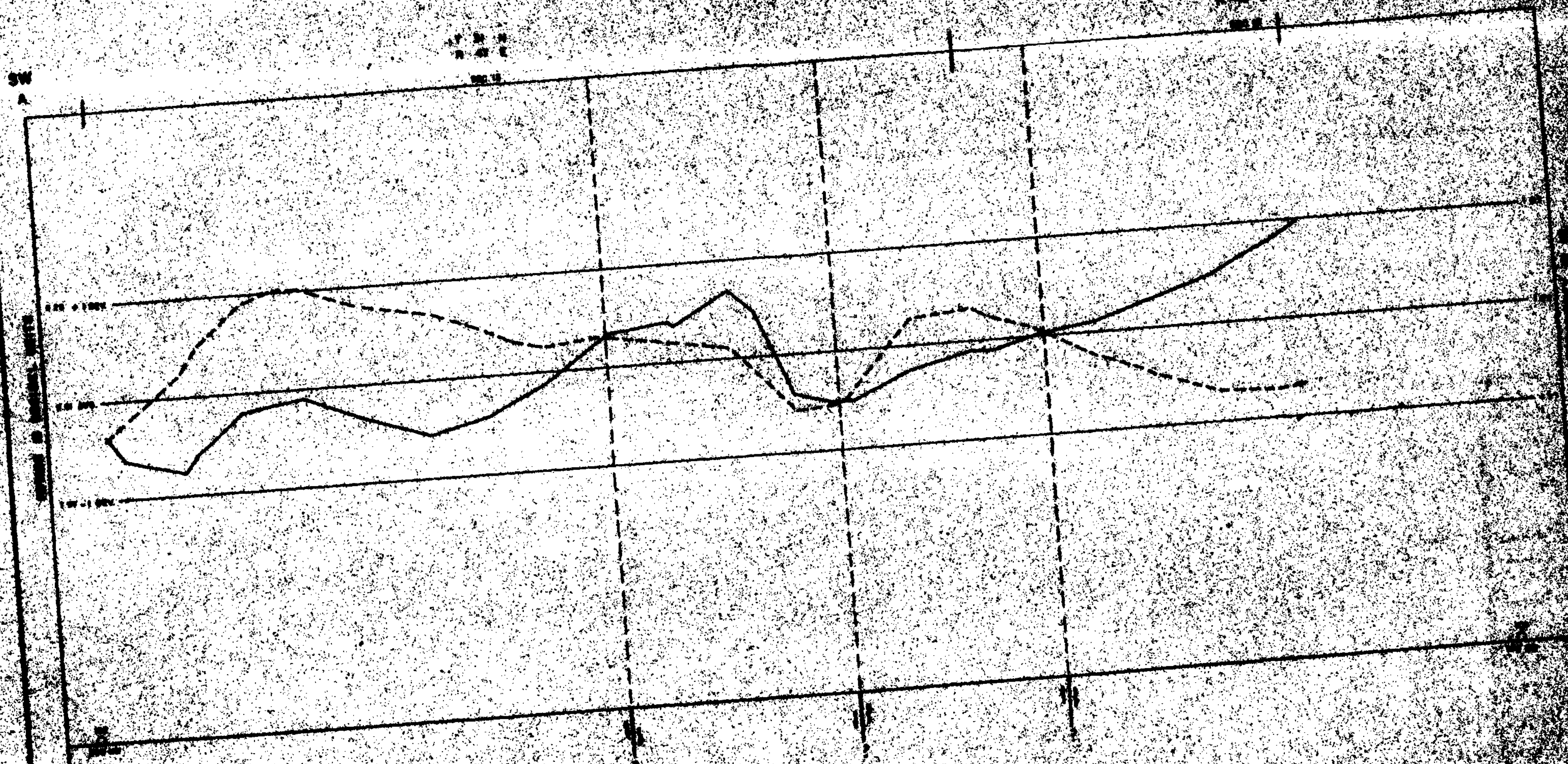
FIGURE 24B
SENTURION SCIEN

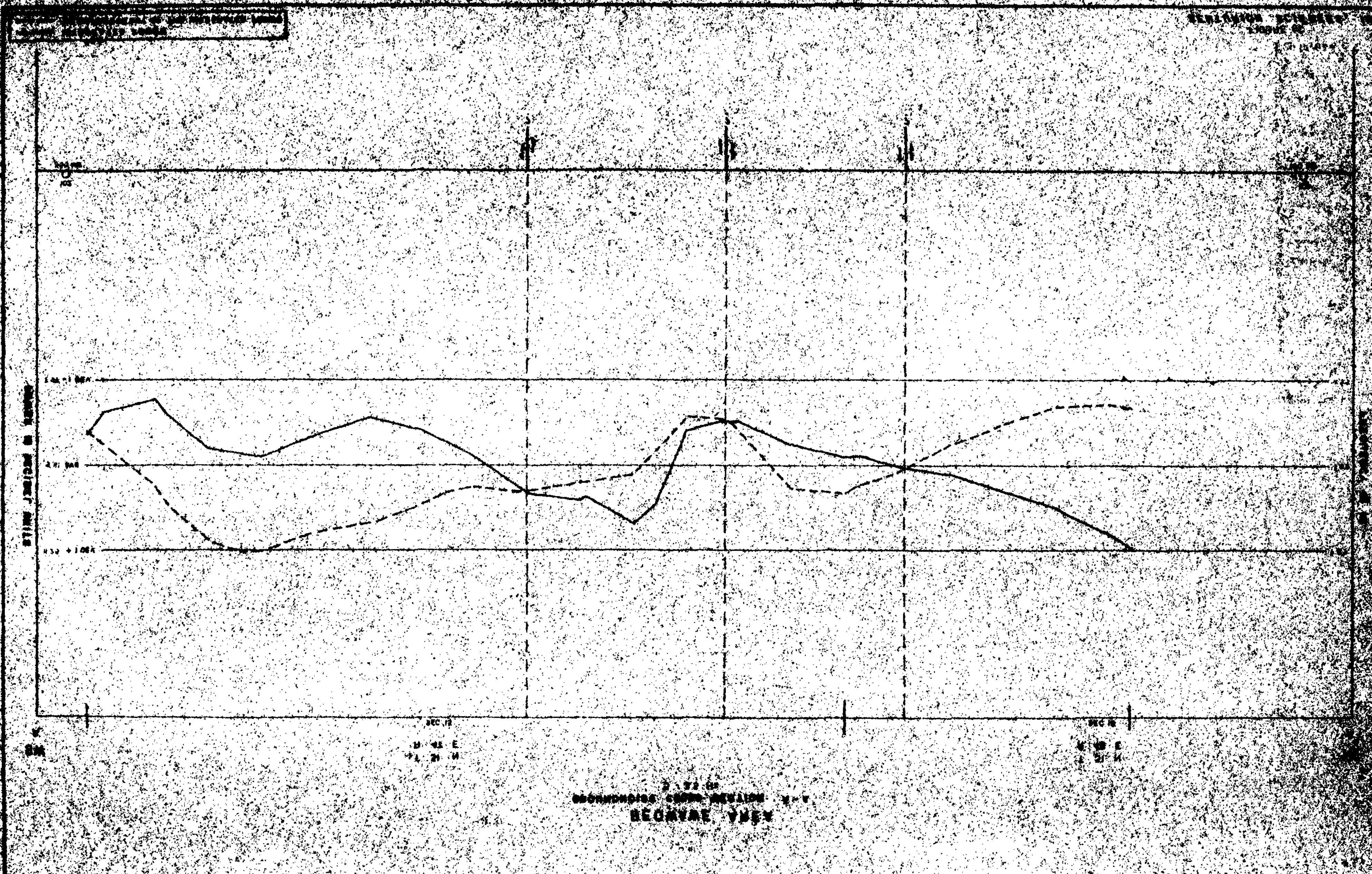


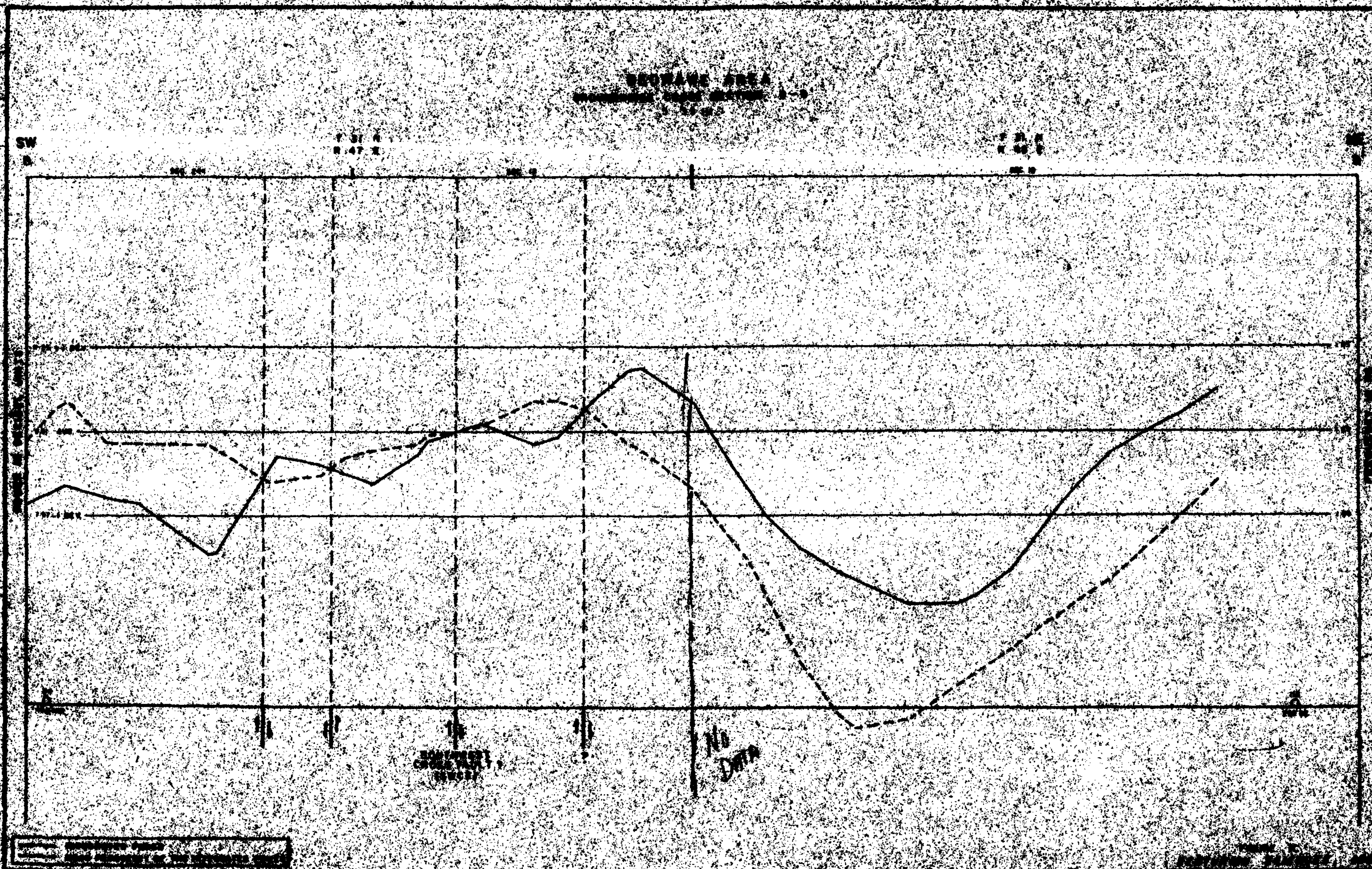

SW
T
T 31 N
R 47 E

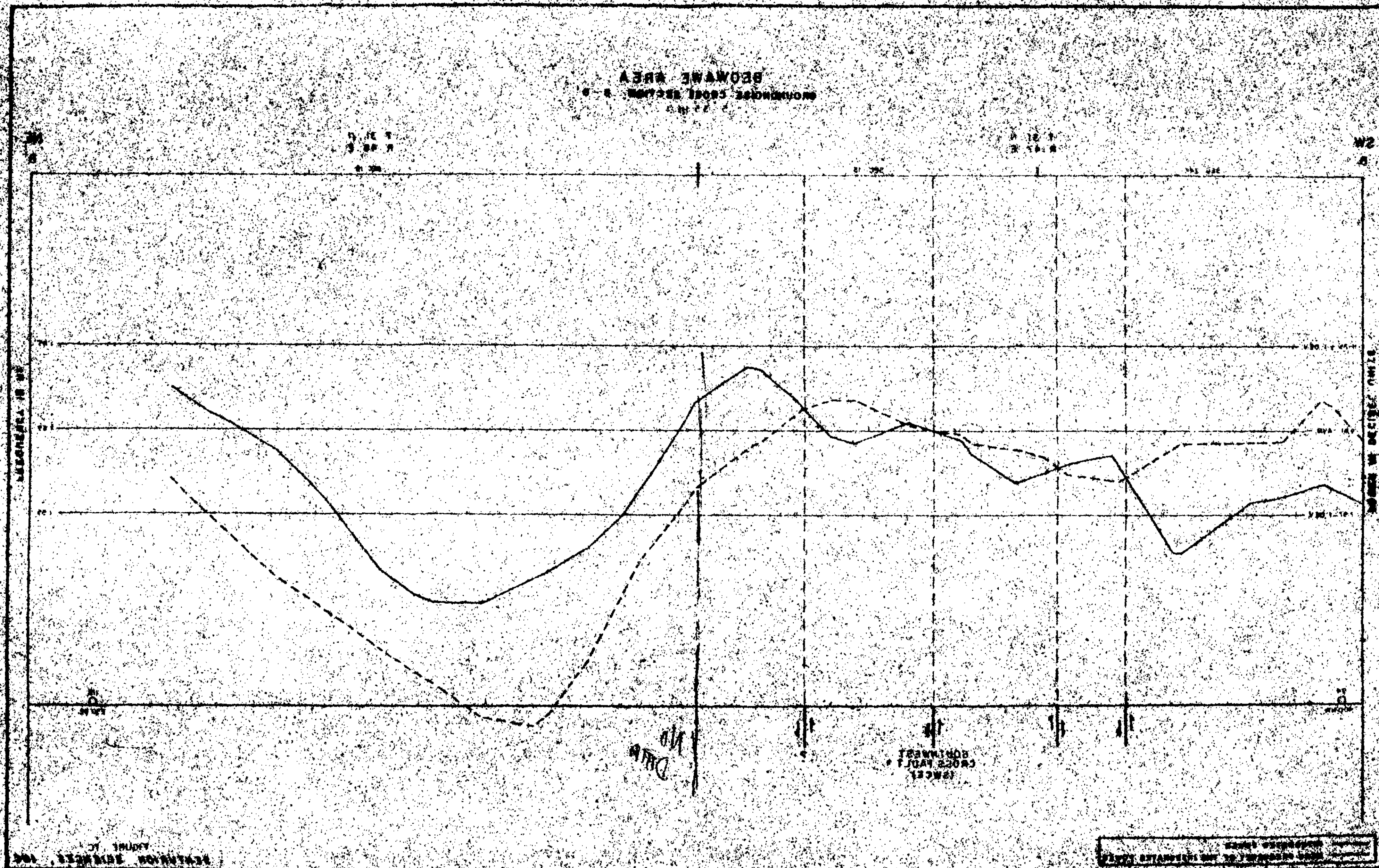


SEGRAVE AREA






SW
No Data



BEOWAWE AREA

BEOWAWE AREA

GROUNDNOISE CROSS SECTION C-C'
5 - 3.5 Hz

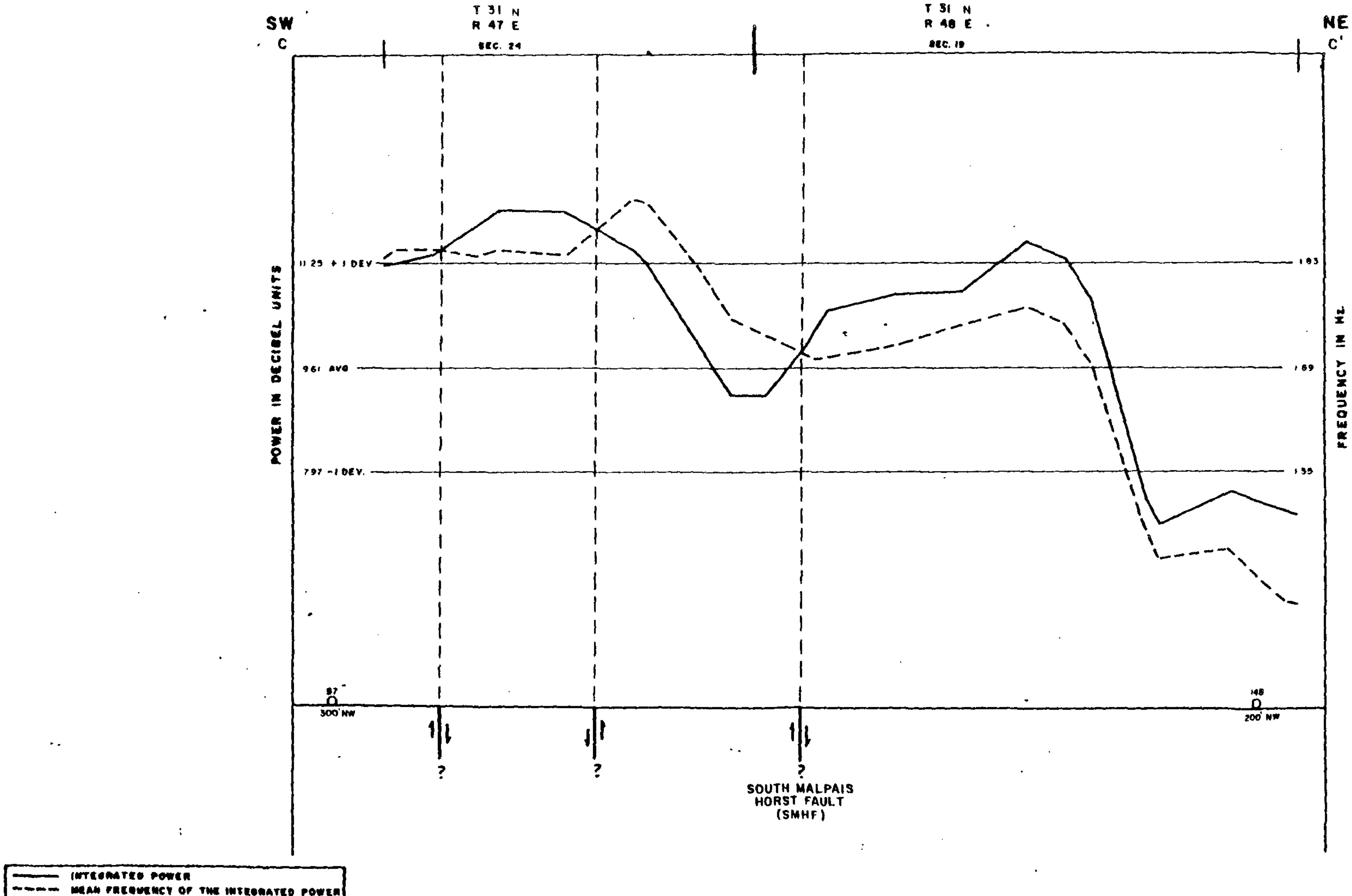


FIGURE 8C

SENTURION SCIENCES, INC.

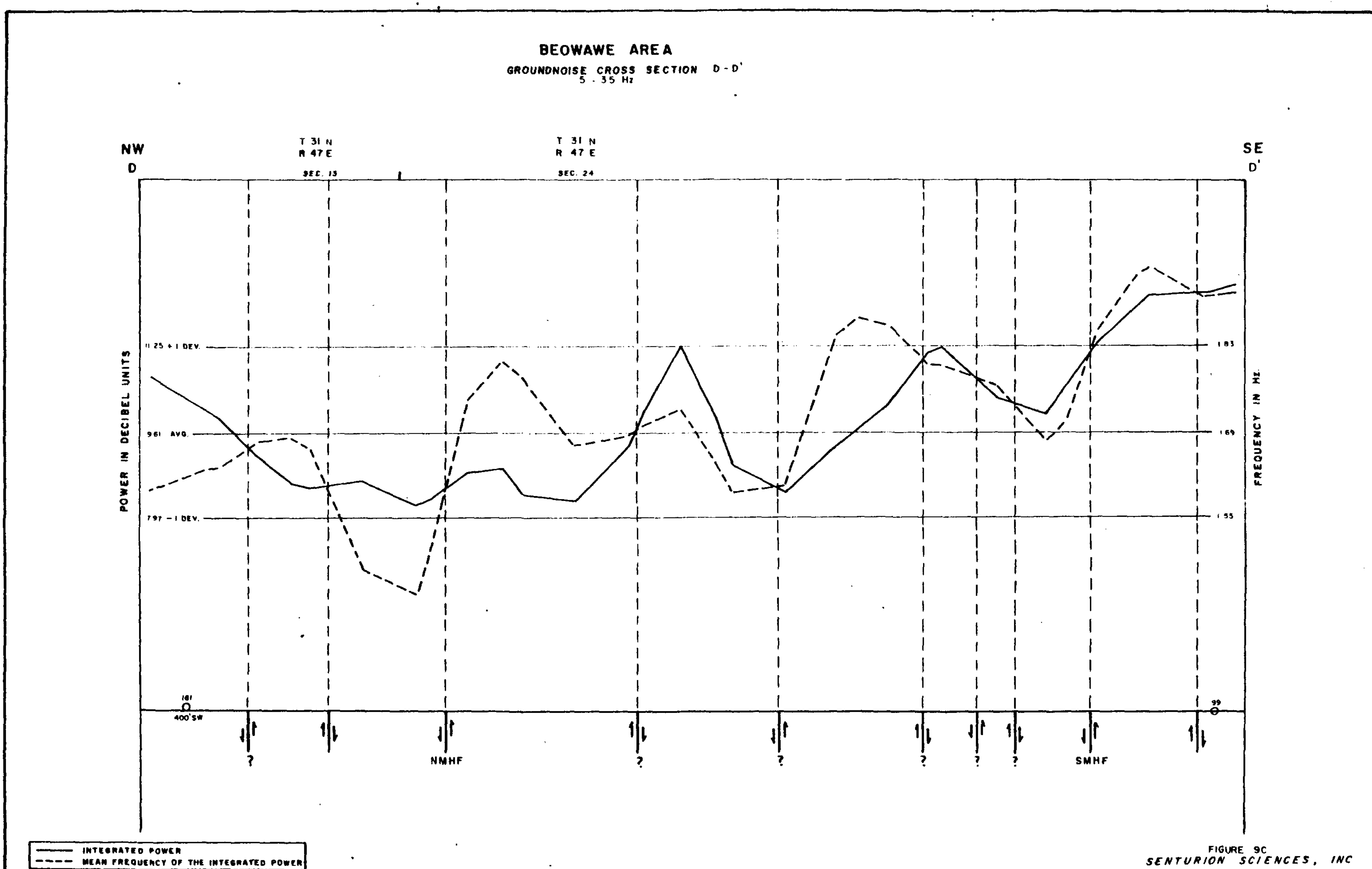


FIGURE 9C
SENTURION SCIENCES, INC

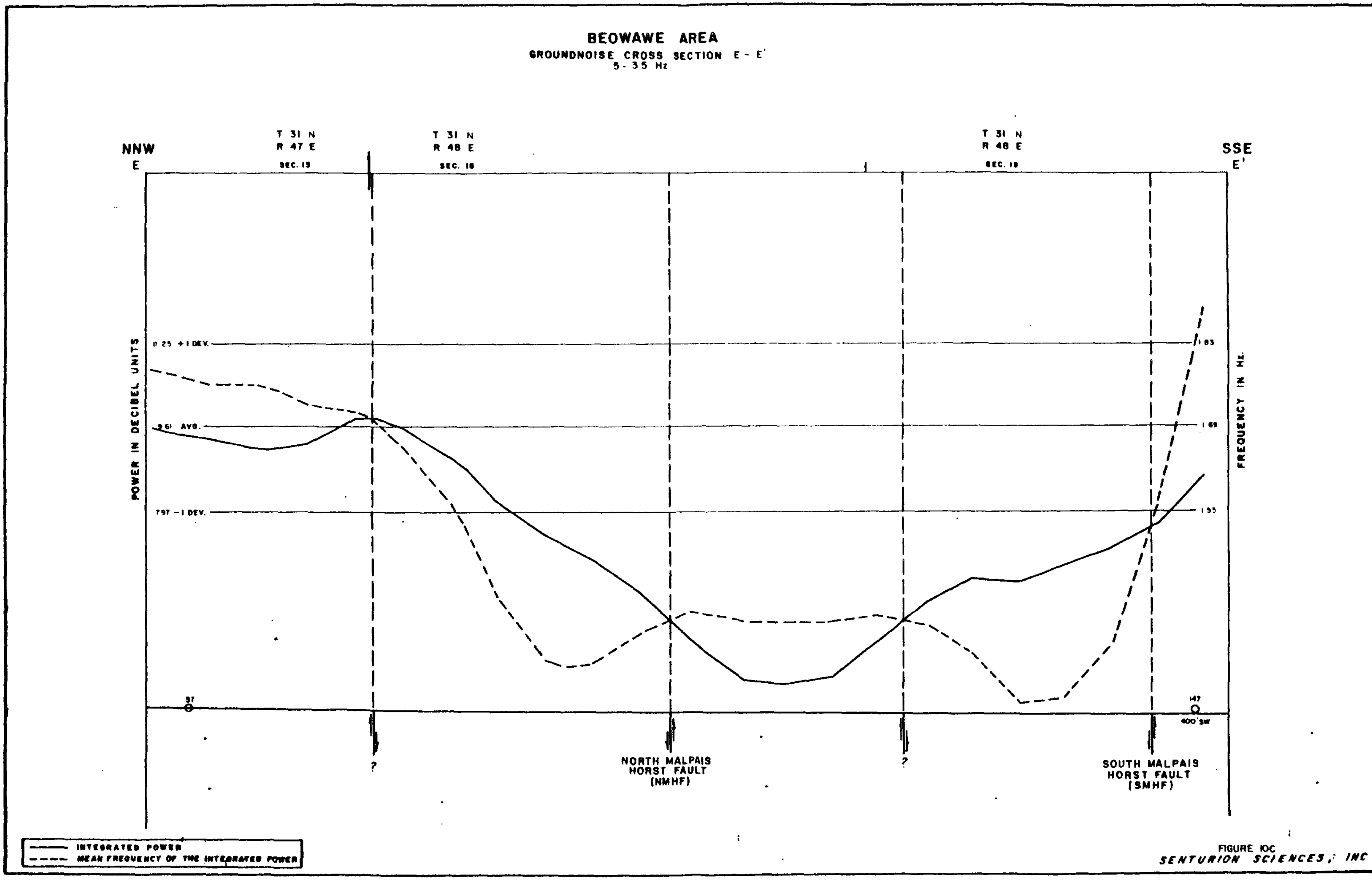
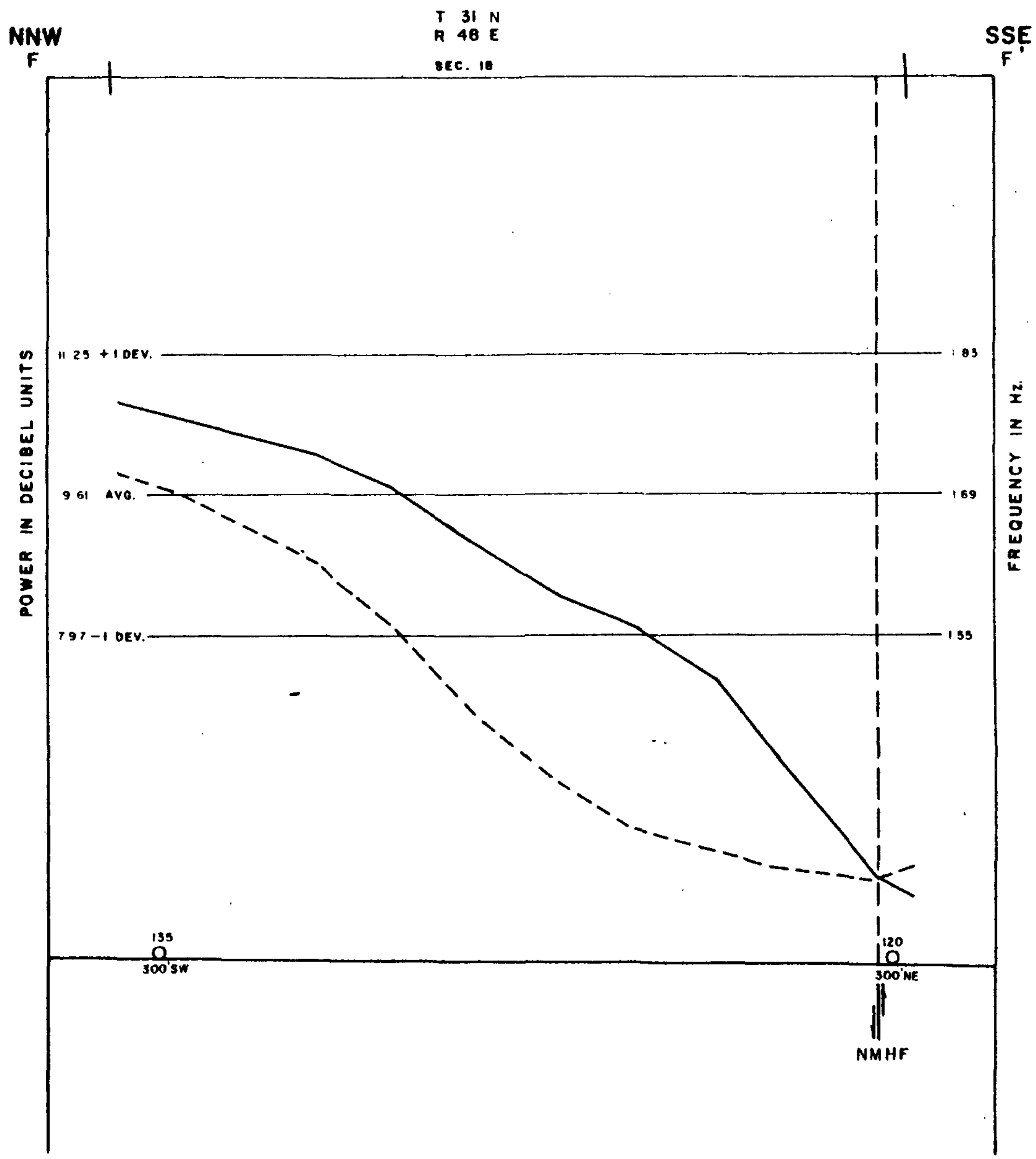


FIGURE 10C

SENTURION SCIENCES, INC

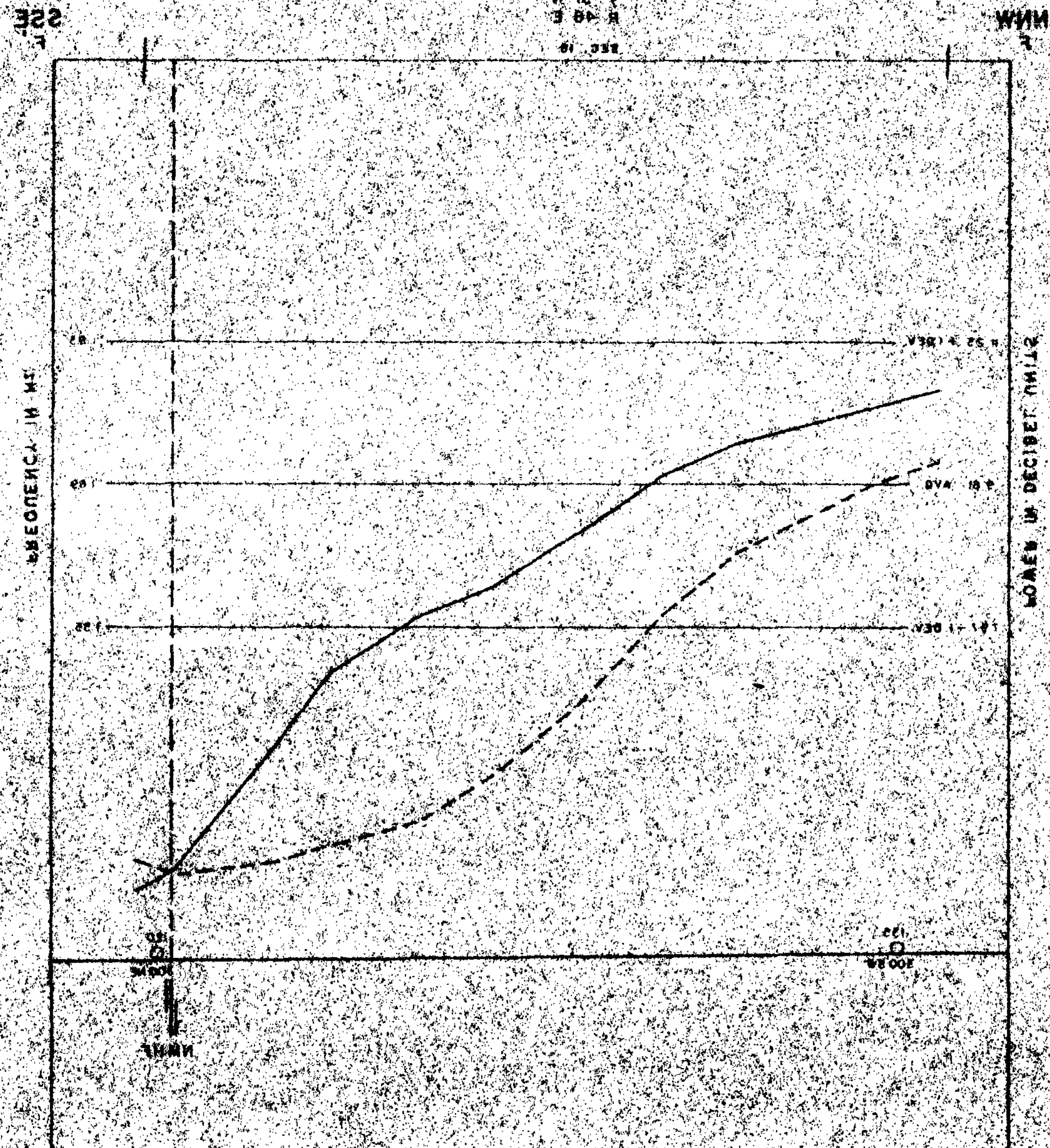
BEOWAWE AREA
GROUNDNOISE CROSS SECTION F-F'
5-35 Hz



INTEGRATED POWER
-- -- -- MEAN FREQUENCY OF THE INTEGRATED POWER

FIGURE IIC
SENTURION SCI ES, INC

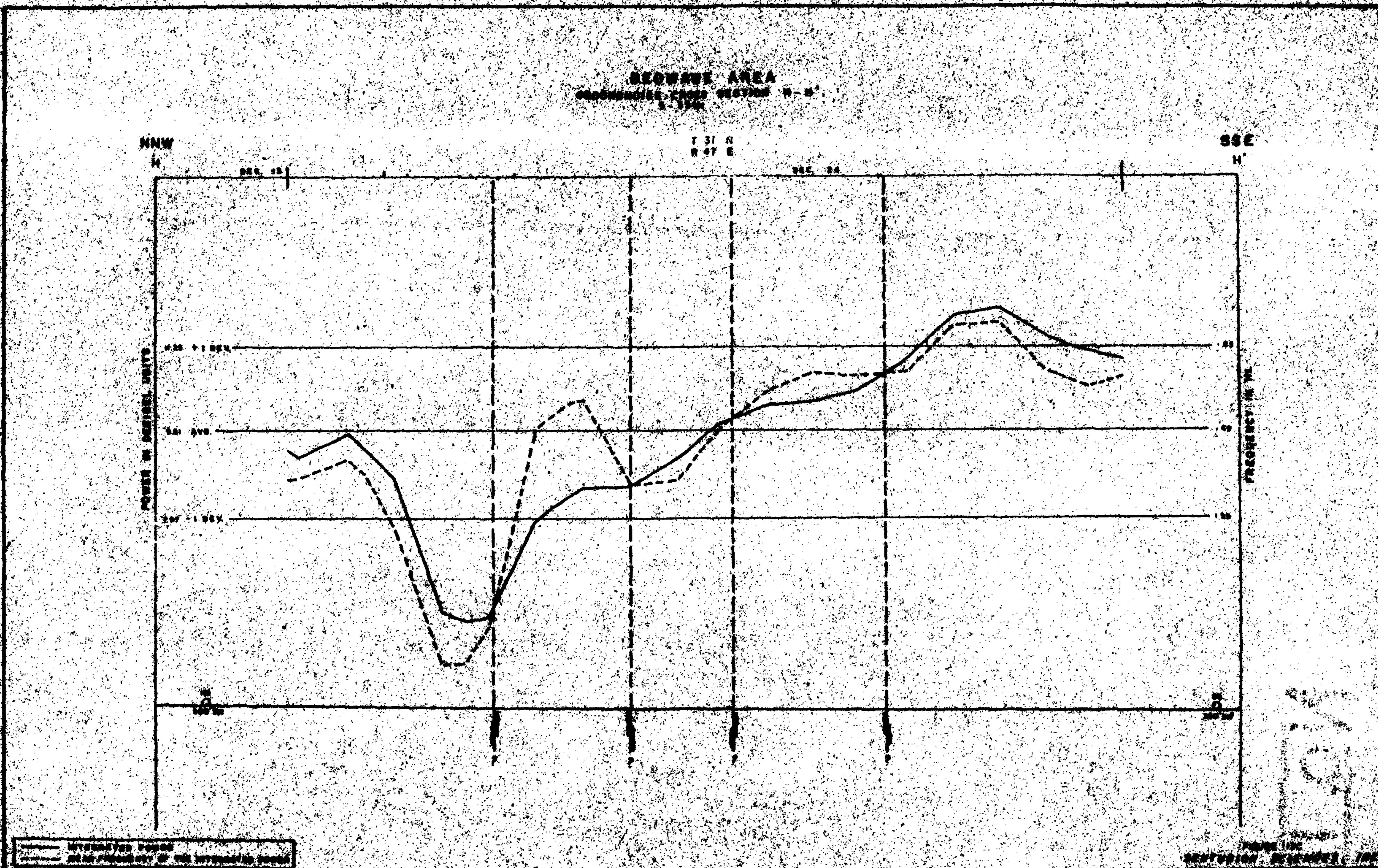
BEOWAWE AREA
GROUNDNOISE CROSS SECTION F-F'
5 - 15 Hz



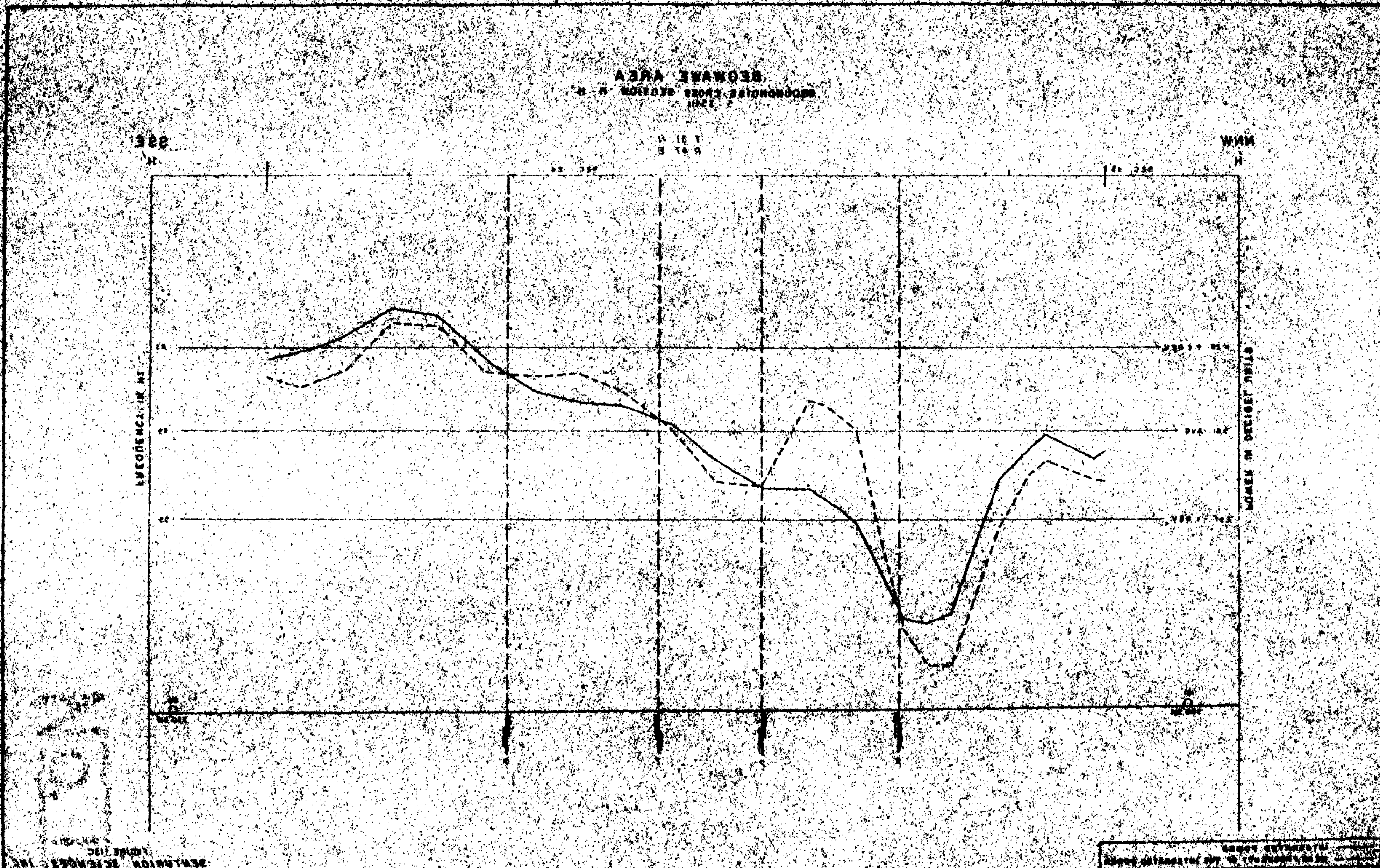
INTEGRATED POWER
FREQUENCY OF THE INTEGRATED POWER

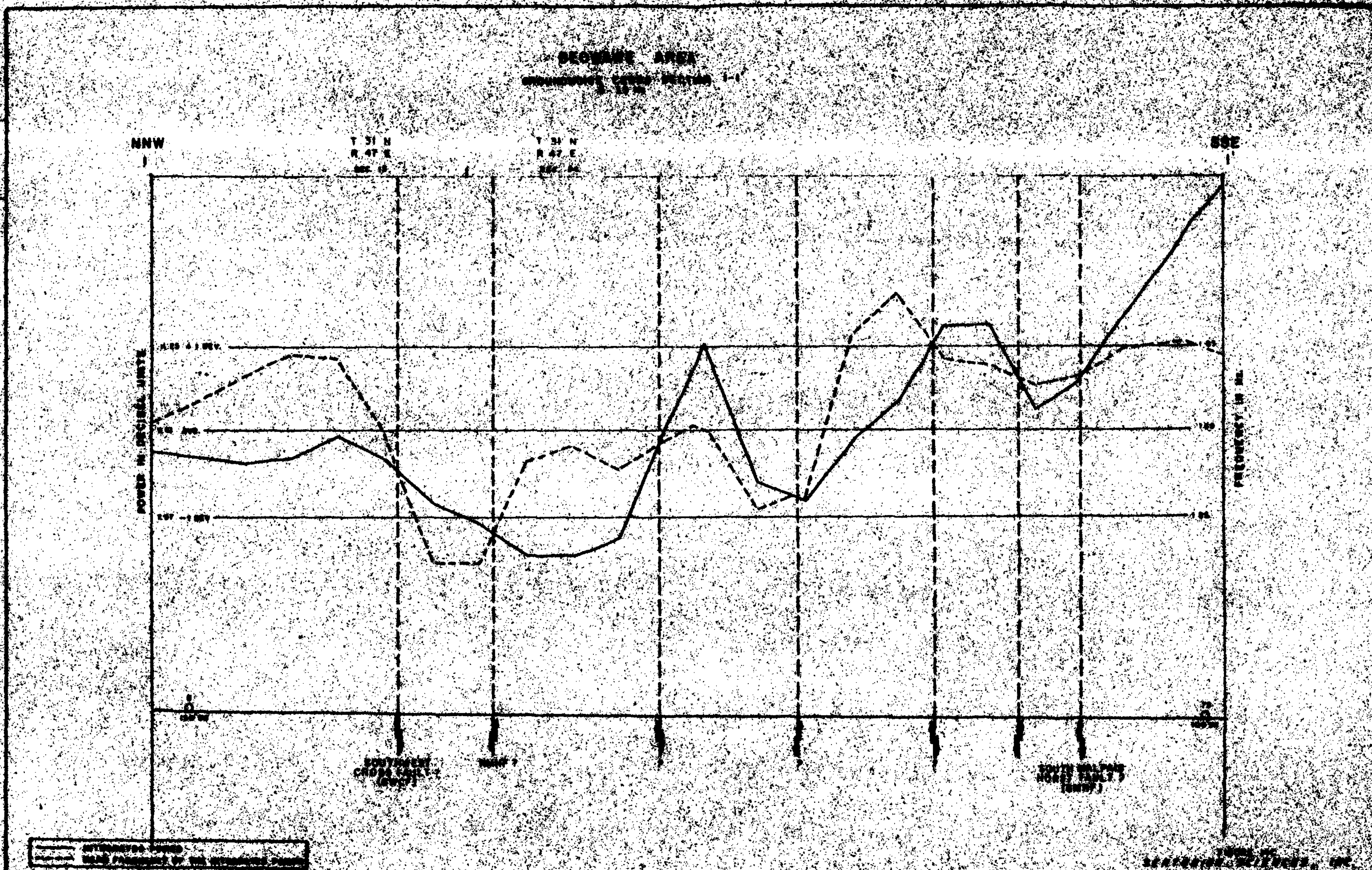
FIGURE 11C

SENTURION SCIENCES, INC.

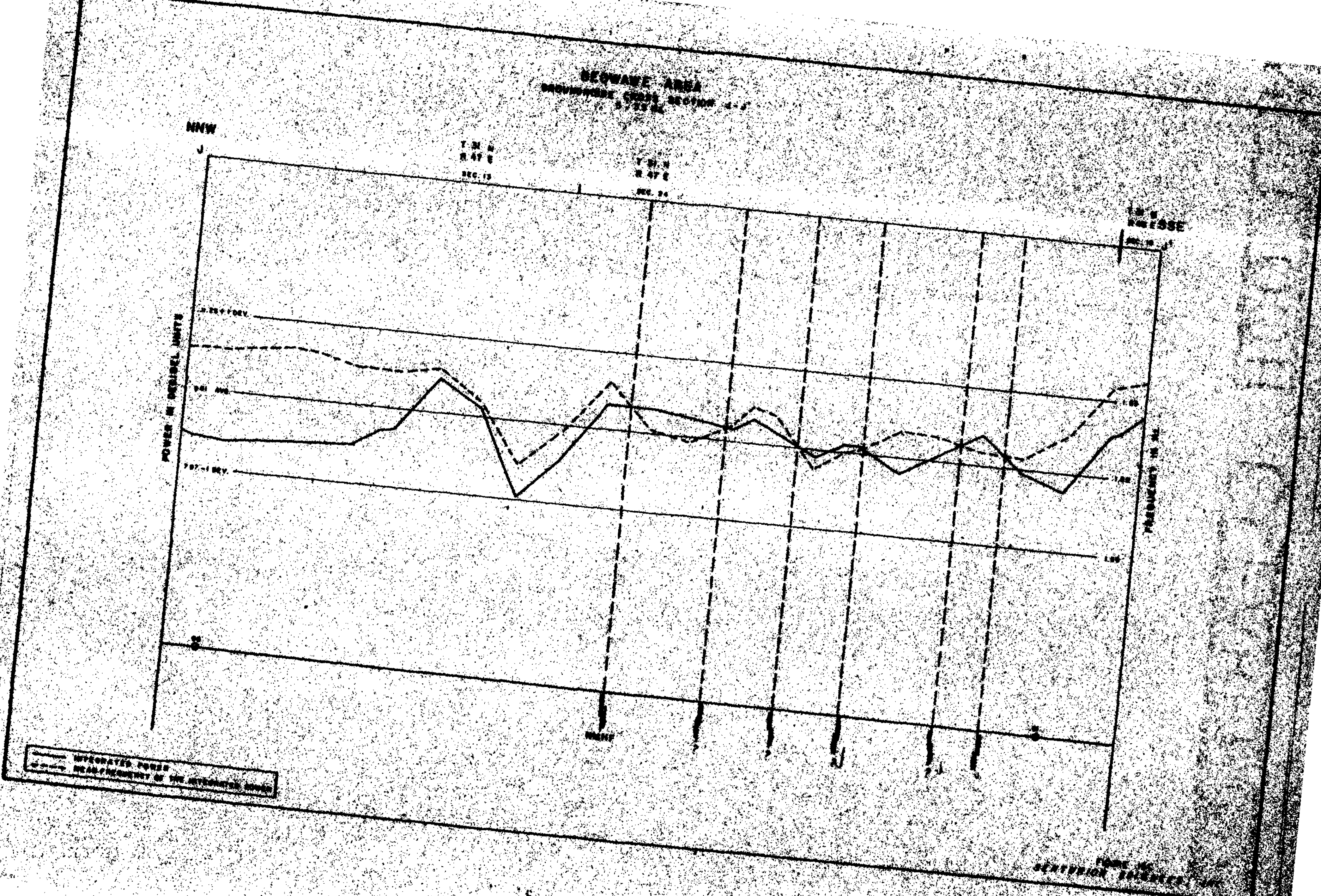


NNW
SSE
T 31 N
R 47 E
SEC. 24


BEOWAWE AREA
SSE
NNW



NNW
SSE
T 31 N
R 47 E
T 31 N
R 47 E


BEOWAWE AREA
GROUNDNOISE CROSS SECTION
NNW
J
POWER IN DECIBEL UNITS
FREQUENCY IN HZ
INTEGRATED POWER
MEAN-FREQUENCY OF THE INTEGRATED POWER
ESE

BEOWAWE AREA

GROUNDNOISE CROSS SECTION K - K'

5 - 35 Hz

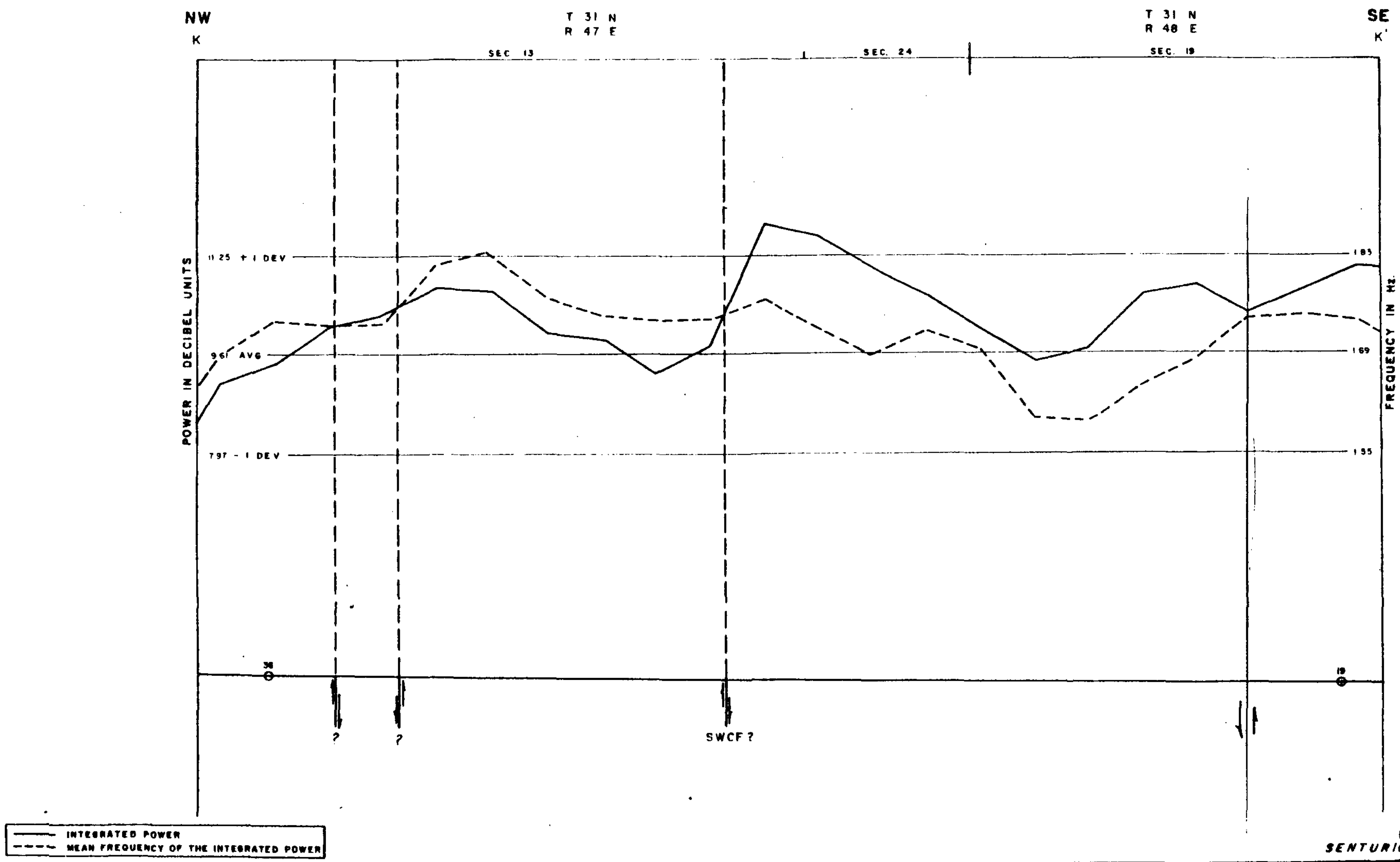


FIGURE 16C

SENTURION SCIENCES, INC

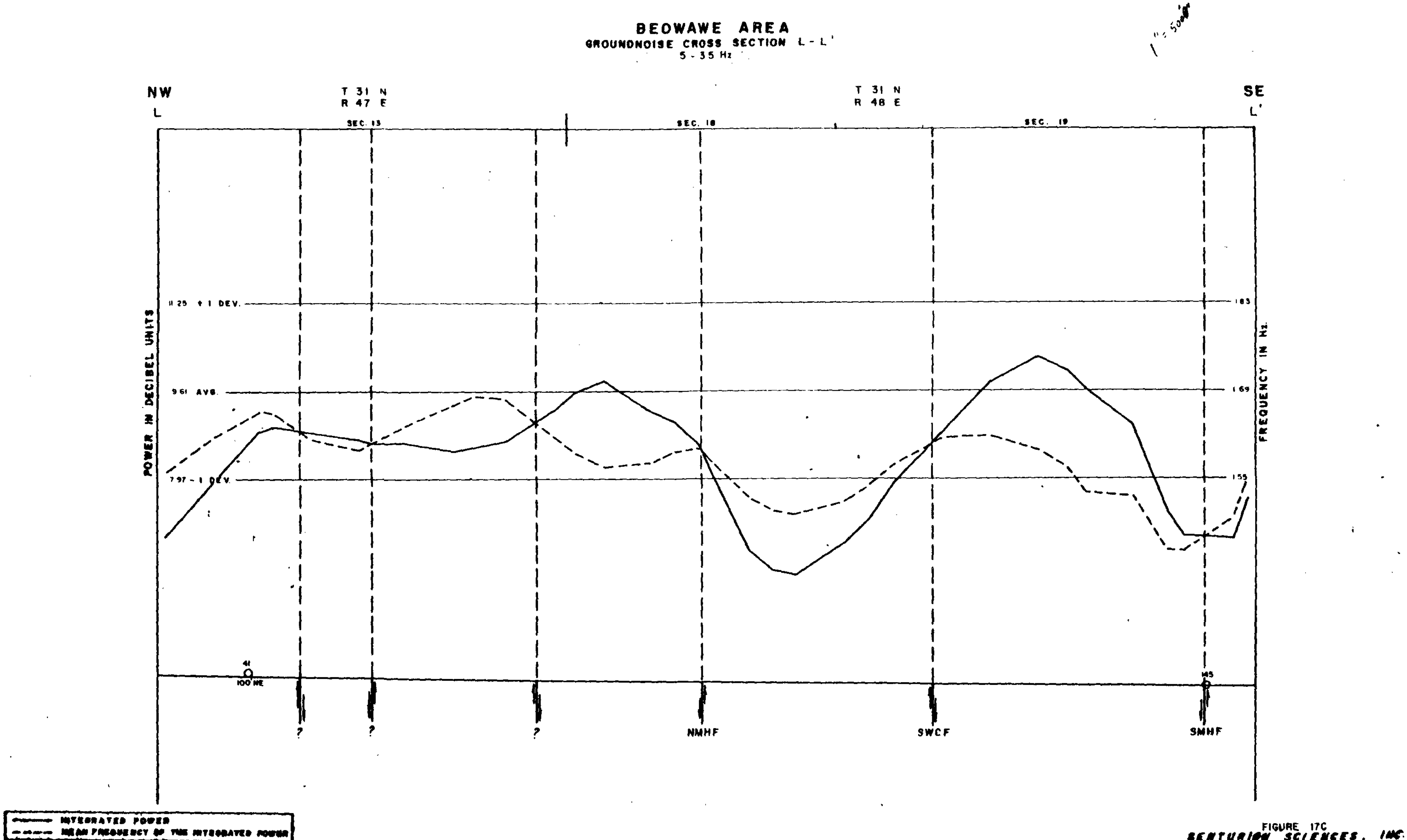
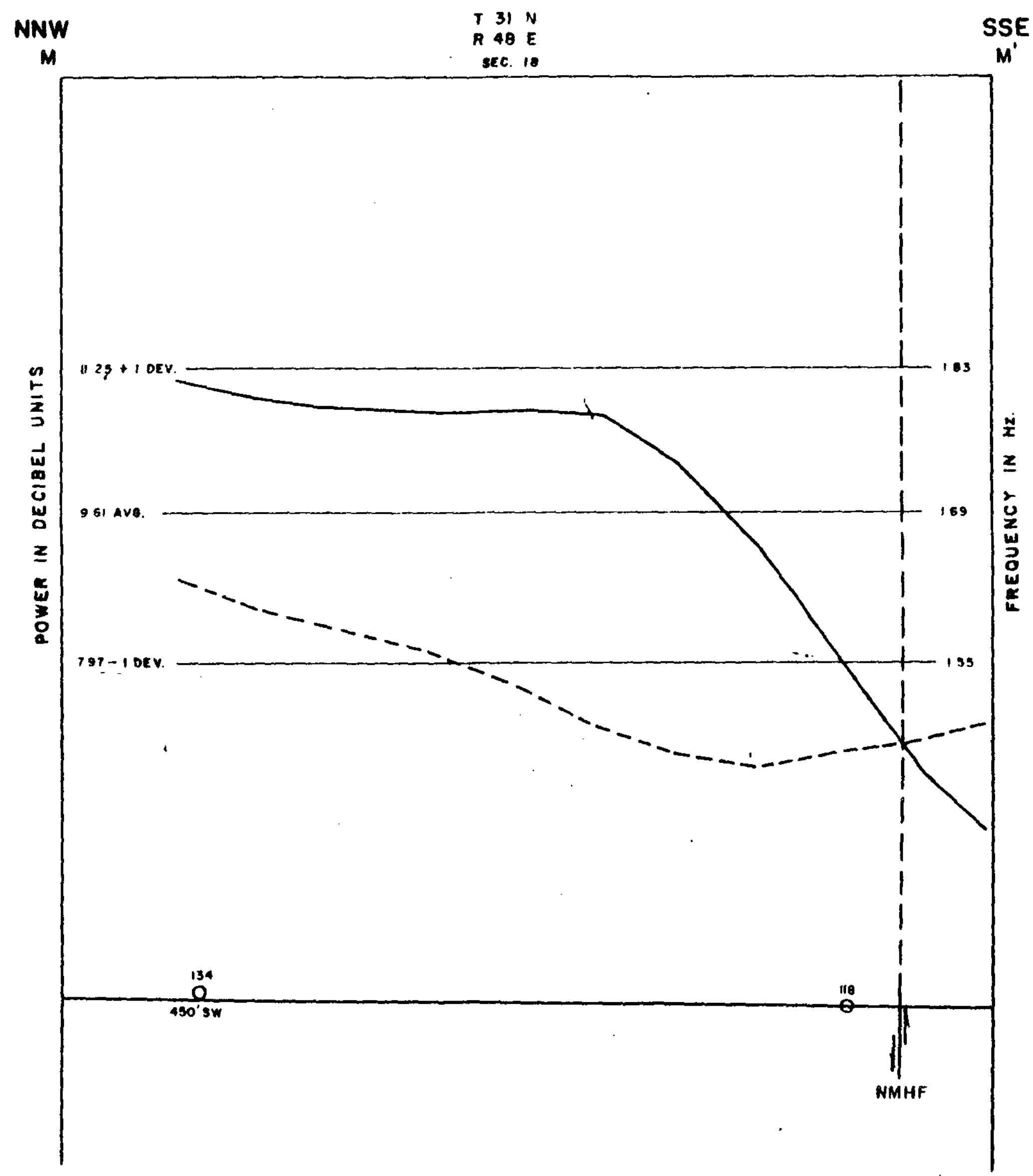


FIGURE 17C

SENTURION SCIENCES, INC.

BEOWAWE AREA

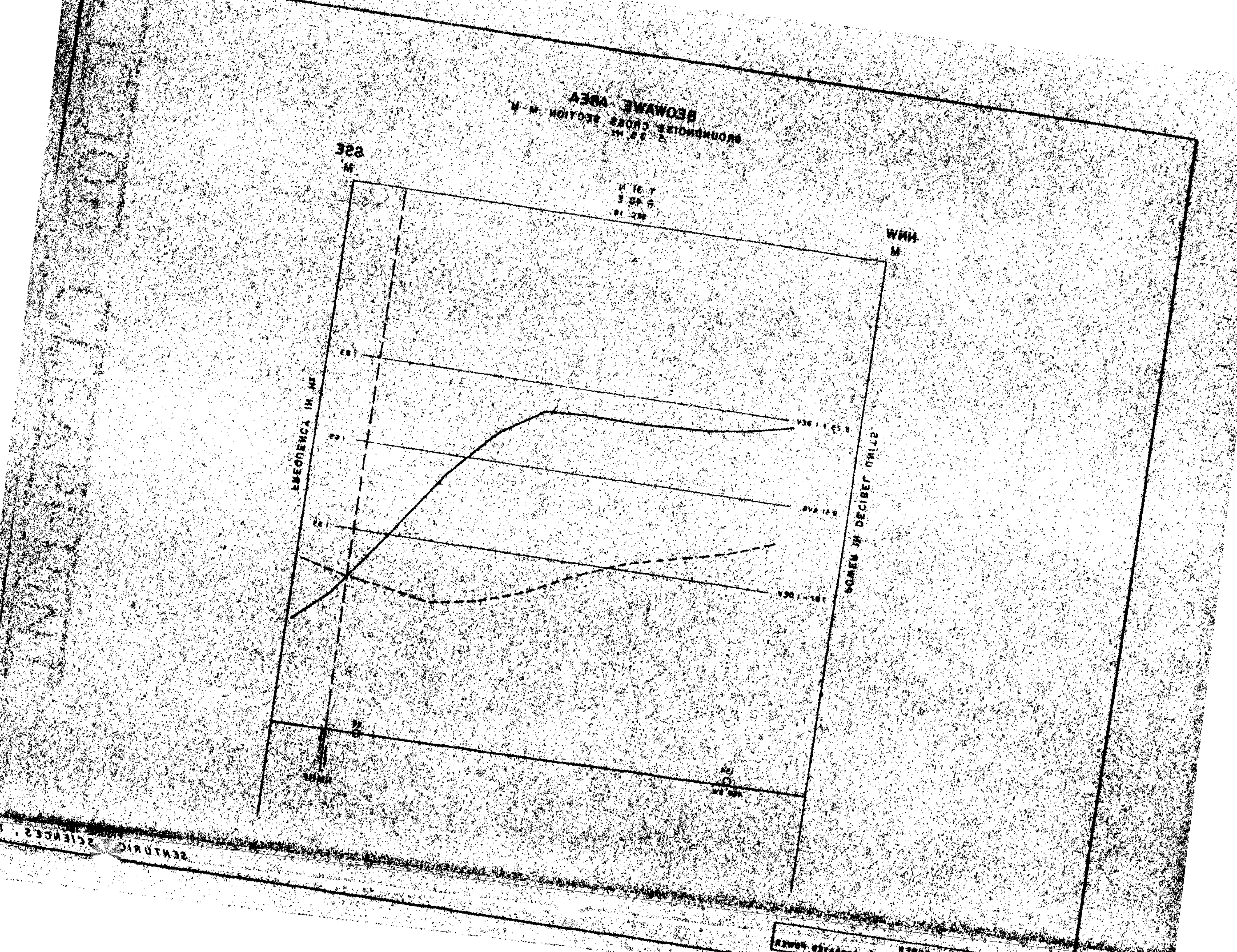
GROUNDNOISE CROSS SECTION M-M'
5 - 35 Hz



— INTEGRATED POWER
--- MEAN FREQUENCY OF THE INTEGRATED POWER

FIGURE 18C

SENTURION SCIENCES, INC.


BEOWAWE AREA
GROUNDNOISE CROSS SECTION M-M'
SSE
M
NNW
M'
FREQUENCY IN Hz
POWER IN DECIBEL UNITS

BEOWAWE AREA

CROSS SECTION

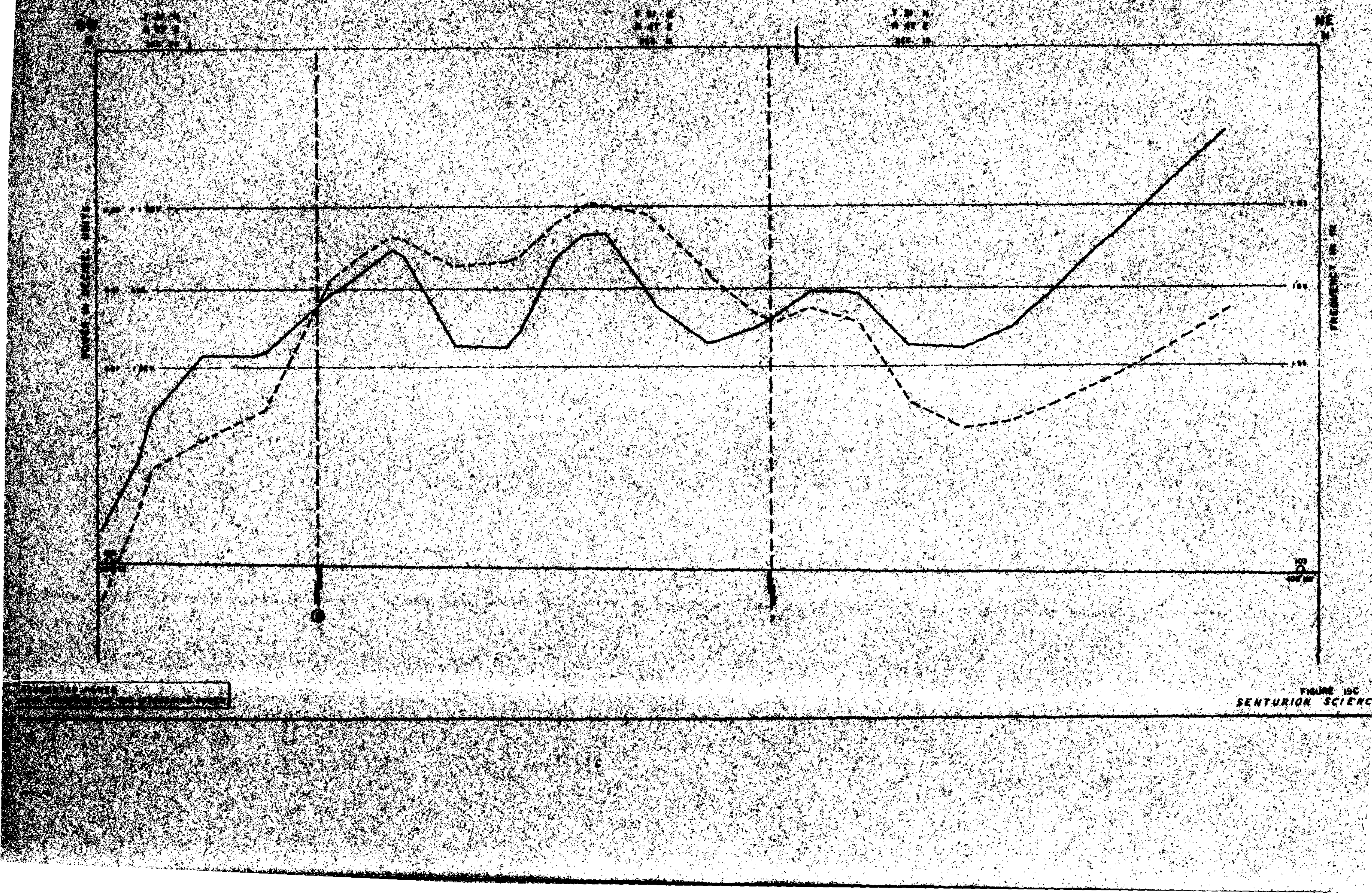


FIGURE 19C

SENTURION SCIENC

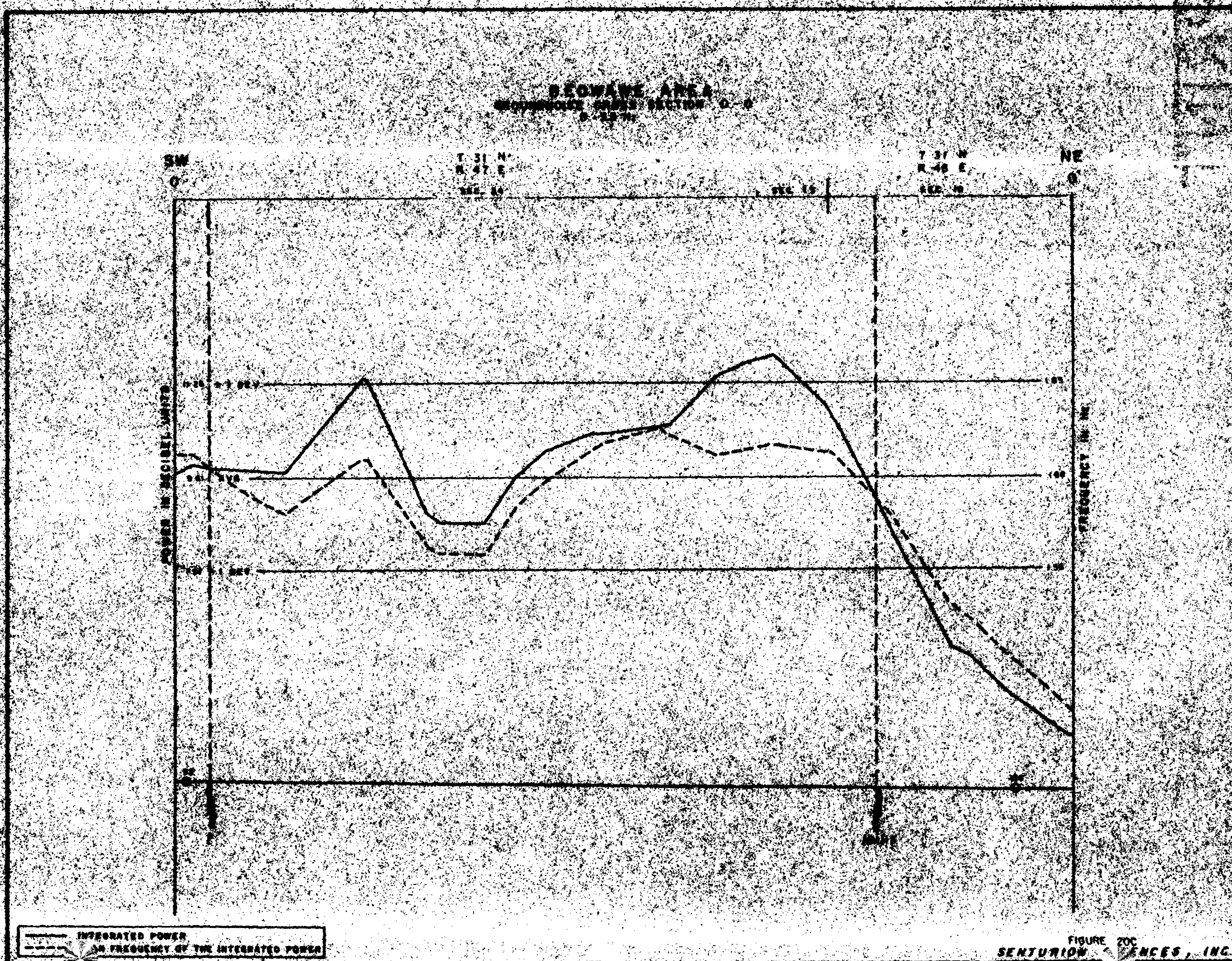

BEOWAWE AREA
CROSS SECTION
SW
T 31 N
R 47 E
T 31 N
R 48 E
NE
INTEGRATED POWER
FREQUENCY OF THE INTEGRATED POWER
POWER IN DECIBEL UNITS
FREQUENCY IN HZ
SENTURION
INC.

FIGURE 20C

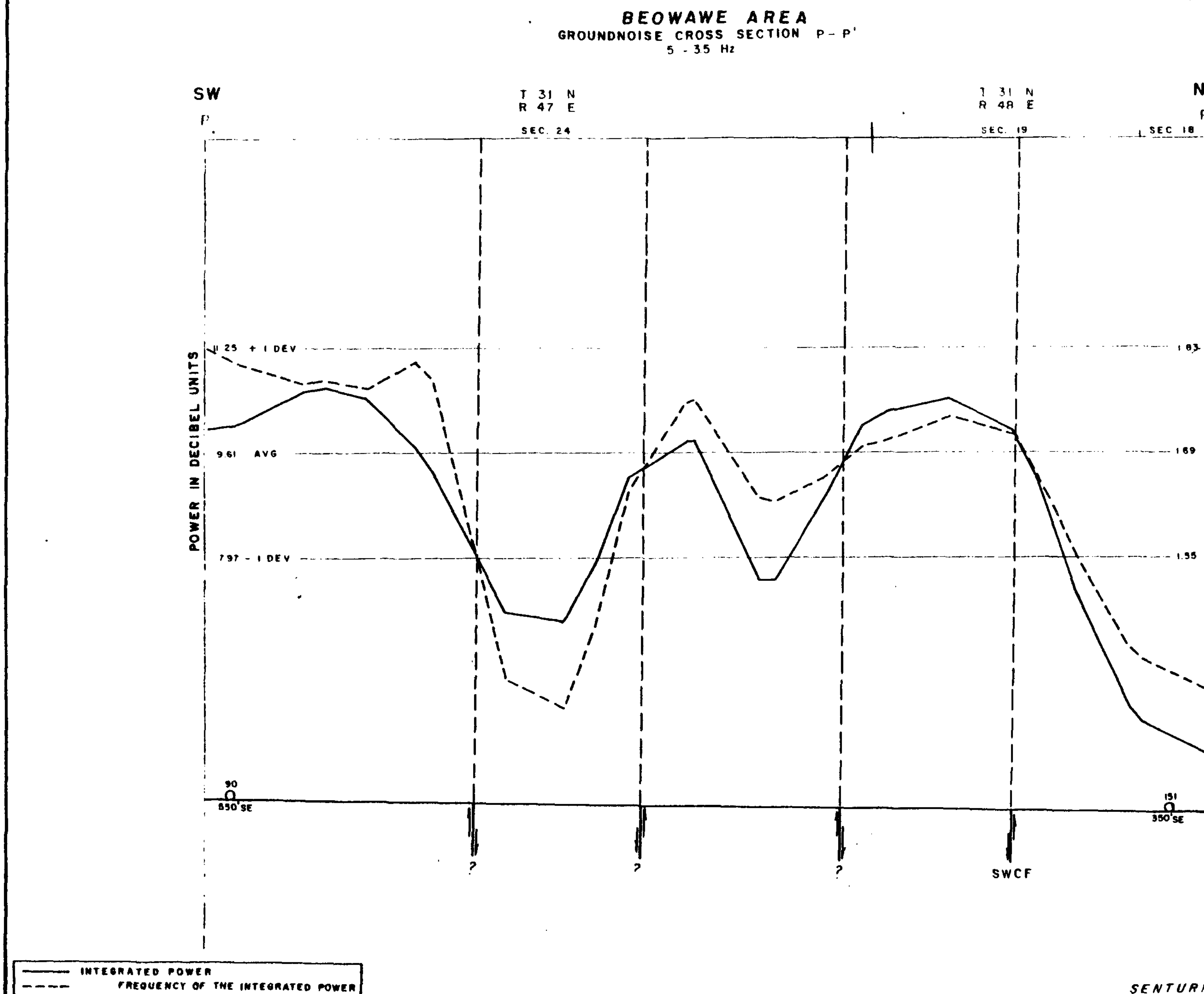


FIGURE 21C

SENTURION S NCES, INC

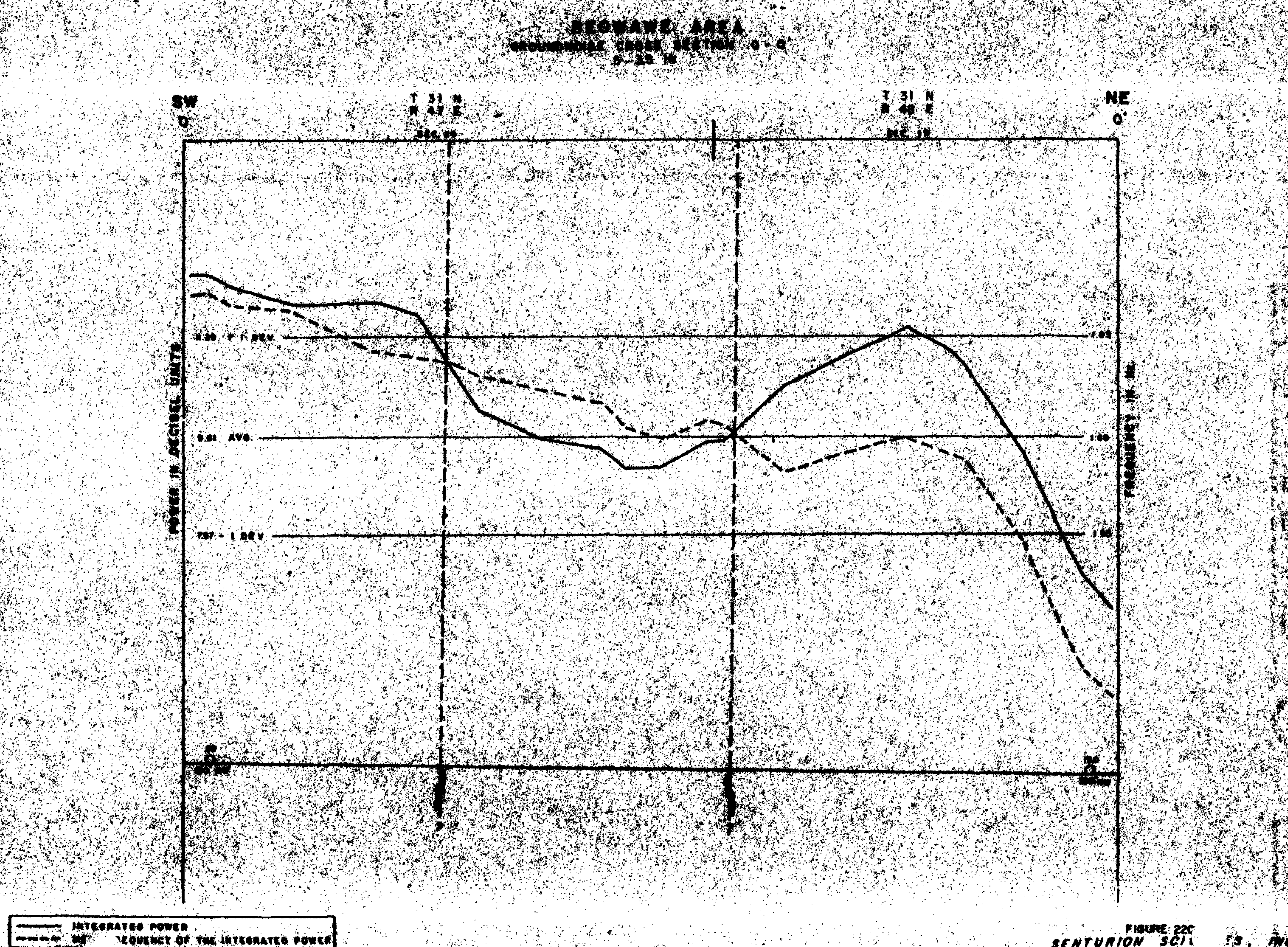
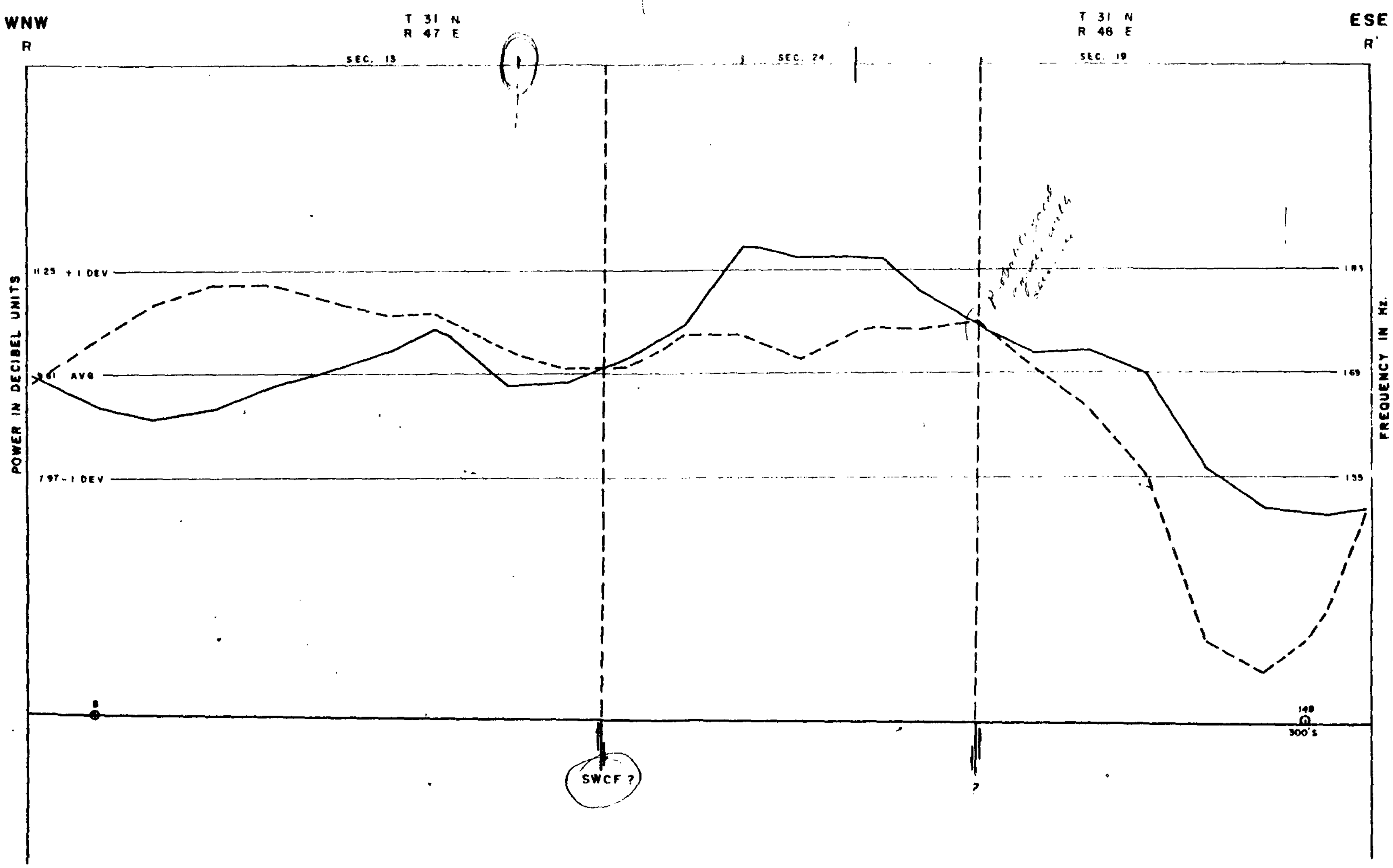


FIGURE 22C
SENTURION SCI S, INC

BEOWAWE AREA

GROUNDNOISE CROSS SECTION R - R'
5 - 35 Hz

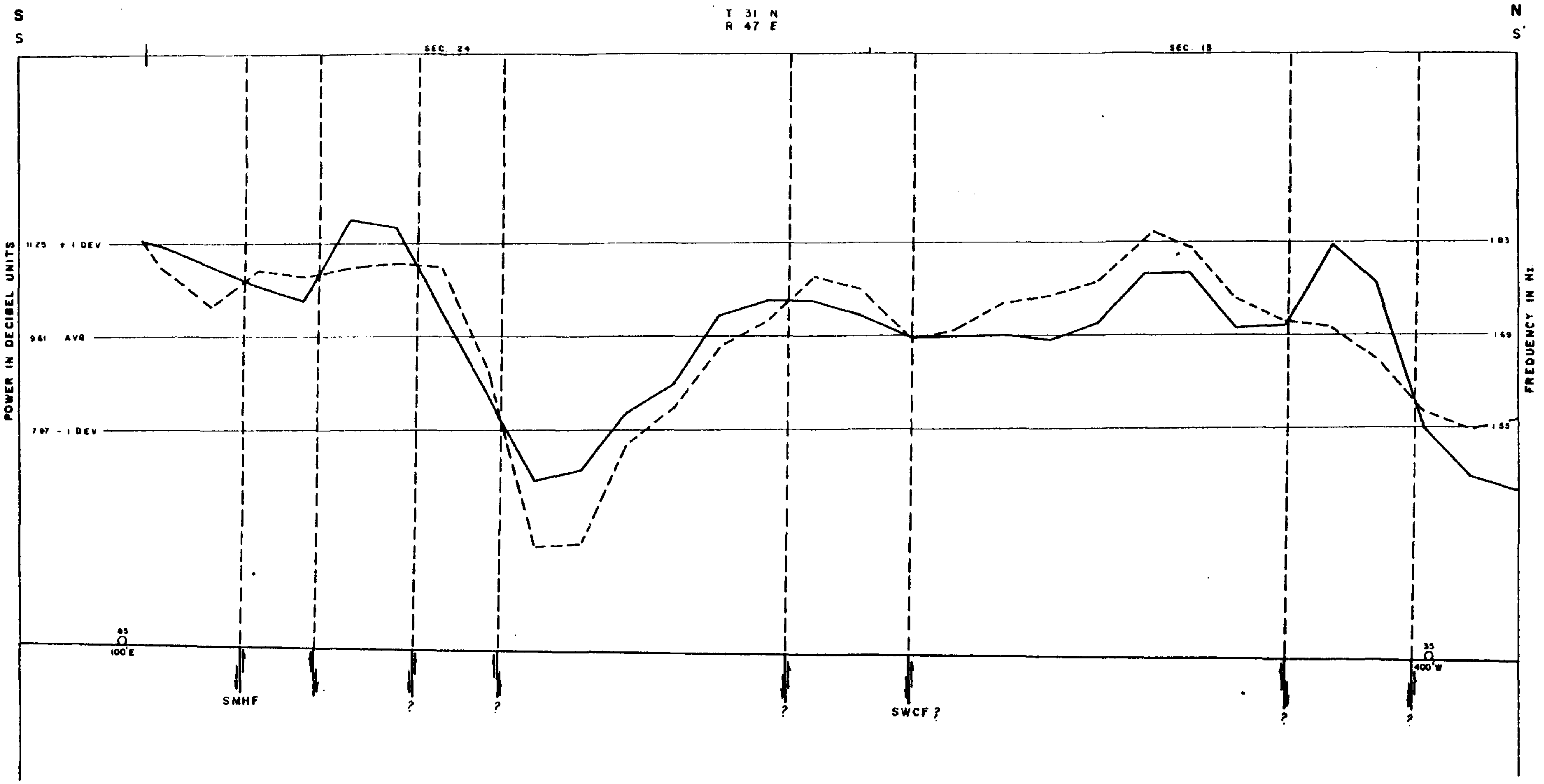


What scale? 1"=5000'

—— INTEGRATED POWER
- - - - MEAN FREQUENCY OF THE INTEGRATED POWER

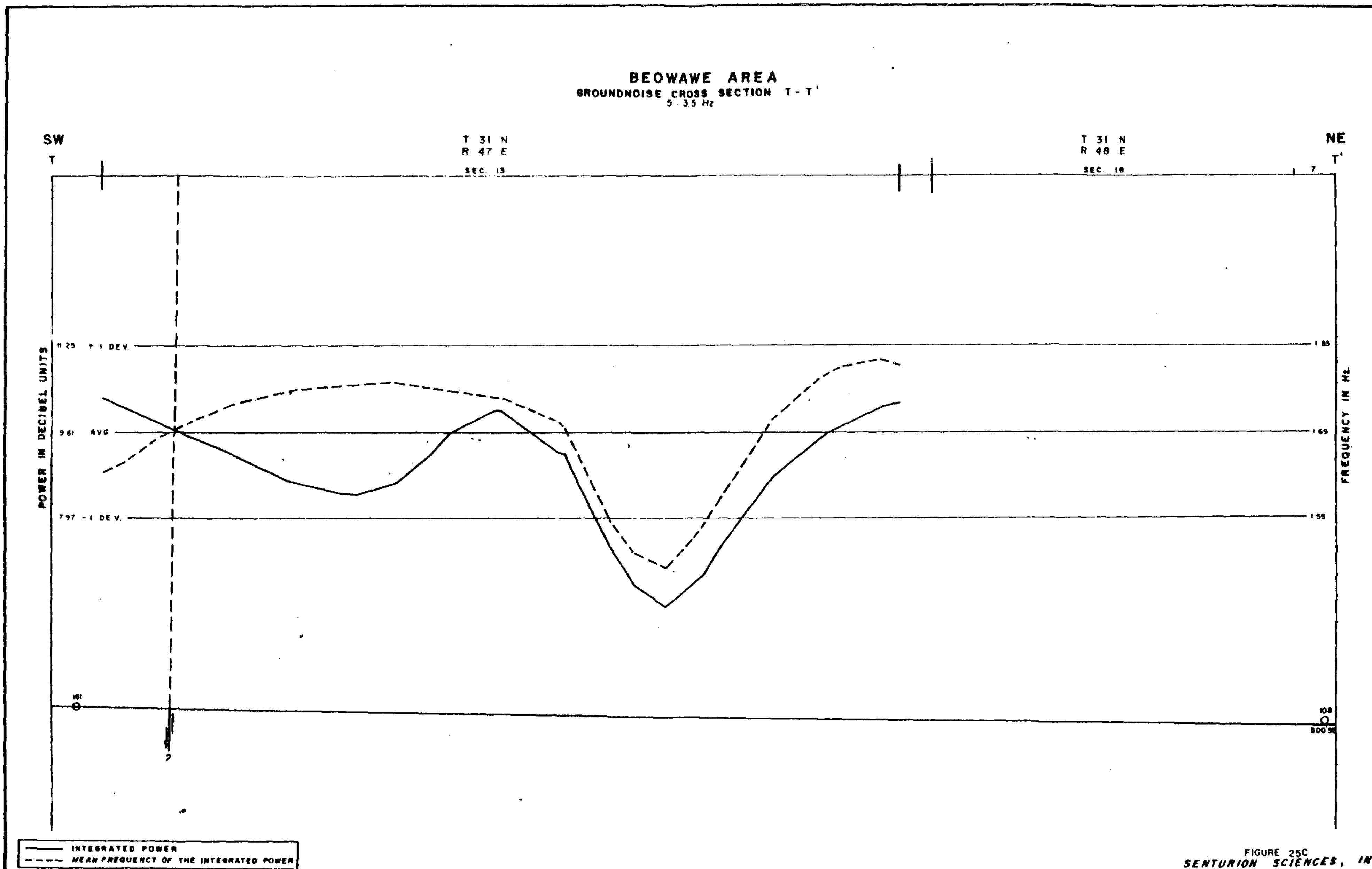
FIGURE 23C
SENTURION SCIENCES, INC.

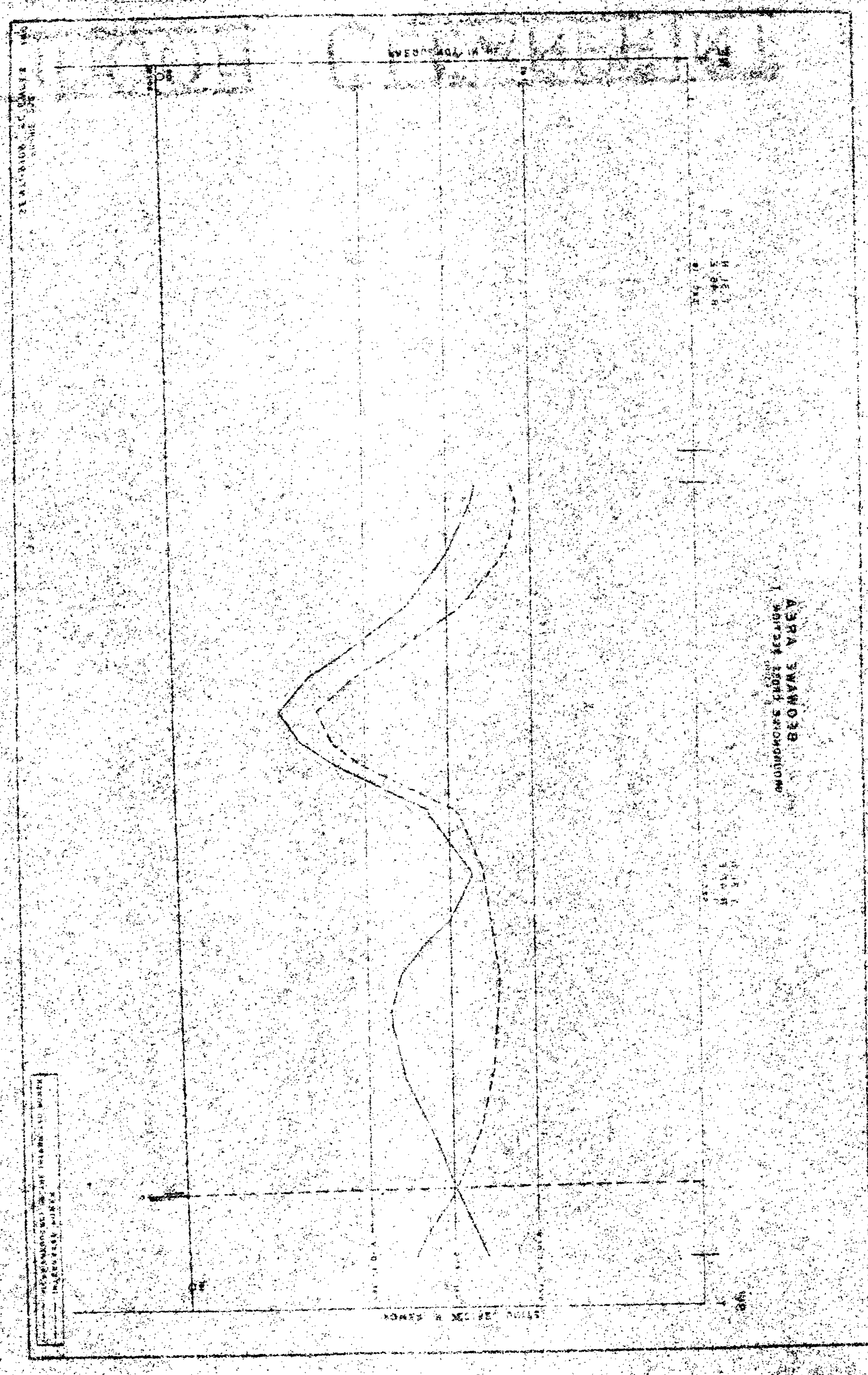
BEOWAWE AREA
GROUNDNOISE CROSS SECTION S - S'
5 - 35 Hz



-GRATED POWER
-N FREQUENCY OF THE INTEGRATED POWER

FIGURE 24C
SENTURION SCIE


BEOWAWE AREA
GROUNDNOISE CROSS SECTION T - T'
5 - 3.5 Hz
SW
T
NE
T'
T 31 N
R 47 E
SEC. 13
T 31 N
R 48 E
SEC. 18
POWER IN DECIBEL UNITS
FREQUENCY IN Hz
11.25 + 1 DEV.
9.61 AVG
7.97 - 1 DEV.
1.83
1.69
1.55
INTEGRATED POWER
MEAN FREQUENCY OF THE INTEGRATED POWER
SENTURION SCIENCES, INC
FIGURE 25C



File copy Chevron Resources

BEOWAWE AREA SHALLOW SEISMIC REFLECTION SURVEY

LANDER COUNTY, NEVADA

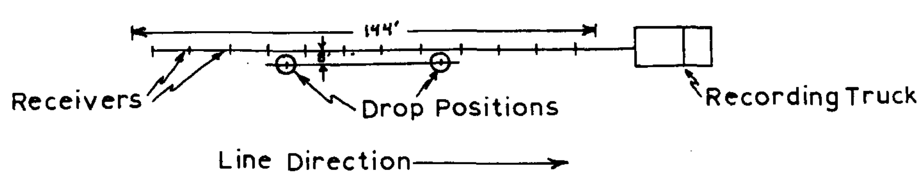
I. Introduction

During the period from May 13 through September 1, 1975, a shallow seismic reflection survey was carried out in the southwest part of the Whirlwind Valley, Lander County, Nevada, near the small town of Beowawe (see Figure No. 1, Location Map). Approximately 17.5 miles of data were recorded, consisting of four northeast-southwest lines (Lines BW-1 through BW-4) and four northwest-southeast lines (Lines BW-5 through BW-8). The purpose of the survey was to investigate the geologic structure, especially faulting, as an aid to continued exploration for geothermal steam in the area.

II. Technique

Line positions in the field were established by reference to topographic features, as the magnetic compass tended to be sometimes erratic in the presence of so much magnetite-bearing lava. After the position of a given line was established, stations were located along it at intervals of 165 ft. (50M) by chaining with a measured drag rope 165 feet long. Difficult terrain made it necessary for parts of lines BW-3, BW-6 and BW-7 to depart from the program positions.

The seismic source used for the first two lines recorded (Line BW-1 and Line BW-6) was a 300 lb. steel weight dropped free-fall a distance of 3½ feet for approximately 1000 ft. lbs. of energy per drop. Three drops per station on the average were made and summed in the field. Detection was by means of a receiver array of 12 digital grade 10 Hz geophones inline spaced 12 feet apart. Where possible, the source weight was dropped one or two times at each of two locations beside the one-third positions of the receiver array and offset about 8 feet laterally (see sketch below).



Recording was done by a Seaman Nuclear Corporation engineering type single-channel seismograph (with summing digital memory) modified to include frequency filters, programmed gain expansion, a paper strip chart recorder, and a magnetic cassette digital recorder. A recording length of 0.5 second after weight impact was used. As successive drops were recorded at each station, the summed results were viewed by the operator on a cathode ray tube. When the operator judged that enough thumps had been recorded (the number varied from one to six) the summed data were recorded on paper and magnetic tape and the crew moved on to the next station.

During the recording of BW-1 and BW-6 it became evident that though the data in the top 1,000 feet were good, the rate of energy decay with depth was unusually great. As a result, the operation was suspended in late May and the equipment returned to Albuquerque for modifications. A new and larger weight drop system using a 700 pound steel weight which could be dropped as much as 6½ feet was built, and the type of programmed gain expansion was changed to allow far greater range in rate of gain increase with time. When the modifications were complete and field-tested, the crew returned to the Beowawe area, renewing work July 21, 1975. The remaining lines of the project (BW-2 through BW-5 and BW-7 through BW-8) were recorded dropping the 700 lb. weight about 5 3/4 feet free-fall for about 4000 ft. lbs. of energy per drop. This increased source energy plus the improved available gain increase allowed the recording of 1.0 second as opposed to the previous 0.5 second. Practical depth of penetration was increased from about 1,000 feet to about 2,500-3,000 feet, which considerably improved ability to detect faults. The change, however, was not all favourable; the quality of data in the top 1,000 feet was noticeable reduced, as shown by a comparison recorded on Line BW-1. Consequently, after completion of the Beowawe survey and before initiation of the next (Hot Springs Point) survey, experimental work was done in an attempt to find an energy input level which would provide penetration deeper than 1,000 feet but without sacrificing detail or quality in the top 1,000 feet. In this expeimentation it was found that dropping the 700 lb. weight 3½ feet (for about 2,500 ft. lbs. of energy) greatly improved the data in the top 1,000 feet while sacrificing little in the way of depth penetration. It is therefore recommended that in any future shallow reflection work in the Beowawe area this level of energy input be used.

After each day's field work, the records made during the day were corrected to a reference plane of +5000 feet using a correction velocity of 3,000 feet per second (determined at the start of the survey by refraction probes recorded on Line BW-1 near the Chevron Ginn No. 1-13 well). The paper records were then colored, trimmed and combined to form corrected variable area/wiggle trace record sections (see Enclosures Nos. 1 through 8). These record sections were then studied and picked, with an attempt being made to recognize both reflections and diffractions, the latter for their value in fault detection (see Enclosures Nos. 9 through 16). The timed events were then converted to depth using a velocity function fitted to the pseudo-sonic log data from the Chevron Ginn No. 1-13 well, located within the prospect (see Table No. 1). Migrated depth sections were next made using the point-arc method (see Enclosures Nos. 17 through 24). In this method, which is well suited to shallow single-channel recording, for each event picked on the record section a circular arc is swung from each station at which the event is picked. This arc has its center at the station position (at reference plane elevation) and its radius equal to the depth calculated for the event at that station. A curve is then drawn tangent to each of the arcs representing a given event at successive stations. If the velocity function is accurate such curves are a good representation of the corresponding reflectors. In cases where three or more arcs from a single event intersect at a single point, the event is probably a diffraction. Such apparent diffraction centers are indicated on the migrated sections and are often helpful in fault interpretation.

After completion of field recording in the Beowawe area, the locations of 12 of the 16 line intersections were determined by plane-table triangulation from three known positions (see map, Enclosure No. 25). In cases where a given point could be shot from all three triangulation stations, the apparent error indicated was less than 30 feet, so that these intersections can be regarded as very accurately located. The four intersections involving Line BW-4, unfortunately, could not be shot in from the triangulation stations, and are consequently less certain in location. However, even these are probably actually located within 100-200 feet of their mapped positions.

III. Results

The seismic results obtained in the Beowawe area are generally of poor quality. Experience elsewhere, however, suggests that in this complexly-faulted area the data are almost certainly superior to data which might be obtained by more conventional seismic techniques. In hindsight, it appears that the improvement gained by using 50 meter (165 feet) spacing rather than 100 meter (330 feet) spacing as in other prospects was probably not worth the additional cost (almost twice as much per mile). However, the Beowawe area, because of its complexity, was a particularly good test example to determine if the closer spacing is worth the additional cost in exploration of this type.

The writer's interpretation of the structure of the project area is shown by the Structure Contour Map, Enclosure No. 25. This map is drawn on a seismic phantom which it is hoped may be at approximately the same stratigraphic position throughout the area. Because of the difficulty of correlating from one fault block to another, however, the likelihood of its being the same horizon everywhere is not good. The general structural form shown, however, is probably reasonably accurate.

Folding in general appears to be of much less importance than faulting. Only one fold, the east-plunging anticlinal nose in Section 14, seems to suggest that it may have formed independently of and prior to the present fault system.

Only faults judged to be of importance are shown. Many lesser faults are indicated by the seismic data. The faults considered to be of greatest significance are those shown on the map by heavier green lines. Two faults in particular are believed worthy of notice. These are (1) the arcuate fault at the foot of the Malpais Range (extreme southeast margin of the survey area) and (2) the opposing subparallel fault near the northwest edge of the survey area (and cutting Line BW-1 at Stations 55-56). Between these two major faults there appears to be a significant graben trending northeast-southwest and creating the smaller southwest extension of Whirlwind Valley which is the survey area. About 2/3 of a mile northwest of the main Malpais Range frontal fault is another fault set, also down to the northwest. Between these step faults and the main Malpais Range frontal fault is a fault block intermediate in depth between the valley graben and the Malpais Range. Its most obvious manifestation is the large hill in the south half of Section 18. The remaining fault considered of major importance crosses the valley graben north-northwesterly in the east half of section 13. This fault may not be of great throw, but it does appear to mark a major dip reversal in the graben and cause the northwest quarter of Section 13 to be the lowest point in the graben. It (the fault) was probably penetrated at shallow depth in the Chevron Ginn 1-13 well (SE/SE Sec. 13).

A few faults are shown which are not believed to be of great importance, at least in the survey area proper. Of particular interest is a set of faults encountered along the northeast side of the survey. These faults appear to strike a few degrees north of east and evidently die out westward near the position of Line BW-2. Those faults of this set which lie southeast of the center of the southeast quarter of Section 12 are apparently downthrown to the north; those farther northwest are apparently downthrown to the south. It seems likely that these faults are the west ends of a step fault system forming the main Whirlwind Valley graben to the east. If this is true, it would appear that the deepest downthrown part of the main Whirlwind Valley graben to the east lies about 3/4 of a mile north of the Malpais Range front, making the Whirlwind Valley graben highly assymetric.

Seismic evidence regarding the attitudes of the major faults in the survey area can be seen in several places. On Lines BW-1 and BW-4, the main Malpais Range frontal fault appears to dip about 70 degrees northwest (corrected for line angle on BW-4). The large step fault system about 2/3 mile northwest of the main Malpais Range frontal fault evidently dips about 60 degrees northwest on Line BW-2, and about 75 degrees on Lines BW-1, BW-3, and BW-4. The large cross-graben fault in the east half of Section 13 is apparently nearly vertical, but does dip southeast, as seen on Lines BW-1, BW-6, and BW-7. The large fault on the northwest side of the survey area graben also appears to be nearly vertical but does evidently dip southeast (see Line BW-2 especially). In summary, all the major faults appear to be normal faults, with dips ranging from about 60 degrees to nearly vertical. Only one or two doubtful cases of possible minor high-angle reverse faults were observed.

On some of the seismic lines the nearest reflector to the mapped phantom shows a large number of diffraction points (see especially Lines BW-2 and BW-8). This may indicate that the horizon is an unconformity with a great deal of irregularity (not strange in a volcanic sequence) or is perhaps a thick, competent unit subject to a great deal of small faulting and fracturing.

IV. Conclusions

A. The survey area appears to be basically a smaller graben extending southwestward from the main Whirlwind Valley graben.
B. Folding in the area seems to be very minor compared to faulting.
C. All the major faults as interpreted are evidently normal faults, with dips in the range from 60 degrees to nearly vertical.
D. The seismic reflection method seems to be clearly applicable to exploration of this type, despite the complex faulting present.

V. Recommendations

A. To penetrate the main Malpais Range frontal fault at about 4000 ft. depth, wells should be located on the down-thrown side about 1200 feet from the fault as mapped.

B. In future investigations of this type, close station spacing (165 feet or 50M) should be reserved for cases where increased detail is needed, and normal station spacing (330 feet or 100M) should be the standard, for reasons of economy.

Respectfully submitted,

Charles B Reynolds

Charles B. Reynolds
Registered Geophysicist (Calif.)
Certified Professional Geologist

1 Figure
1 Table
25 Enclosures

RAND McNALLY
STATE COUNTY-CITY MAP

NEVADA
SIZE 8½ x 11

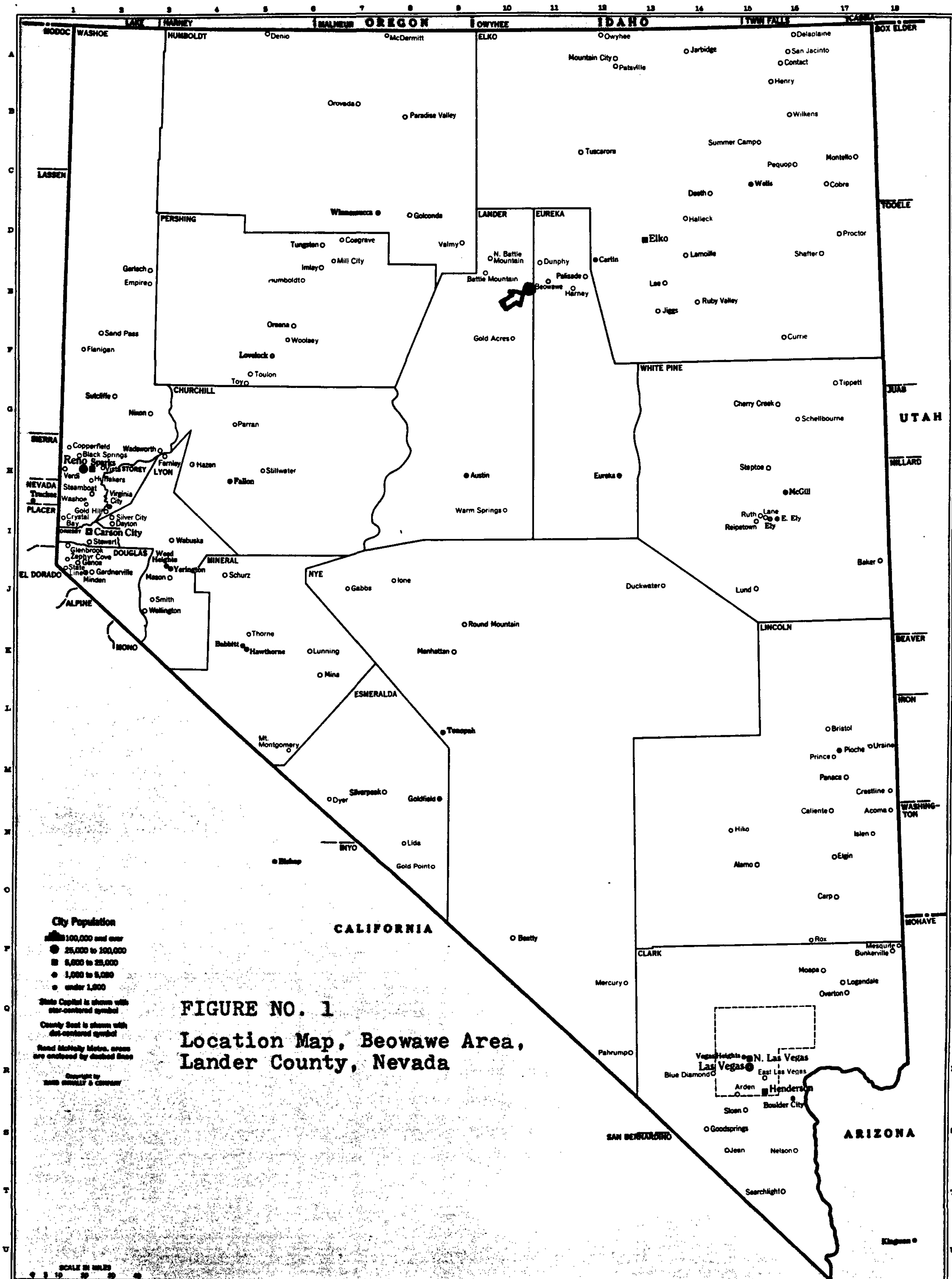


FIGURE NO. 1

Location Map, Beowawe Area, Lander County, Nevada

This Map is also available with County Outlines only.

4725

CHEVRON GINN 1-13 VELOCITY FUNCTION

LANDER COUNTY, NEVADA

Vi = 2000 + 10.0Z　　Z<750'　　Breakover time 0.312

Vi = 8000 = 2.0Z　　Z≥750'　　Breakover time 0.172

(Accurate only to 4200' depth)　　Datum +5000'

(T=one-way time)

(two-way) Time	ft/ms	(feet) Depth	(two-way) Time	ft/ms	(feet) Depth	(two-way) Time	ft/ms	(feet) Depth
0.005		5	0.200		344	0.385		1110
0.010		10	0.205		357	0.390		1135
0.015		16	0.210		371	0.395		1161
0.020		21	0.215	3	386	0.400		1187
0.025		27	0.220		401	0.405		1213
0.030		32	0.225		416	0.410		1239
0.035	1	38	0.230		432	0.415	5	1265
0.040		44	0.235		448	0.420		1292
0.045		50	0.240		464	0.425		1318
0.050		57	0.245		481	0.430		1345
0.055		63	0.250		498	0.435		1372
0.060		70	0.255		516	0.440		1399
0.065		77	0.260		534	0.445		1426
0.070		84	0.265		552	0.450		1453
0.075		91	0.270		571	0.455		1480
0.080		98	0.275	4	591	0.460		1508
0.085		106	0.280		611	0.465		1535
0.090		114	0.285		631	0.470		1563
0.095		122	0.290		653	0.475		1591
0.100		130	0.295		674	0.480		1619
0.105		138	0.300		696	0.485		1647
0.110		147	0.305	5	719	0.490		1675
0.115		155	0.310		742	0.495		1704
0.120		164	breakover			0.500		1732
0.125	2	174	0.312		750	0.505		1761
0.130		183	0.315		764	0.510	6	1790
0.135		193	0.320		788	0.515		1819
0.140		203	0.325		812	0.520		1848
0.145		212	0.330		836	0.525		1877
0.150		223	0.335		861	0.530		1907
0.155		234	0.340		885	0.535		1937
0.160		245	0.345		909	0.540		1966
0.165		256	0.350	5	934	0.545		1996
0.170		268	0.355		959	0.550		2026
0.175		280	0.360		984	0.555		2057
0.180		292	0.365		1009	0.560		2087
0.185		304	0.370		1034	0.565		2117
0.190		317	0.375		1059	0.570		2148
0.195		330	0.380		1084	0.575		2179

(two-way) Time	ft/ms	(feet) Depth
0.580		2210
0.585		2241
0.590	6	2272
0.595		2304
0.600		2335
0.605		2367
0.610		2399
0.615		2432
0.620		2463
0.625		2496
0.630		2528
0.635		2561
0.640		2594
0.645		2627
0.650		2660
0.655		2693
0.660		2727
0.665		2761
0.670		2795
0.675	7	2829
0.680		2863
0.685		2897
0.690		2932
0.695		2967
0.700		3002
0.705		3037
0.710		3072
0.715		3107
0.720		3143
0.725		3170
0.730		3215
0.735		3251
0.740		3287
0.745		3324
0.750		3361
0.755		3397
0.760		3435
0.765		3472
0.770		3509
0.775		3547
0.780		3585
0.785		3623
0.790		3661
0.795		3699
0.800		3738
0.805	8	3777
0.810		3816
0.815		3855
0.820		3894
0.825		3934
0.830		3974
0.835		4014
0.840		4054
0.845		4094
0.850		4135
0.855	8	4175
0.860		4216
0.865		4258
0.870		4299
0.875		4341
0.880		4382
0.885		4425
0.890		4467
0.895		4509
0.900		4552
0.905		4595
0.910		4638
0.915		4681
0.920		4725
0.925		4768
0.930		4812
0.935	9	4856
0.940		4901
0.945		4945
0.950		4990
0.955		5035
0.960		5081
0.965		5126
0.970		5172
0.975		5218
0.980		5264
0.985		5310
0.990		5357
0.995		5404
1.000		5451

CHEVRON GINN 1-13 VELOCITY FUNCTION

August 18, 1975

Charles B. Reynolds & Associates

JEM ?

SENTURION SCIENCES, INC.

1539 NORTH 105TH EAST AVENUE, TULSA, OKLAHOMA
P.O. BOX 15447, TULSA, OKLAHOMA 74115
PHONE (918) 836-6746

June 2, 1975

MINERALS STAFF

JUN 04 1975

Mr. Bill Mero
Chevron Oil Company
Post Office Box 3495
San Francisco, California 94119

Dear Mr. Mero:

At long last we are transmitting, under separate cover, the report on the detailed groundnoise survey done for Chevron near Beowawe, Nevada. We apologize for the long delay in completing this task, but we believe you are aware of the difficulties that were encountered. Senturion feels that the area exhibits excellent potential for geothermal resources, and recommendations appropriate to that conclusion are included in the report.

After your evaluation and at your convenience, we will be glad to personally discuss with you our analysis, interpretation, and thoughts on Beowawe.

Again, we are sincerely sorry for the delay which became much too protracted because of our reliance on the principal analyst who had committed to the study effort. Please feel free to contact us should you have any questions.

Sincerely,
SENTURION SCIENCES, INC.

Bob G.

R. G. Graf

Keith Westhusing

Keith Westhusing

RGG:KW/rf

BEOWAWE PSD'S (.5 to 15 Hz)

As Of December 4, 1974

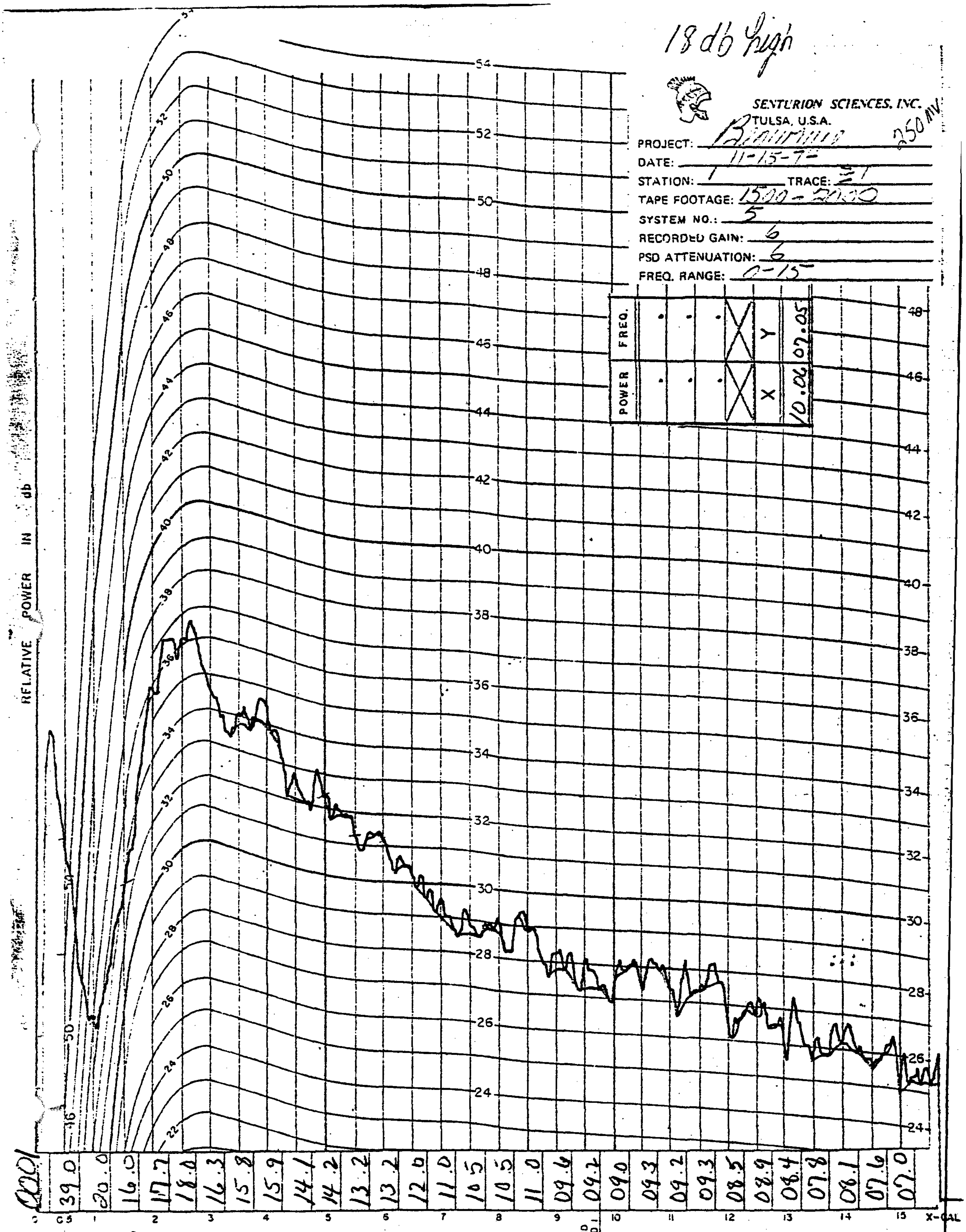
SENTURION SCIENCES, INC.
TULSA, U.S.A.

18 db high

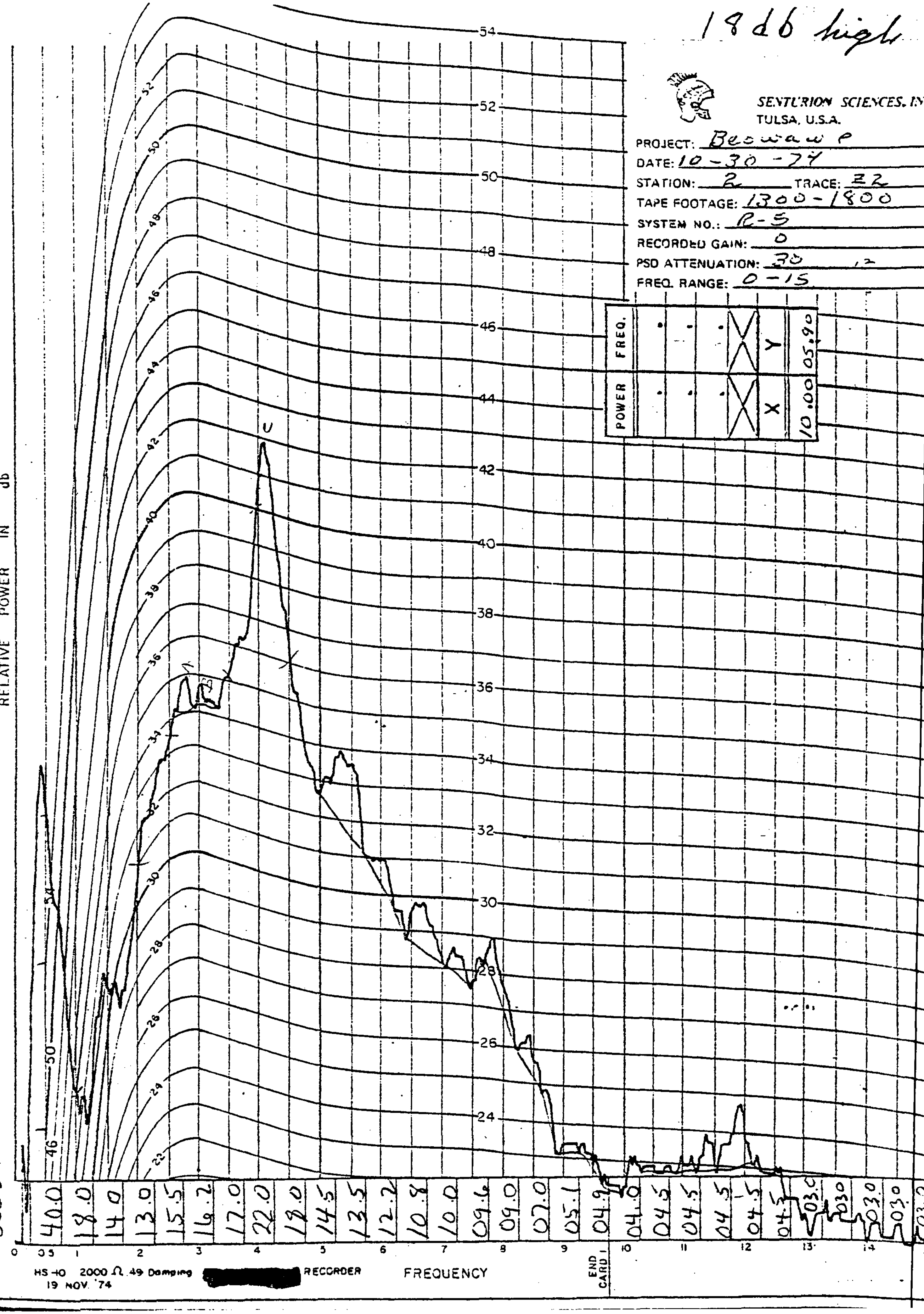
SENTURION SCIENCES, INC.
TULSA, U.S.A.

250 mv

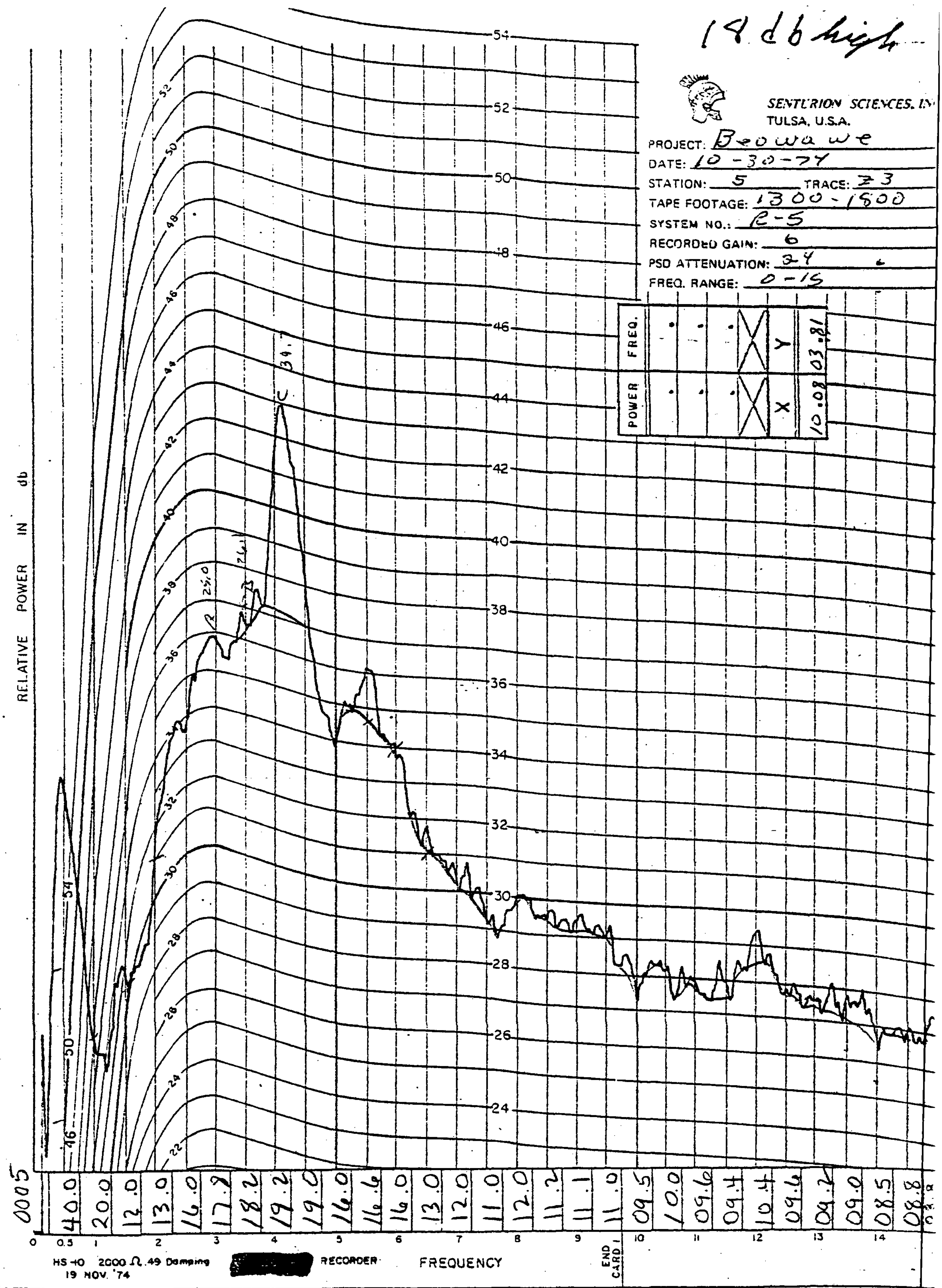
PROJECT: [illegible]
DATE: 11-15-7-
STATION: 1 TRACE: 31
TAPE FOOTAGE: 1500 - 2000
SYSTEM NO.: 5
RECORDED GAIN: 6
PSD ATTENUATION: 6
FREQ. RANGE: 0-15



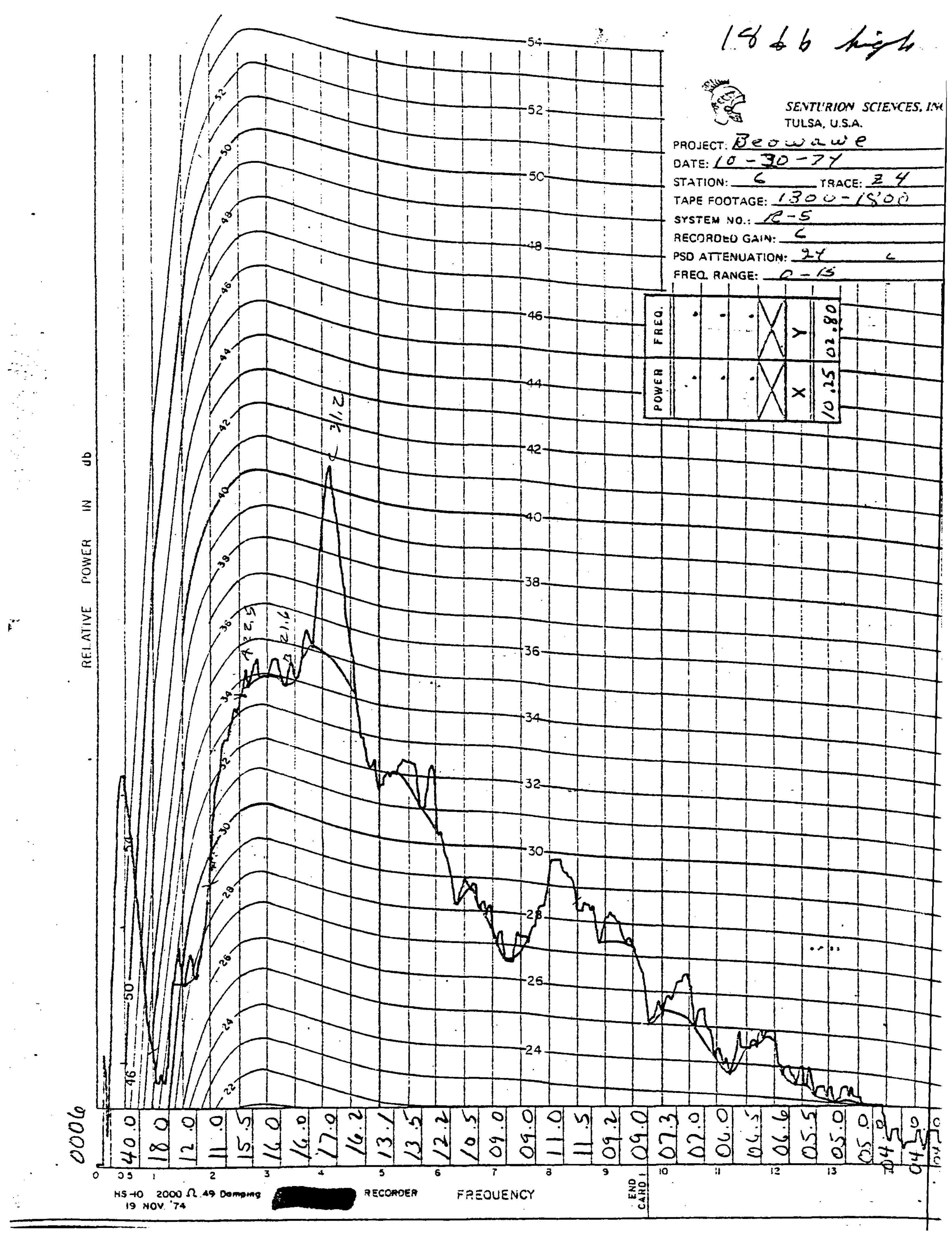
HS-10 2000 Ω .49 Damping [redacted] RECORDER FREQUENCY



18 db high
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT: Beowawe
DATE: 10-30-74
STATION: 2 TRACE: 22
TAPE FOOTAGE: 1300-1800
SYSTEM NO.: R-5
RECORDED GAIN: 0
PSD ATTENUATION: 30 12
FREQ. RANGE: 0-15
FREQ.
POWER
Y
X
10.00 05.90
RELATIVE POWER IN db
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
40.0 18.0 14.0 13.0 15.5 16.2 17.0 22.0 18.0 14.5 13.5 12.2 10.8 10.0 09.6 09.0 07.0 05.1 04.9 04.0 04.5 04.5 04.5 04.5 04.5 03.0 03.0 03.0 03.0 03.0
0002
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14
END CARD 1
HS-10 2000 Ω .49 Damping [redacted] RECORDER
19 NOV. '74
FREQUENCY



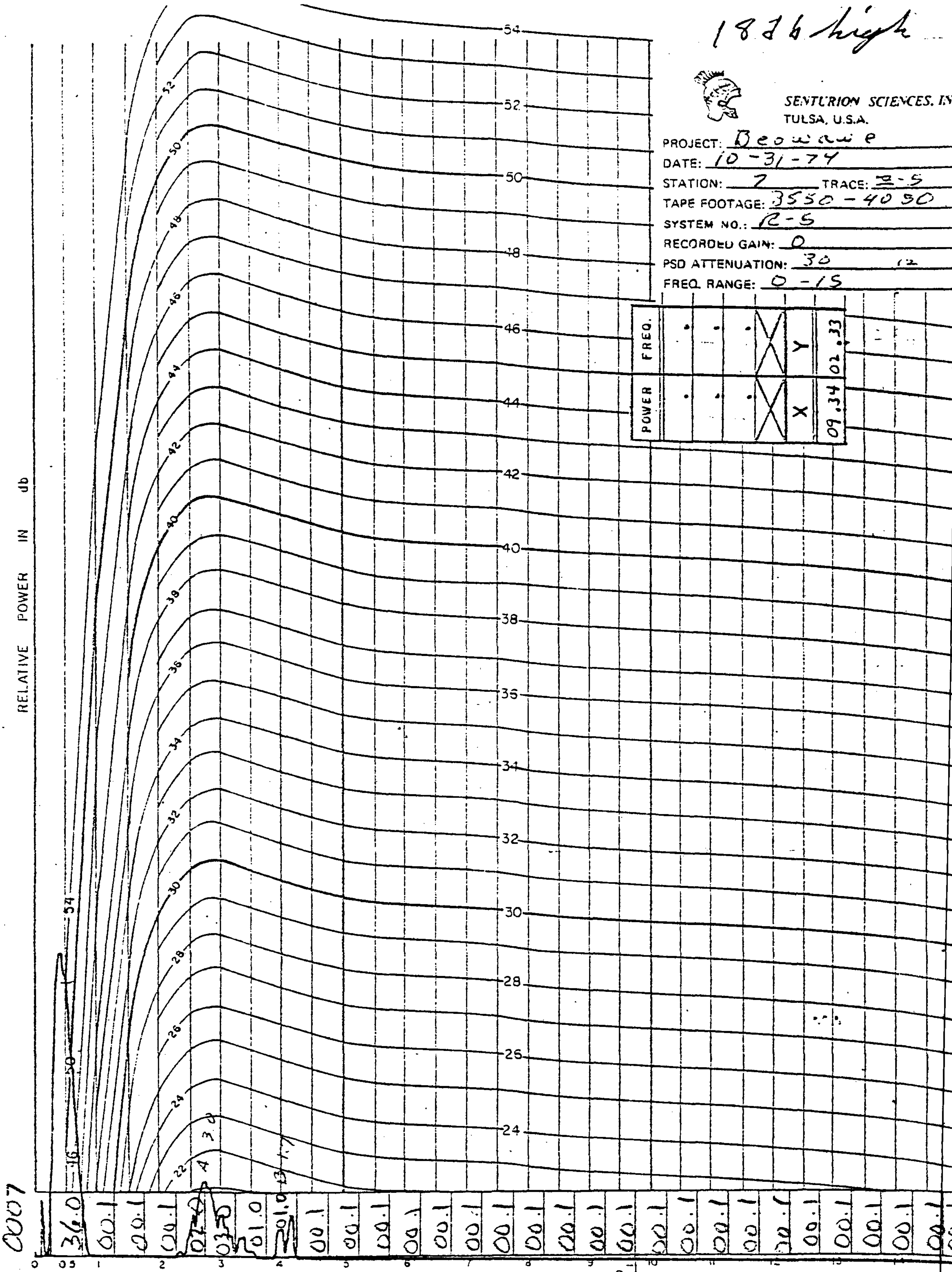
18 db high
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT: Beowawe
DATE: 10-30-74
STATION: 5 TRACE: Z3
TAPE FOOTAGE: 1300-1800
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 34
FREQ. RANGE: 0-15
FREQ. Y 10.08 03.81
POWER X
RELATIVE POWER IN db
34.7
26.1
25.0
0005 40.0 20.0 12.0 13.0 16.0 17.8 18.2 19.2 19.0 16.0 16.6 16.0 13.0 12.0 11.0 12.0 11.2 11.1 11.0 09.5 10.0 09.6 09.4 10.4 09.6 09.2 09.0 08.5 08.8
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14
END CARD
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY


1866 high
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT: Beowawe
DATE: 10-30-74
STATION: 6 TRACE: Z 4
TAPE FOOTAGE: 1300-1800
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 24 6
FREQ. RANGE: 0-15
FREQ.
POWER
Y 02.80
X 10.25
RELATIVE POWER IN db
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
0006
40.0 18.0 12.0 11.0 15.5 16.0 16.0 17.0 16.2 13.1 13.5 12.2 10.5 09.0 09.0 11.0 11.5 09.2 09.0 07.3 07.0 06.0 06.5 06.6 05.5 05.0 05.0 04.9 04.9
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13
HS-10 2000 Ω .49 Damping
19 NOV '74
[redacted] RECORDER
FREQUENCY
END CARD

1826 high

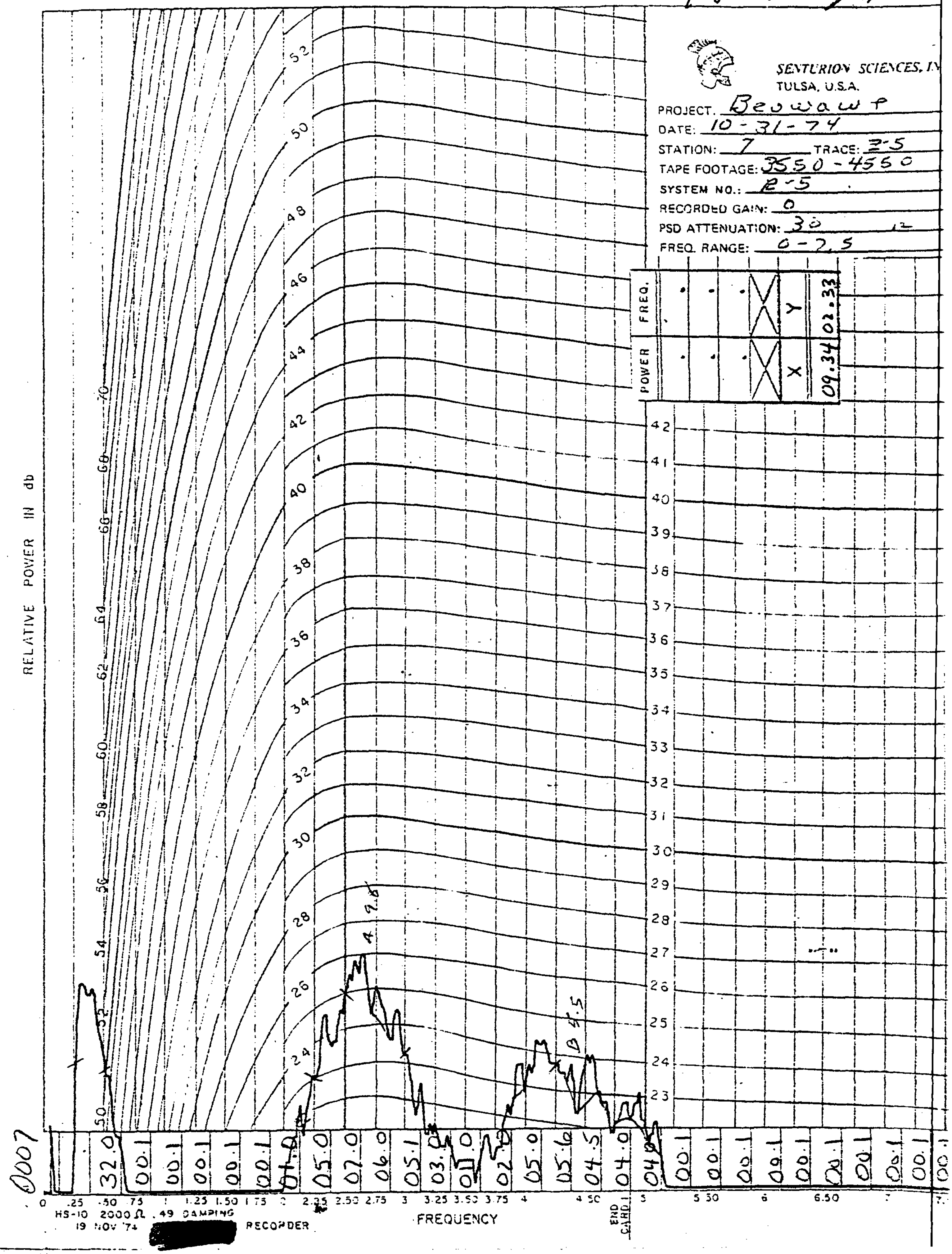
SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: *Beowawe*
DATE: *10-31-74*
STATION: *7* TRACE: *2-5*
TAPE FOOTAGE: *3550-4050*
SYSTEM NO.: *R-5*
RECORDED GAIN: *0*
PSD ATTENUATION: *30* *12*
FREQ. RANGE: *0-15*



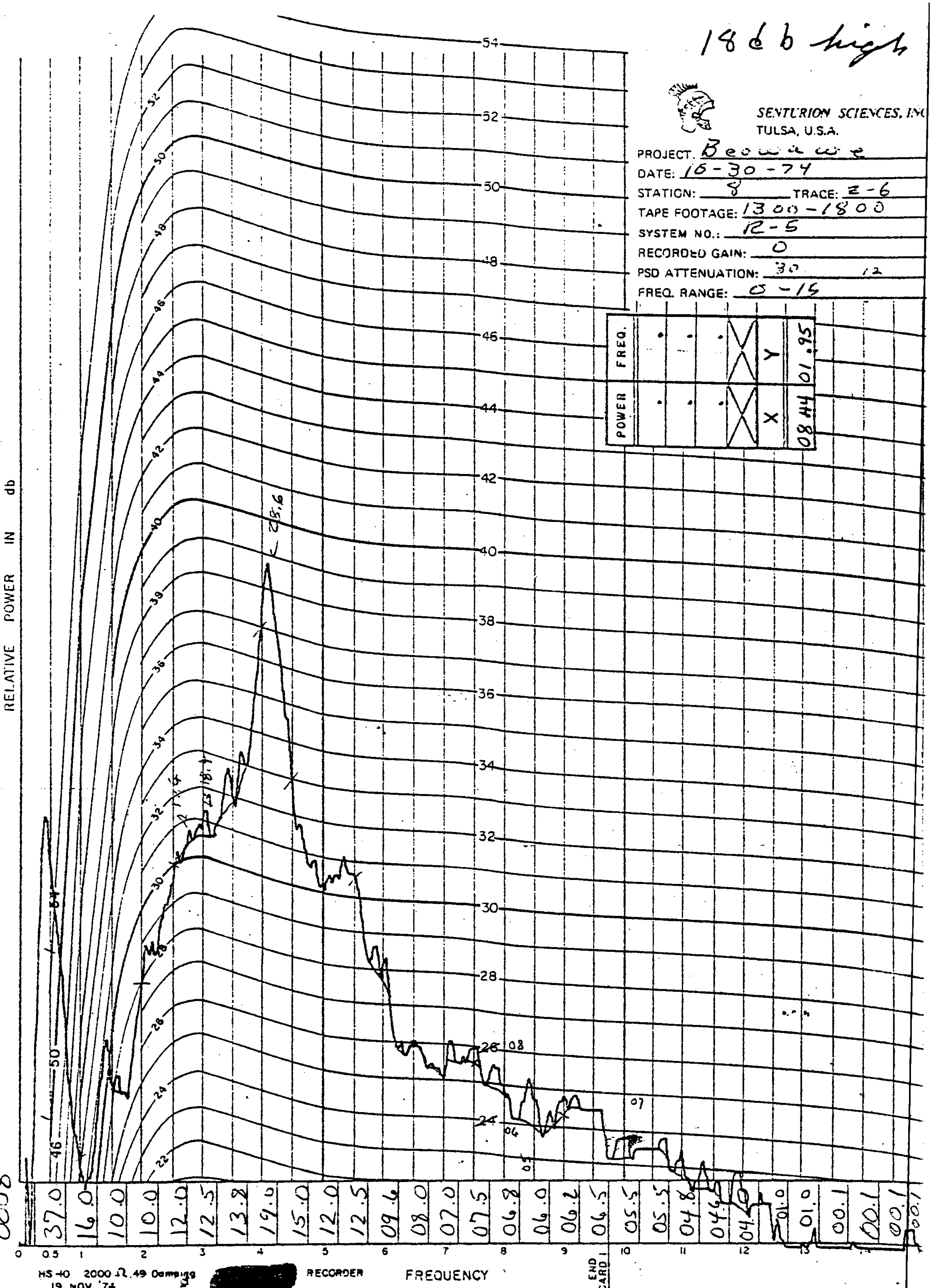
HS-40 2000 Ω .49 Damping [redacted] RECORDER FREQUENCY END CARD
19 NOV '74

18 db high



SENTURION SCIENCES, IN
TULSA, U.S.A.
PROJECT: Beowawe
DATE: 10-31-74
STATION: 7 TRACE: 2-5
TAPE FOOTAGE: 3550-4550
SYSTEM NO.: 2-5
RECORDED GAIN: 0
PSD ATTENUATION: 30
FREQ. RANGE: 0-2.5
FREQ. Y 02.33
POWER X 09.34
RELATIVE POWER IN db
FREQUENCY
HS-10 2000 Ω .49 DAMPING
19 NOV '74
[redacted] RECORDER
END CARD
0007

18 db high



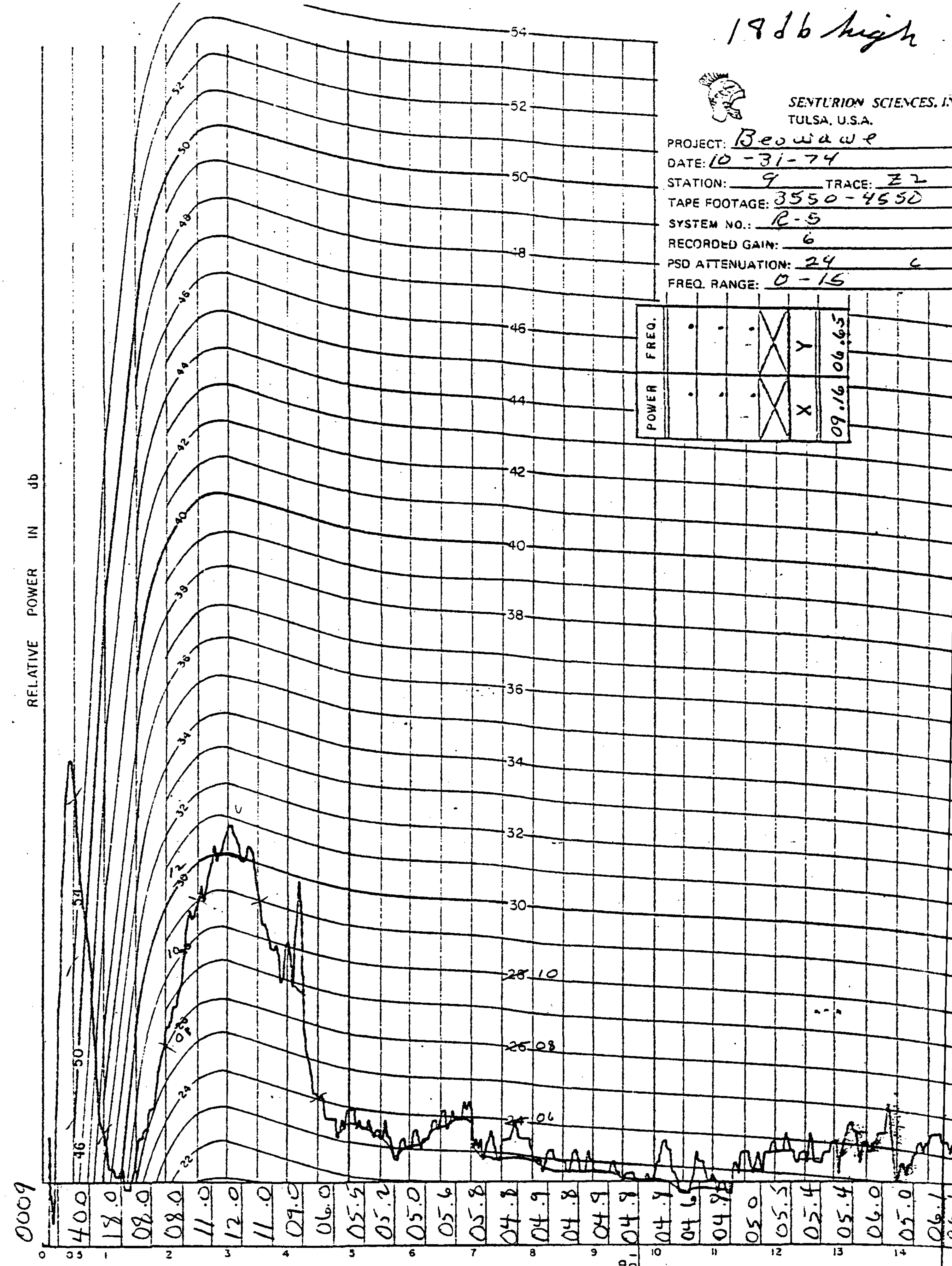
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT: Beowawe
DATE: 10-30-74
STATION: 8 TRACE: Z-6
TAPE FOOTAGE: 1300-1800
SYSTEM NO.: R-5
RECORDED GAIN: 0
PSD ATTENUATION: 30 12
FREQ. RANGE: 0-15
FREQ. Y 01.95
POWER X 08.44
RELATIVE POWER IN db
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
28.6
18.1
0008
37.0 16.0 10.0 10.0 12.0 12.5 13.8 19.0 15.0 12.0 12.5 09.6 08.0 07.0 07.5 06.8 06.0 06.2 06.5 05.5 05.5 04.8 04.6 04.0 01.0 01.0 00.1 00.1 00.1
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY
END CARD I

18 db high

SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: Beowawe
DATE: 10-31-74
STATION: 9 TRACE: Z2
TAPE FOOTAGE: 3550-4550
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 24 6
FREQ. RANGE: 0-15

FREQ.	.	.	.	Y	06.65
POWER	.	.	.	X	09.16



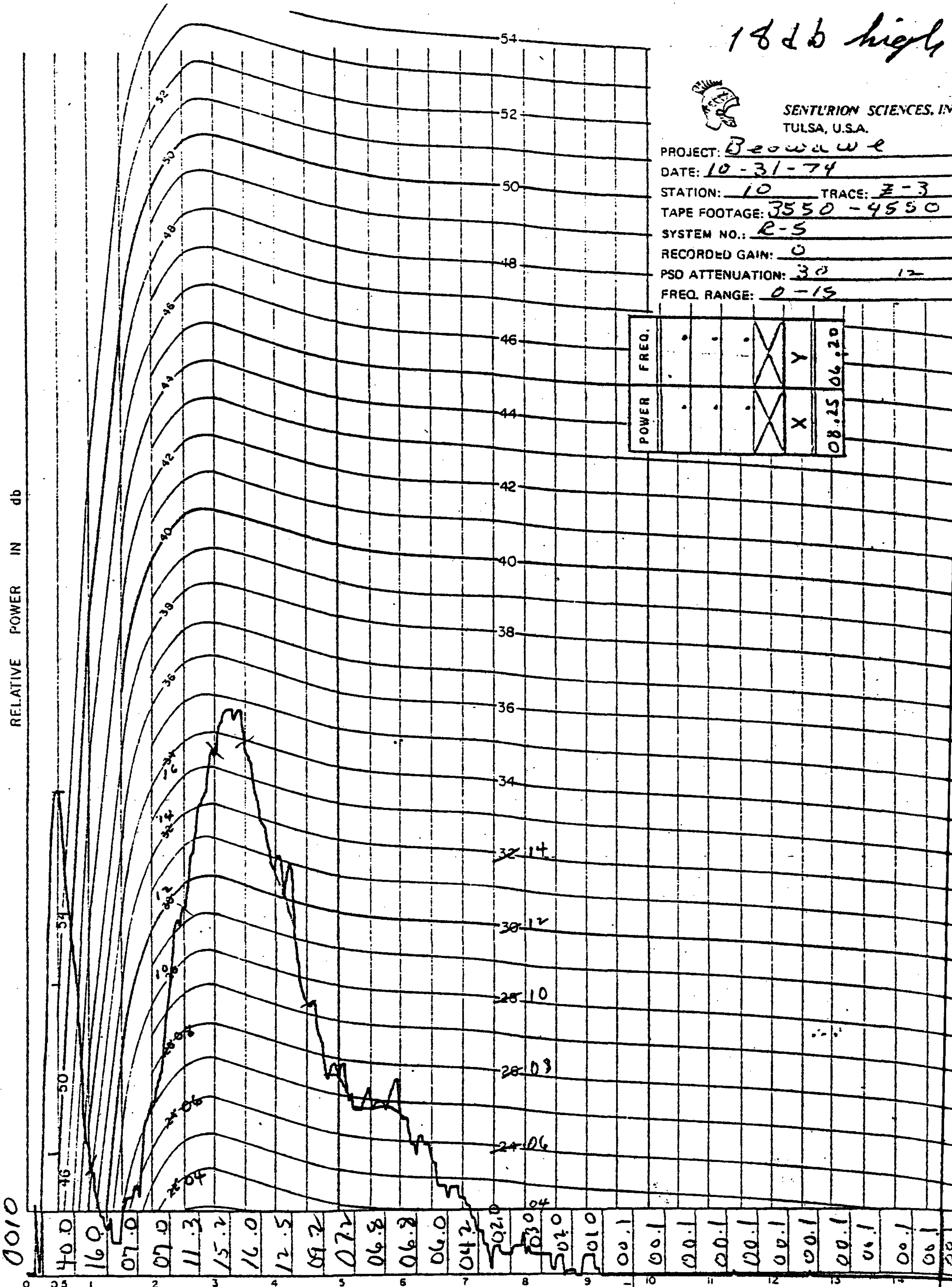
HS-40 2000 Ω .49 Damping
19 NOV. '74

RF-GEOTECH RECORDER
SAI 529

18db high

SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: Beowawe
DATE: 10-31-74
STATION: 10 TRACE: Z-3
TAPE FOOTAGE: 3550 - 4550
SYSTEM NO.: R-5
RECORDED GAIN: 0
PSO ATTENUATION: 30 12
FREQ. RANGE: 0-15

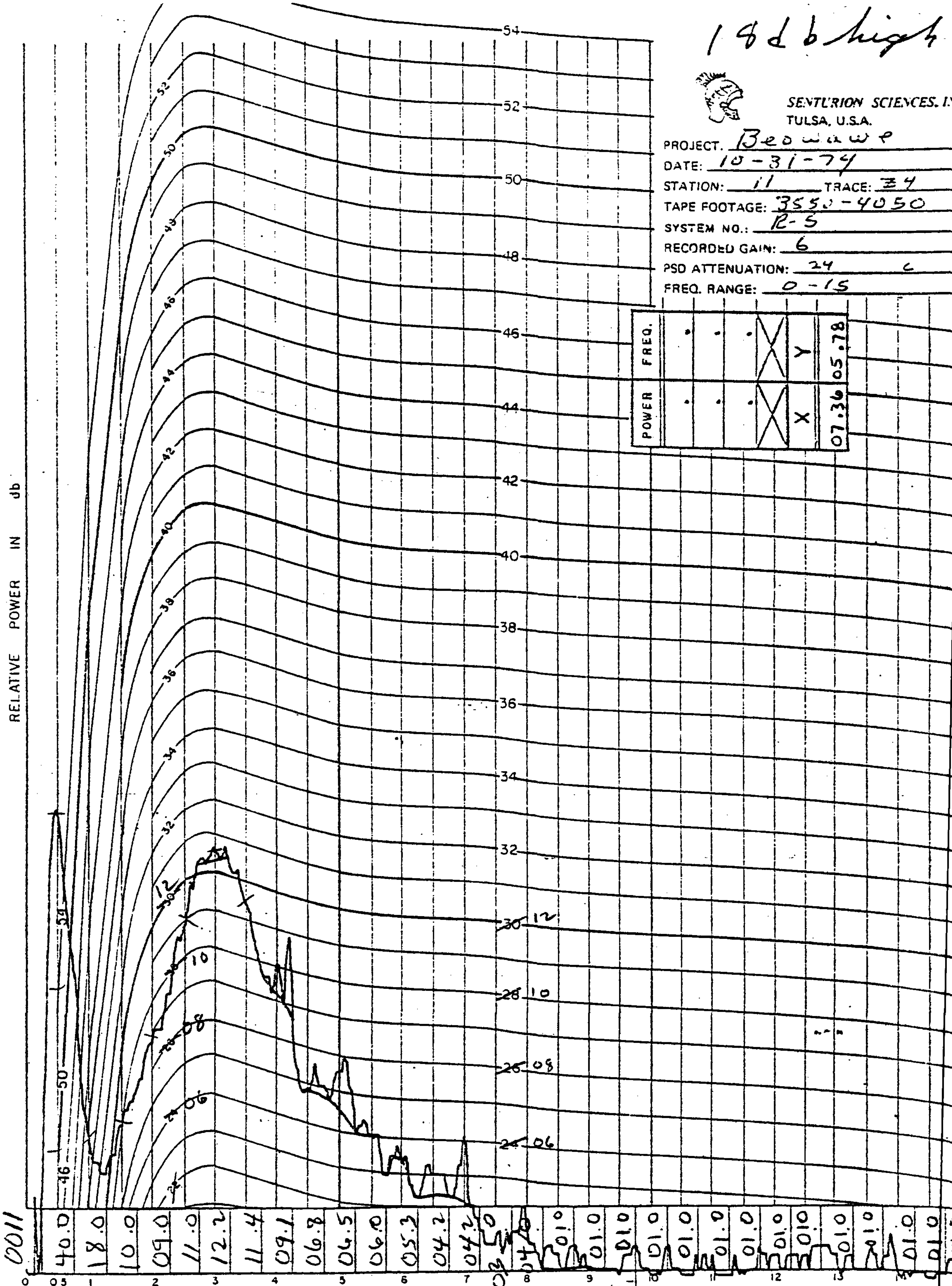


HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER

18 db high

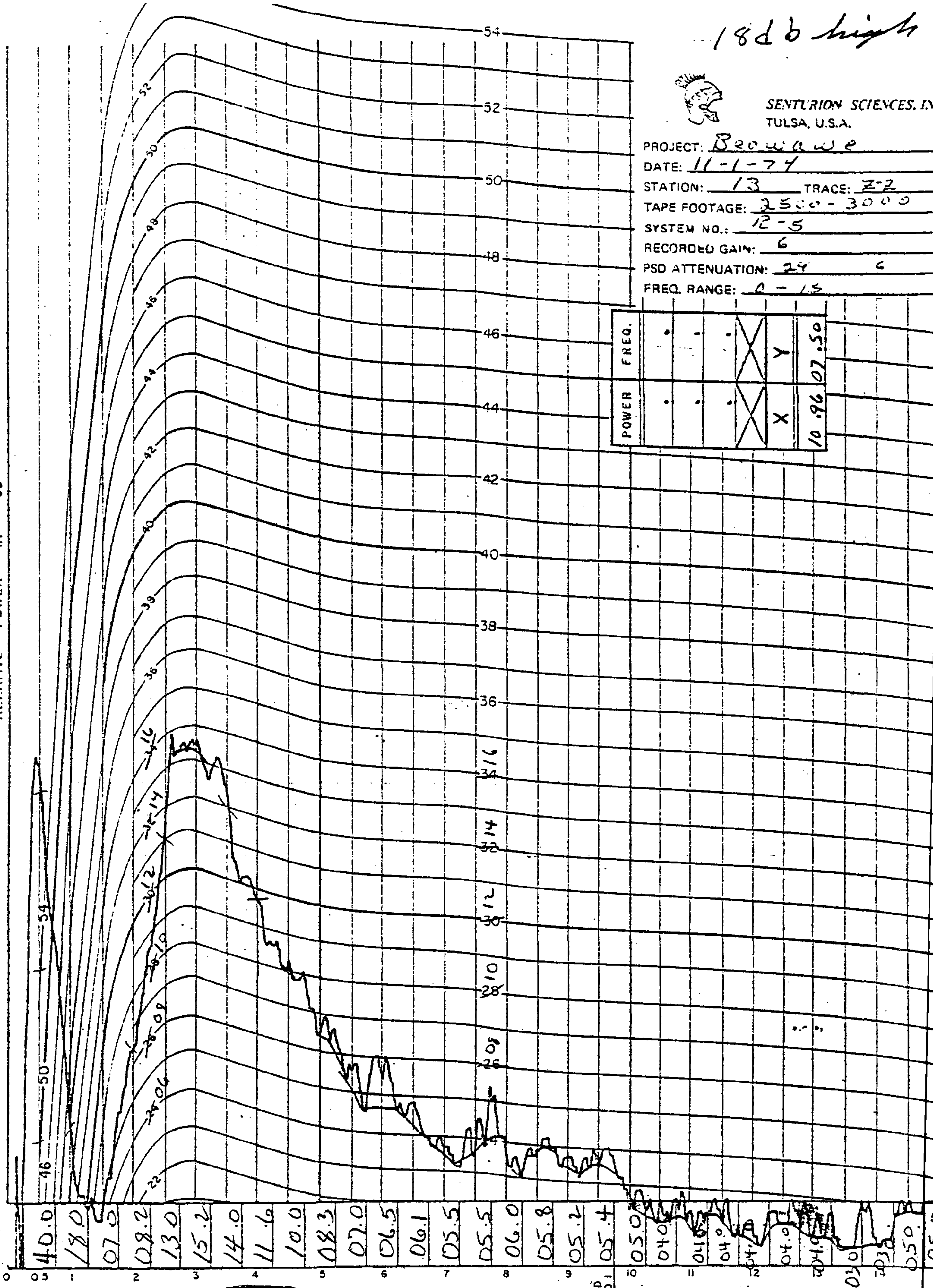
SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT. Beowawe
DATE: 10-31-74
STATION: 11 TRACE: Z4
TAPE FOOTAGE: 3550-4050
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 24 c
FREQ. RANGE: 0-15

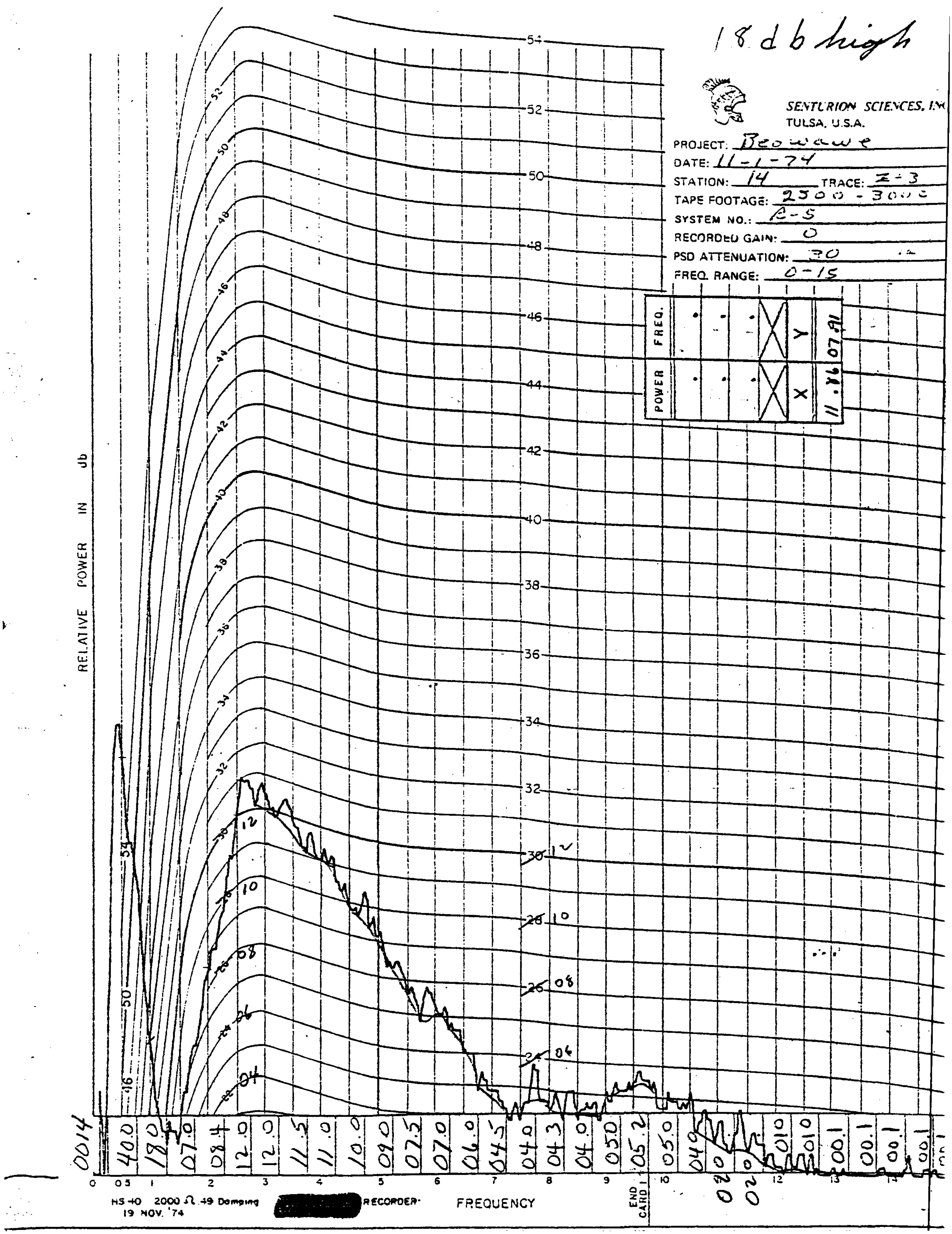


HS-40 2000 Ω .49 Damping [redacted] RECORDER
19 NOV. '74

18db high



HS-40 2000 Ω .49 Damping
19 NOV '74
[redacted] RECORDER

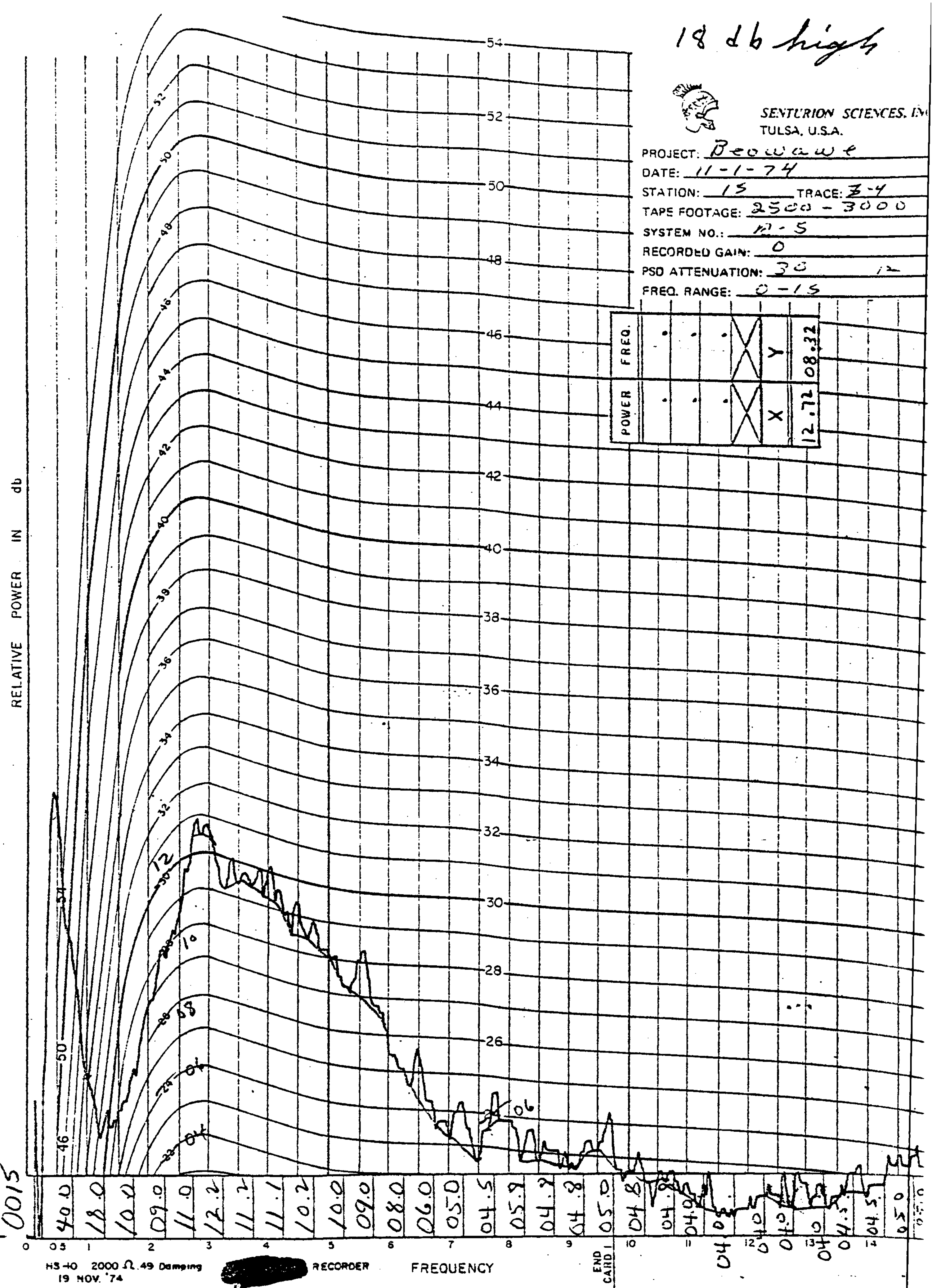

18 db high
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT: Beowawe
DATE: 11-1-74
STATION: 14 TRACE: Z-3
TAPE FOOTAGE: 2500 - 3000
SYSTEM NO.: R-5
RECORDED GAIN: 0
PSD ATTENUATION: 30
FREQ. RANGE: 0-15
FREQ. Y
POWER X
11.86 07.91
RELATIVE POWER IN db
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
12
10
08
06
04
0014
40.0
18.0
07.0
08.4
12.0
12.0
11.5
11.0
10.0
09.0
07.5
07.0
06.0
04.5
04.0
04.3
04.0
05.0
05.2
05.0
04.0
02
02
010
010
00.1
00.1
00.1
00.1
0 0.5 1 2 3 4 5 6 7 8 9 10 12 13 14
HS-40 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY
END CARD 1

18 db high

SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: Beowawe
DATE: 11-1-74
STATION: 15 TRACE: Z-4
TAPE FOOTAGE: 2500 - 3000
SYSTEM NO.: 12-5
RECORDED GAIN: 0
PSD ATTENUATION: 30 12
FREQ. RANGE: 0-15

FREQ.	.	.	.	X	Y	08.32
POWER	.	.	.	X	X	12.72



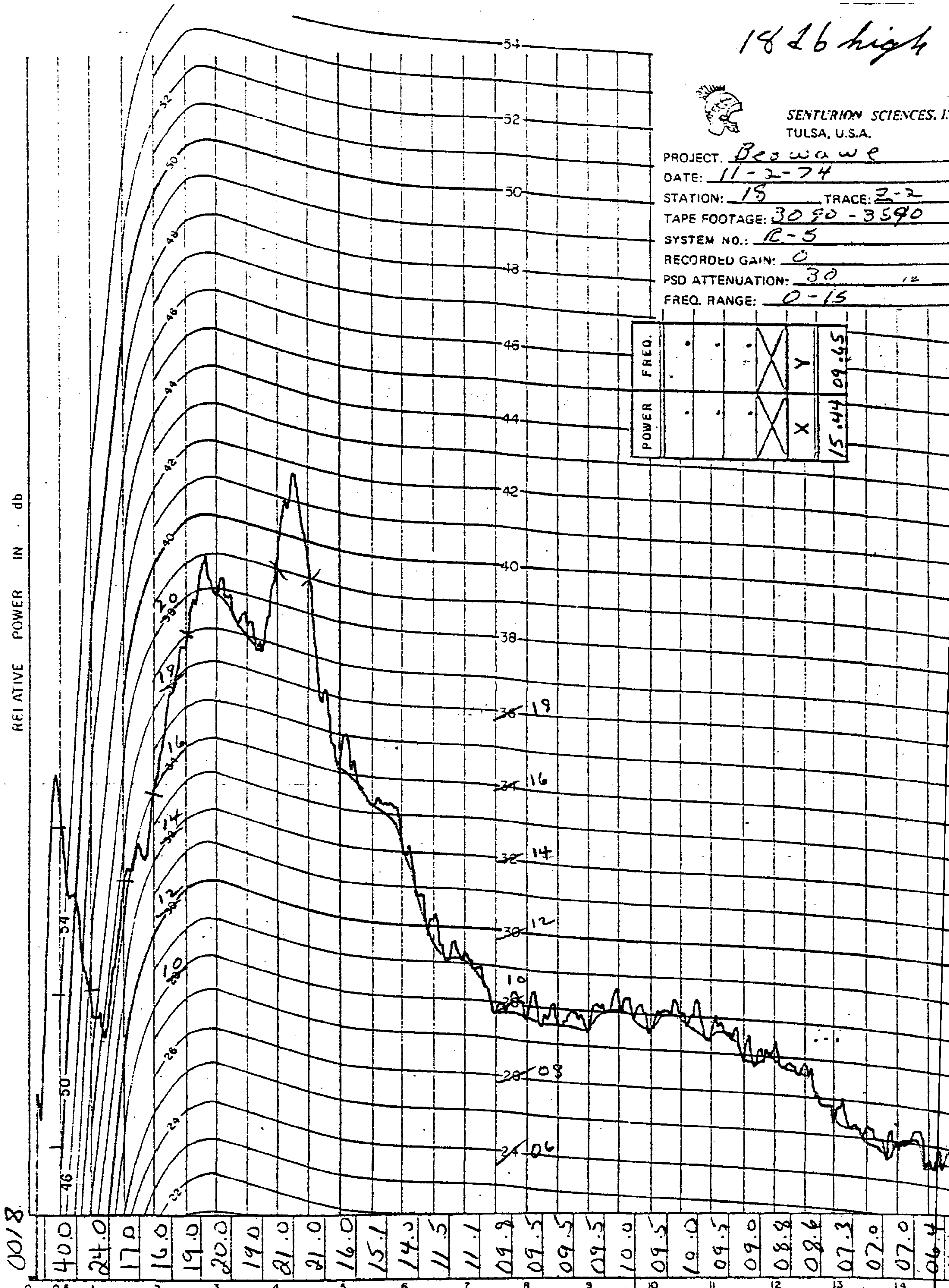
[redacted] RECORDER

1826 high

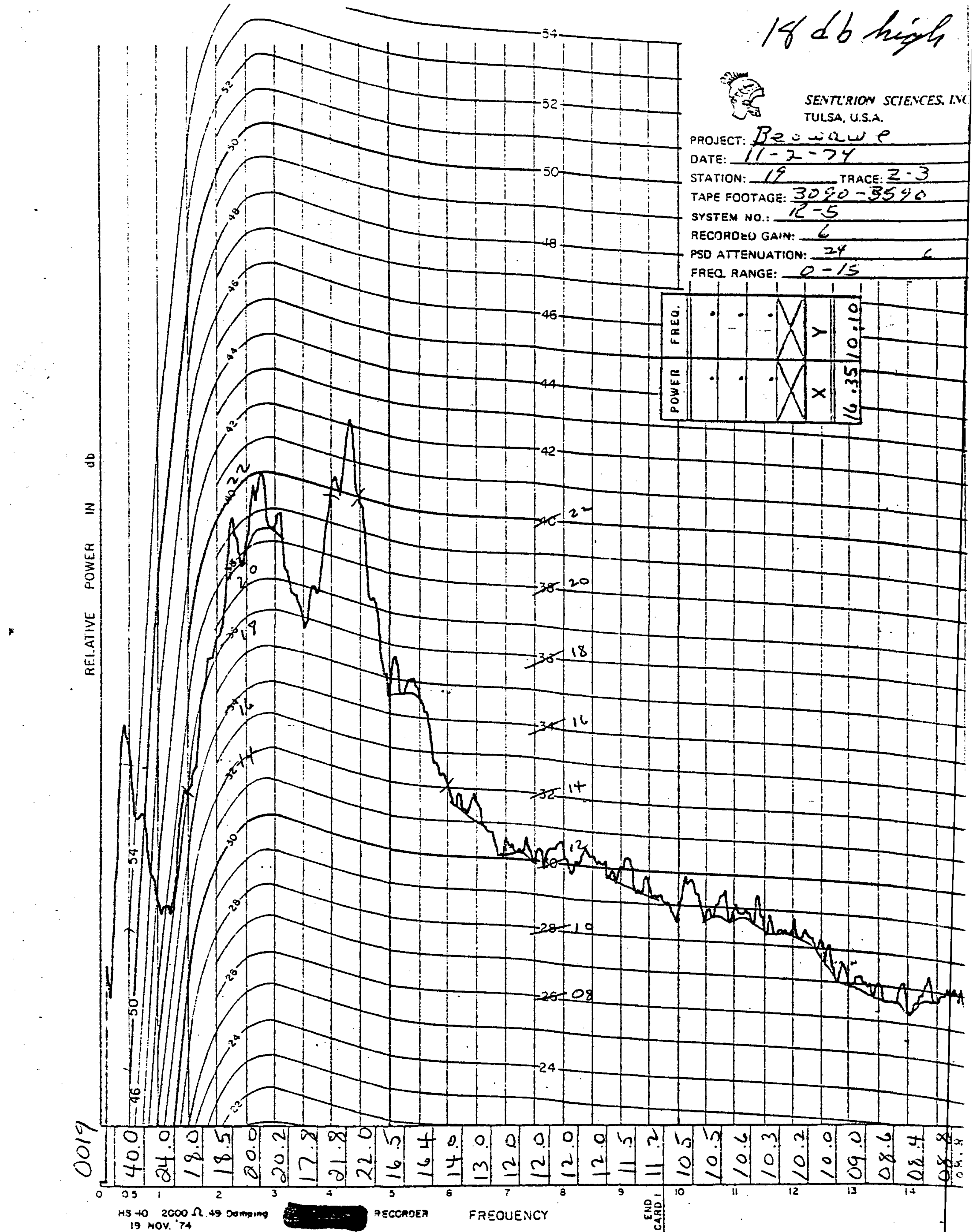
SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: Beowawe
DATE: 11-2-74
STATION: 15 TRACE: 2-2
TAPE FOOTAGE: 3090 - 3590
SYSTEM NO.: R-5
RECORDED GAIN: 0
PSD ATTENUATION: 30
FREQ. RANGE: 0-15

FREQ.	.	.	.		Y	09.65
POWER	.	.	.		X	15.44



HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY



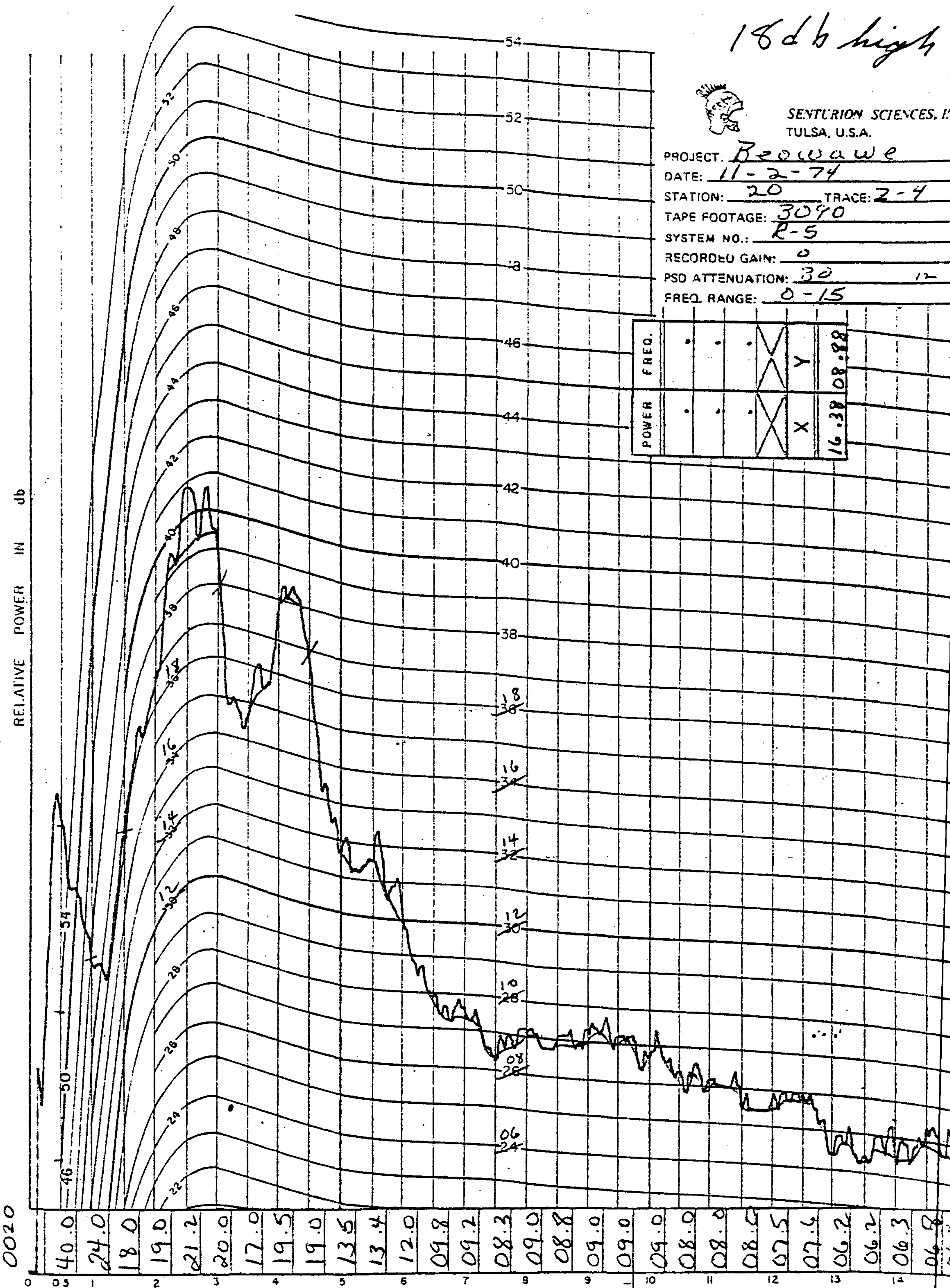
14 db high
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT: Beowawe
DATE: 11-2-74
STATION: 19 TRACE: Z-3
TAPE FOOTAGE: 3090-3590
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 24
FREQ. RANGE: 0-15
FREQ. Y 10.10
POWER X 16.35
RELATIVE POWER IN db
0019
40.0 24.0 19.0 18.5 20.0 20.2 17.8 21.8 22.0 16.5 16.4 14.0 13.0 12.0 12.0 12.0 12.0 11.5 11.2 10.5 10.5 10.6 10.3 10.2 10.0 09.0 08.6 08.4 08.8
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14
END CARD
HS-40 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY

18db high

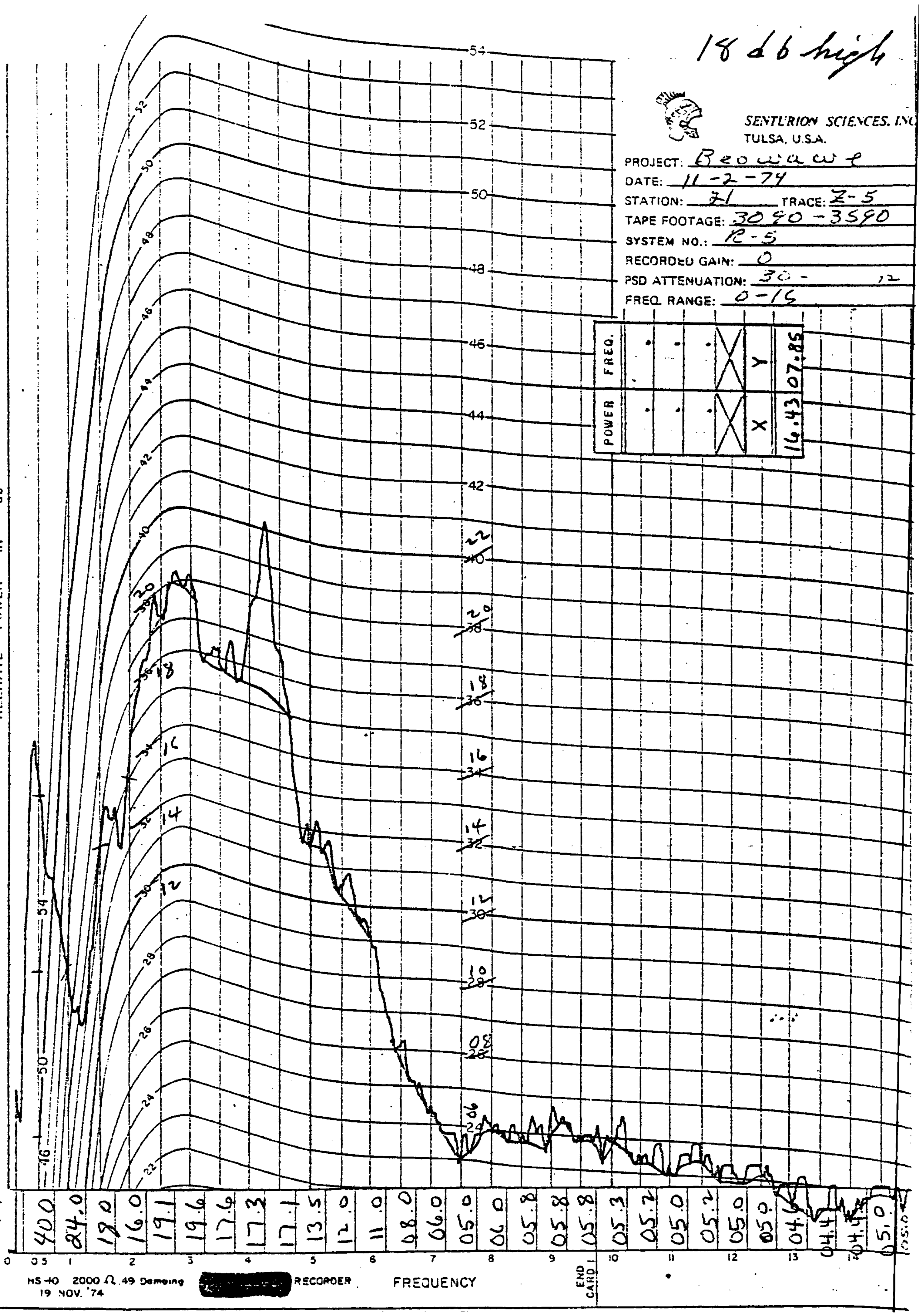
SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: Beowawe
DATE: 11-2-74
STATION: 20 TRACE: 2-4
TAPE FOOTAGE: 3090
SYSTEM NO.: R-5
RECORDED GAIN: 0
PSD ATTENUATION: 30 12
FREQ. RANGE: 0-15

FREQ.	·	·	·		Y	08.88
POWER	·	·	·		X	16.38



HS-40 2000 Ω .49 Damping [redacted] RECORDER
19 NOV. '74

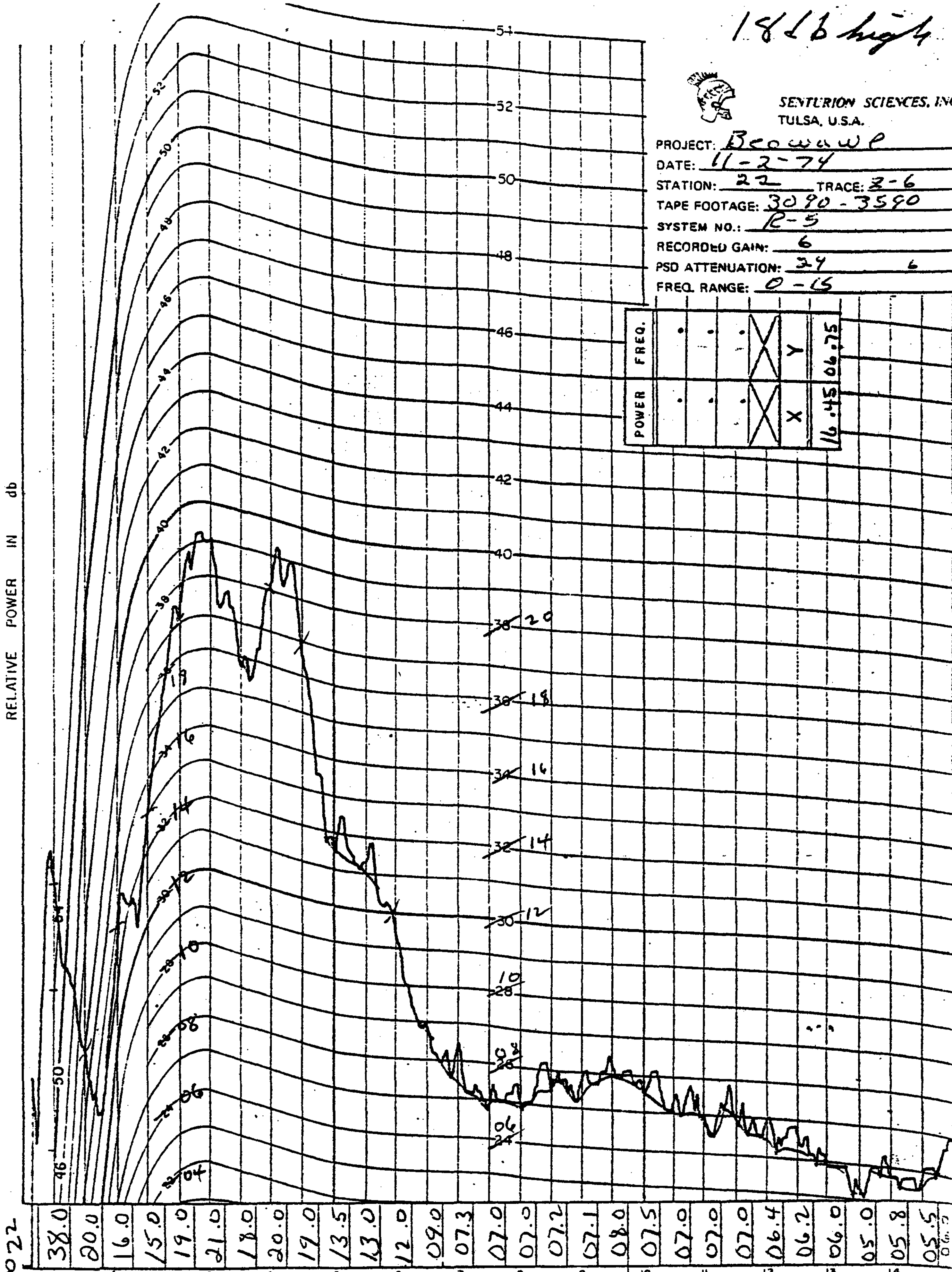

18 db high
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT: Beowawe
DATE: 11-2-74
STATION: 21 TRACE: Z-5
TAPE FOOTAGE: 3090-3590
SYSTEM NO.: R-5
RECORDED GAIN: 0
PSD ATTENUATION: 30 - 12
FREQ. RANGE: 0-16
FREQ. Y 07.85
POWER X 16.43
RELATIVE POWER IN db
0021
40.0 24.0 18.0 16.0 19.1 19.6 17.6 17.3 17.1 13.5 12.0 11.0 08.0 06.0 05.0 06.0 05.8 05.8 05.8 05.3 05.2 05.0 05.2 05.0 05.0 04.6 04.4 04.4 05.0 05.0
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY
END CARD

18 db high

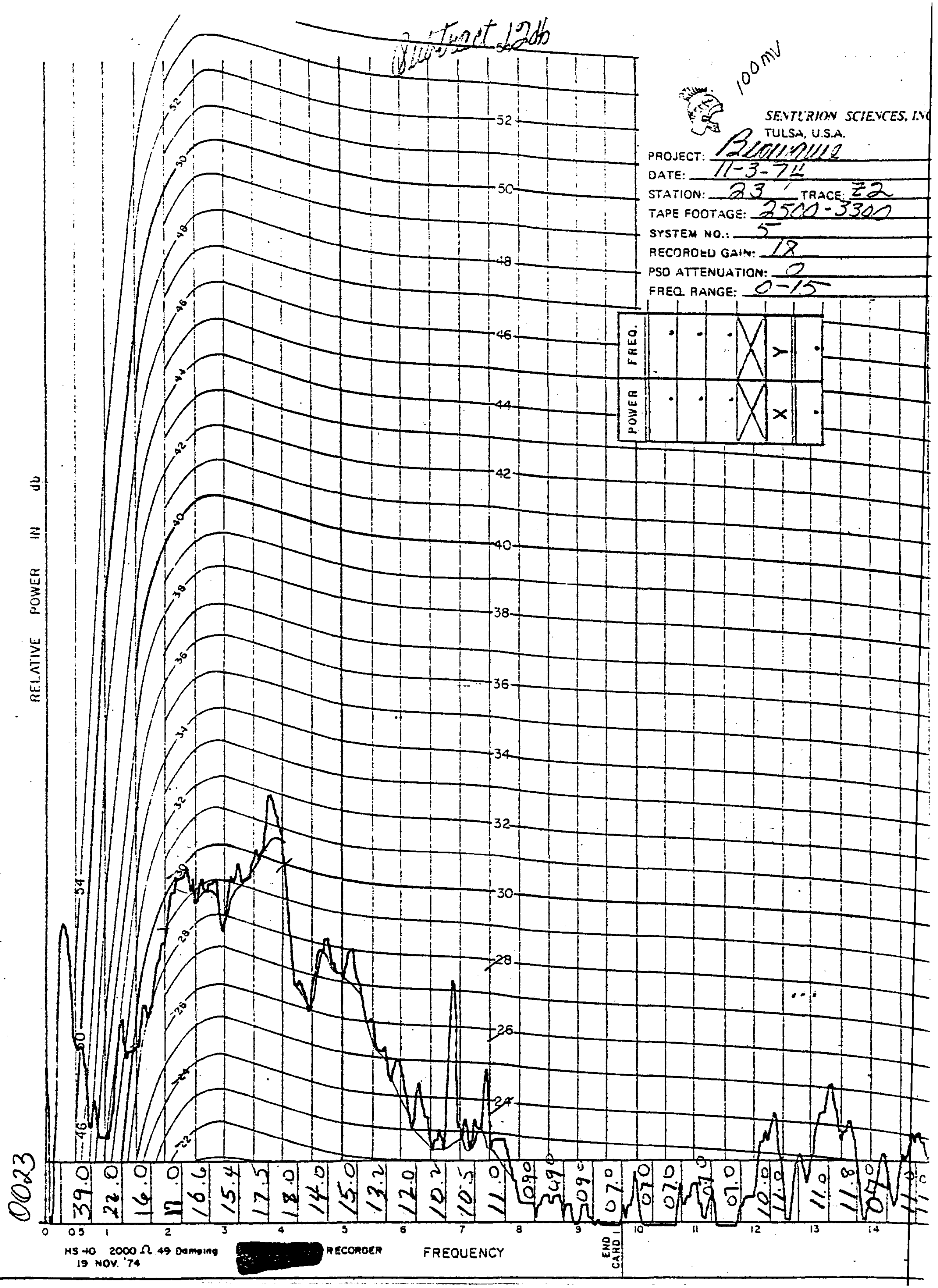
SENTURION SCIENCES, INC
TULSA, U.S.A.

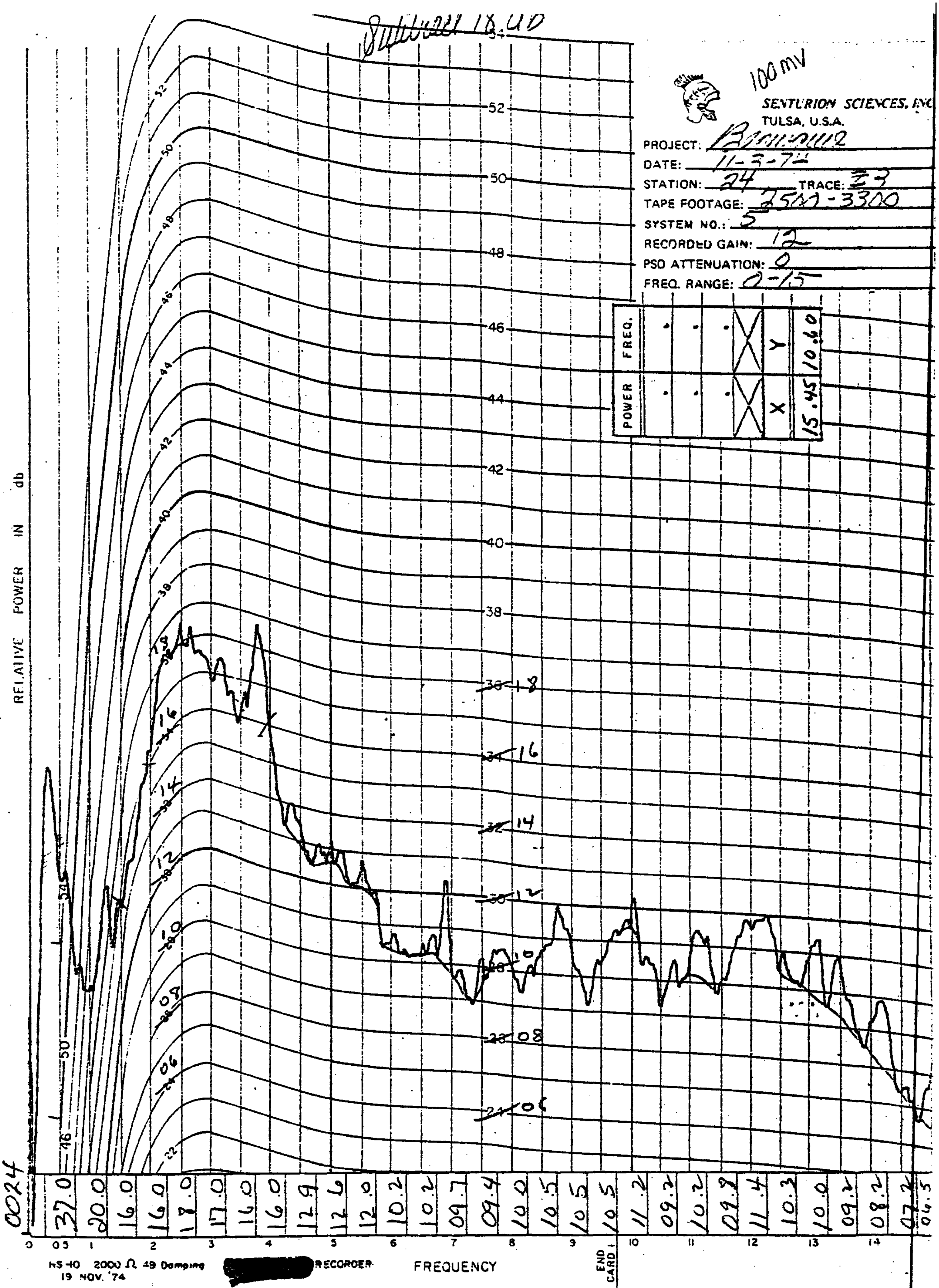
PROJECT: Beowawe
DATE: 11-2-74
STATION: 22 TRACE: Z-6
TAPE FOOTAGE: 3090 - 3590
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 24 6
FREQ. RANGE: 0 - 15

FREQ.	Y	06.75
POWER	X	16.45



HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER


Subtract 12db
100 mV
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT:
DATE: 11-3-74
STATION: 23
TRACE: Z2
TAPE FOOTAGE: 2500-3300
SYSTEM NO.: 5
RECORDED GAIN:
PSD ATTENUATION: 0
FREQ. RANGE: 0-15
FREQ.
POWER
Y
X
RELATIVE POWER IN db
0023
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY
END CARD



100 mv
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT:
DATE: 11-3-74
STATION: 24 TRACE: 3
TAPE FOOTAGE: 2500-3300
SYSTEM NO.: 5
RECORDED GAIN: 12
PSD ATTENUATION: 0
FREQ. RANGE: 0-15
FREQ. Y 10.60
POWER X 15.45
RELATIVE POWER IN db
0024
37.0 20.0 16.0 16.0 18.0 17.0 14.0 16.0 12.9 12.6 12.0 10.2 10.2 09.7 09.4 10.0 10.5 10.5 10.5 11.2 09.2 10.2 09.8 11.4 10.3 10.0 09.2 08.2 07.2 04.5
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14
HS-10 2000 Ω 4B Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY
END CARD

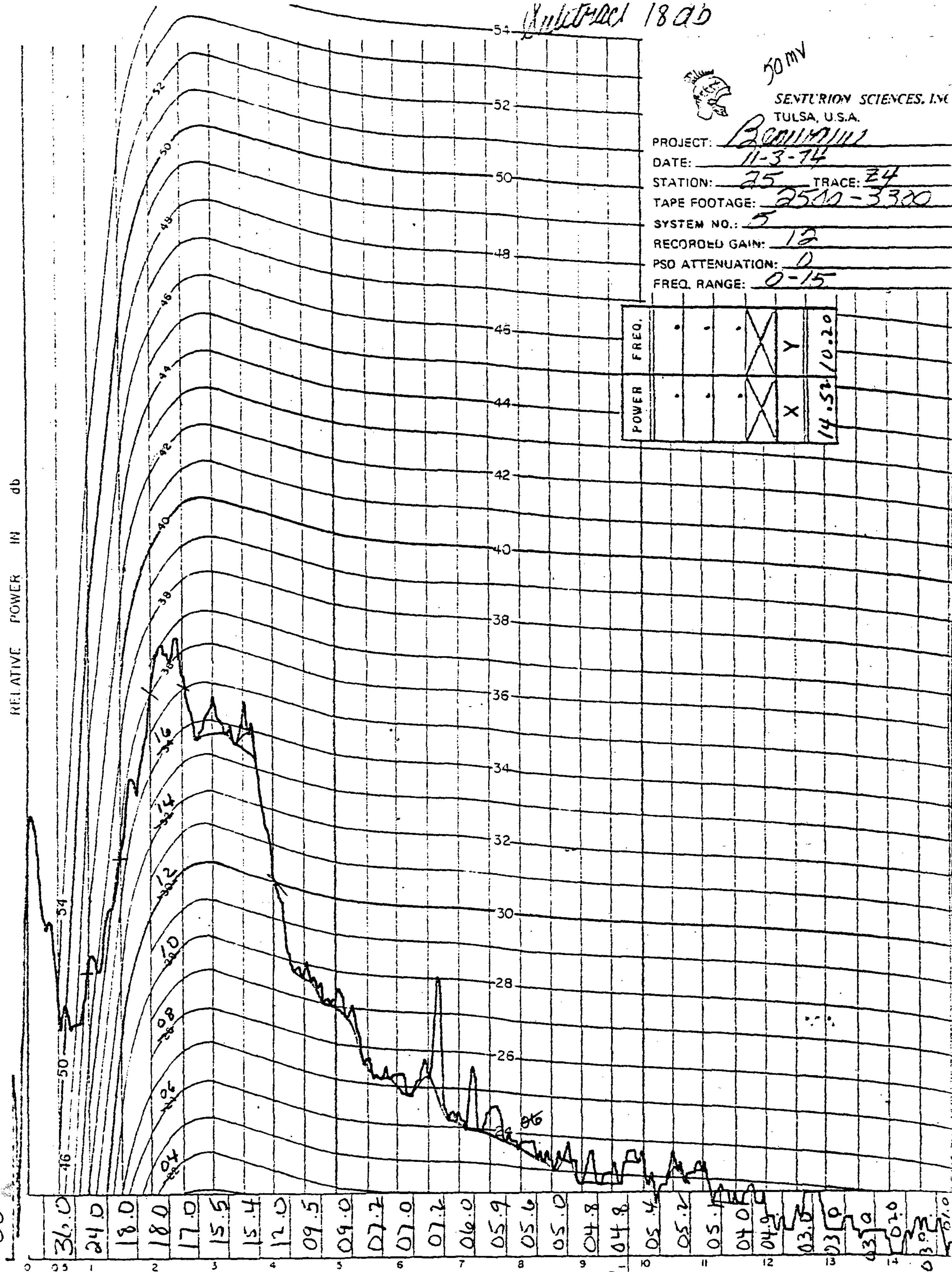
Subtract 18 db

50 mV

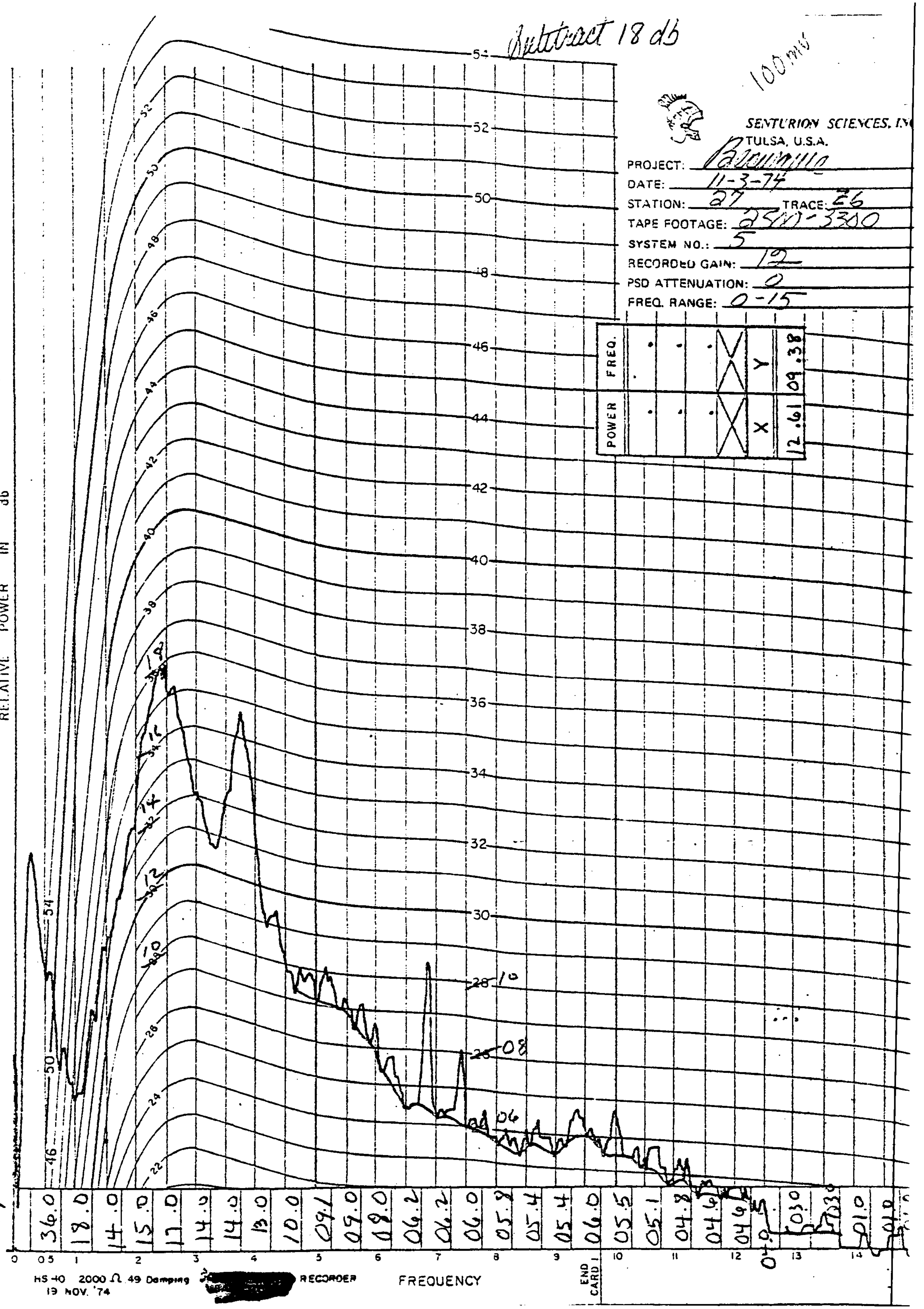
SENTURION SCIENCES, INC
TULSA, U.S.A.

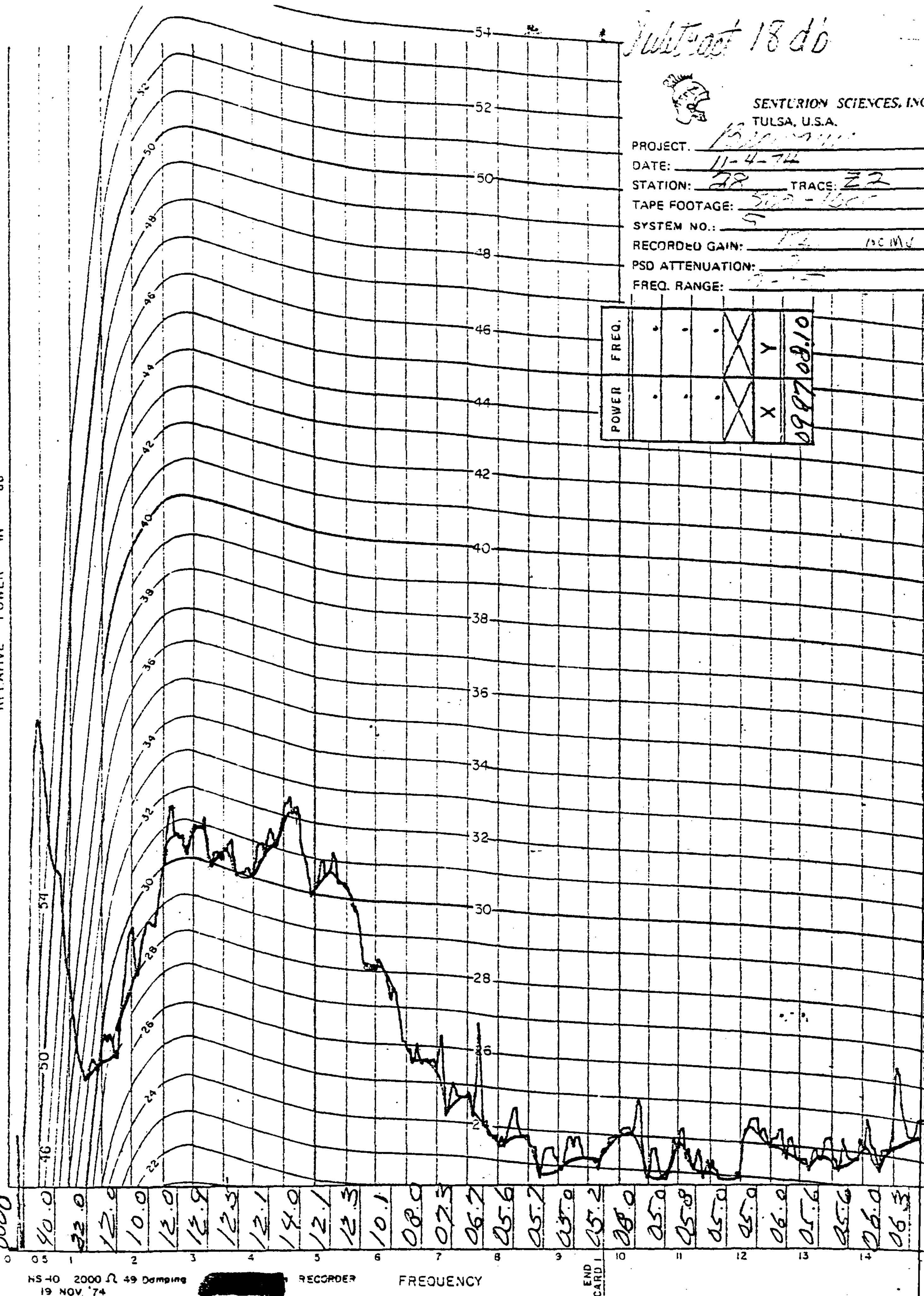
PROJECT: Bonneville
DATE: 11-3-74
STATION: 25 TRACE: Z4
TAPE FOOTAGE: 2510-3300
SYSTEM NO.: 5
RECORDED GAIN: 12
PSO ATTENUATION: 0
FREQ. RANGE: 0-15

FREQ.	.	.	.		Y	10.20
POWER	.	.	.		X	14.52

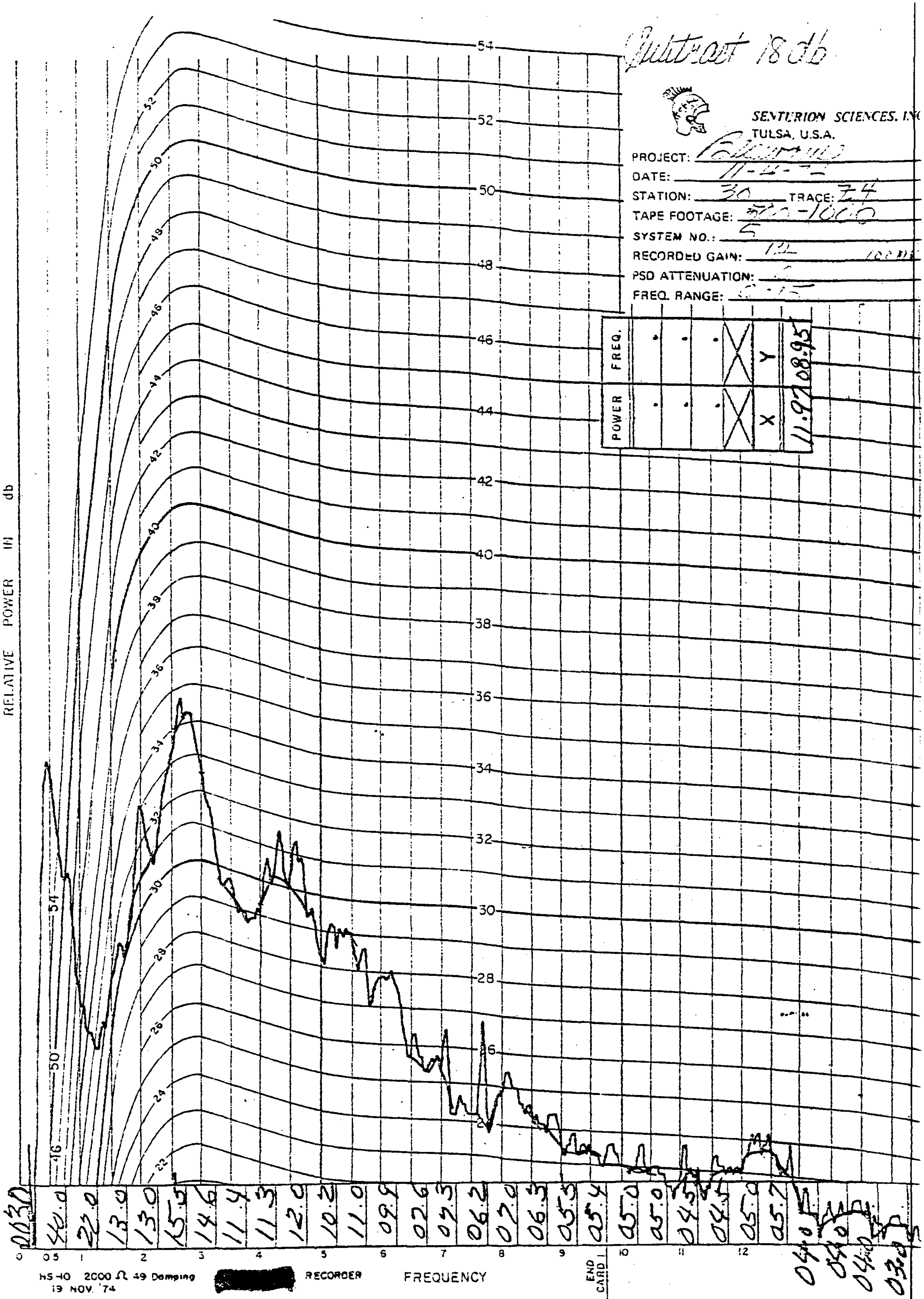


HS 40 2000 Ω .49 Damping [redacted] RECORDER FREQUENCY
19 NOV '74


Subtract 18 db
100 mv
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT: Brownsville
DATE: 11-3-74
STATION: 27 TRACE: 26
TAPE FOOTAGE: 2500-3300
SYSTEM NO.: 5
RECORDED GAIN: 12
PSD ATTENUATION: 0
FREQ. RANGE: 0-15
FREQ. Y 09.38
POWER X 12.61
RELATIVE POWER IN db
54 52 50 48 46 44 42 40 38 36 34 32 30 28 26 24 22
36.0 18.0 14.0 15.0 17.0 14.0 14.0 13.0 10.0 09.1 09.0 08.0 06.2 06.2 06.0 05.8 05.4 05.4 06.0 05.5 05.1 04.8 04.6 04.6 03.0 01.0 01.0
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14
FREQUENCY
HS-40 2000 Ω .49 Damping 3[redacted] RECORDER
19 NOV. '74
END CARD
0027



Subtract 18 db
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT.
DATE: 11-4-74
STATION: 28 TRACE: Z2
TAPE FOOTAGE:
SYSTEM NO.: 5
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ. Y
POWER X
0987 08.10
RELATIVE POWER IN db
FREQUENCY
0028
40.0
32.0
12.0
10.0
12.0
12.5
12.1
14.0
12.1
12.3
10.1
08.0
07.5
06.7
05.6
05.2
05.0
05.2
08.0
05.0
05.8
05.0
05.0
06.0
05.6
05.6
06.0
06.3
HS-10 2000 Ω 49 Damping [redacted] RECORDER
19 NOV '74
END CARD



Subtract 18 db
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT:
DATE: 11-2-7-
STATION: 30 TRACE: 24
TAPE FOOTAGE:
SYSTEM NO.: 5
RECORDED GAIN: 12
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
11.97 08.95
RELATIVE POWER IN db
FREQUENCY
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
END CARD

18 db high

SENTURION SCIENCES, INC

TULSA, U.S.A.

PROJECT: Beowawe

DATE: 11-5-74

STATION: 31 TRACE: 5

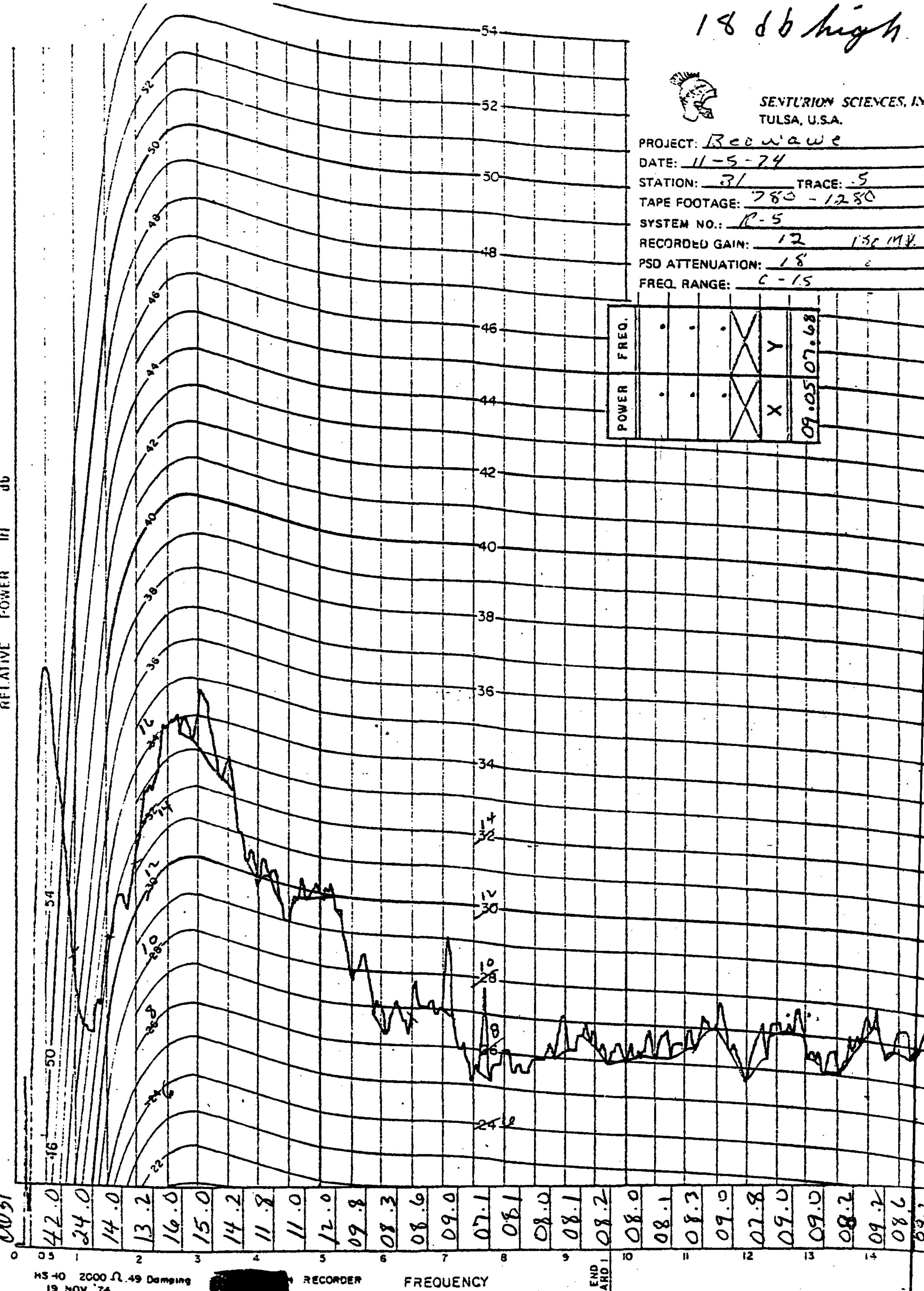
TAPE FOOTAGE: 780 - 1280

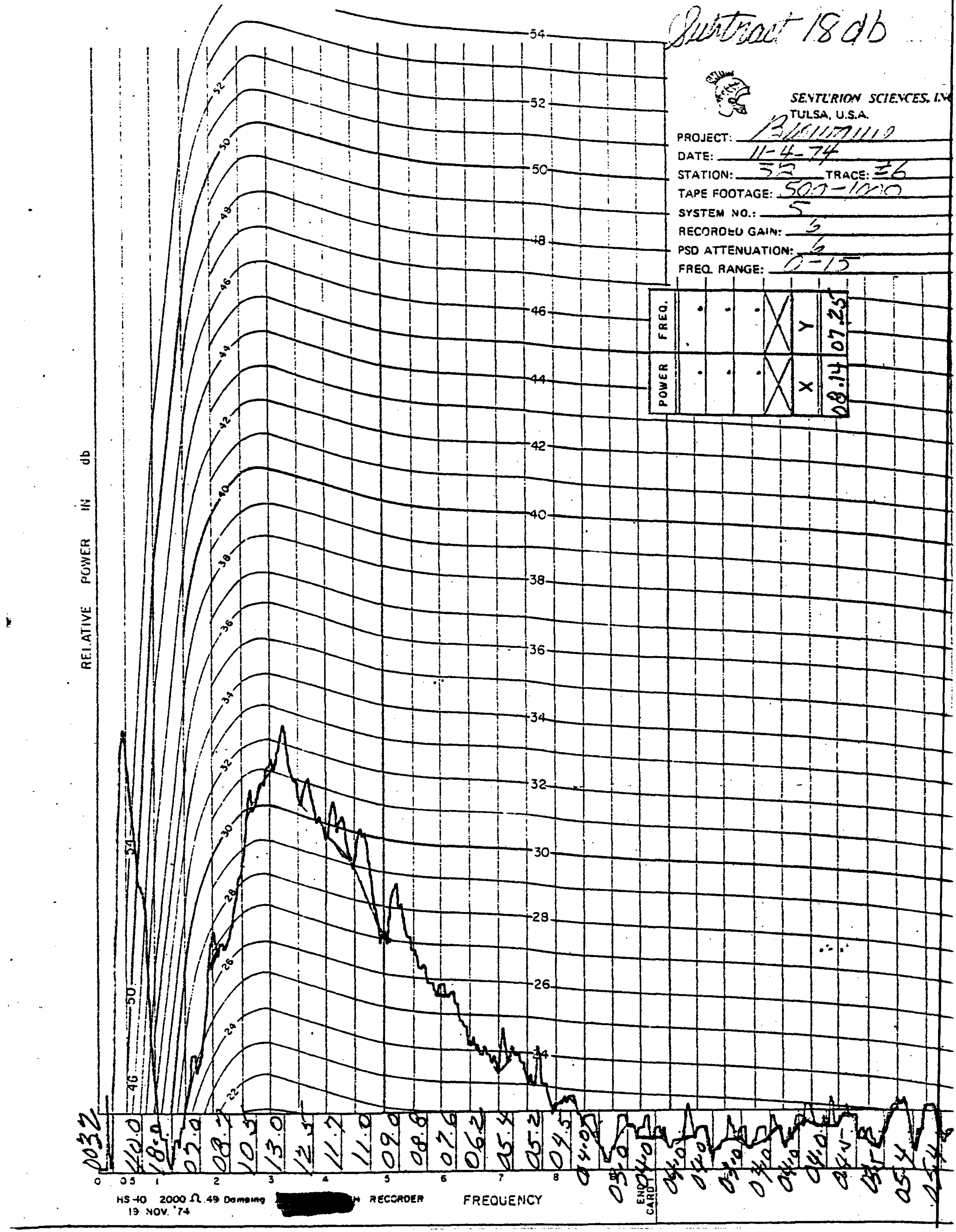
SYSTEM NO.: R-5

RECORDED GAIN: 12 150 MV

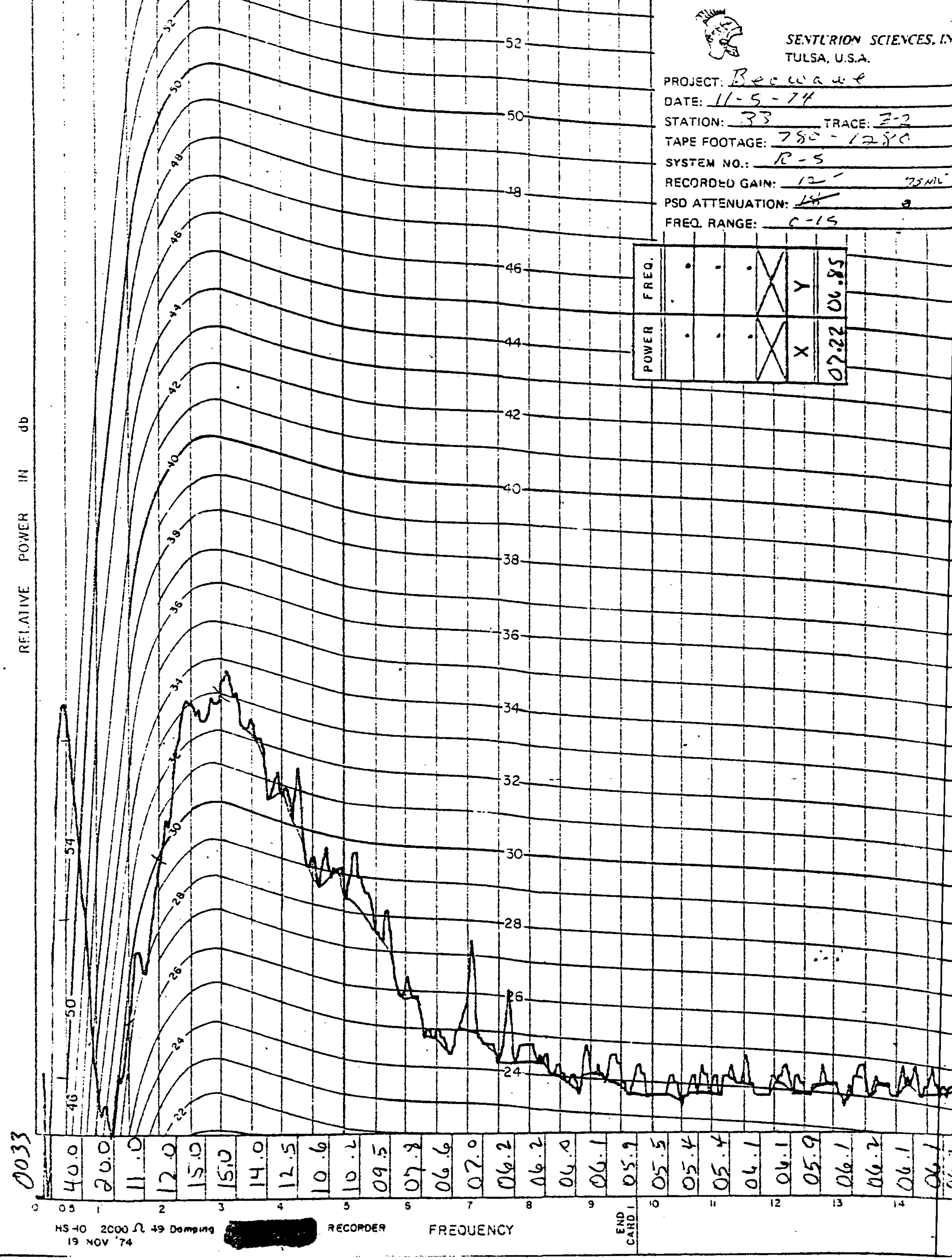
PSD ATTENUATION: 18

FREQ. RANGE: 0 - 15




Subtract 18 db
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT:
DATE: 11-4-74
STATION: 52 TRACE: 3
TAPE FOOTAGE: 500-1000
SYSTEM NO.: 5
RECORDED GAIN: 3
PSD ATTENUATION: 6
FREQ. RANGE: 0-15
FREQ.
POWER
Y
X
07.25
08.14
RELATIVE POWER IN db
FREQUENCY
HS-10 2000 Ω .49 Damping [redacted]H RECORDER
19 NOV. '74
END CARD

18 db high

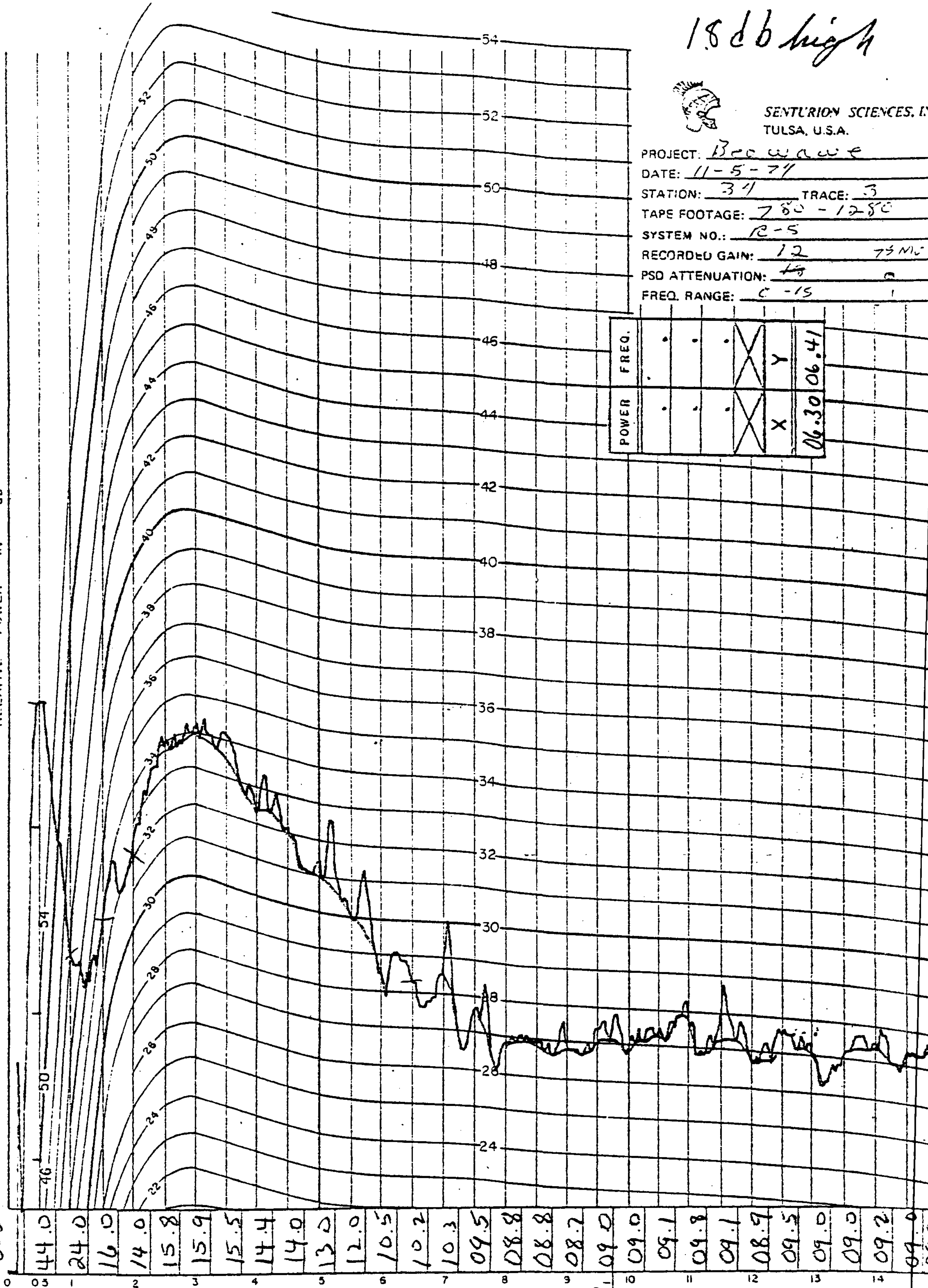

SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT: Becwave
DATE: 11-5-74
STATION: 33 TRACE: Z-2
TAPE FOOTAGE: 780 - 1280
SYSTEM NO.: R-5
RECORDED GAIN: 12
PSD ATTENUATION: 18
FREQ. RANGE: 0-15
FREQ.
POWER
Y 06.85
X 07.22
RELATIVE POWER IN db
0033
40.0
20.0
11.0
12.0
15.0
15.0
14.0
12.5
10.6
10.2
09.5
07.8
06.6
07.0
06.2
06.2
06.0
06.1
05.9
05.5
05.4
05.4
06.1
06.1
05.9
06.1
06.2
06.1
FREQUENCY
END CARD
HS-40 2000 Ω 49 Damping [redacted] RECORDER
19 NOV '74

18db high

SENTURION SCIENCES, INC
TULSA, U.S.A.

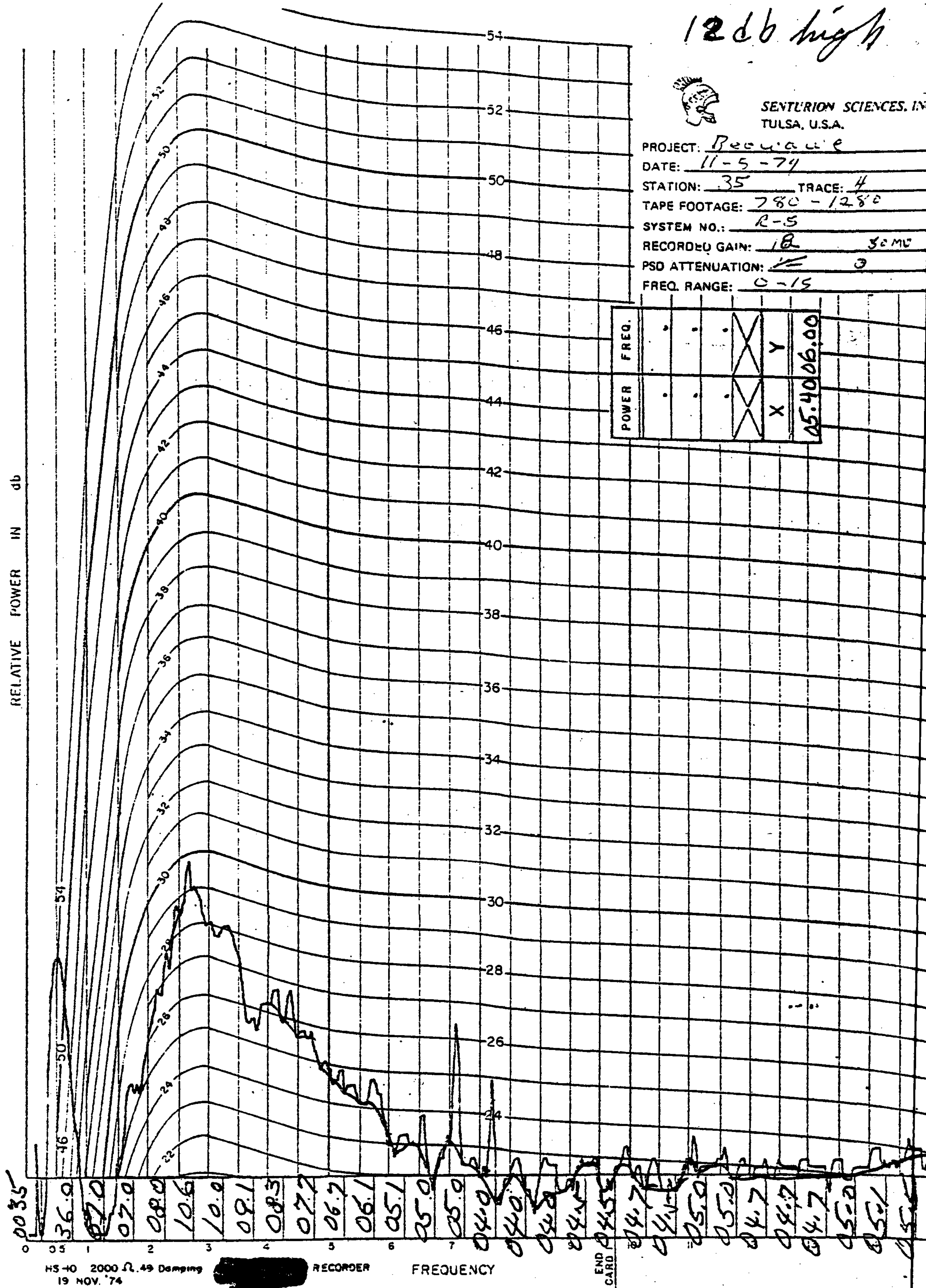
PROJECT: Becwawe
DATE: 11-5-74
STATION: 34 TRACE: 3
TAPE FOOTAGE: 780 - 1280
SYSTEM NO.: R-5
RECORDED GAIN: 12 75 MV
PSD ATTENUATION: 4
FREQ. RANGE: 0 - 15

FREQ.	.	.	.	Y	06.41
POWER	.	.	.	X	06.30



HS-40 2000 Ω .49 Damping [redacted] RECORDER
19 NOV. '74

12db high

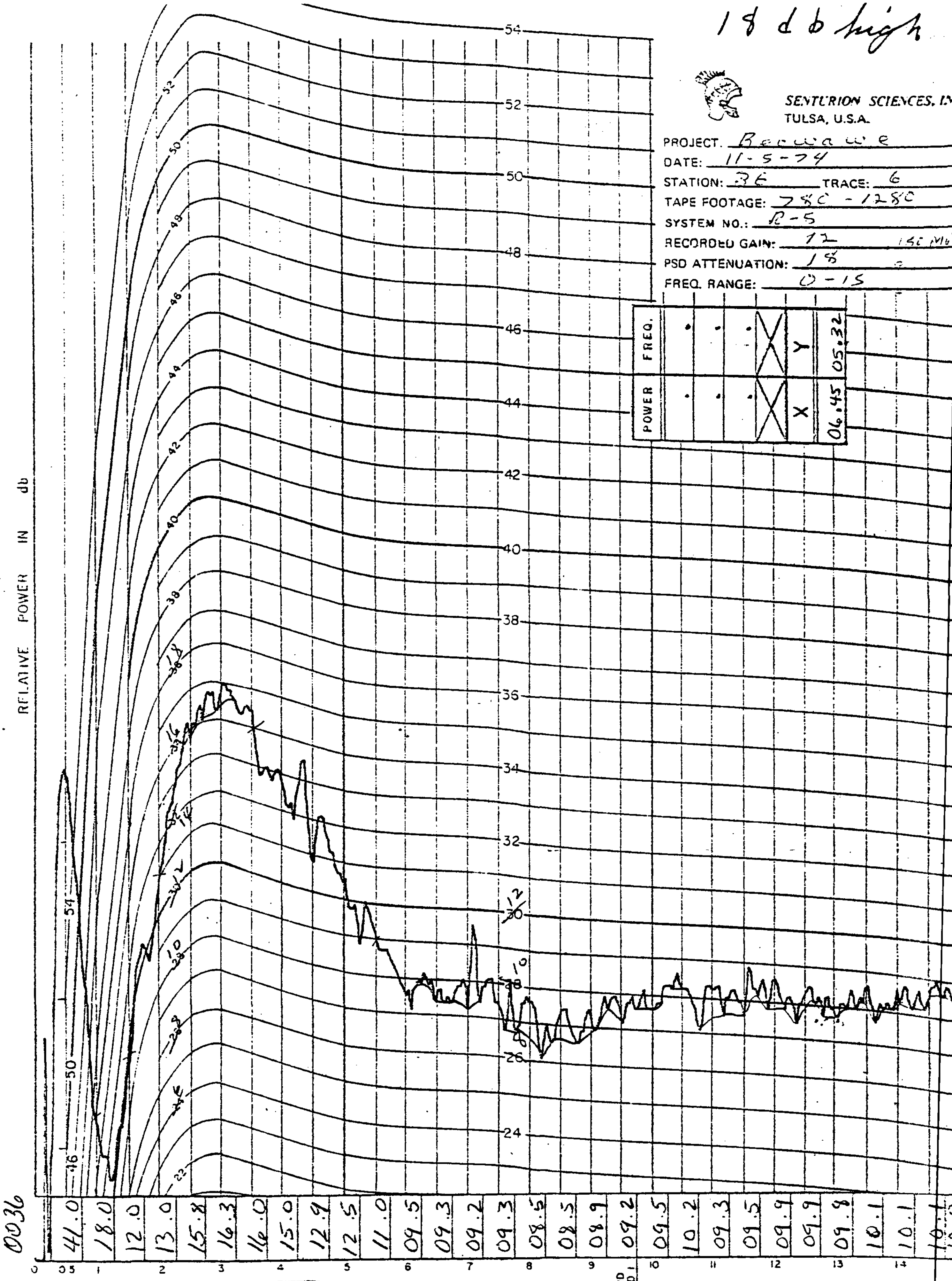

SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT: Beeuaue
DATE: 11-5-74
STATION: 35 TRACE: 4
TAPE FOOTAGE: 780 - 1280
SYSTEM NO.: R-5
RECORDED GAIN: 12 30 mv
PSD ATTENUATION: 1/2 3
FREQ. RANGE: 0-15
FREQ.
POWER
Y
X
05.4006.00
RELATIVE POWER IN db
FREQUENCY
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
END CARD

18 db high

SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT. Bocwawe
DATE: 11-5-74
STATION: 3E TRACE: 6
TAPE FOOTAGE: 78C - 128C
SYSTEM NO.: R-5
RECORDED GAIN: 12
PSD ATTENUATION: 18
FREQ. RANGE: 0 - 15

FREQ.	.	.	.	X	Y	05.32
POWER	.	.	.	X	X	06.45



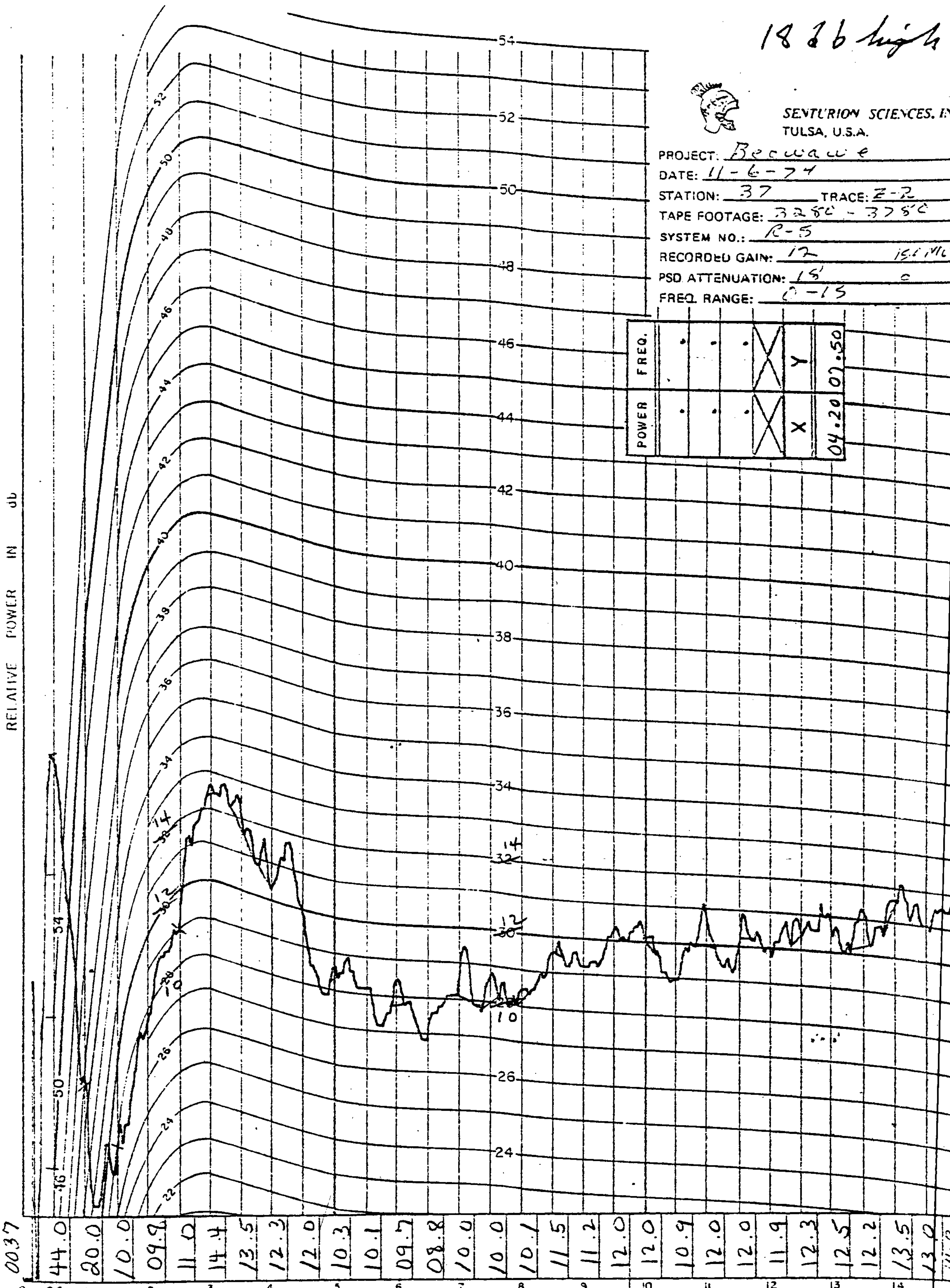
HS-40 2000 Ω .49 Damping [redacted] RECORDER
19 NOV. '74

18 2b high

SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: Becwave
DATE: 11-6-74
STATION: 37 TRACE: Z-2
TAPE FOOTAGE: 3280 - 3780
SYSTEM NO.: R-5
RECORDED GAIN: 12 15.1 MC
PSD ATTENUATION: 15' 0
FREQ. RANGE: 0-15

FREQ.	.	.	.	X	Y	07.50
POWER	.	.	.	X	X	04.20



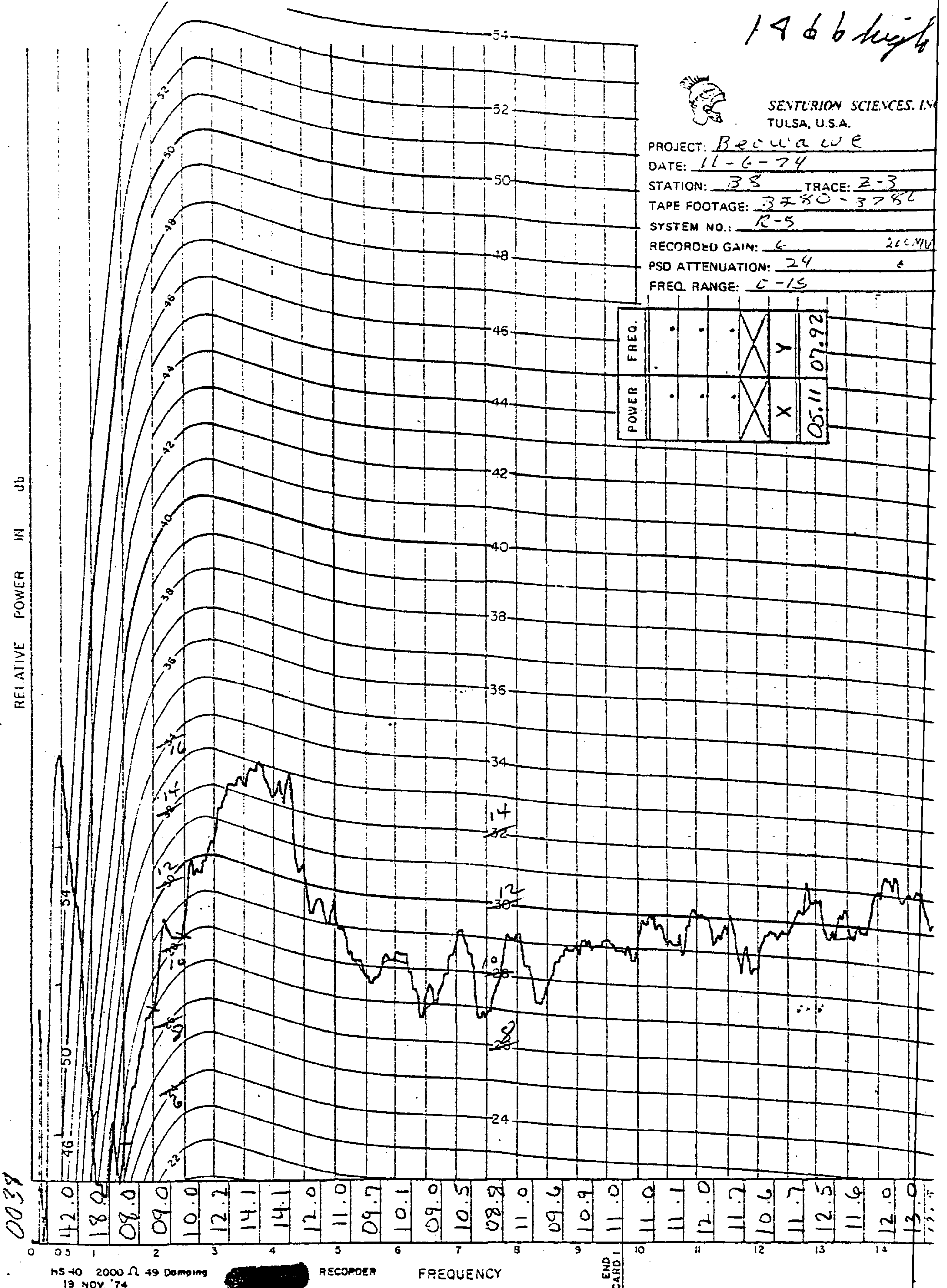
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER

1466 high

SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT: Becuawe
DATE: 11-6-74
STATION: 38 TRACE: Z-3
TAPE FOOTAGE: 3780-3786
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 24
FREQ. RANGE: 0-15

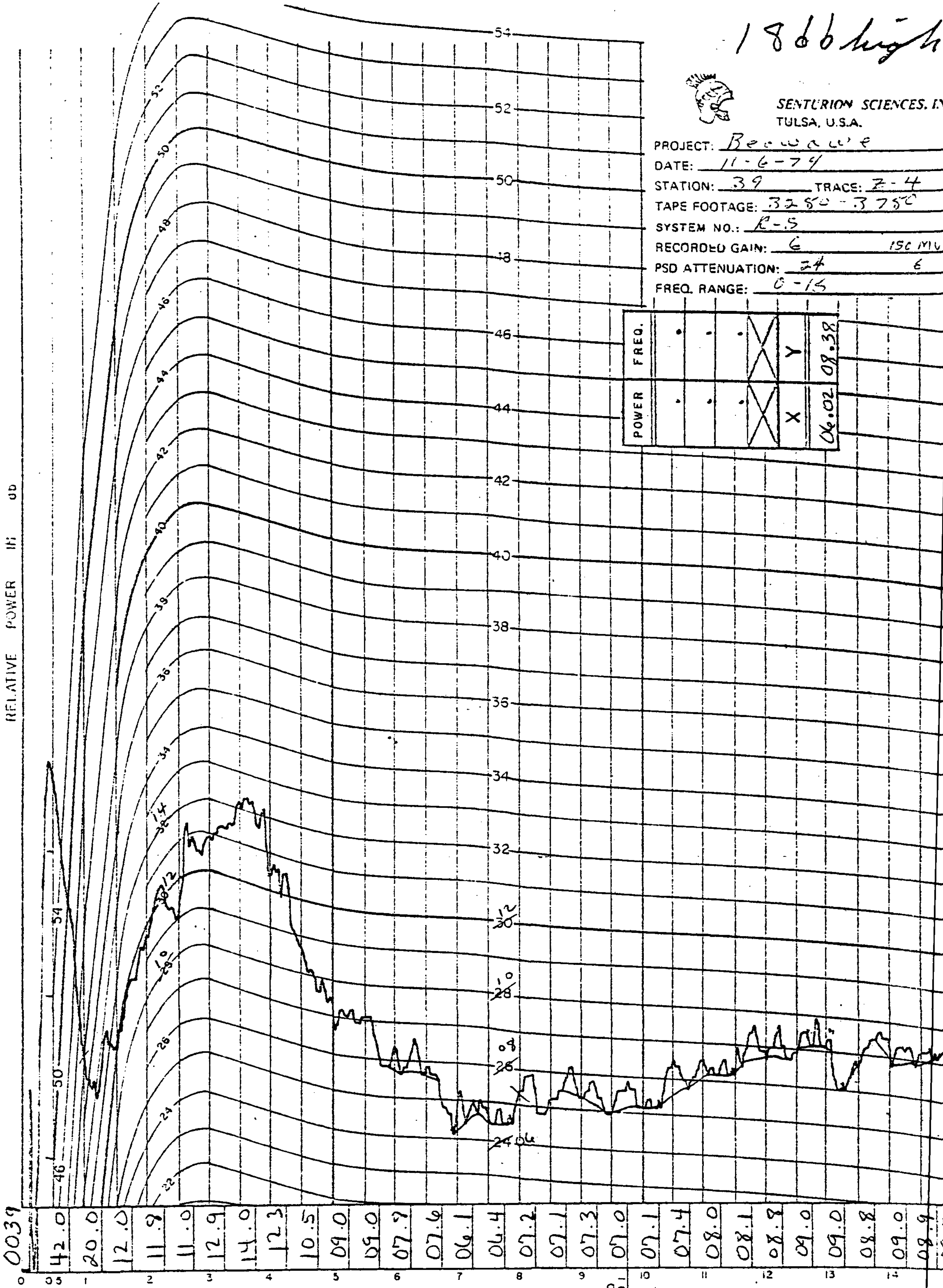
FREQ.	•	•	•		Y	07.92
POWER	•	•	•		X	05.11



1866 high

SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: Beowawe
DATE: 11-6-79
STATION: 39 TRACE: Z-4
TAPE FOOTAGE: 3250 - 3750
SYSTEM NO.: R-5
RECORDED GAIN: 6 150 MV
PSD ATTENUATION: 24 6
FREQ. RANGE: 0-15



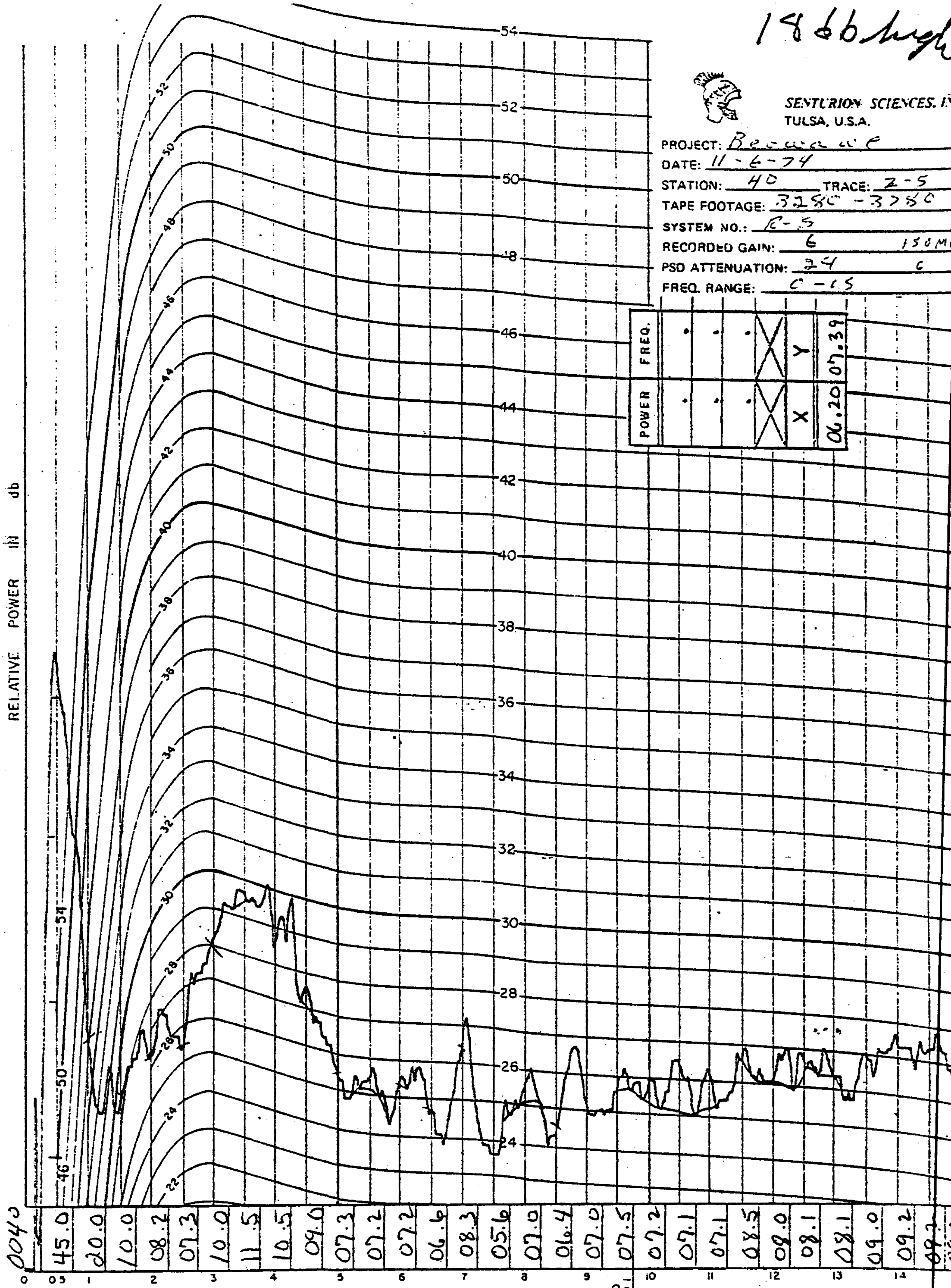
HS-10 2000 Ω .49 Damping [redacted] RECORDER
19 NOV '74

1866 high

SENTURION SCIENCES, IN
TULSA, U.S.A.

PROJECT: Becancour
DATE: 11-6-74
STATION: 40 TRACE: Z-5
TAPE FOOTAGE: 3280-3780
SYSTEM NO.: C-5
RECORDED GAIN: 6 150 MI
PSD ATTENUATION: 24 6
FREQ. RANGE: 0-15

FREQ.	.	.	.		Y	07.39
POWER	.	.	.		X	06.20



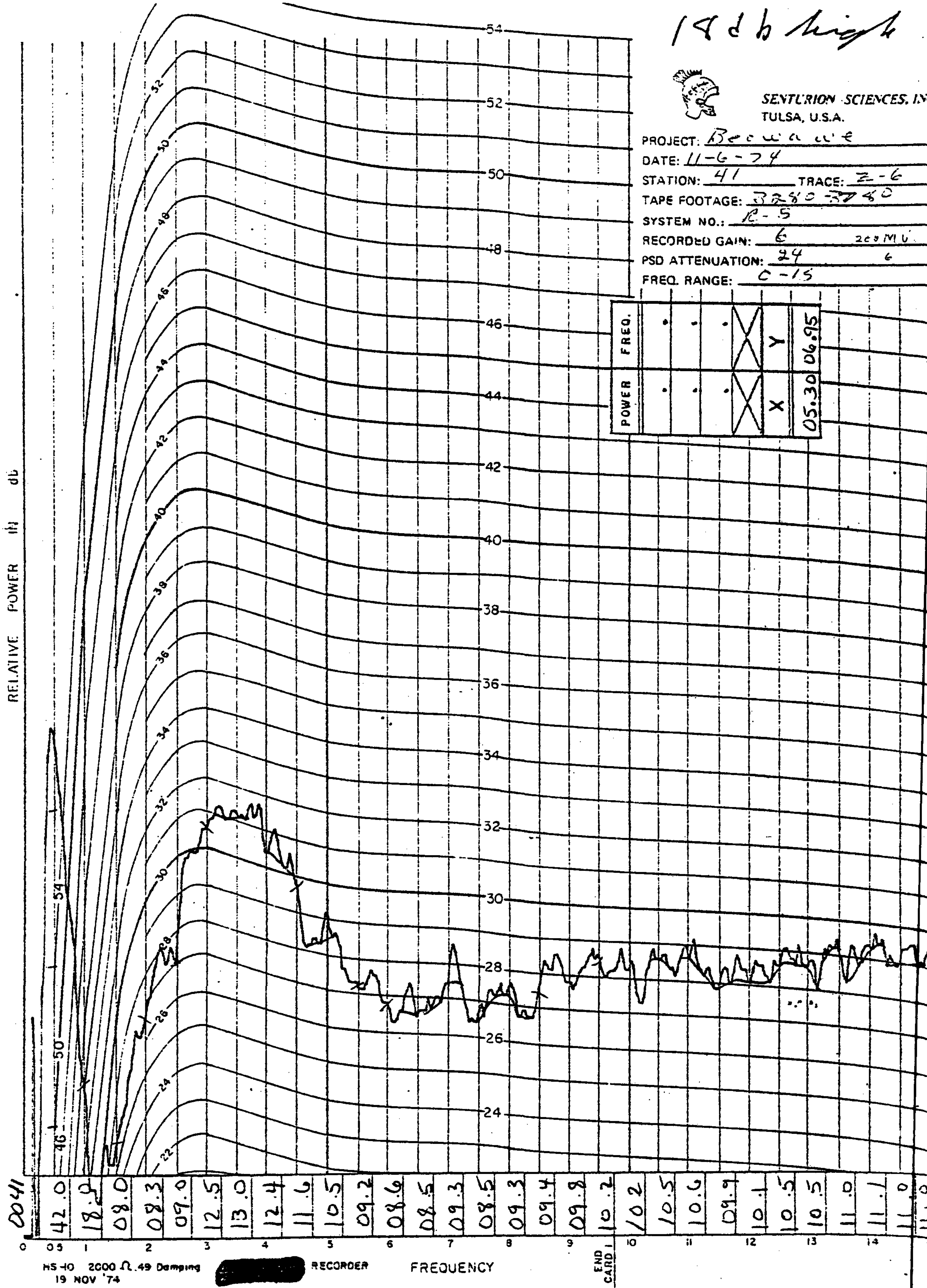
HS-40 2000 Ω .49 Damping [redacted] RECORDER
19 NOV. '74

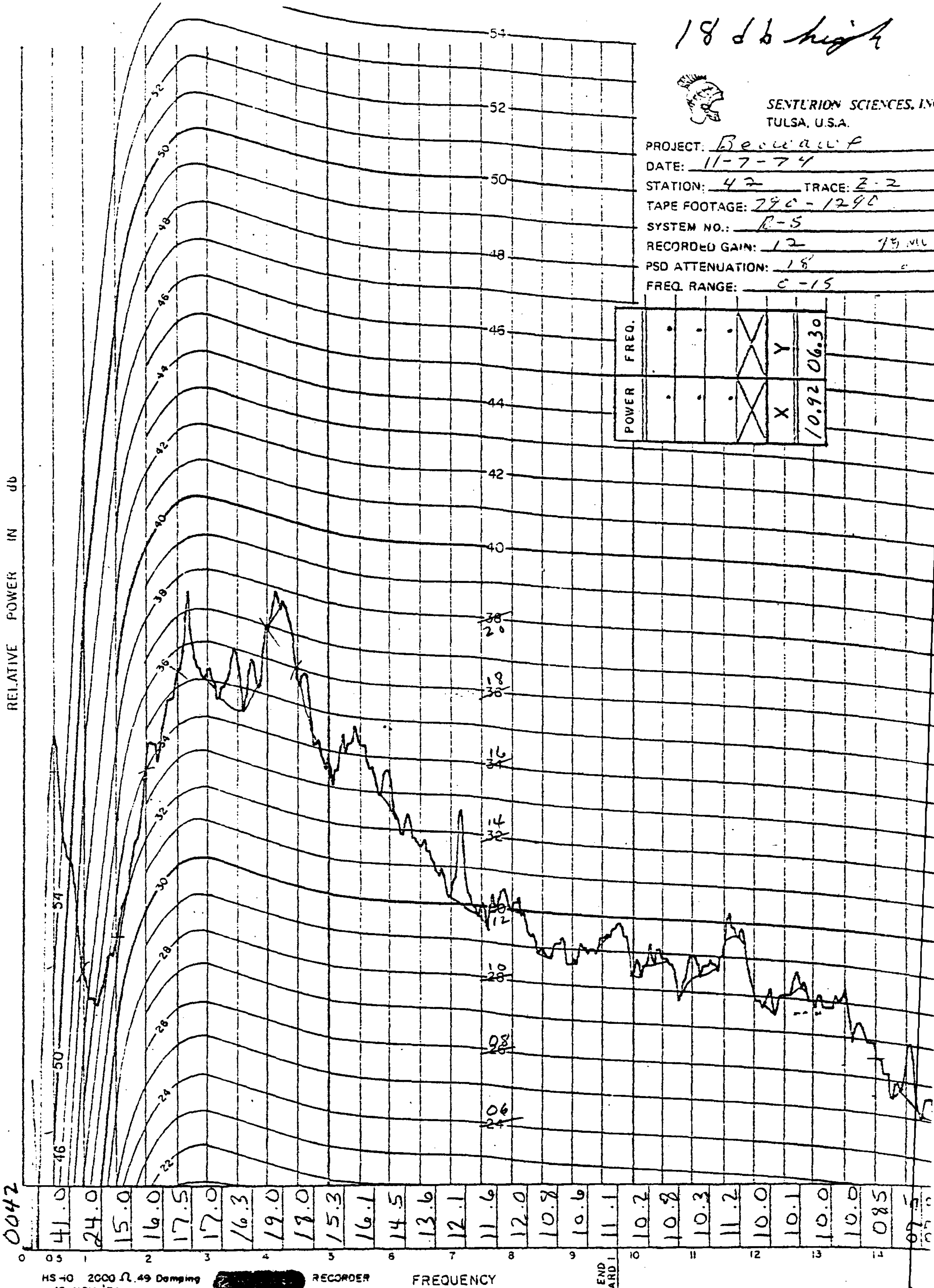
18 db high

SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: Becwave
DATE: 11-6-74
STATION: 41 TRACE: Z-6
TAPE FOOTAGE: 3280-3740
SYSTEM NO.: R-5
RECORDED GAIN: 6 200 MV
PSD ATTENUATION: 24 6
FREQ. RANGE: 0-15

FREQ.	.	.	.		Y	06.95
POWER	.	.	.		X	05.30





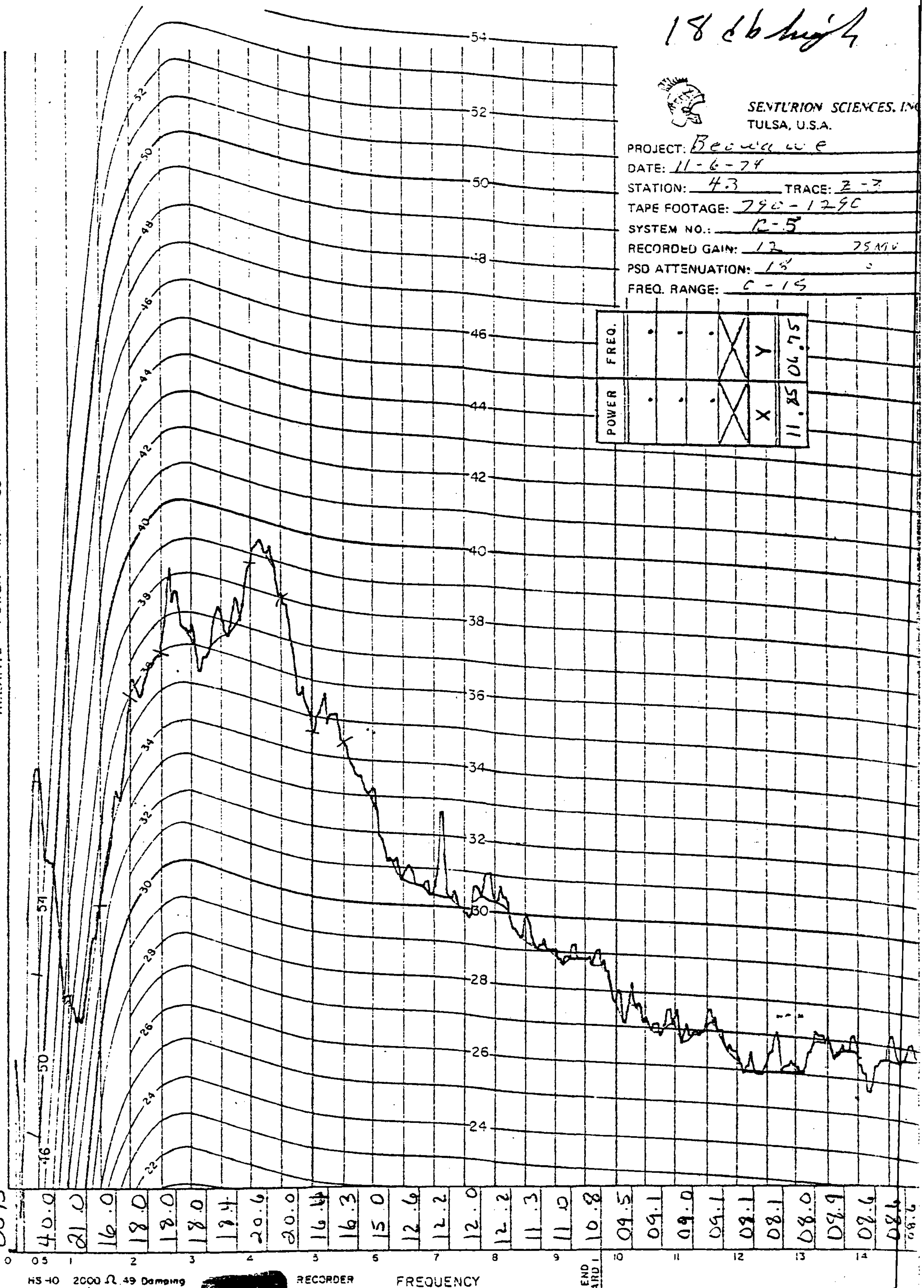
18 db high
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT: Beauait
DATE: 11-7-74
STATION: 42 TRACE: Z-2
TAPE FOOTAGE: 290-1290
SYSTEM NO.: R-5
RECORDED GAIN: 12 75 MC
PSD ATTENUATION: 18
FREQ. RANGE: 0-15
FREQ. Y 06.30
POWER X 10.92
RELATIVE POWER IN db
0042
41.0 24.0 15.0 16.0 17.5 17.0 16.3 19.0 18.0 15.3 16.1 14.5 13.6 12.1 11.6 12.0 10.8 10.6 11.1 10.2 10.8 10.3 11.2 10.0 10.1 10.0 10.0 085
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY
END CARD

18 db high

SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: Beecause
DATE: 11-6-74
STATION: 43 TRACE: Z-Z
TAPE FOOTAGE: 790-1290
SYSTEM NO.: R-5
RECORDED GAIN: 12 75 MV
PSD ATTENUATION: 18
FREQ. RANGE: 0-15

FREQ.	.	.	.	☒	Y	04.75
POWER	.	.	.	☒	X	11.85



HS-10 2000 Ω .49 Damping
19 NOV. '74

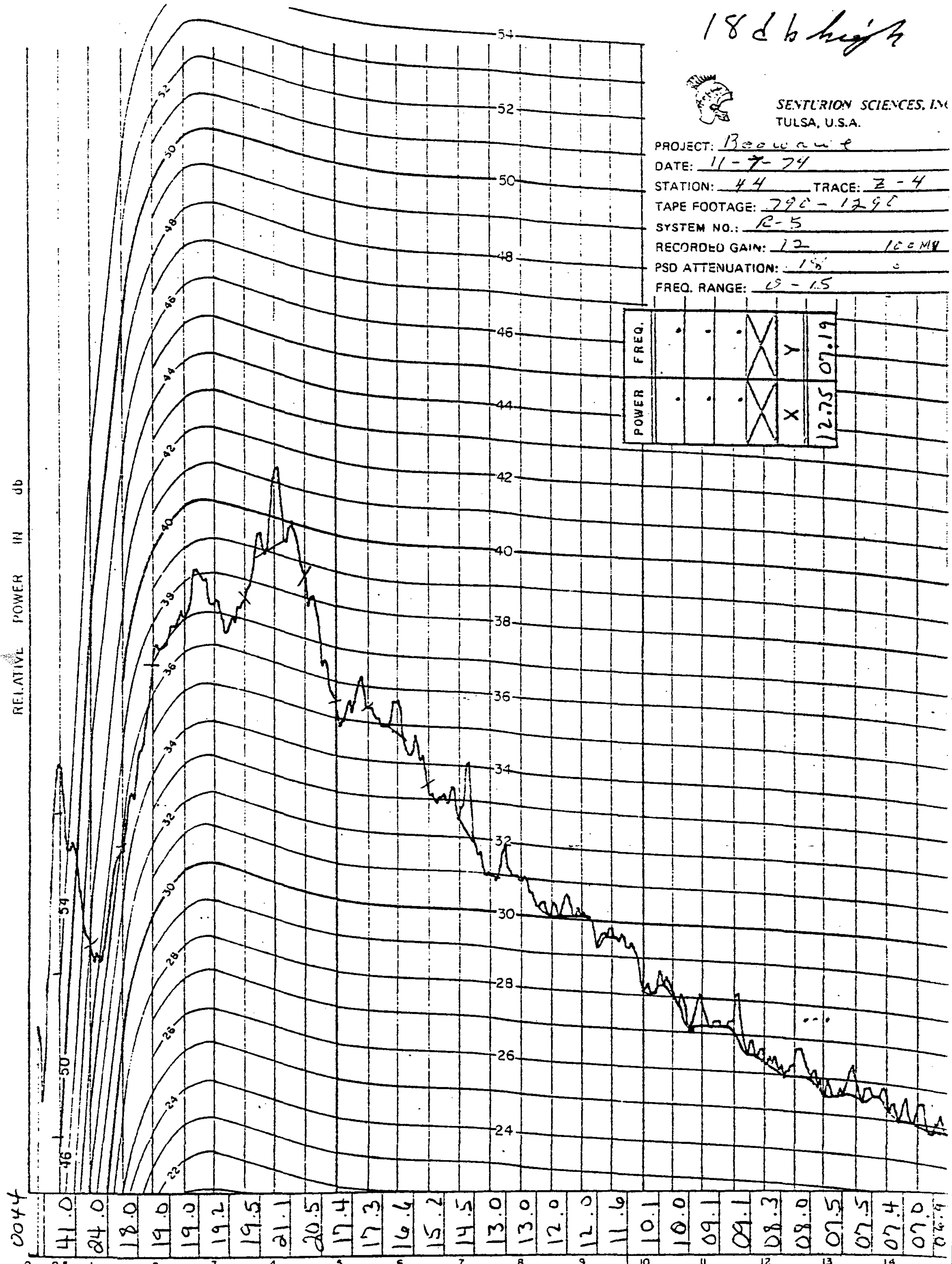
[redacted] RECORDER

18 db high

SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: Beowawe
DATE: 11-7-74
STATION: 44 TRACE: Z-4
TAPE FOOTAGE: 790 - 1290
SYSTEM NO.: R-5
RECORDED GAIN: 12 10 cm/g
PSD ATTENUATION: 18
FREQ. RANGE: 0 - 15

FREQ.	.	.	.	X	Y	07.19
POWER	.	.	.	X	X	12.75



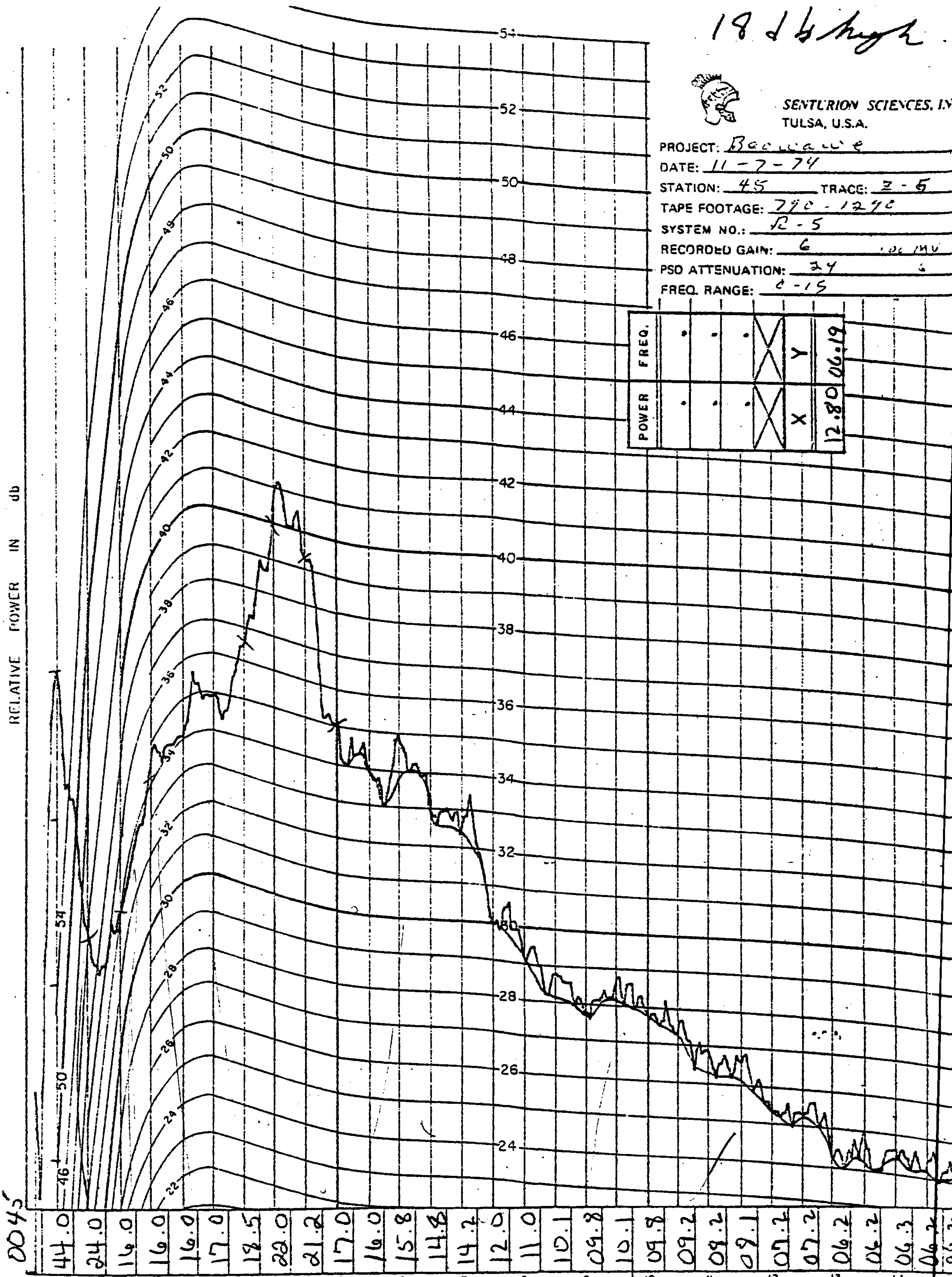
HS-10 2000 Ω .49 Damping
19 NOV. '74

[redacted] RECORDER

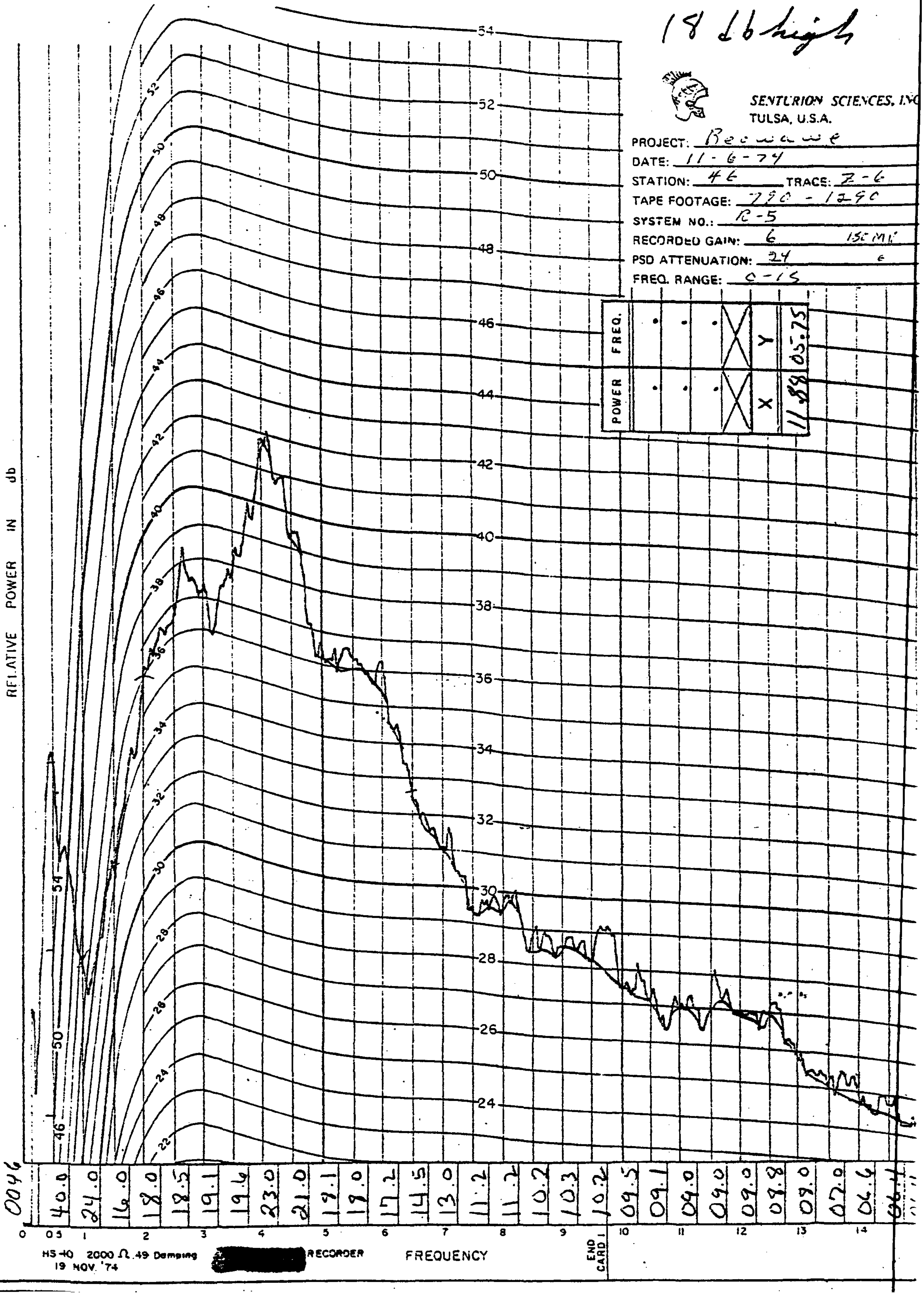
18 db high

SENTURION SCIENCES, INC
TULSA, U.S.A.

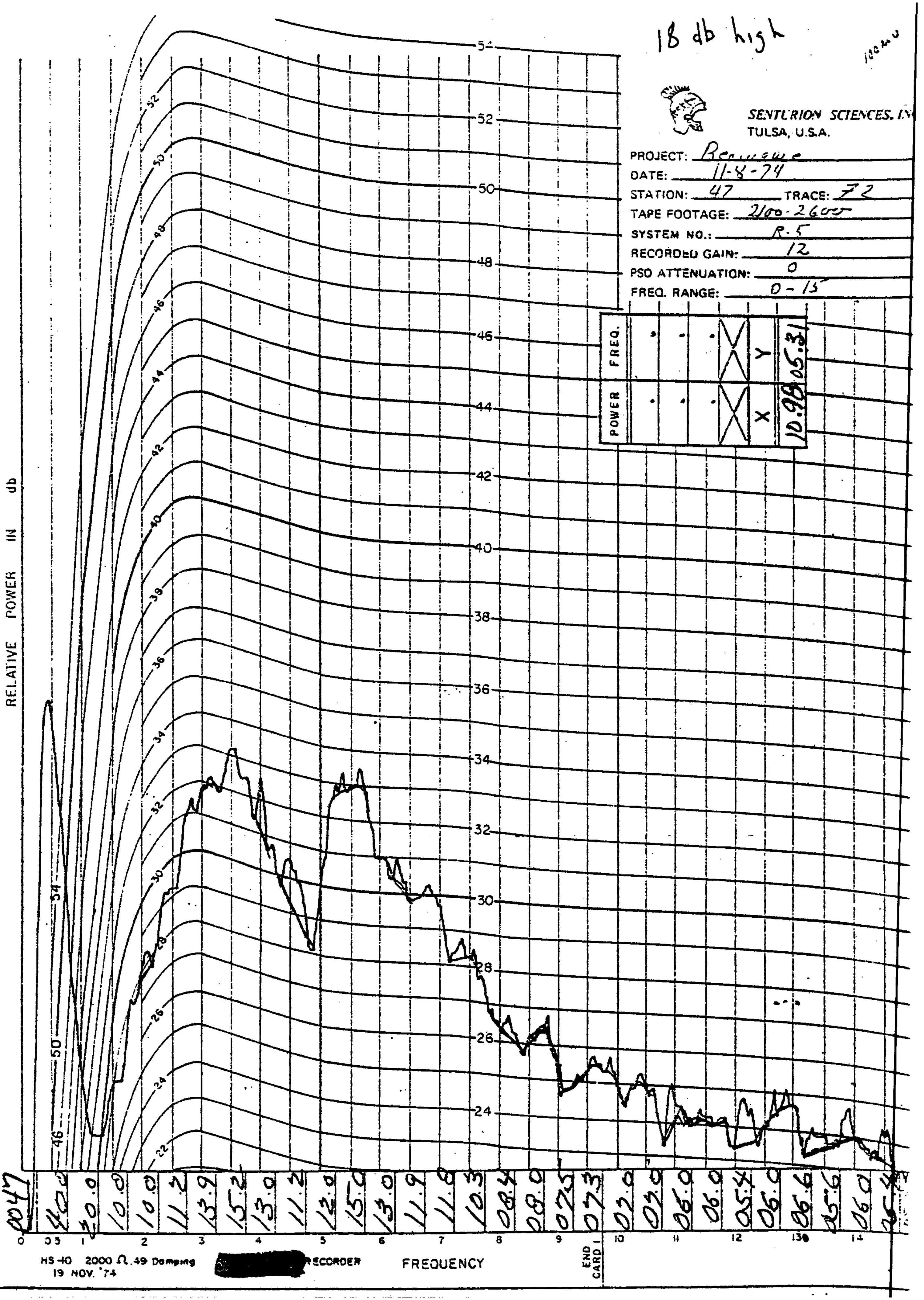
PROJECT: Beowawe
DATE: 11-7-74
STATION: 45 TRACE: 3-5
TAPE FOOTAGE: 790 - 1240
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 24
FREQ. RANGE: 0-15



HS-40 2000 Ω .49 Damping
13 NOV '74 [redacted] RECORDER FREQUENCY END CARD


18 db high
SENTURION SCIENCES, INC
TULSA, U.S.A.
PROJECT:
DATE: 11-6-74
STATION: 4E
TRACE: Z-6
TAPE FOOTAGE: 790 - 1290
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 24
FREQ. RANGE: 0-15
FREQ.
POWER
X
Y
RELATIVE POWER IN db
0046
40.0 24.0 16.0 18.0 18.5 19.1 19.6 23.0 21.0 19.1 19.0 17.2 14.5 13.0 11.2 11.2 10.2 10.3 10.2 09.5 09.1 09.0 09.0 09.0 09.8 09.0 07.0 06.6
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14
FREQUENCY
HS-40 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
END CARD I

18 db high


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT: Renwave
DATE: 11-8-74
STATION: 47
TRACE: Z2
TAPE FOOTAGE: 2100-2600
SYSTEM NO.: R-5
RECORDED GAIN: 12
PSO ATTENUATION: 0
FREQ. RANGE: 0-15
FREQ.
POWER
Y
X
10.98
05.31
RELATIVE POWER IN db
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
0047
20.0
10.0
10.0
11.2
13.9
15.2
13.0
11.2
12.0
15.0
13.0
11.9
11.8
10.3
08.4
08.0
07.5
07.3
07.0
07.0
06.0
06.0
05.4
06.0
06.6
05.6
06.0
0 .5 1 2 3 4 5 6 7 8 9 10 11 12 13 14
HS-40 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY
END CARD

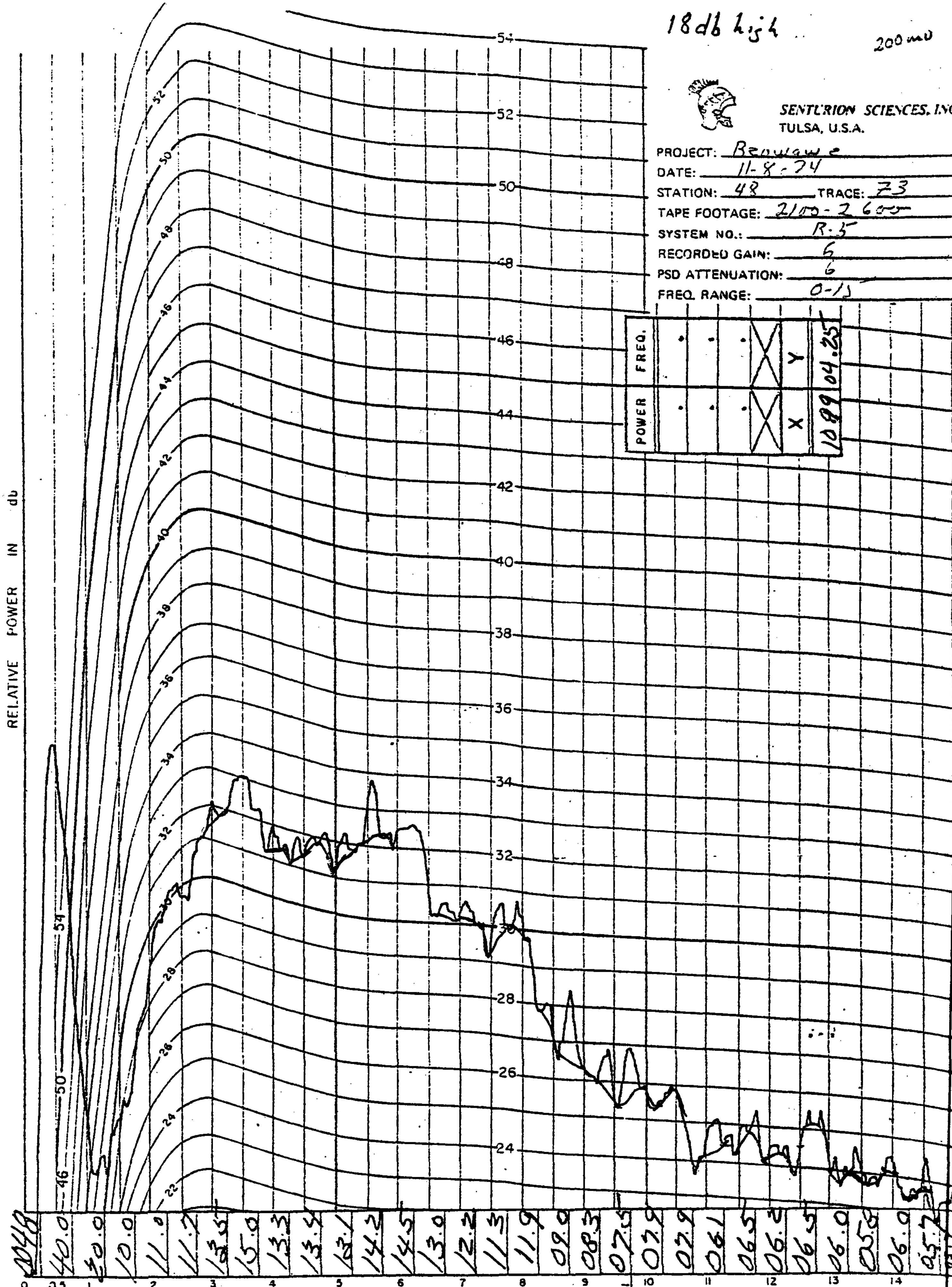
18 db high

200 mv

SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: Benwawe
DATE: 11-8-74
STATION: 48 TRACE: 73
TAPE FOOTAGE: 2100-2600
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 6
FREQ. RANGE: 0-15

FREQ.	Y	1089 04.25
POWER	X	



HS-10 2000 Ω .49 Damping [redacted] RECORDER
19 NOV. '74

END CARD

18db - high

100 mv

SENTURION SCIENCES, INC

TULSA, U.S.A.

PROJECT: Beowawe

DATE: 11-8-74

STATION: 49 TRACE: Z 4

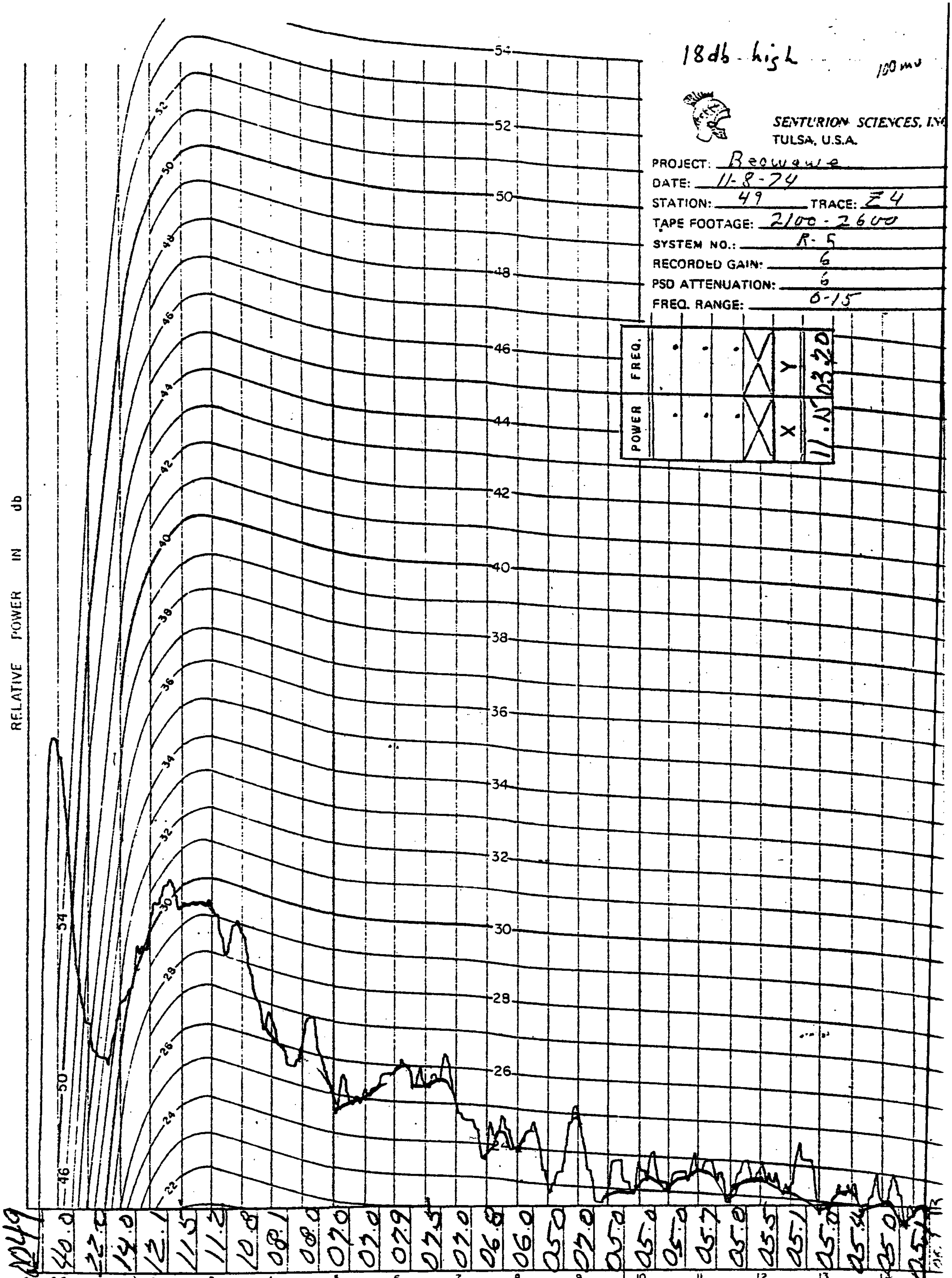
TAPE FOOTAGE: 2100 - 2600

SYSTEM NO.: R-5

RECORDED GAIN: 6

PSD ATTENUATION: 6

FREQ. RANGE: 0-15



HS-10 2000 Ω .49 Damping [redacted] RECORDER

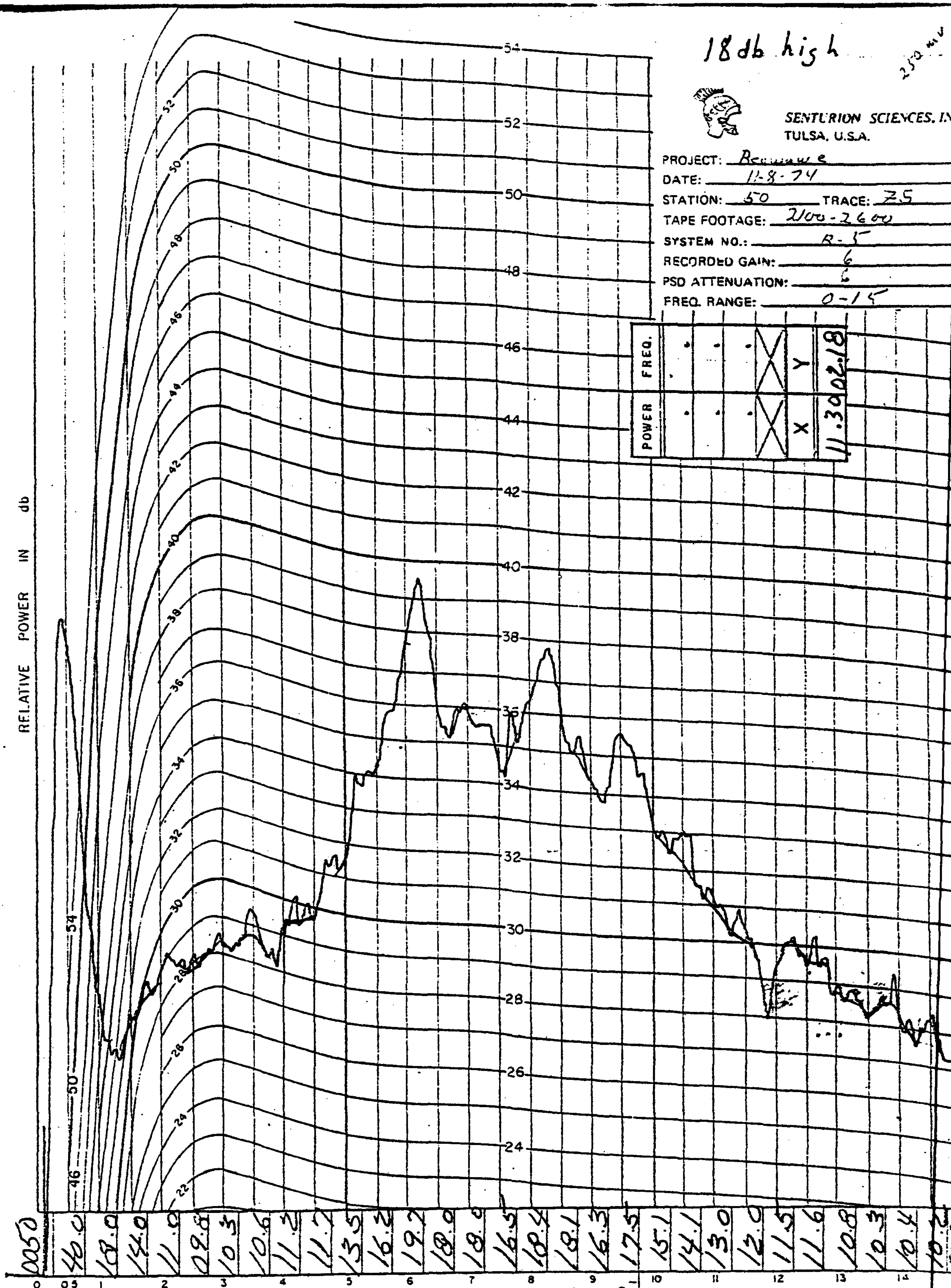
19 NOV. '74

18 db high

SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT: [illegible]
DATE: 11-8-74
STATION: 50 TRACE: Z5
TAPE FOOTAGE: 2100-2600
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 6
FREQ. RANGE: 0-15

FREQ.		Y	02.18
POWER		X	11.30



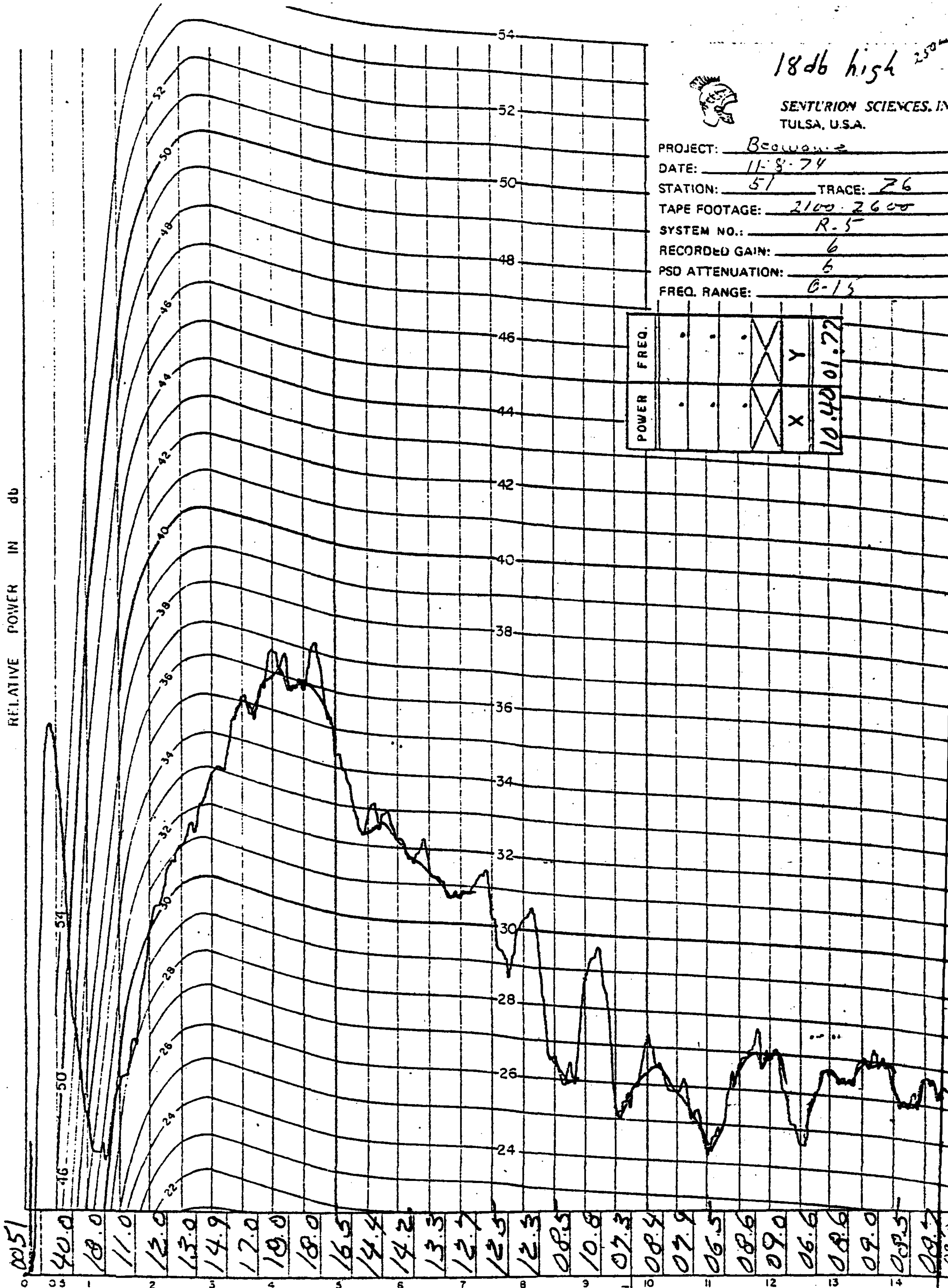
HS-10 2000 Ω .49 Damping [redacted] RECORDER FREQUENCY END CARD I
19 NOV. '74

18db high 250mv

SENTURION SCIENCES, INC
TULSA, U.S.A.

PROJECT: Beaumont
DATE: 11-8-74
STATION: 51 TRACE: Z6
TAPE FOOTAGE: 2100-2600
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 6
FREQ. RANGE: 0-15

FREQ.	.	.	.	X	Y	01.72
POWER	.	.	.	X	X	10.40



HS-40 2000 Ω .49 Damping
19 NOV '74
[redacted] RECORDER

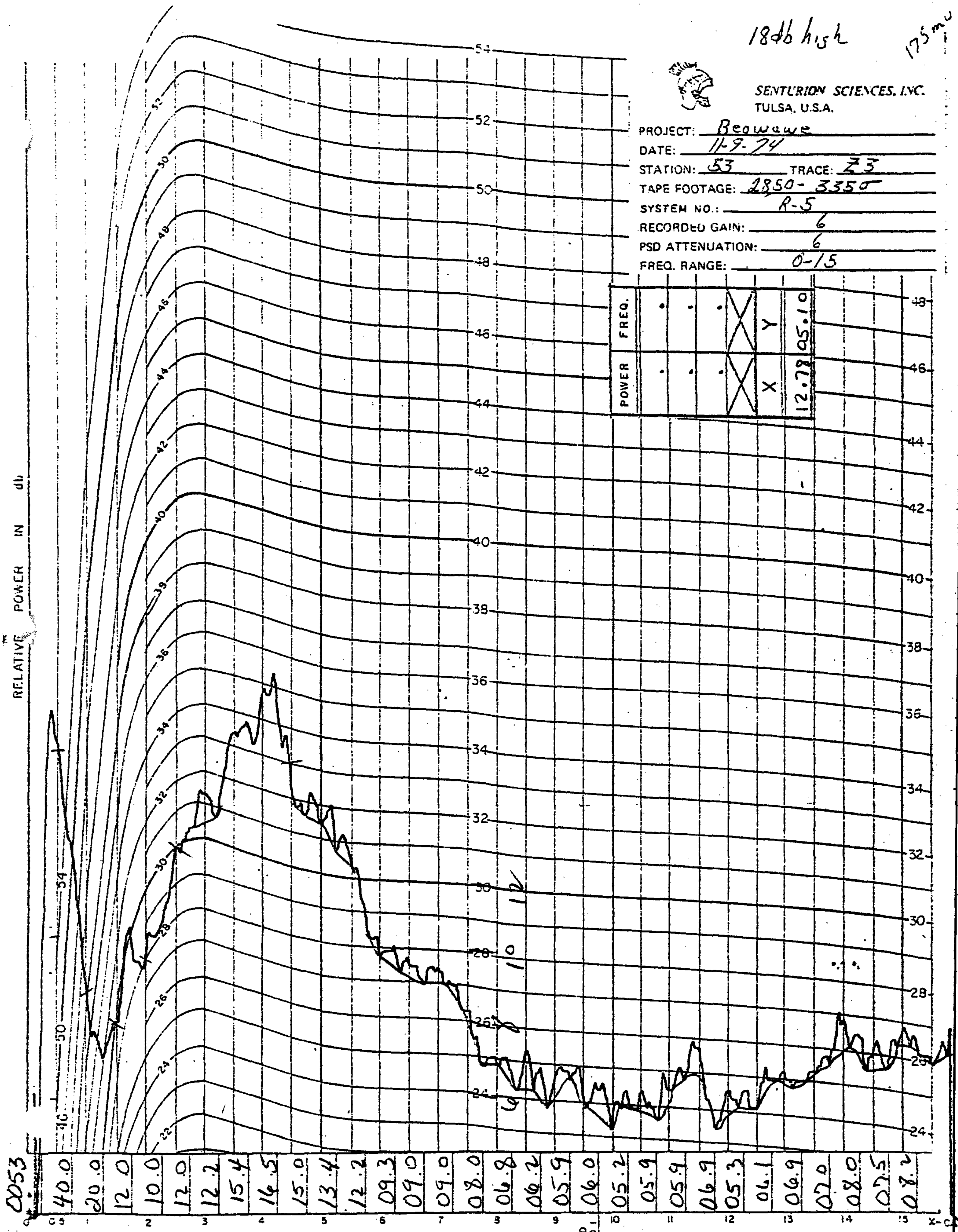
18db high

175mv

SENTURION SCIENCES, INC.
TULSA, U.S.A.

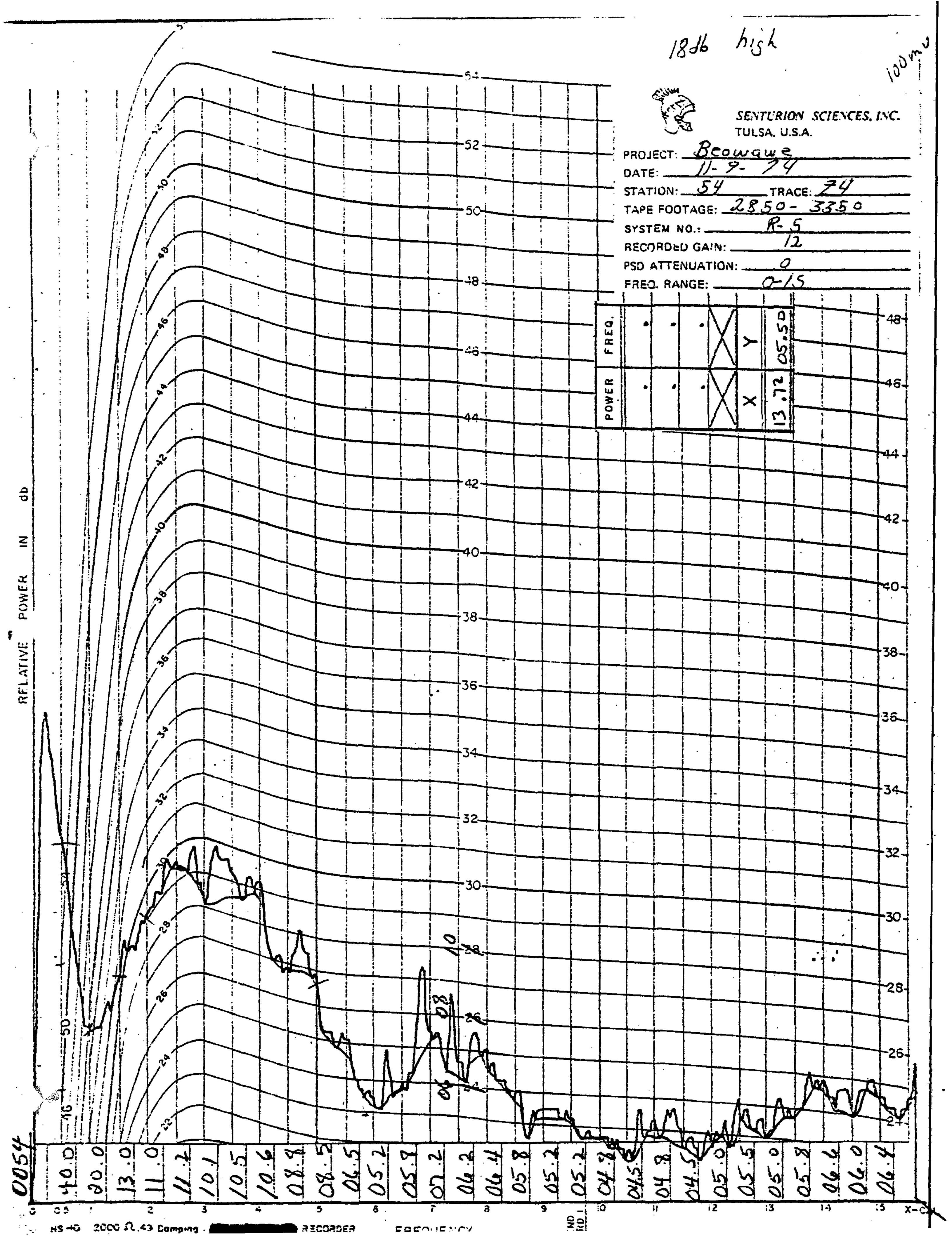
PROJECT: Beowawe
DATE: 11-9-74
STATION: 53 TRACE: Z3
TAPE FOOTAGE: 2850-3350
SYSTEM NO.: R-5
RECORDED GAIN: 6
PSD ATTENUATION: 6
FREQ. RANGE: 0-15

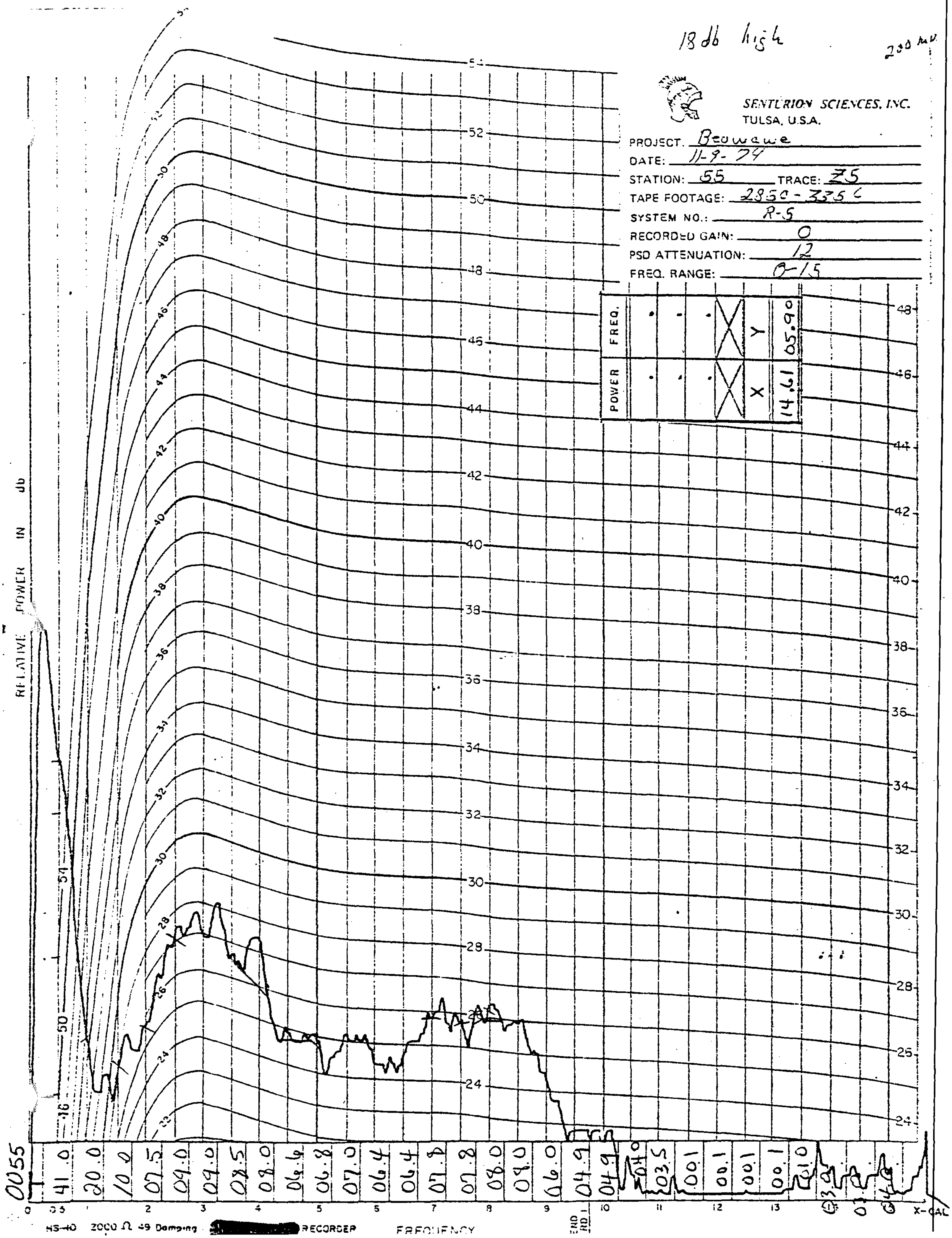
FREQ.	.	.	.	Y	05.10
POWER	.	.	.	X	12.78



0053

HS-40 2000 Ω 49 Damping [redacted] RECORDER FREQUENCY END CARD
13 NOV '74


18db high
100mv
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT: Beowawe
DATE: 11-9-74
STATION: 54 TRACE: Z4
TAPE FOOTAGE: 2850-3350
SYSTEM NO.: R-5
RECORDED GAIN: 12
PSD ATTENUATION: 0
FREQ. RANGE: 0-15
FREQ. Y 05.50
POWER X 13.72
RELATIVE POWER IN db
0054
40.0 20.0 13.0 11.0 11.2 10.1 10.5 10.6 08.8 08.5 06.5 05.2 05.8 07.2 06.2 06.4 05.8 05.2 05.2 04.8 04.5 04.8 04.5 05.0 05.5 05.0 05.8 06.6 06.0 06.4
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-C
HS-10 2000 Ω .43 Damping . [redacted] RECORDER
FREQUENCY

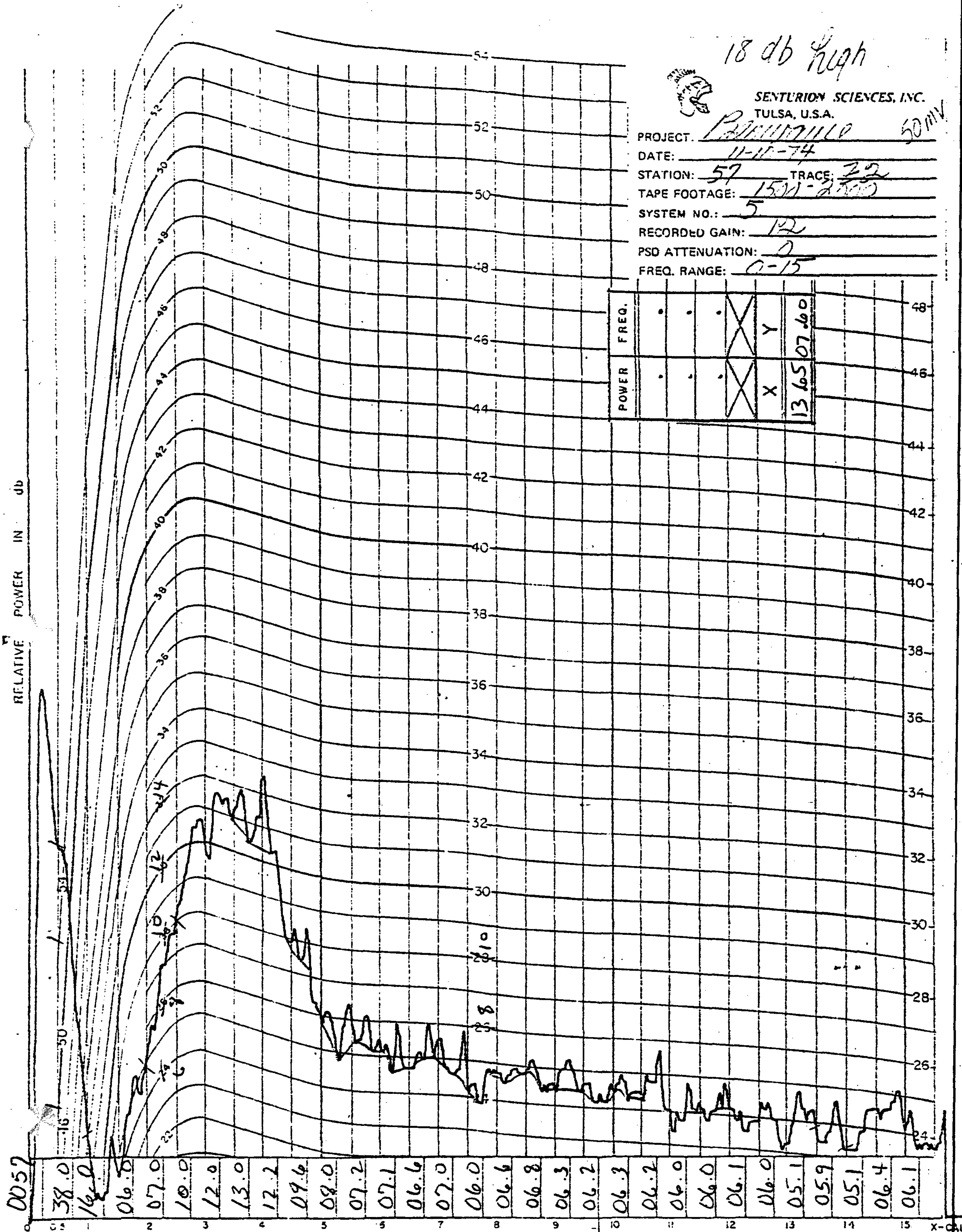

18 db high
200 mv
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT: Beowawe
DATE: 11-9-74
STATION: 55 TRACE: Z5
TAPE FOOTAGE: 2850-3350
SYSTEM NO.: R-5
RECORDED GAIN: 0
PSD ATTENUATION: 12
FREQ. RANGE: 0-15
FREQ. Y 05.90
POWER X 14.61
RELATIVE POWER IN db
0055
41.0 20.0 10.0 07.5 09.0 09.0 08.5 08.0 06.6 06.8 07.0 06.4 06.4 07.8 07.8 08.0 09.0 06.0 04.9 04.9 04.0 03.5 00.1 00.1 00.1 00.1 01.0
HS-10 2000 Ω .49 Damping [redacted] RECORDER
FREQUENCY
X-CAL

18 db high

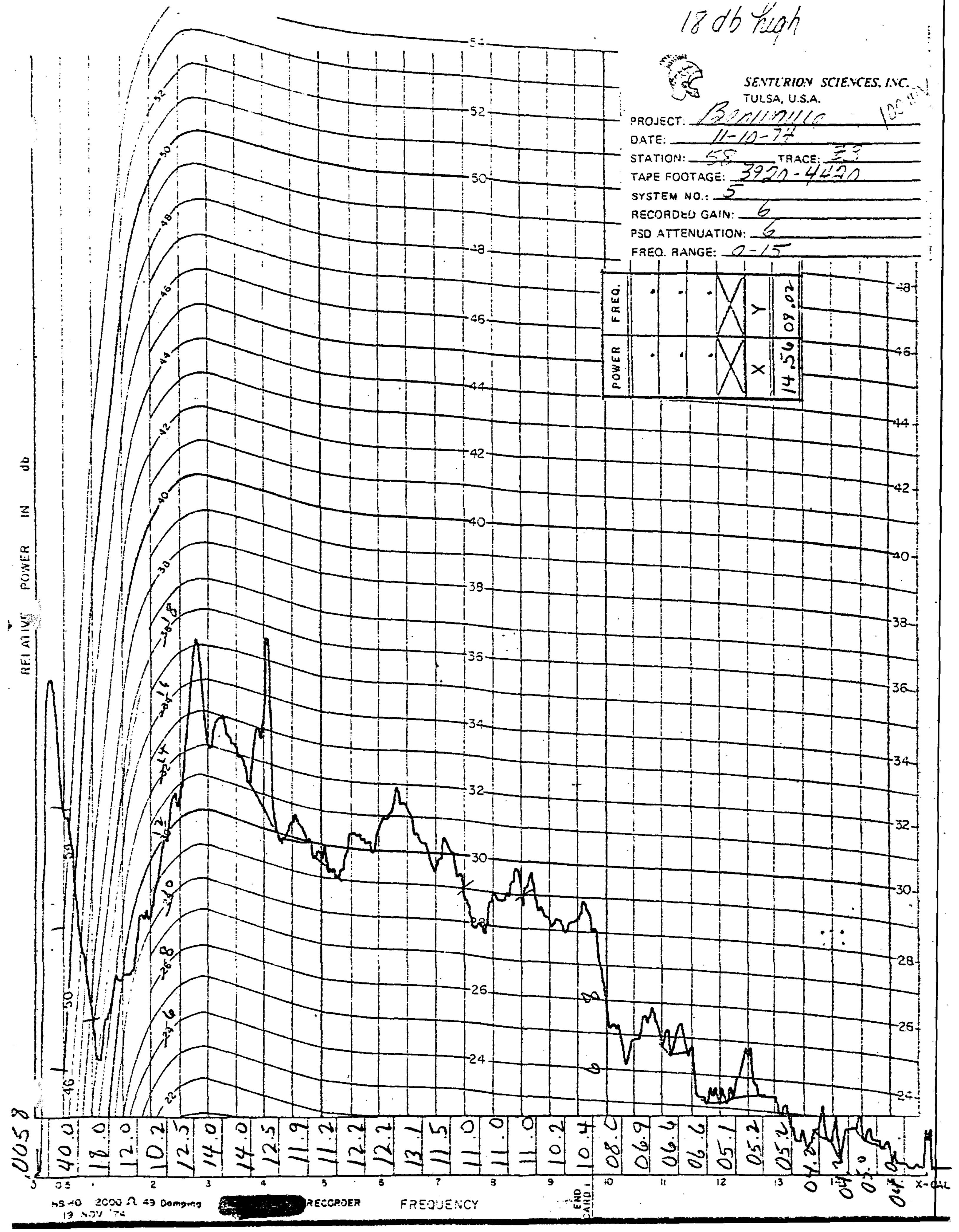
SENTURION SCIENCES, INC.
TULSA, U.S.A.

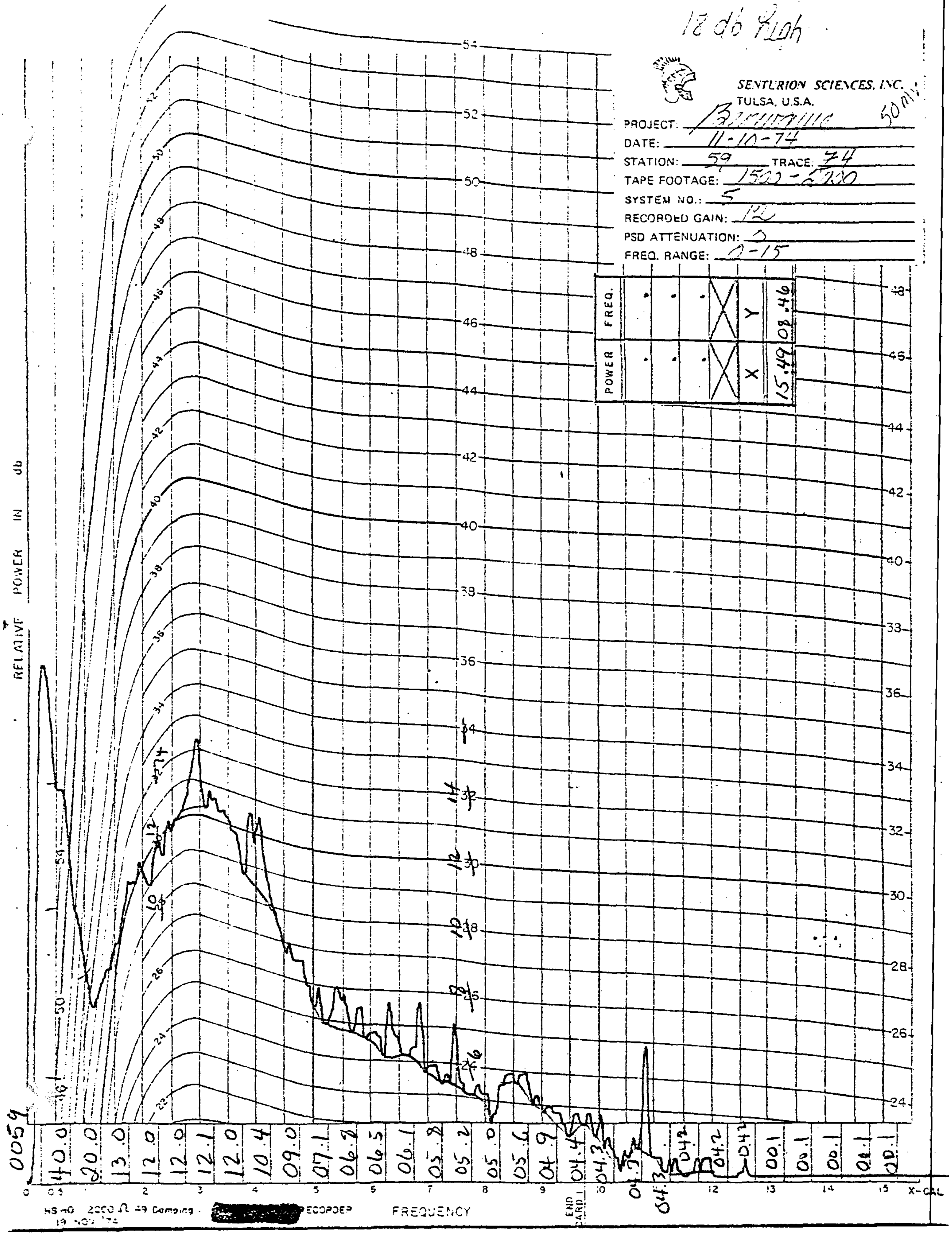
PROJECT: Buenavilla 50 mV
DATE: 11-11-74
STATION: 57 TRACE: 22
TAPE FOOTAGE: 1500-2500
SYSTEM NO.: 5
RECORDED GAIN: 12
PSD ATTENUATION: 0
FREQ. RANGE: 0-15

FREQ.	.	.	.	Y	07.60
POWER	.	.	.	X	13.65



HS HO 2000 Ω 49 Damping [redacted] RECORDER
13 NOV '74


18 db high
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT: Benimalle
DATE: 11-10-74
STATION: 58 TRACE: 33
TAPE FOOTAGE: 3920-4420
SYSTEM NO.: 5
RECORDED GAIN: 6
PSD ATTENUATION: 6
FREQ. RANGE: 0-15
FREQ. Y 09.02
POWER X 14.56
RELATIVE POWER IN db
FREQUENCY
HS-10 2000 Ω 49 Damping 19 NOV '74
[redacted] RECORDER
END CARD
X-CAL
0058
40.0 18.0 12.0 10.2 12.5 14.0 14.0 12.5 11.9 11.2 12.2 12.1 13.1 11.5 11.0 11.0 11.0 10.2 10.4 08.0 06.9 06.4 06.6 05.1 05.2 05.2 04.2 04.0 05.0 04.0



18 db High
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE: 11-10-74
STATION: 59 TRACE: 74
TAPE FOOTAGE: 1500 - 2200
SYSTEM NO.: 5
RECORDED GAIN: 12
PSD ATTENUATION: 0
FREQ. RANGE: 0-15
50 mv
FREQ. Y 08.46
POWER X 15.49
RELATIVE POWER IN db
FREQUENCY
X-CAL
END CARD
HS-10 2000 Ω 49 Damping
19 NOV 74
[redacted] RECORDER
0059
40.0 20.0 13.0 12.0 12.0 12.1 12.0 10.4 09.0 07.1 06.8 06.5 06.1 05.8 05.2 05.0 05.6 04.9 04.4 04.3 04.3 04.3 04.2 04.2 04.2 00.1 00.1 00.1 00.1 00.1

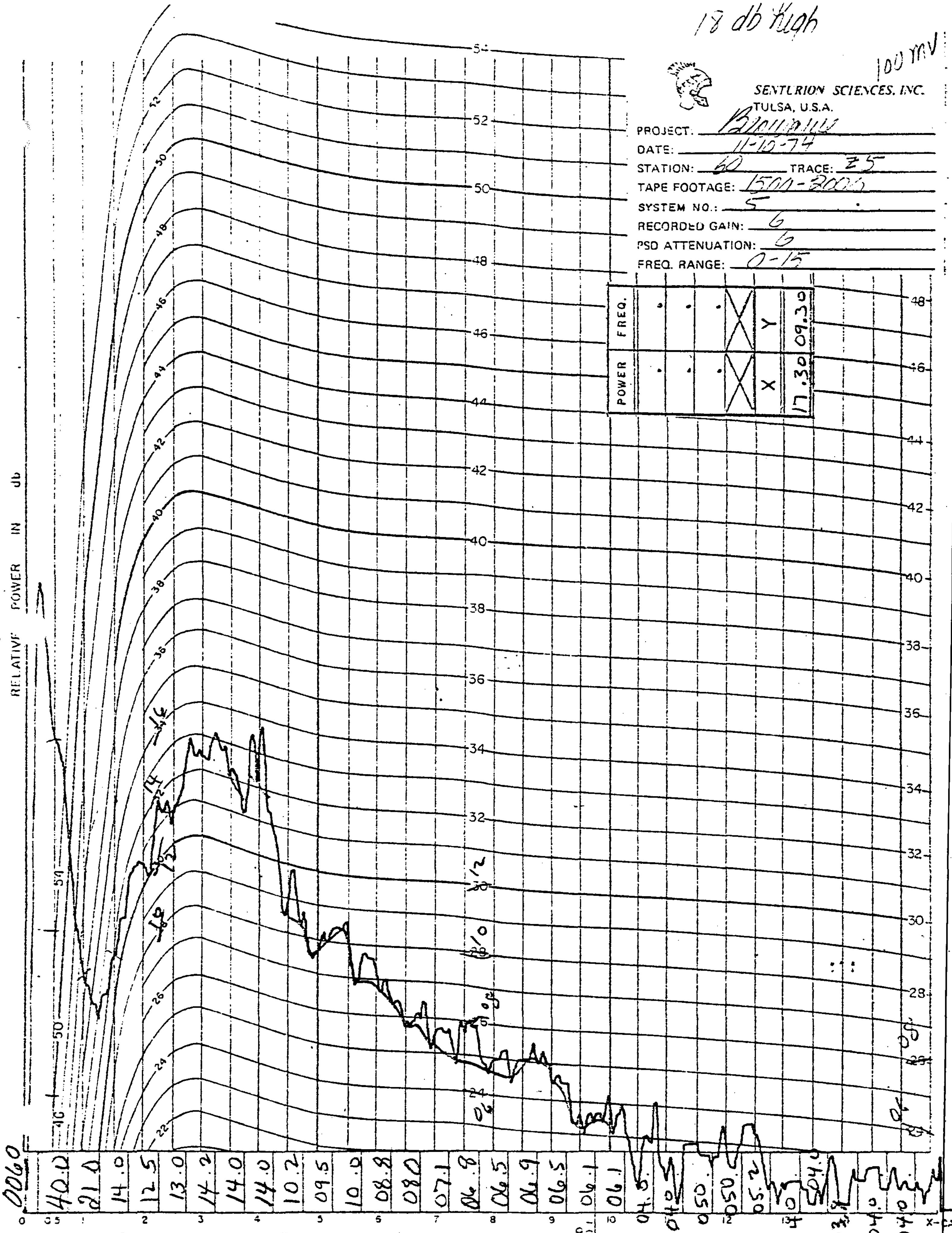
18 db high

100 mV

SENTURION SCIENCES, INC.
TULSA, U.S.A.

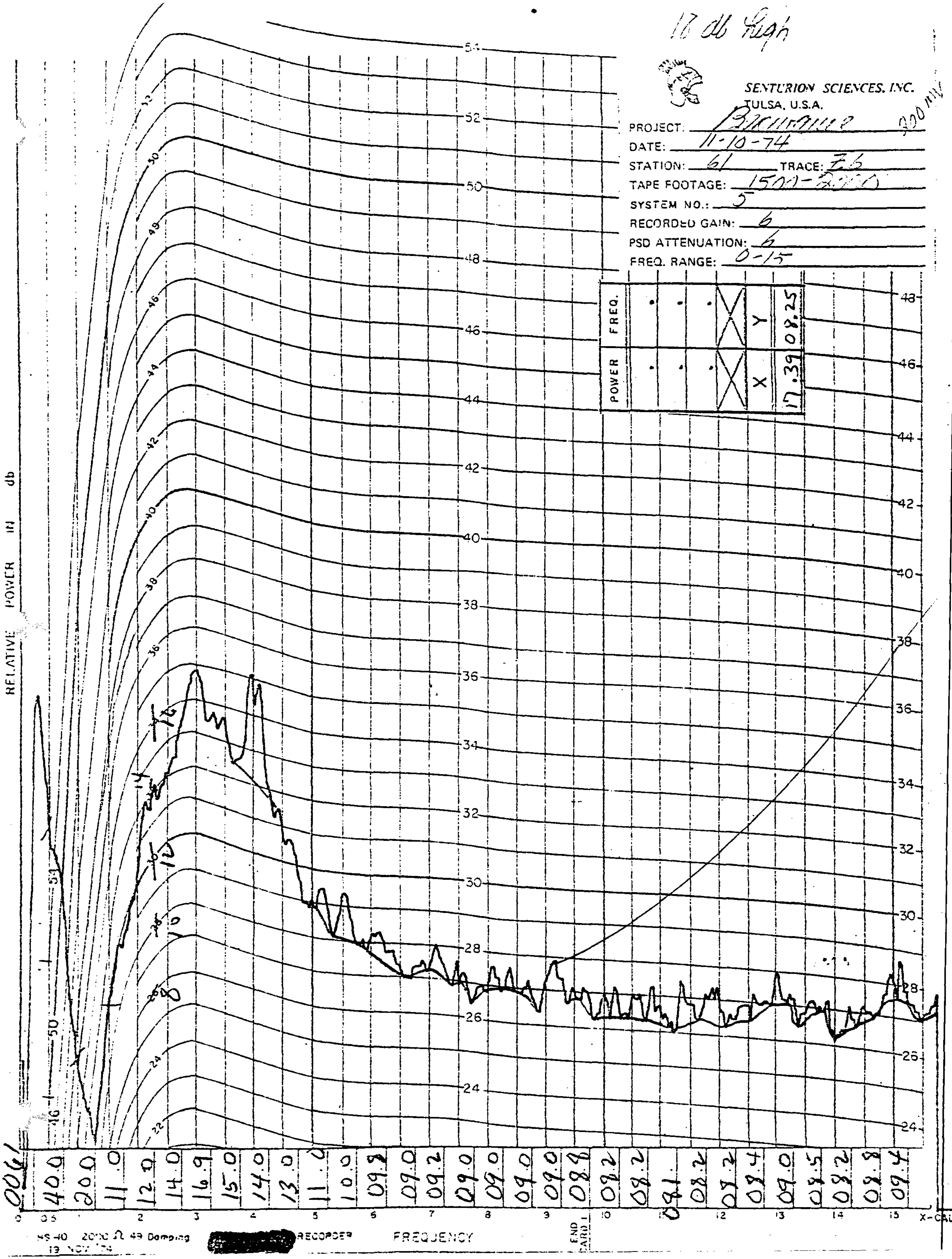
PROJECT:
DATE: 11-10-74
STATION: 60 TRACE: Z5
TAPE FOOTAGE: 1500-2000
SYSTEM NO.: 5
RECORDED GAIN: 6
PSD ATTENUATION: 6
FREQ. RANGE: 0-15

FREQ.	.	.	.	X	Y	09.30
POWER	.	.	.	X	X	17.30



HS-40 2000 Ω 49 Damping [redacted] RECORDER
19 NOV '74

END CARD



12 db High
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT: [illegible] 300 mv
DATE: 11-10-74
STATION: 61 TRACE: [illegible]
TAPE FOOTAGE: 1500-2000
SYSTEM NO.: 5
RECORDED GAIN: 6
PSD ATTENUATION: 6
FREQ. RANGE: 0-15
FREQ. Y 08.25
POWER X 17.39
RELATIVE POWER IN db
FREQUENCY
X-CAL
END CARD
HS-40 2000 Ω 49 Damping
19 NOV 74
[redacted] RECORDER
0066 40.0 20.0 11.0 12.0 14.0 16.9 15.0 14.0 13.0 11.0 10.0 09.8 09.0 09.2 09.0 09.0 09.0 09.0 08.8 08.2 08.2 08.1 08.2 08.2 08.4 09.0 08.5 08.2 08.8 09.4

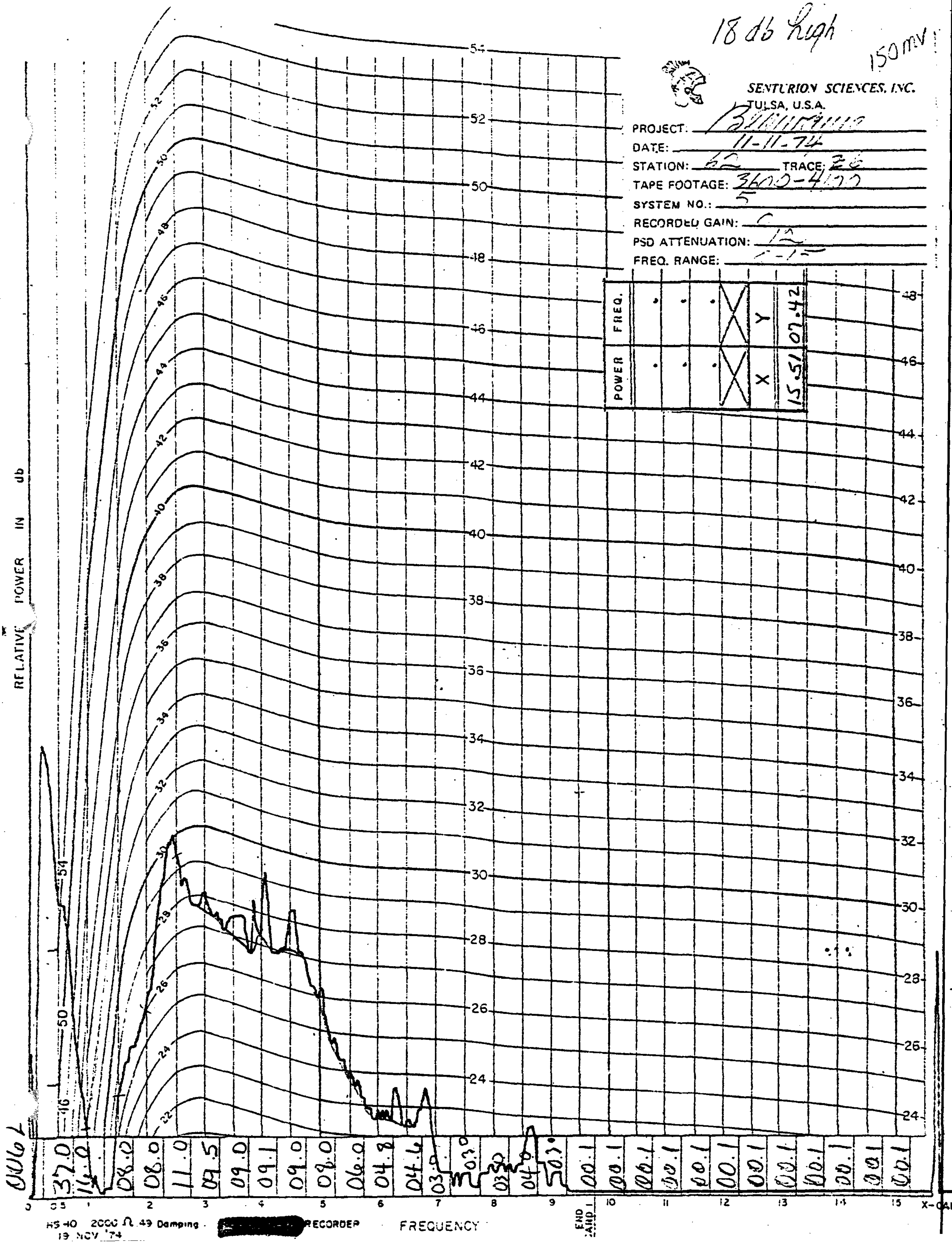
18 db High

150 mV

SENTURION SCIENCES, INC.
TULSA, U.S.A.

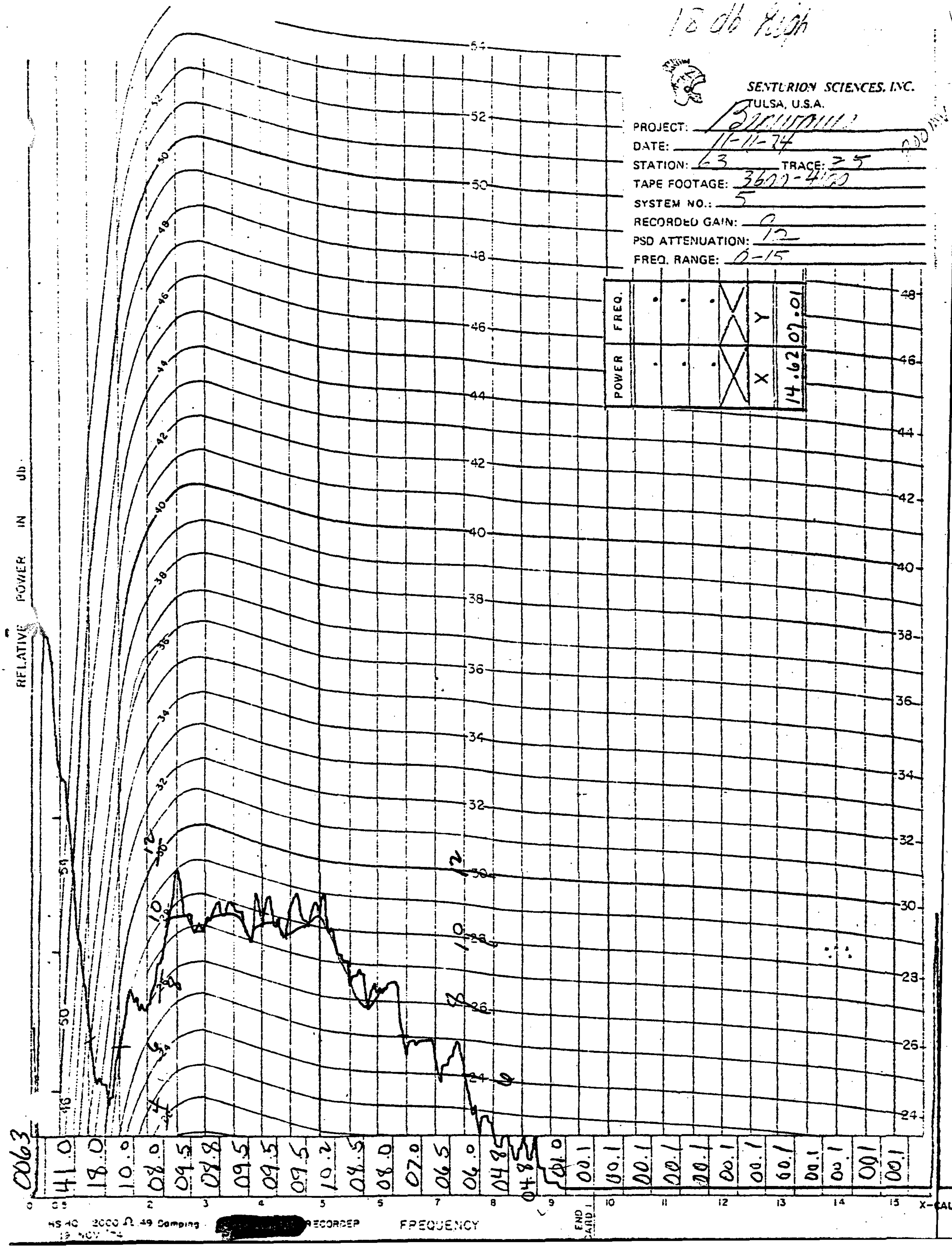
PROJECT: Baumgarner
DATE: 11-11-74
STATION: 62 TRACE: 2c
TAPE FOOTAGE: 3600-4100
SYSTEM NO.: 5
RECORDED GAIN: C
PSD ATTENUATION: 12
FREQ. RANGE: 1-15

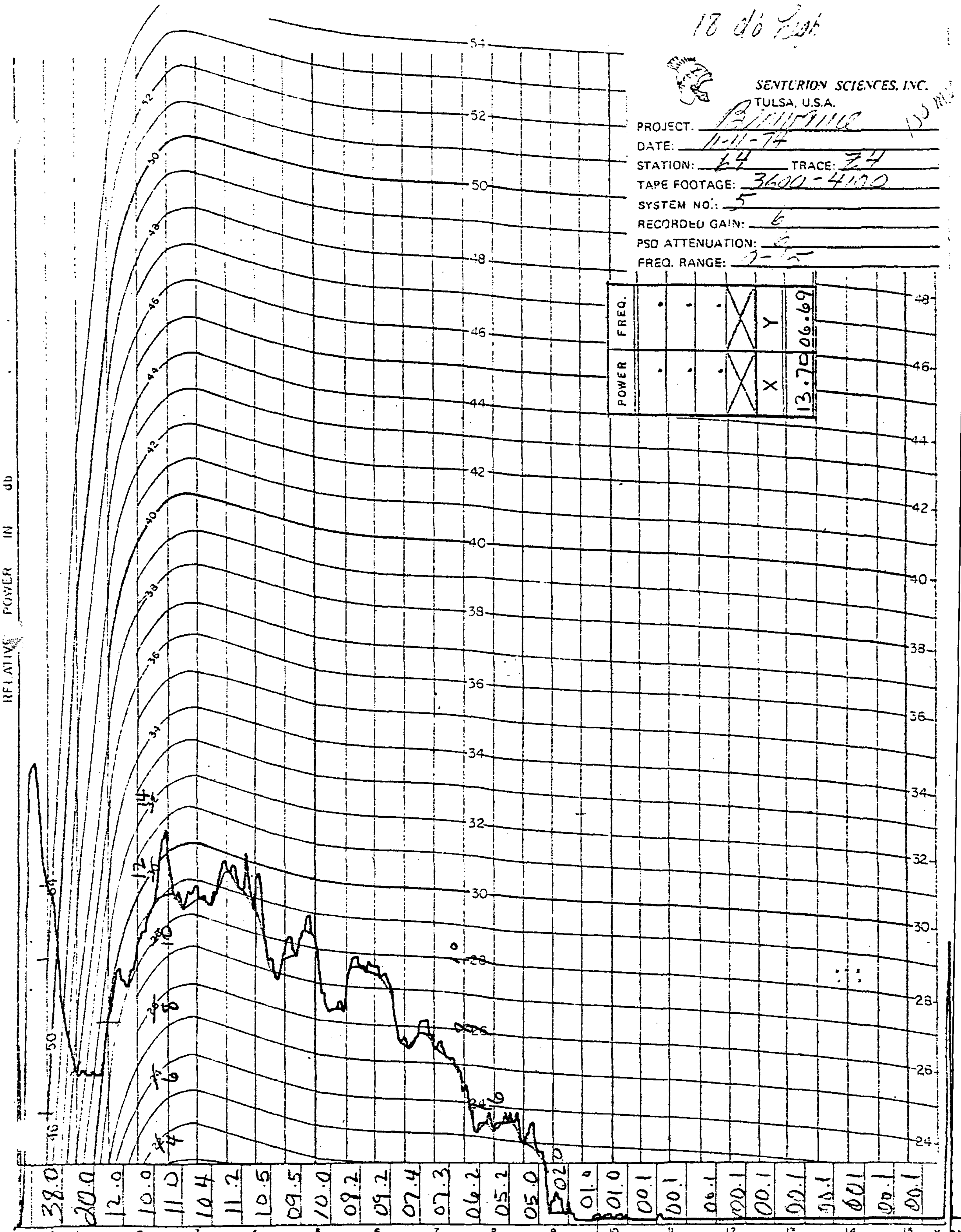
FREQ.	.	.	.	X	Y	07.42
POWER	.	.	.	X	X	15.51



HS-40 2000 Ω .49 Damping [redacted] RECORDER
19 NOV '74

0060 L


18 db High
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE: 11-11-74
STATION: 63 TRACE: 25
TAPE FOOTAGE: 3600-4100
SYSTEM NO.: 5
RECORDED GAIN: 9
PSD ATTENUATION: 12
FREQ. RANGE: 0-15
FREQ.
POWER
Y
X
07.01
14.62
RELATIVE POWER IN db
0063
FREQUENCY
X-CAL
END CARD
HS 40 2000 Ω .49 Damping [redacted] RECORDER
19 NOV 74



HS-40 2000 Ω 49 Damping [redacted] RECORDER FREQUENCY
19 NOV '74

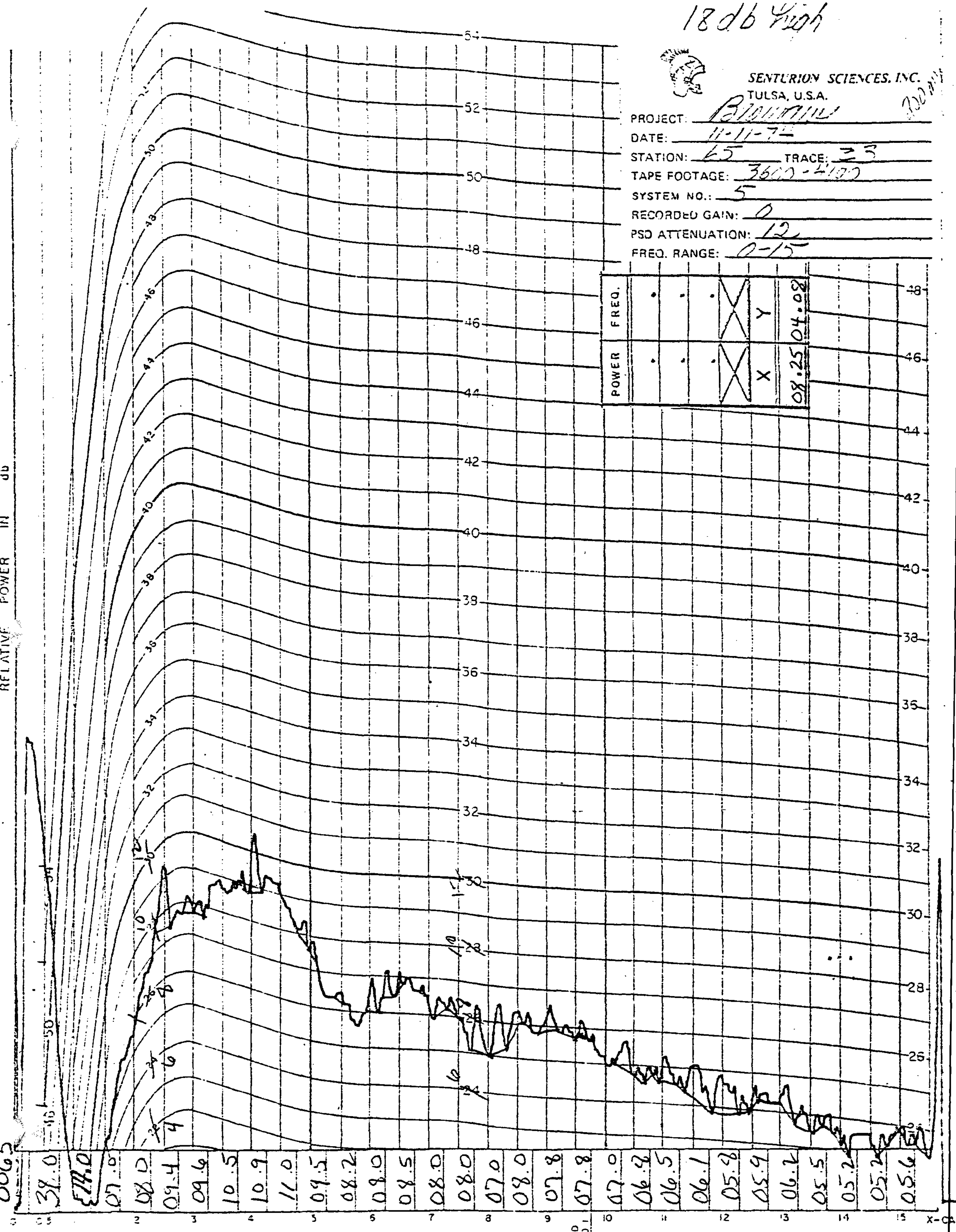
18 db high

SENTURION SCIENCES, INC.
TULSA, U.S.A.

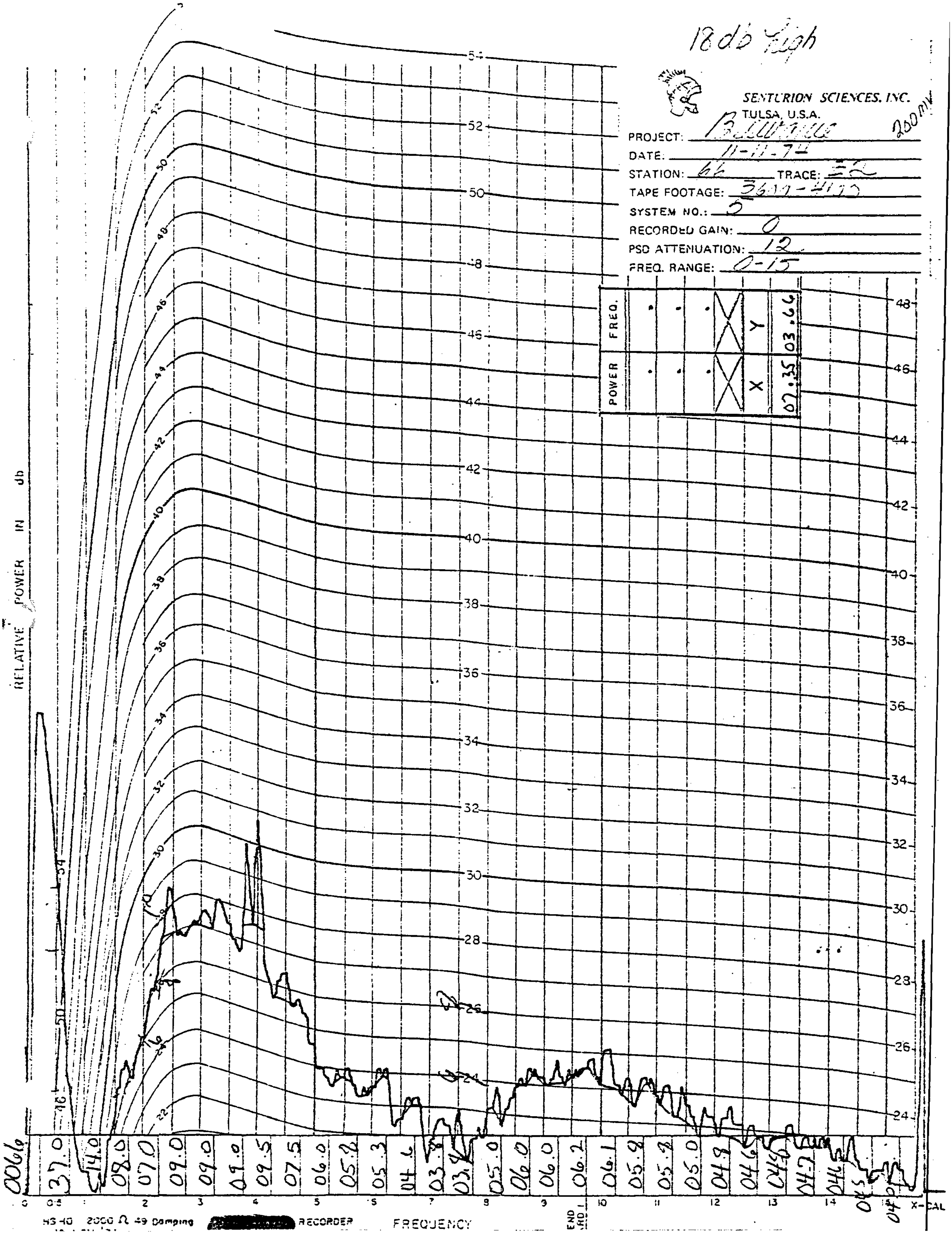
300 mv

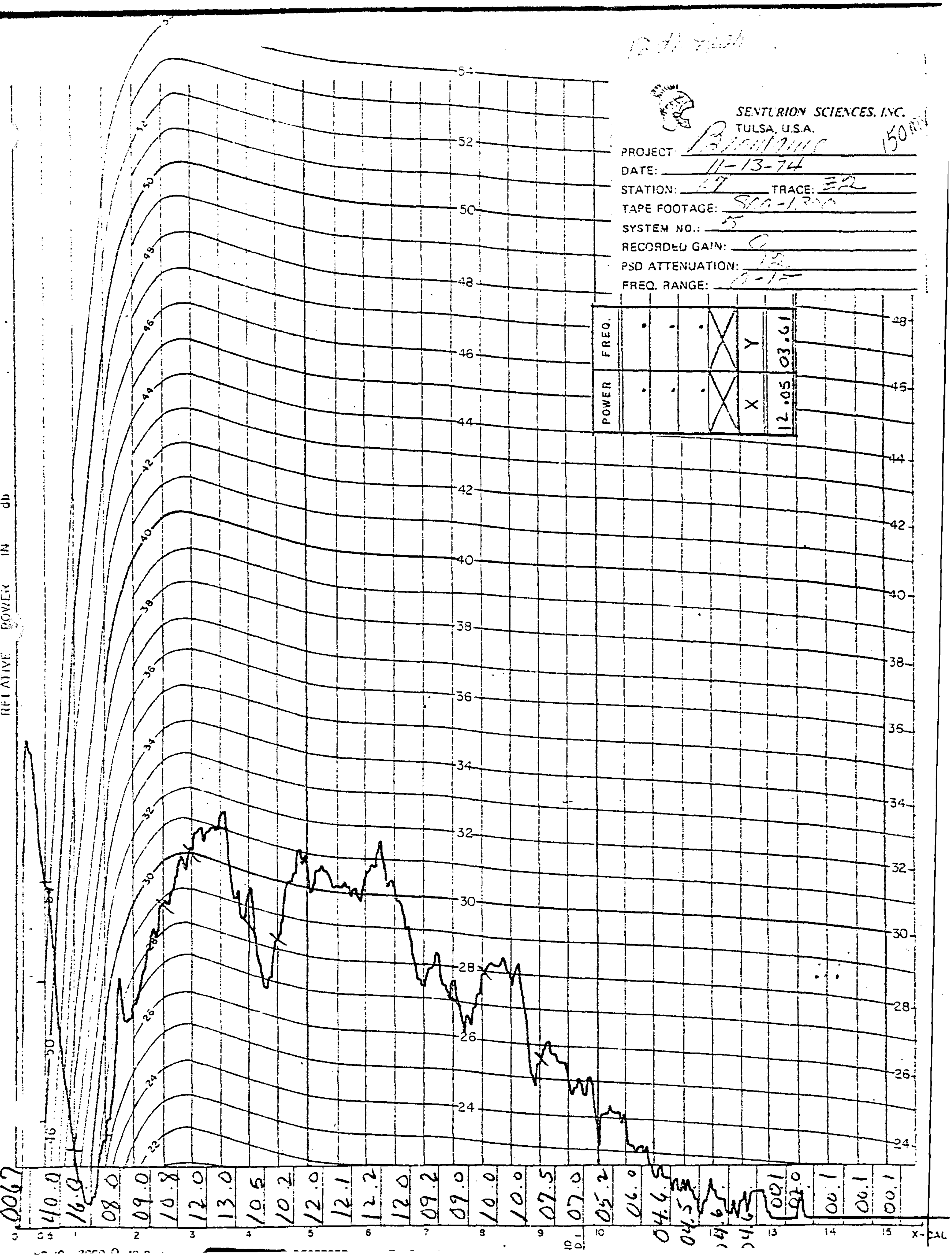
PROJECT: Browning
DATE: 11-11-74
STATION: 65 TRACE: 23
TAPE FOOTAGE: 3600-4100
SYSTEM NO.: 5
RECORDED GAIN: 0
PSD ATTENUATION: 12
FREQ. RANGE: 0-15

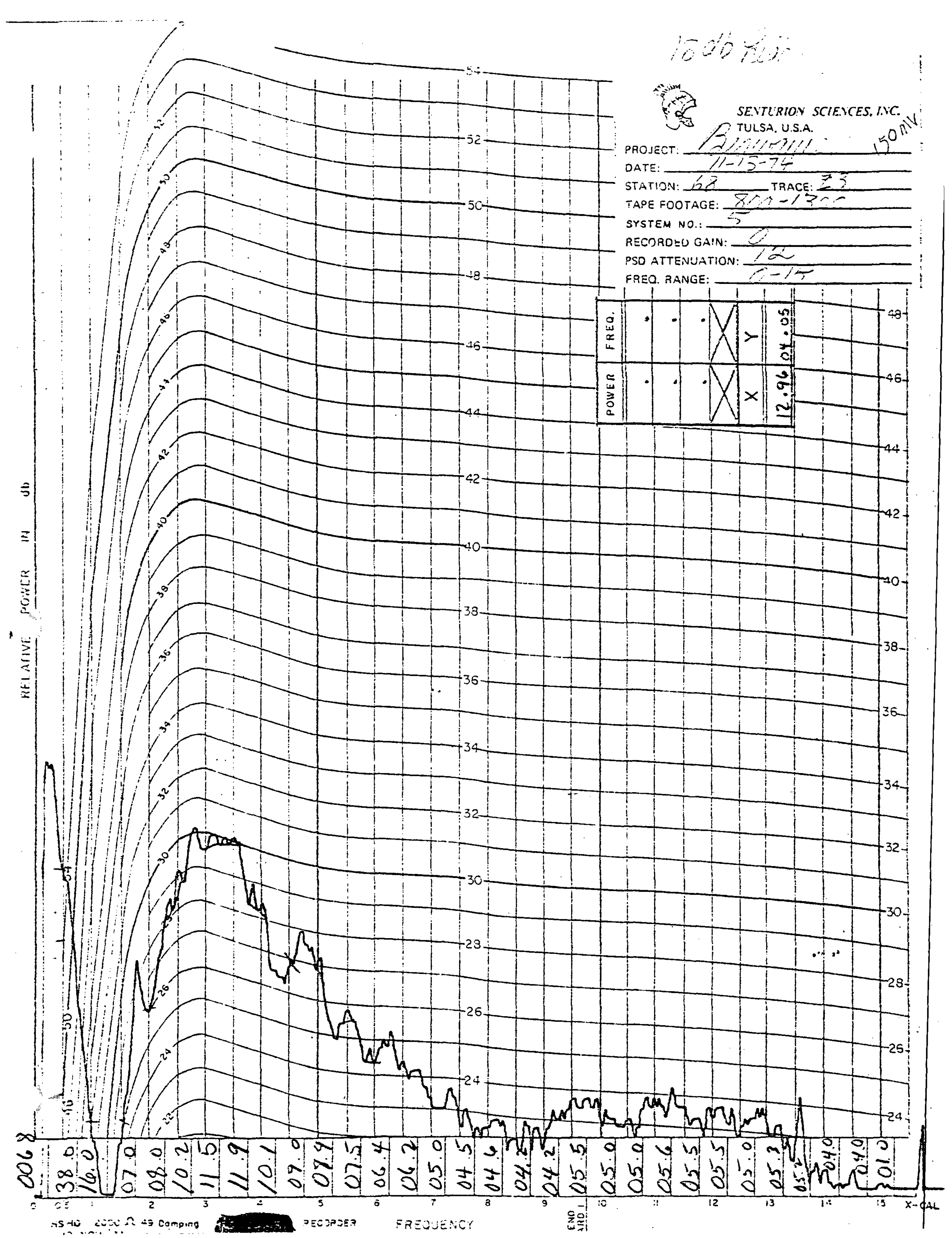
FREQ.	•	•	•	X	Y	04.08
POWER	•	•	•	X	X	08.25



HO-HO 2000 Ω .44 Damping [redacted] RECORDER
19 NOV '74


18 db High
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
200 mv
DATE: 11-11-74
STATION: 66
TRACE:
TAPE FOOTAGE:
SYSTEM NO.: 5
RECORDED GAIN: 0
PSD ATTENUATION: 12
FREQ. RANGE: 0-15
FREQ.
Y
03.66
POWER
X
07.35
RELATIVE POWER IN db
FREQUENCY
HS-10 2000 Ω .49 Damping
[redacted] RECORDER
END
X-CAL


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
150 mV
DATE: 11-13-74
STATION:
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
Y
03.61
POWER
X
12.05
RELATIVE POWER IN db
X-CAL



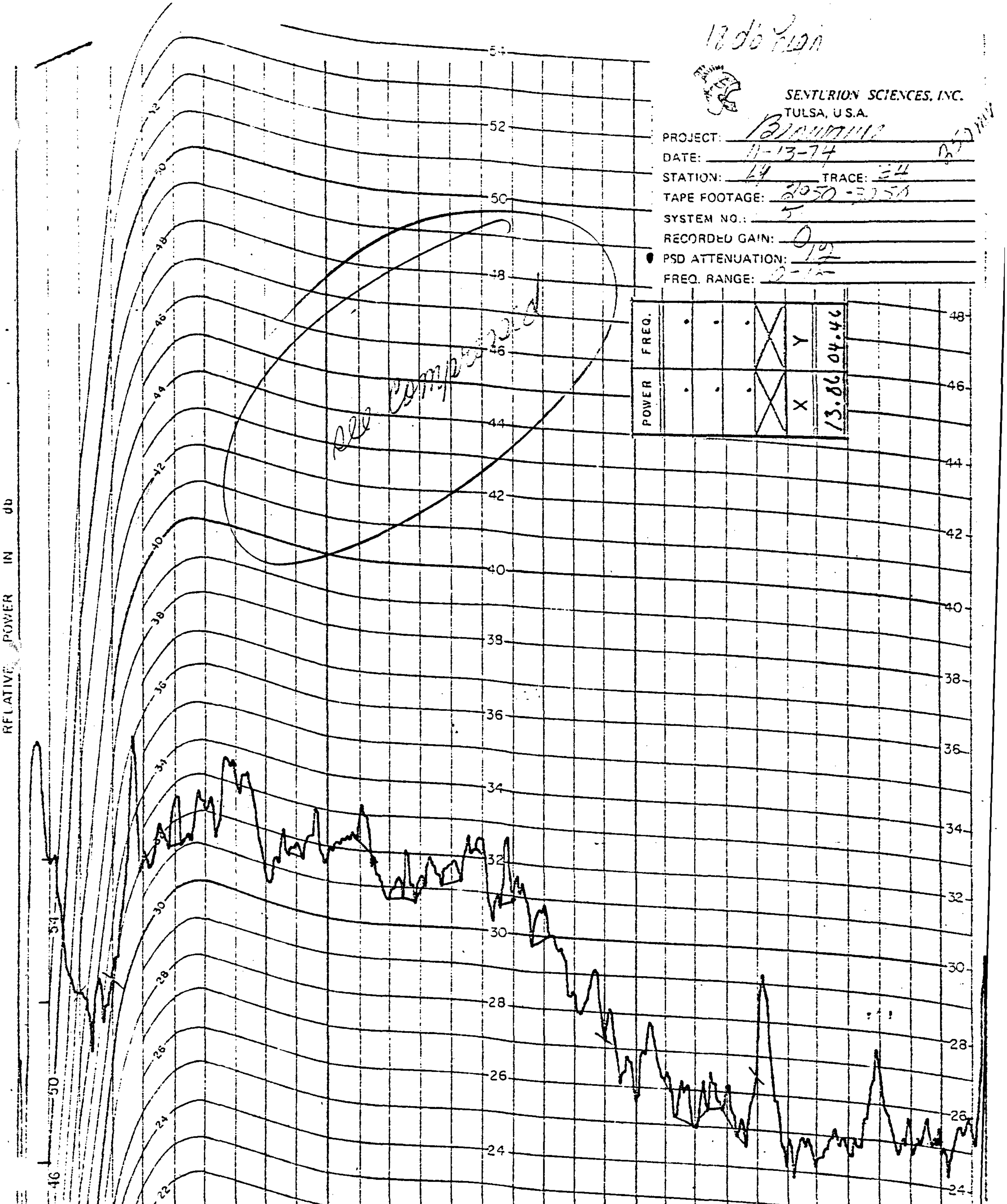
16 db Att
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT: Blaumill
150 mV
DATE: 11-15-74
STATION: 68 TRACE: 23
TAPE FOOTAGE: 800-1300
SYSTEM NO.: 5
RECORDED GAIN: 0
PSD ATTENUATION: 12
FREQ. RANGE: 0-15
FREQ. Y 04.05
POWER X 12.96
RELATIVE POWER IN db
0068 38.6 16.0 07.0 08.0 10.2 11.5 11.9 10.1 09.0 07.9 07.5 06.4 06.2 05.0 04.5 04.6 04.2 04.2 05.5 05.0 05.0 05.6 05.5 05.5 05.0 05.3 04.0 04.0 01.0
FREQUENCY
X-CAL
END
RECORDER
[redacted]
2000 Ω 49 Damping

12 db high

SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT: Browning
DATE: 11-13-74
STATION: 24 TRACE: 24
TAPE FOOTAGE: 2050-3050
SYSTEM NO.: 5
RECORDED GAIN: 0
PSD ATTENUATION: 12
FREQ. RANGE: 0-16

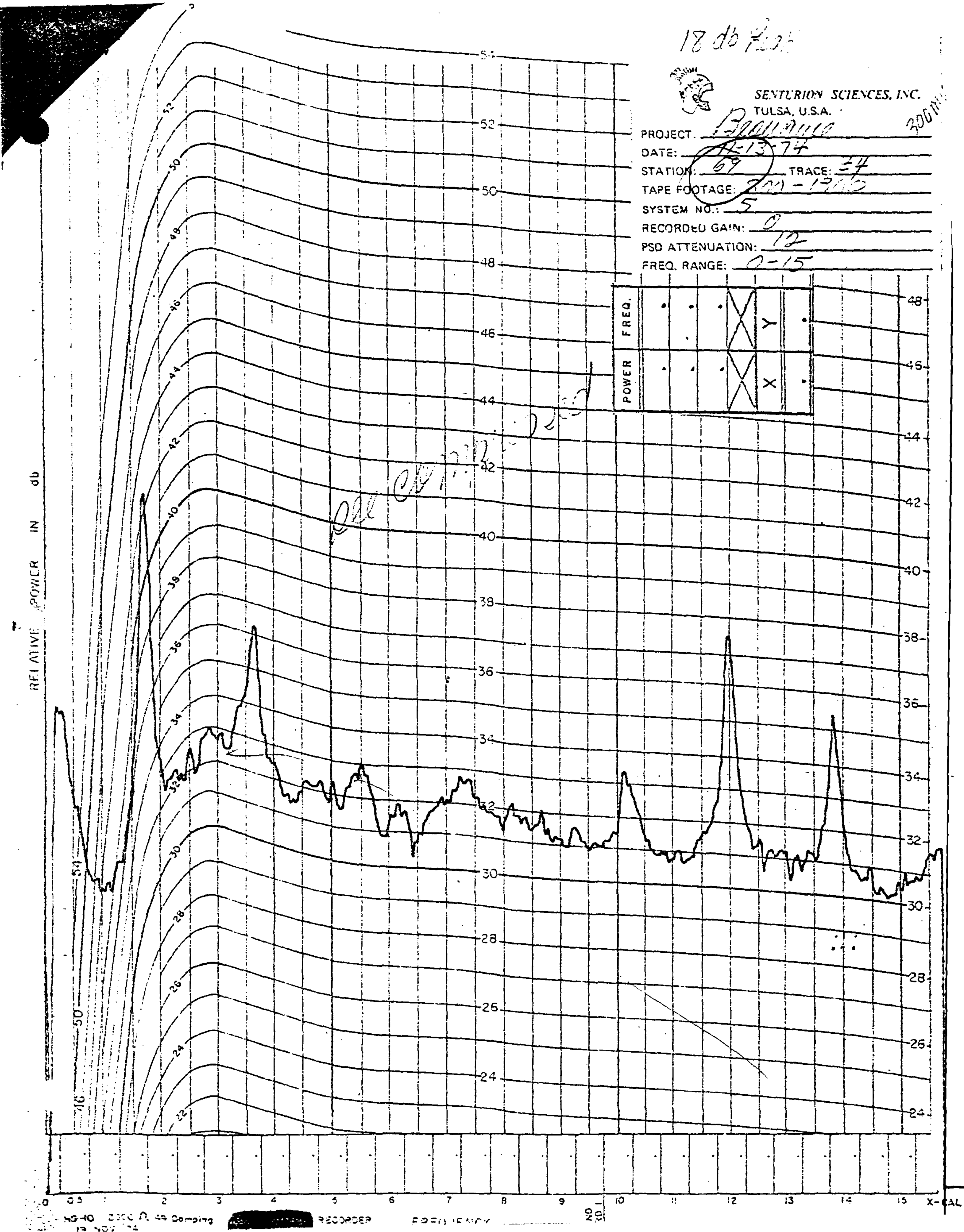
FREQ.	.	.	.	X	Y	04.46
POWER	.	.	.	X	X	13.86



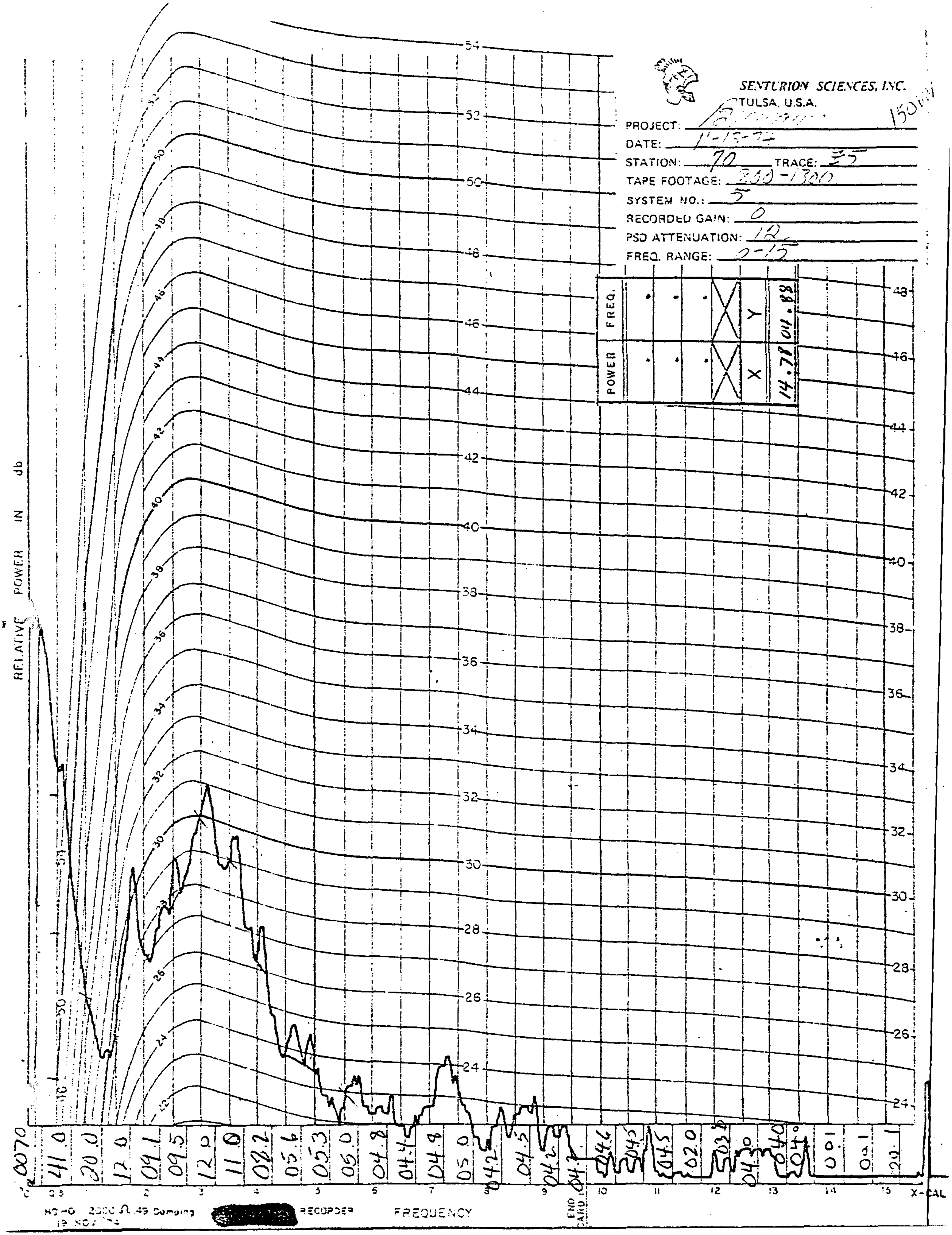
0069	40.0	24.0	14.0	14.0	13.2	14.0	15.0	12.5	13.5	13.5	14.1	12.6	13.0	13.1	14.0	12.1	12.0	10.0	09.2	07.7	08.0	07.0	07.1	06.4	06.1	06.1	06.4	06.3	06.2	06.2

0 .5 1 2 3 4 5 6 7 8 9 END CARD 10 11 12 13 14 15 X CAL

HS-40 2000 Ω .49 Damping - [redacted] RECORDER FREQUENCY
19 NOV '74



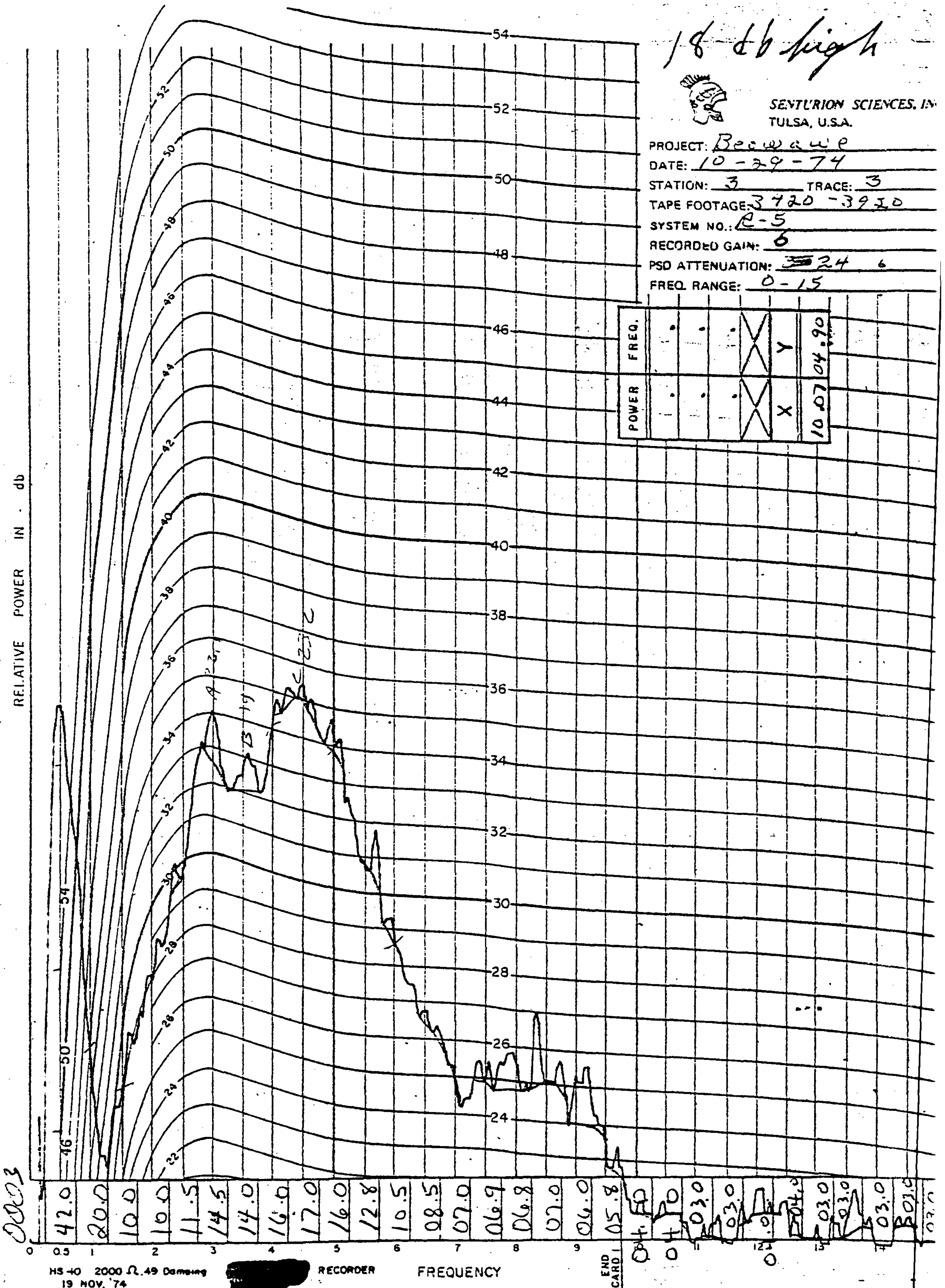
18 db Roll
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT: Beaumont
DATE: 11-13-74
STATION: 69
TRACE: 34
TAPE FOOTAGE: 300-1200
SYSTEM NO.: 5
RECORDED GAIN: 0
PSD ATTENUATION: 12
FREQ. RANGE: 0-15
FREQ.
Y
POWER
X
RELATIVE POWER IN db
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
X-CAL
[redacted] RECORDER
FREQUENCY

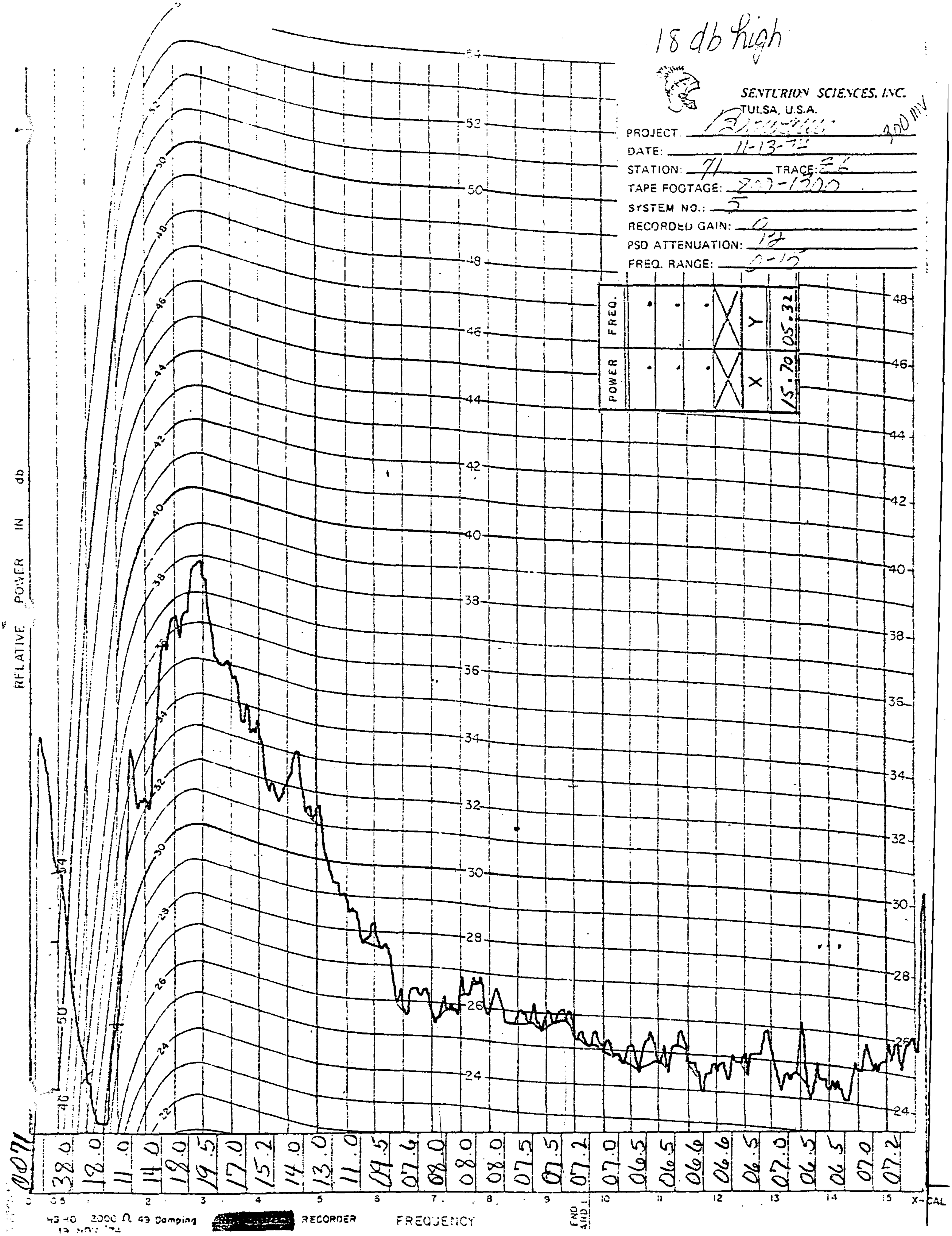

SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 70
TRACE:
TAPE FOOTAGE:
SYSTEM NO.: 5
RECORDED GAIN: 0
PSD ATTENUATION: 12
FREQ. RANGE: 2-15
FREQ.
Y
014.88
POWER
X
14.78
RELATIVE POWER IN db
FREQUENCY
[redacted] RECORDER
X-CAL
END CARD
HS-HG 2000 Ω .49 Damping 19 NOV '74
150 m

18 db high

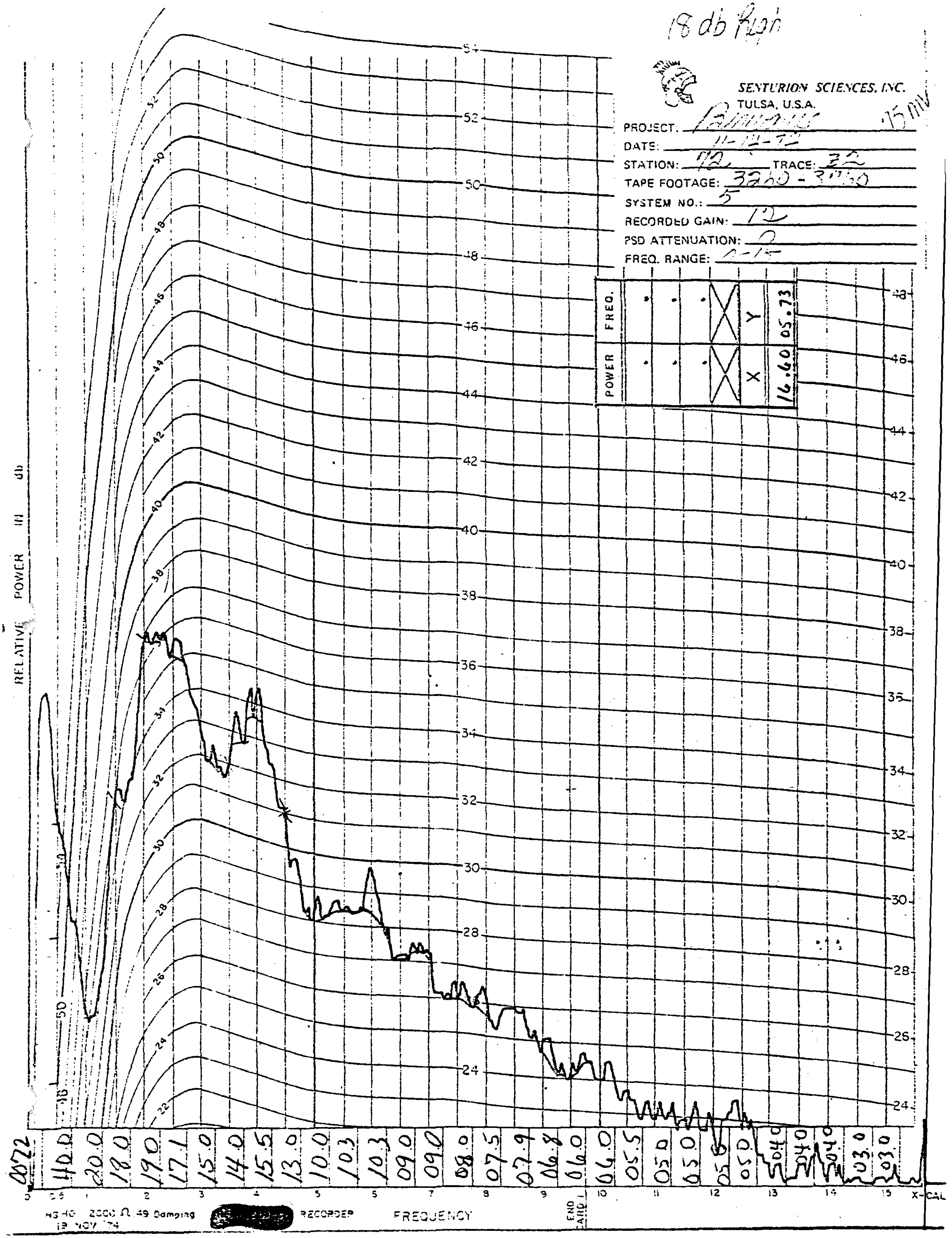
SENTURION SCIENCES, IN
TULSA, U.S.A.

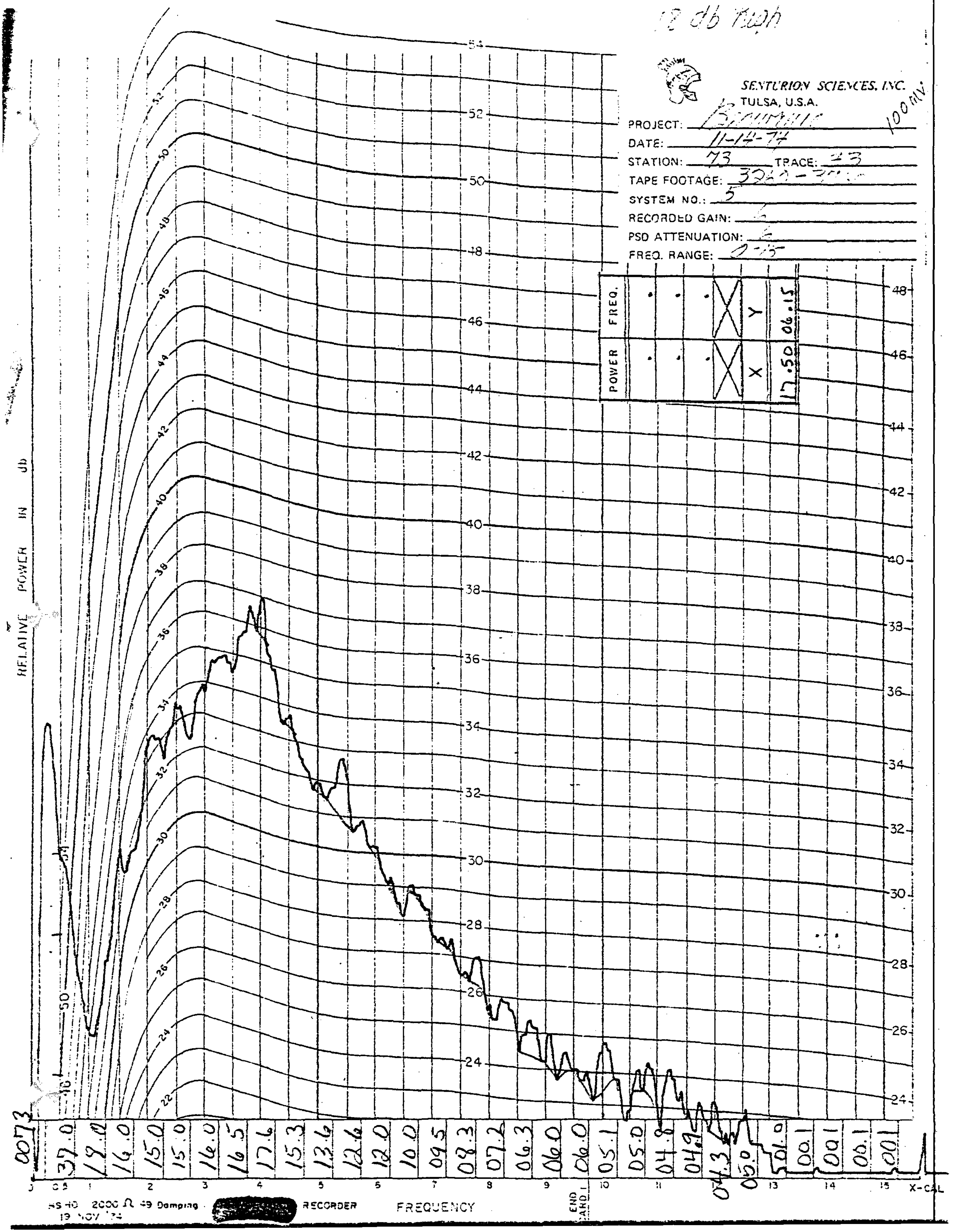
PROJECT: Beowave
DATE: 10-29-74
STATION: 3 TRACE: 3
TAPE FOOTAGE: 3720 - 3920
SYSTEM NO.: C-5
RECORDED GAIN: 6
PSD ATTENUATION: 24 6
FREQ. RANGE: 0-15

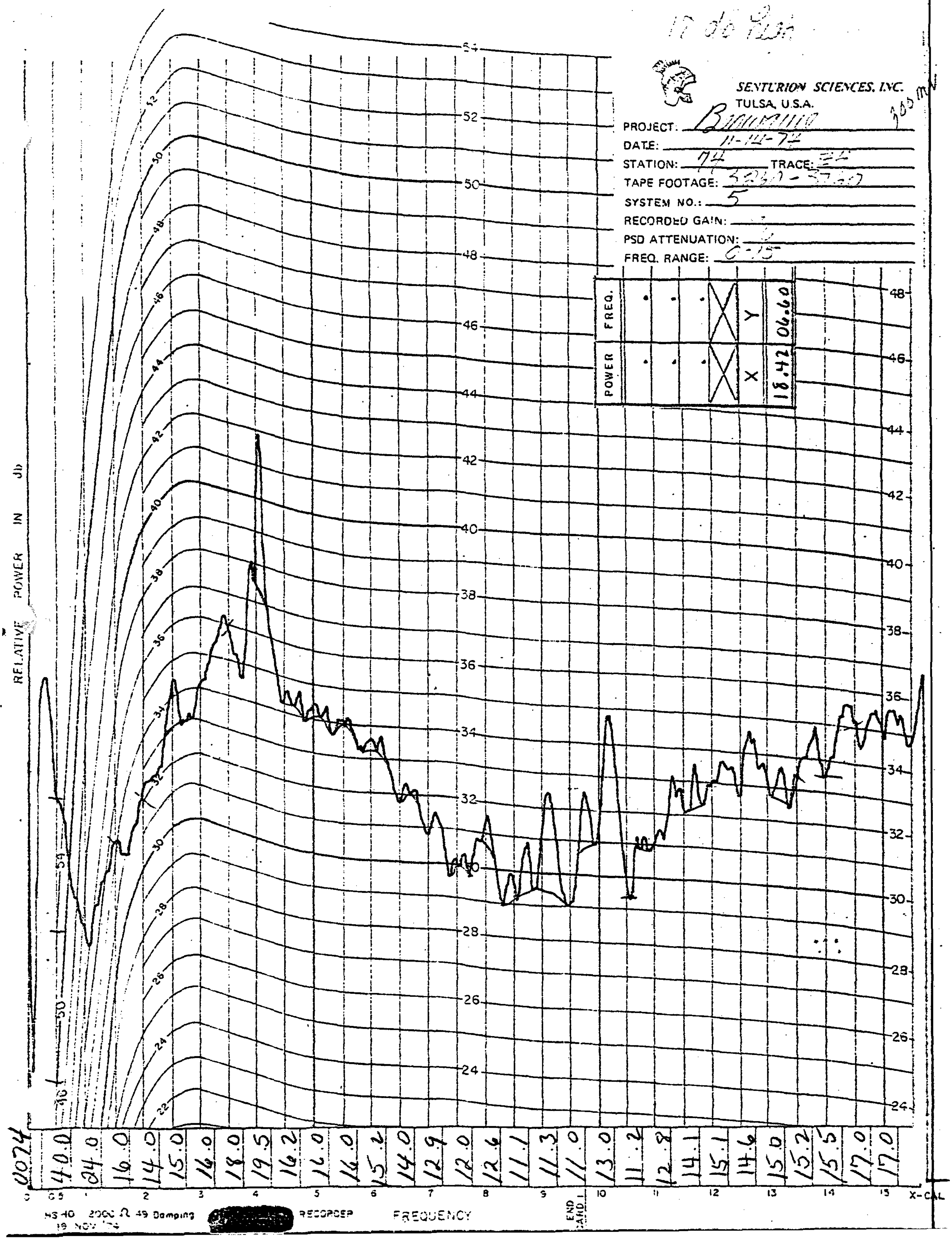


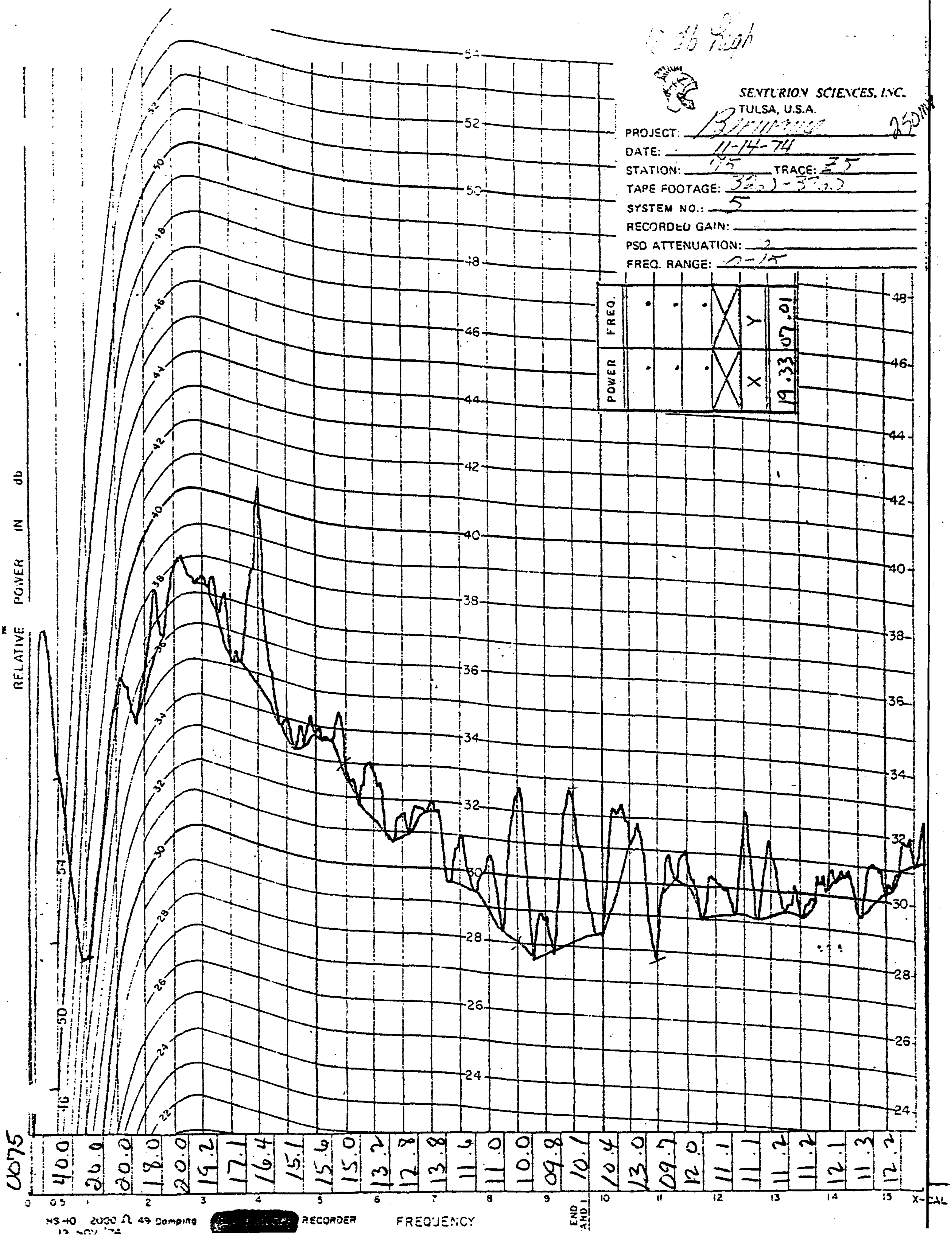


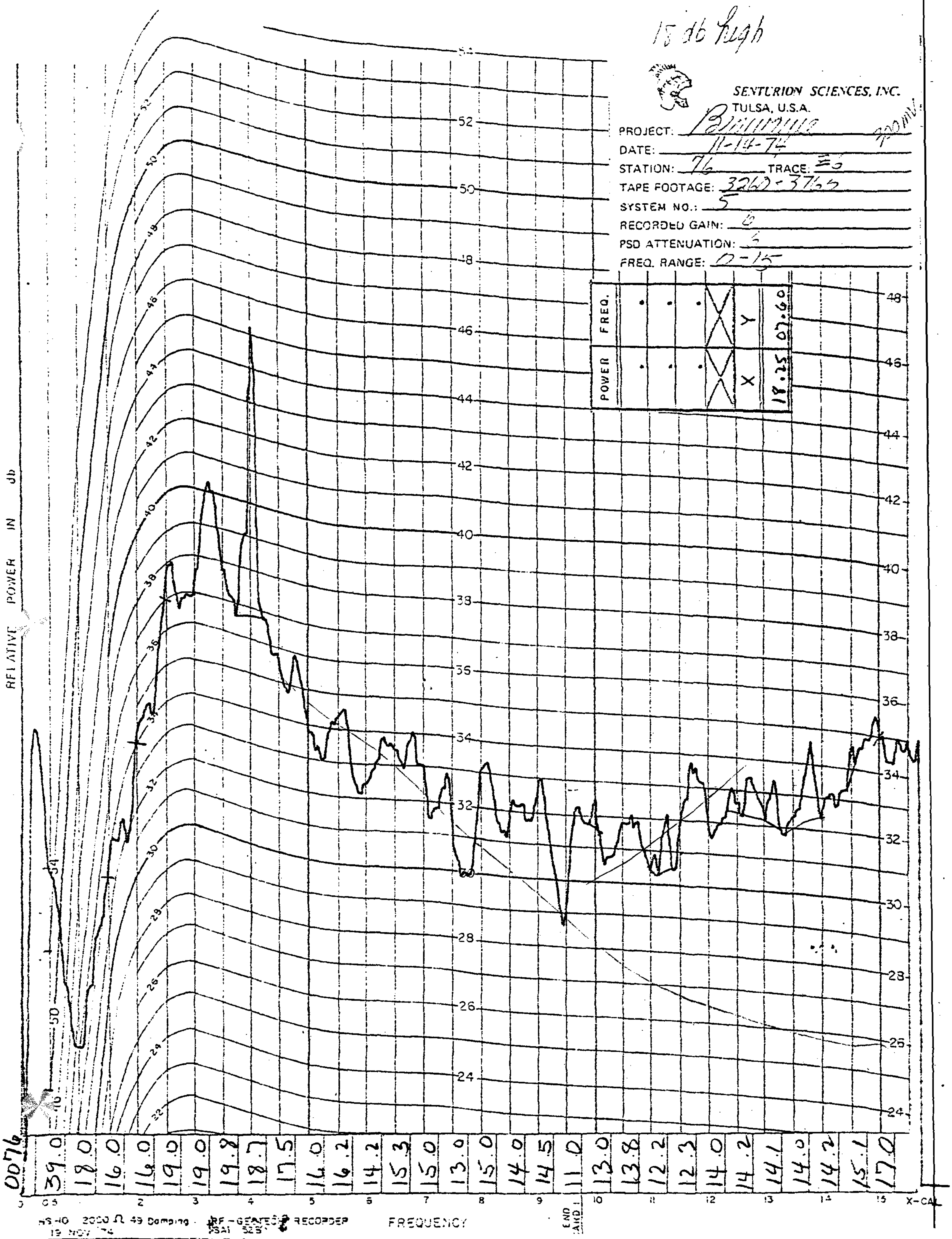
18 db high
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT: [illegible]
300 mV
DATE: 11-13-7[illegible]
STATION: 71
TRACE: [illegible]
TAPE FOOTAGE: [illegible]-1200
SYSTEM NO.: 5
RECORDED GAIN: 0
PSD ATTENUATION: 18
FREQ. RANGE: 0-15
FREQ.
POWER
Y
X
05.32
15.70
RELATIVE POWER IN db
FREQUENCY
X-CAL
RECORDER
2000 Ω 49 Damping
0071
38.0
18.0
11.0
14.0
18.0
19.5
17.0
15.2
14.0
13.0
11.0
09.5
07.6
08.0
08.0
08.0
07.5
07.5
07.2
07.0
06.5
06.5
06.6
06.6
06.5
07.0
06.5
06.5
07.0
07.2


18 db Rgh
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION:
TRACE:
TAPE FOOTAGE:
SYSTEM NO.: 5
RECORDED GAIN: 12
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y 05.73
X 16.60
RELATIVE POWER IN db
FREQUENCY
X-CAL
HS-HO 2000 Ω .49 Damping
[redacted] RECORDER
19 NOV '74


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE: 11-14-74
STATION: 73
TRACE:
TAPE FOOTAGE:
SYSTEM NO.: 5
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
100 mV
FREQ. Y 06.15
POWER X 17.50
RELATIVE POWER IN db
0073
37.0 19.0 16.0 15.0 15.0 16.0 16.5 17.6 15.3 13.6 12.6 12.0 10.0 09.5 08.3 07.2 06.3 06.0 06.0 05.1 05.0 04.8 04.9 04.3 05.0 01.0 00.1 00.1 00.1 00.1
X-CAL
END CARD
HS-10 2000 Ω 49 Damping [redacted] RECORDER
19 NOV 74
FREQUENCY


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE: 11-14-74
STATION: 74 TRACE:
TAPE FOOTAGE:
SYSTEM NO.: 5
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE: 0-15
FREQ. Y 06.60
POWER X 18.42
RELATIVE POWER IN db
FREQUENCY
X-CAL
END BAND
0074
40.0
24.0
16.0
14.0
15.0
16.0
18.0
19.5
16.2
16.0
16.0
15.2
14.0
12.9
12.0
12.6
11.1
11.3
11.0
13.0
11.2
12.8
14.1
15.1
14.6
15.0
15.2
15.5
17.0
17.0
HS-10 2000 Ω 49 Damping
19 NOV '74
RECORDER

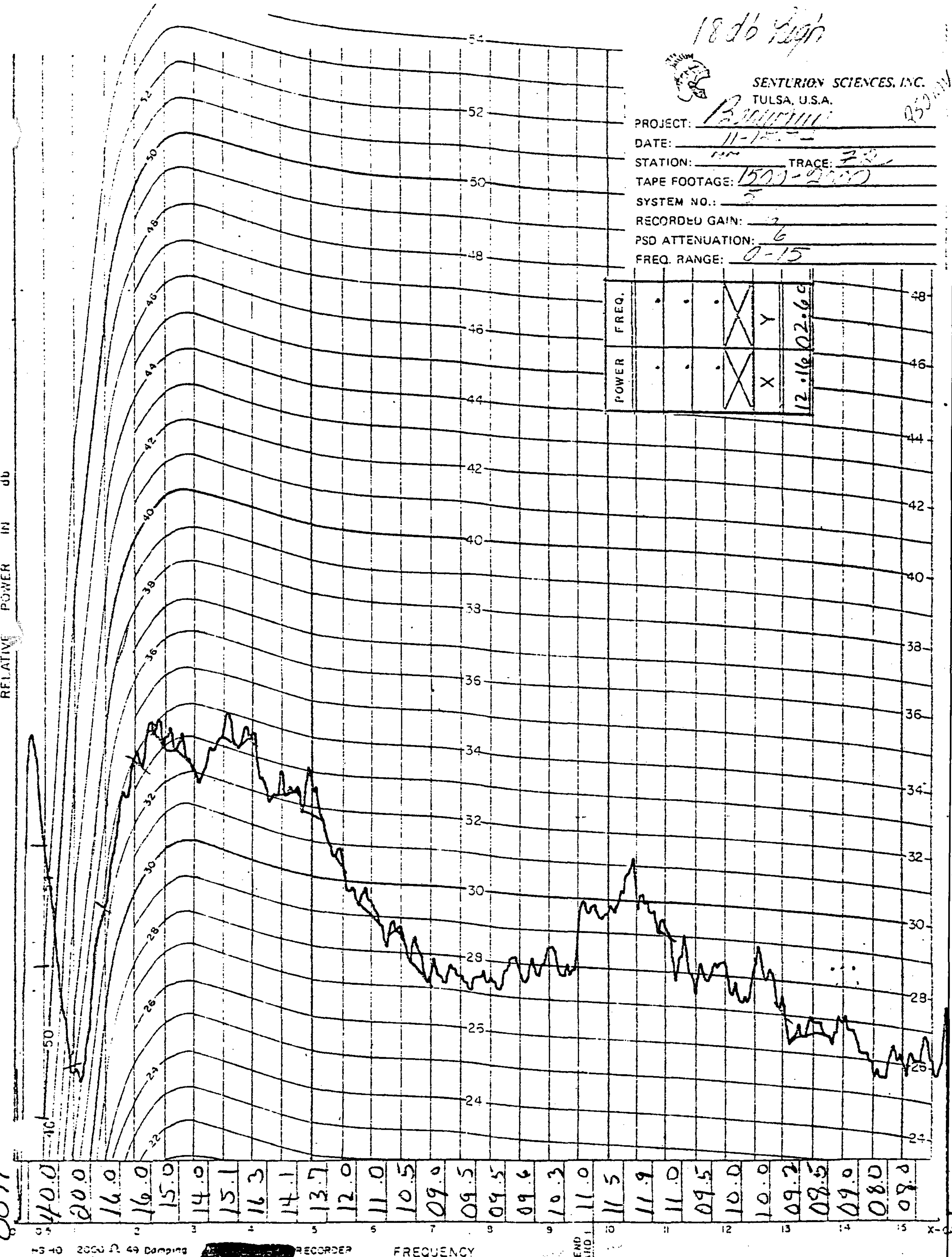

SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE: 11-14-74
STATION:
TRACE:
TAPE FOOTAGE:
SYSTEM NO.: 5
RECORDED GAIN:
PSD ATTENUATION: 2
FREQ. RANGE: 0-15
FREQ.
POWER
Y 07.01
X 19.33
RELATIVE POWER IN db
FREQUENCY
0075
40.0
26.0
20.0
18.0
20.0
19.2
17.1
16.4
15.1
15.6
15.0
13.2
12.8
13.8
11.6
11.0
10.0
09.8
10.1
10.4
13.0
09.7
12.0
11.1
11.1
11.2
11.2
12.1
11.3
12.2
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
END
HS-10 2000 Ω 49 Damping
[redacted] RECORDER


15 db high
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT: Bimmyue
DATE: 11-14-74
STATION: 76
TRACE:
TAPE FOOTAGE: 3260-3765
SYSTEM NO.: 5
RECORDED GAIN: 0
PSD ATTENUATION:
FREQ. RANGE: 0-15
FREQ.
POWER
Y
X
07.60
18.25
RELATIVE POWER IN db
FREQUENCY
X-CAL
0076
39.0
18.0
16.0
16.0
19.0
19.0
19.8
18.7
17.5
14.0
16.2
14.2
15.3
15.0
13.0
15.0
14.0
14.5
11.0
13.0
13.8
12.2
12.3
14.0
14.2
14.1
14.0
14.2
15.1
17.0
2000 Ω
19 NOV 74

18 db High

SENTURION SCIENCES, INC.
TULSA, U.S.A.

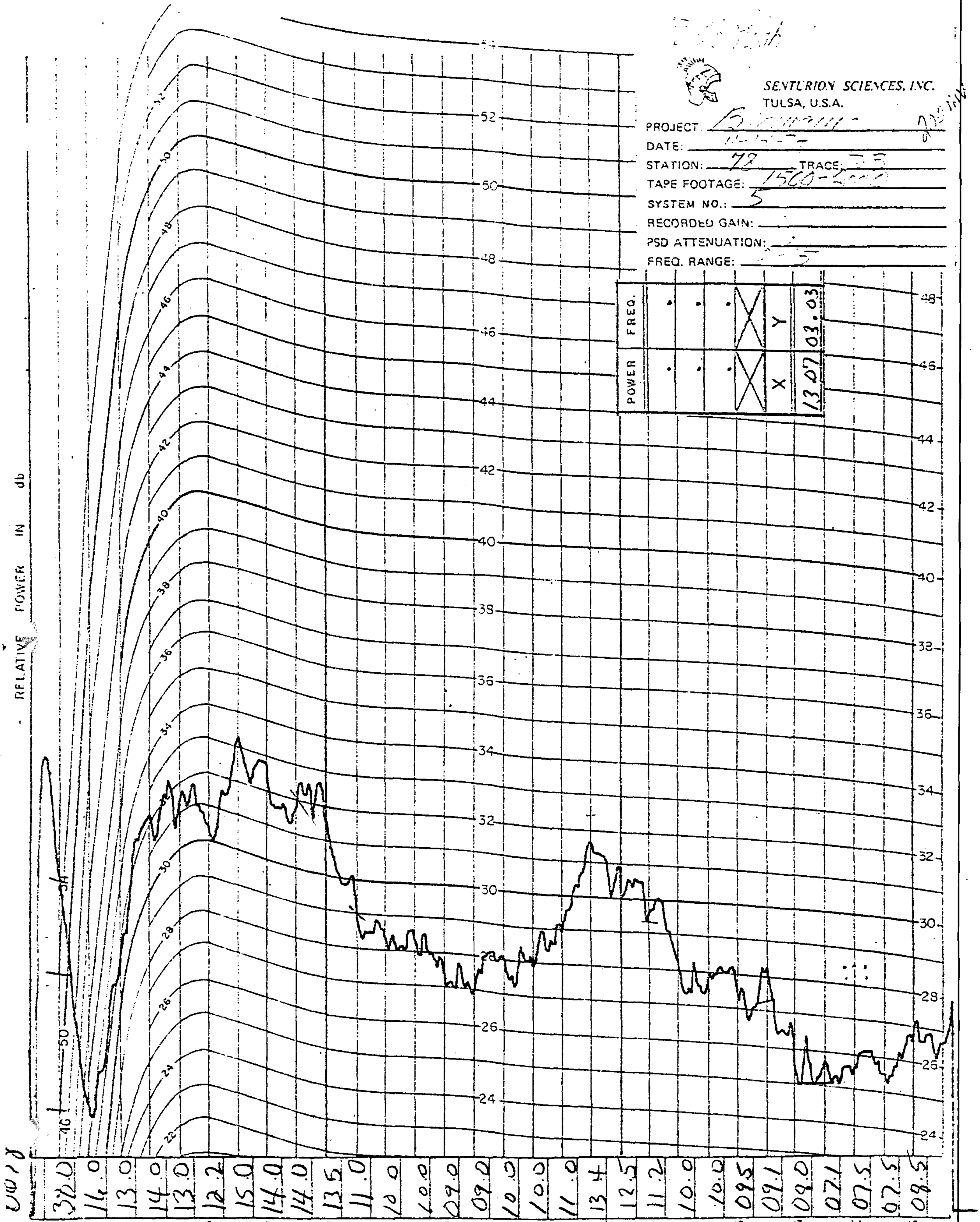
PROJECT: Braymin
DATE: 11-15-
STATION: — TRACE: 7-
TAPE FOOTAGE: 1500-2000
SYSTEM NO.: 5
RECORDED GAIN: 2
PSD ATTENUATION: 6
FREQ. RANGE: 0-15



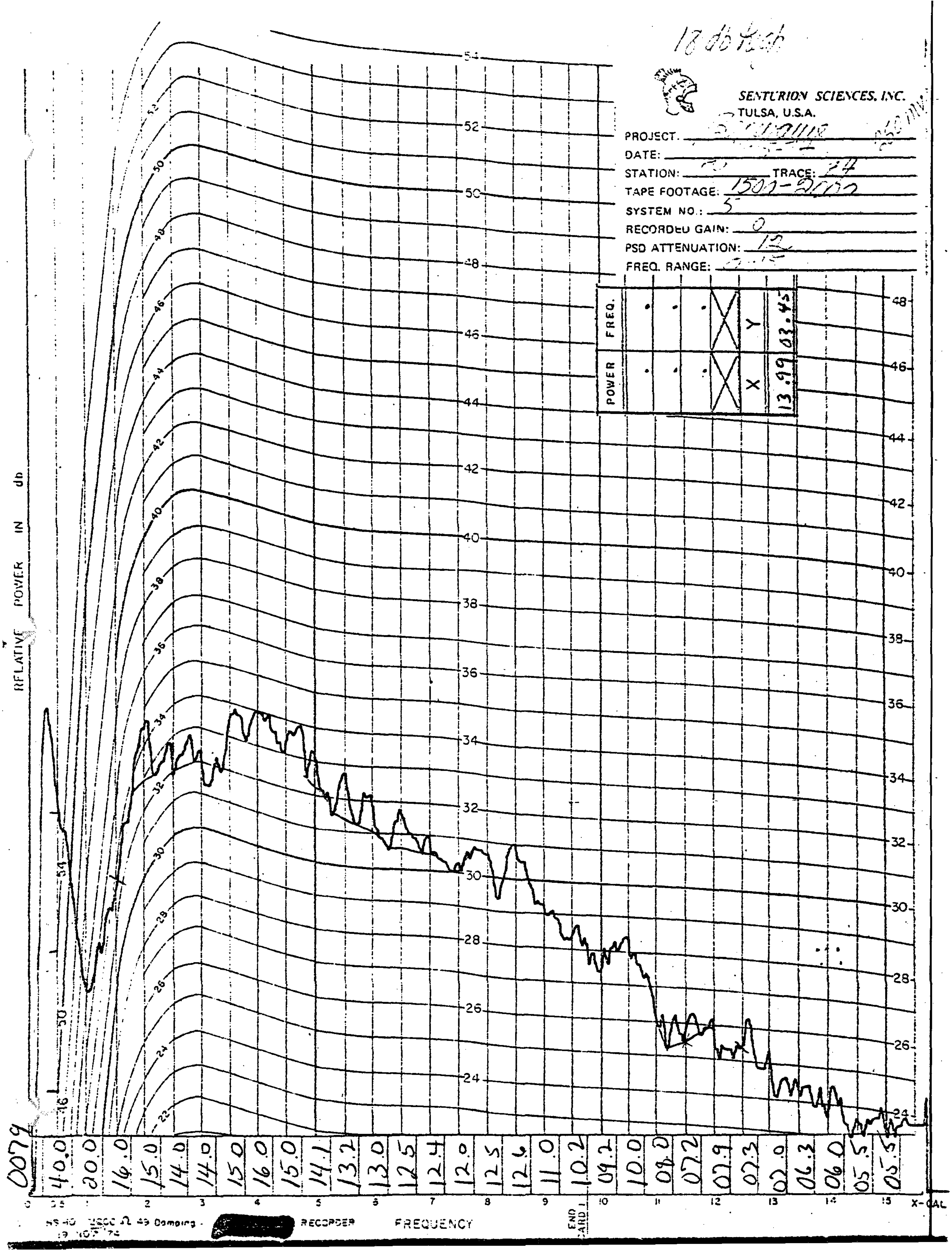
SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT: [illegible]
DATE: [illegible]
STATION: 72 TRACE: [illegible]
TAPE FOOTAGE: 1500-[illegible]
SYSTEM NO.: 5
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:

FREQ.	.	.	.	X	Y	03.03
POWER	.	.	.	X	X	13.07

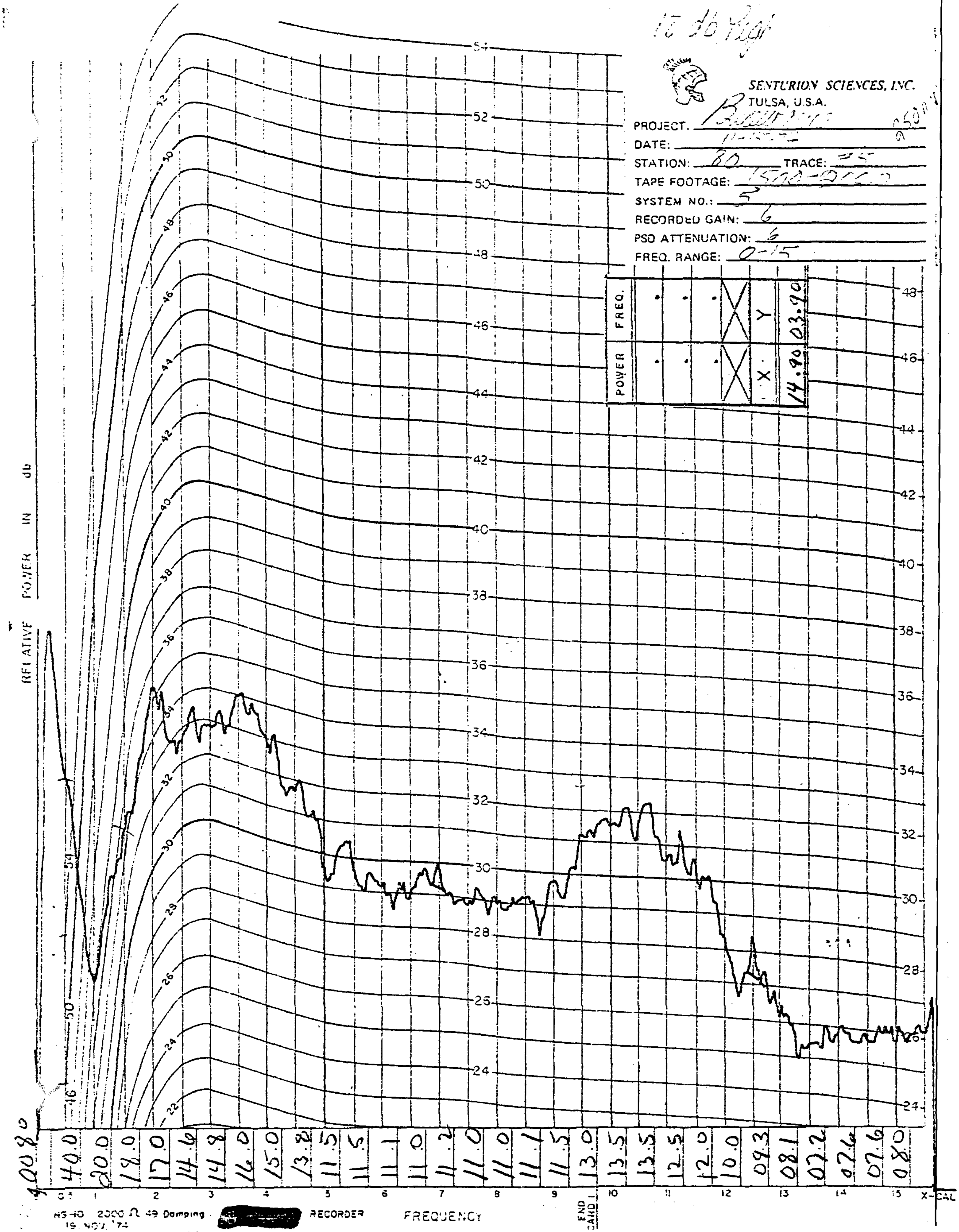


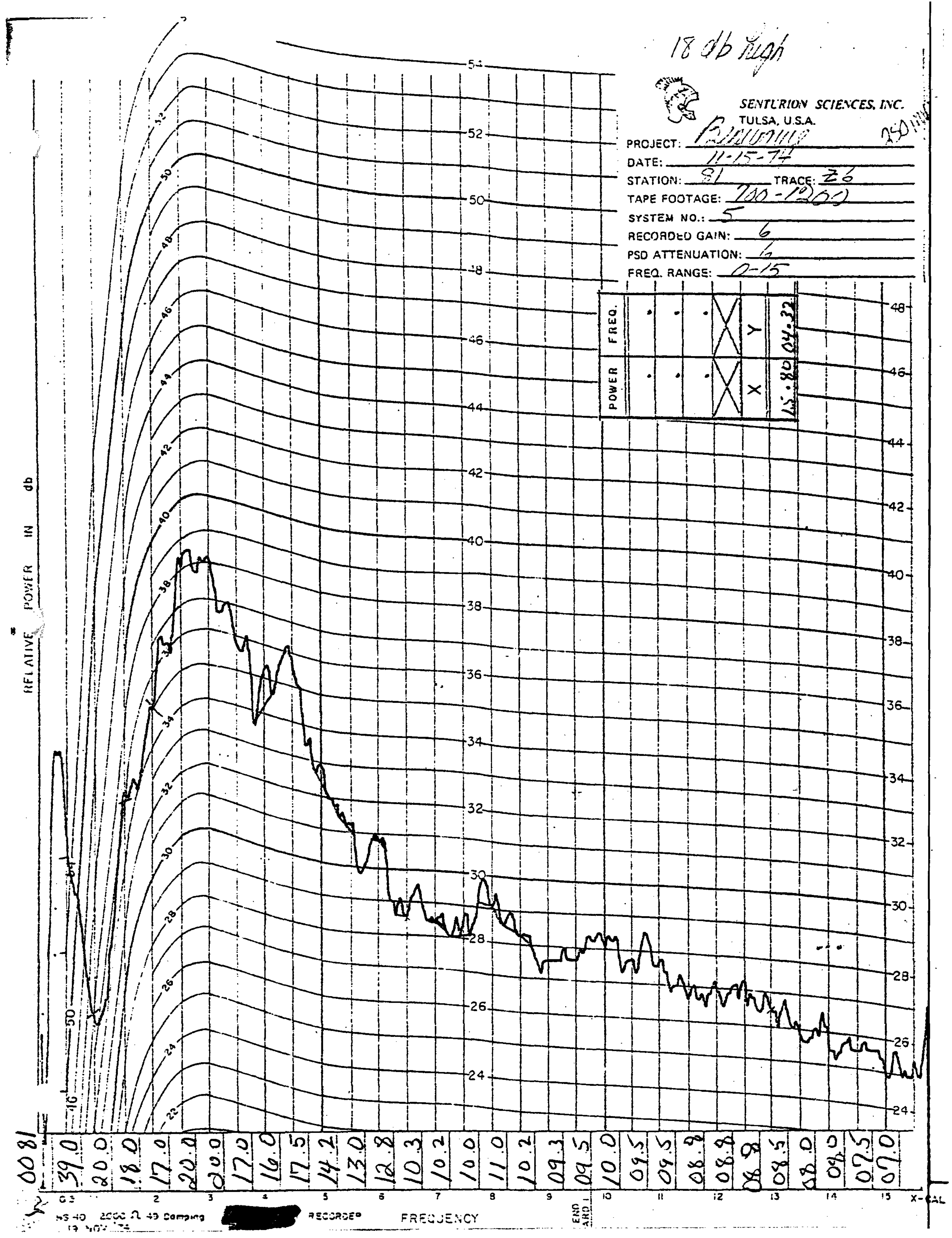
EHS-10 2000 Ω .49 Damping RF-GEOTECH RECORDER
19 NOV 74 SAI 528



18 db high
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT.
DATE:
STATION:
TRACE: 24
TAPE FOOTAGE: 1501-2002
SYSTEM NO.: 5
RECORDED GAIN: 0
PSD ATTENUATION: 12
FREQ. RANGE:
FREQ.
POWER
Y
X
13.99 03.45
RELATIVE POWER IN db
0079
40.0 20.0 16.0 15.0 14.0 14.0 15.0 16.0 15.0 14.1 13.2 13.0 12.5 12.4 12.0 12.5 12.6 11.0 10.2 09.2 10.0 09.0 07.2 07.9 07.3 02.0 06.3 06.0 05.5 05.5
X-CAL
FREQUENCY
RECORDER
END CARD

[redacted]

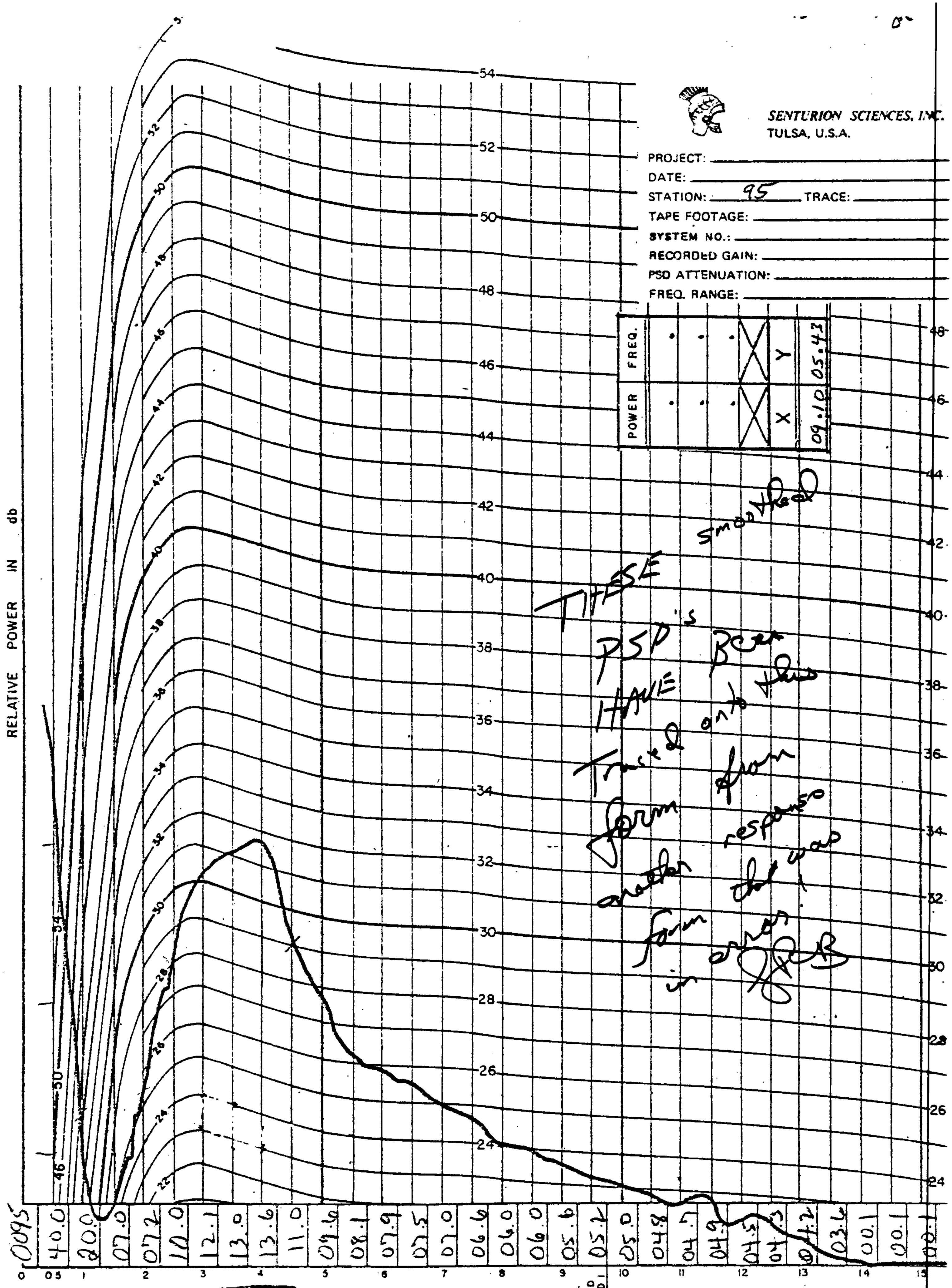

12 db High
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT.
DATE:
STATION: 80
TRACE:
TAPE FOOTAGE:
SYSTEM NO.: 5
RECORDED GAIN: 6
PSD ATTENUATION: 6
FREQ. RANGE: 0-15
FREQ.
POWER
Y
X
03.90
14.90
RELATIVE POWER IN db
40.0 20.0 18.0 17.0 14.6 14.8 16.0 15.0 13.8 11.5 11.5 11.1 11.0 11.2 11.0 11.0 11.1 11.5 13.0 13.5 13.5 12.5 12.0 10.0 09.3 08.1 07.2 07.6 07.6 08.0
HS-10 2000 Ω 49 Damping [redacted] RECORDER
19 NOV. '74
FREQUENCY
END CARD
X-CAL


18 db high
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE: 11-15-74
STATION: 81
TRACE: Z6
TAPE FOOTAGE: 700-1200
SYSTEM NO.: 5
RECORDED GAIN: 6
PSD ATTENUATION: 6
FREQ. RANGE: 0-15
FREQ.
POWER
Y
X
15.80 04.32
RELATIVE POWER IN db
FREQUENCY
RECORDER
X-CAL
[redacted]

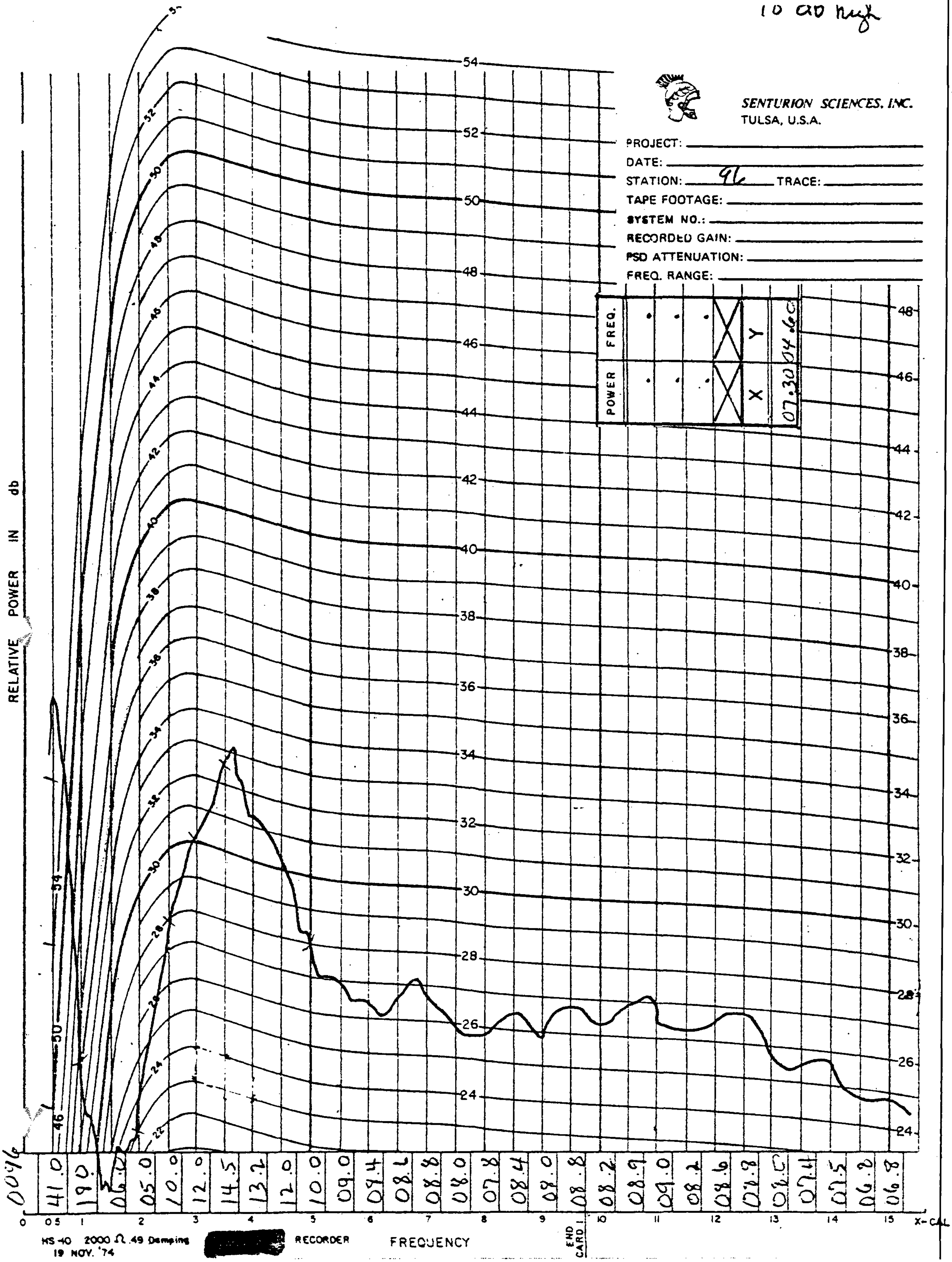
SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT:
DATE:
STATION: 95 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:

FREQ.				Y	05.43
POWER				X	09.10

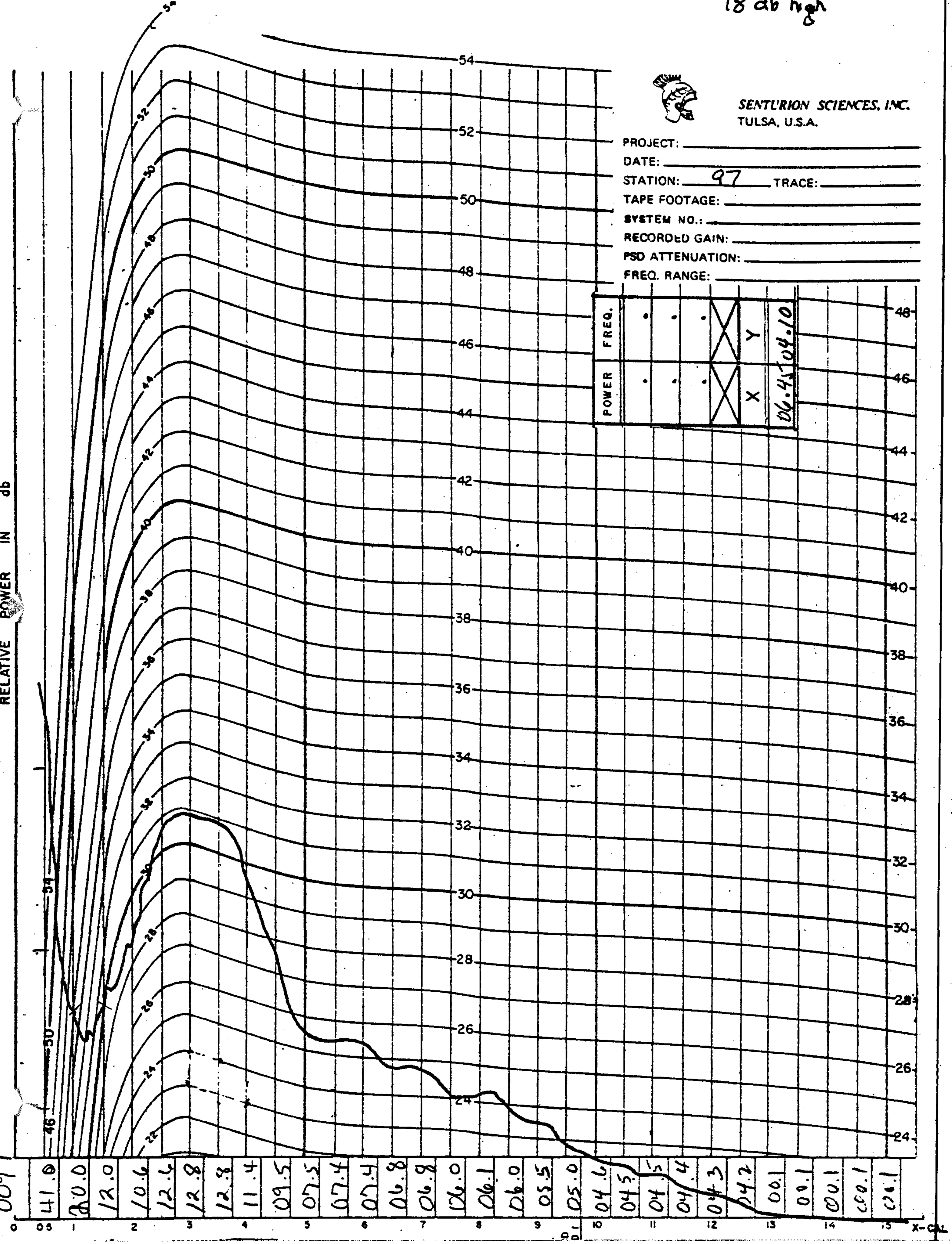


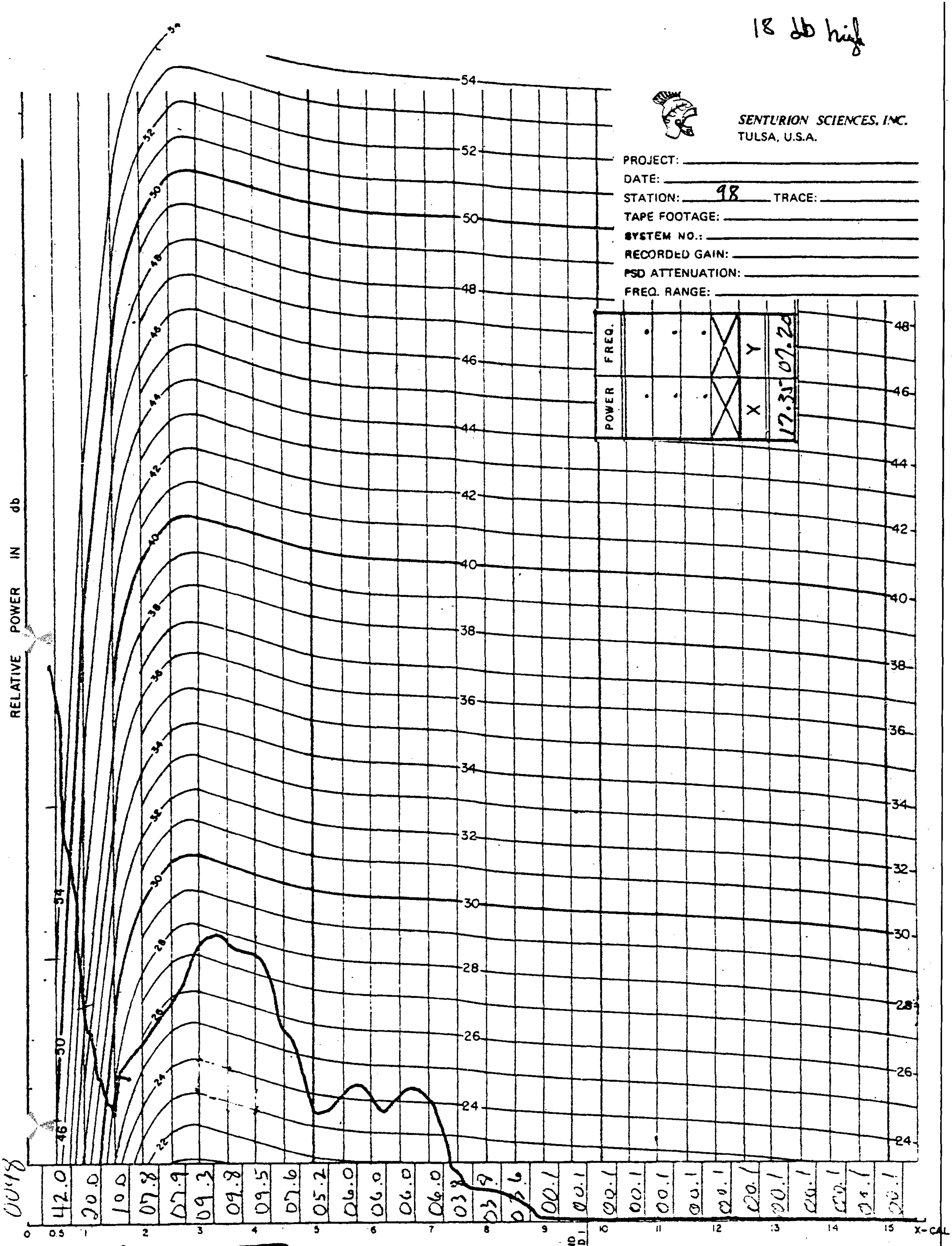
THESE smoothed PSD's HAVE Been Traced onto this form from another response form that was in error



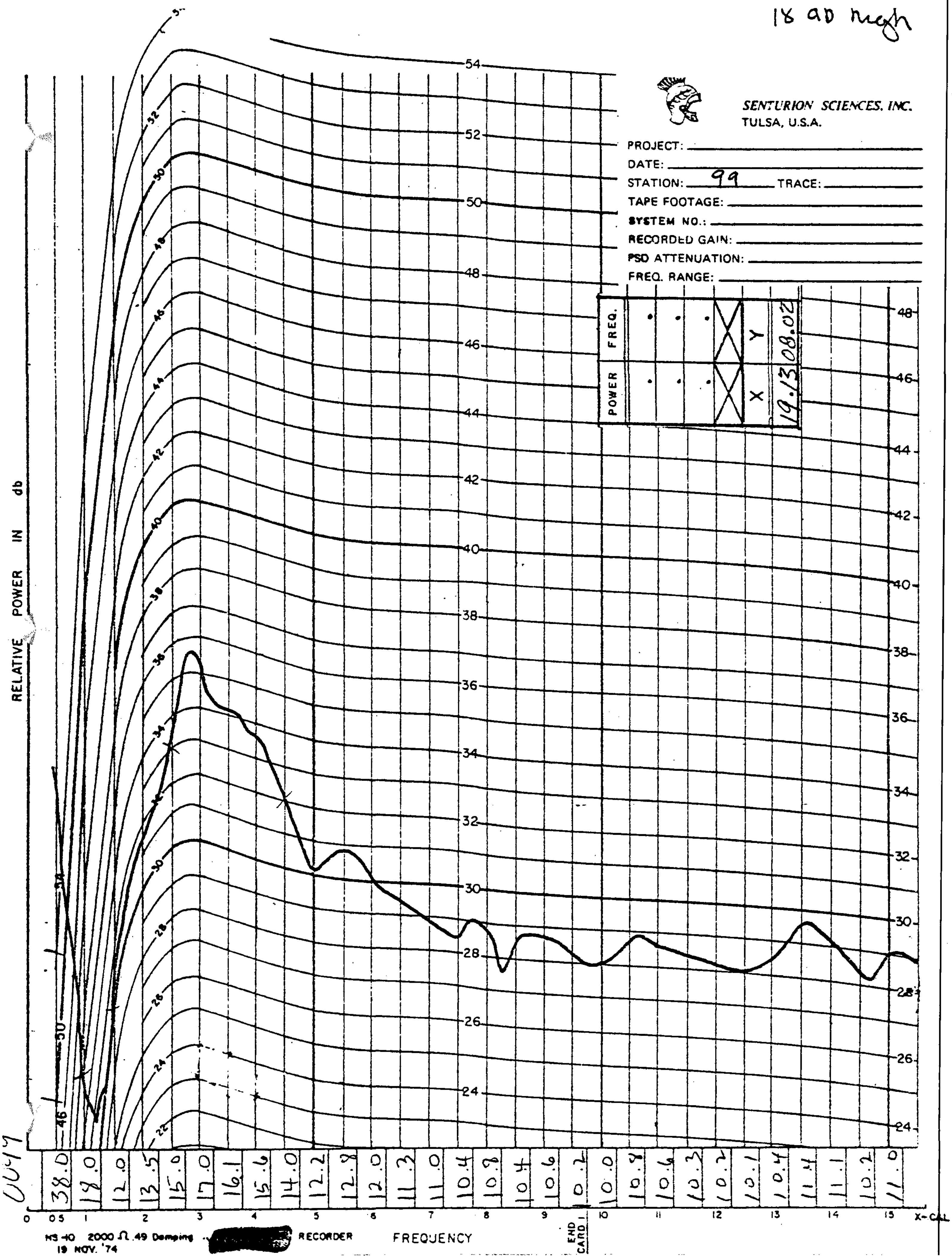
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 96 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
RELATIVE POWER IN db
HS-40 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY
END CARD I
X-CAL

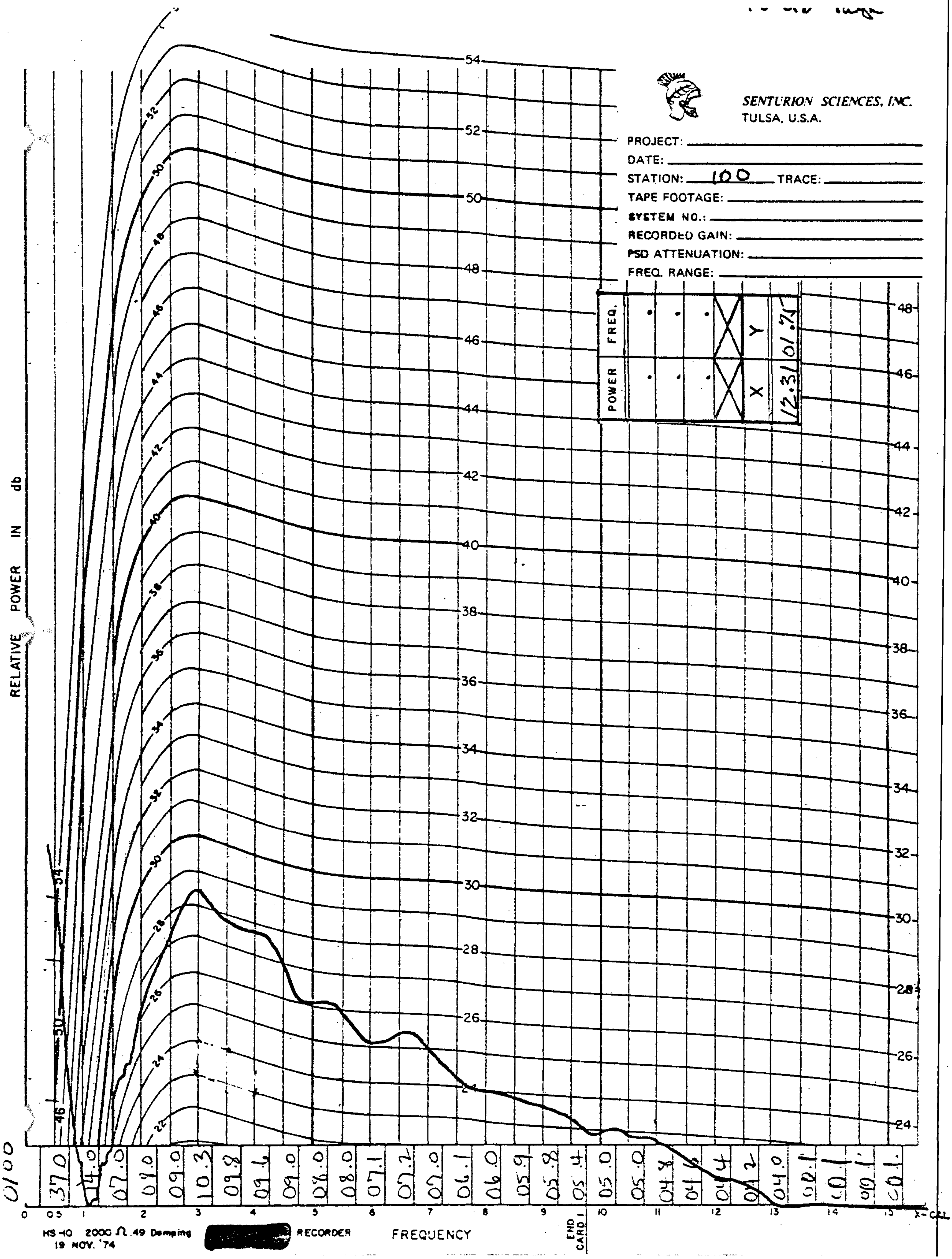
18 db high


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 97 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
06.4 04.10
RELATIVE POWER IN db
X-CAL
1.600
41.0
30.0
12.0
10.6
12.6
12.8
12.8
11.4
09.5
07.5
07.4
07.4
06.8
06.8
06.0
06.1
06.0
05.5
05.0
04.6
04.5
04.5
04.4
04.3
04.2
00.1
00.1
00.1
c00.1
c00.1



HS-40 2000 Ω .49 Damping [redacted] RECORDER FREQUENCY


18 ad mgh
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 99 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
19.13 08.02
RELATIVE POWER IN db
0049
38.0 18.0 12.0 13.5 15.0 17.0 16.1 15.6 14.0 12.2 12.8 12.0 11.3 11.0 10.4 10.8 10.4 10.6 10.2 10.0 10.8 10.6 10.3 10.2 10.1 10.4 11.4 11.1 10.2 11.0
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY
END CARD

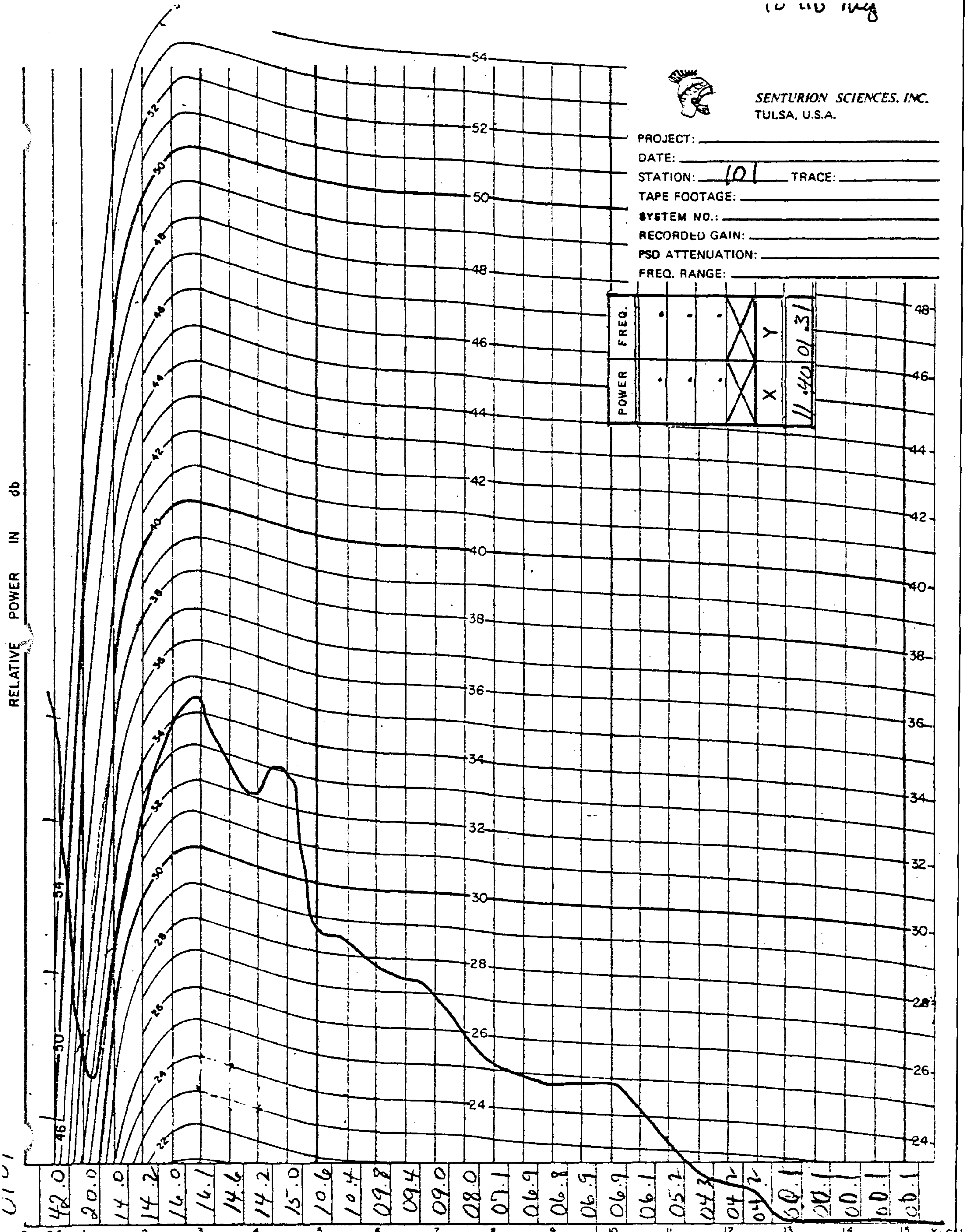

SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 100
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
12.31 01.75
RELATIVE POWER IN db
0100
FREQUENCY
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
END CARD I
X-CAL

10 db mag

SENTURION SCIENCES, INC.
TULSA, U.S.A.

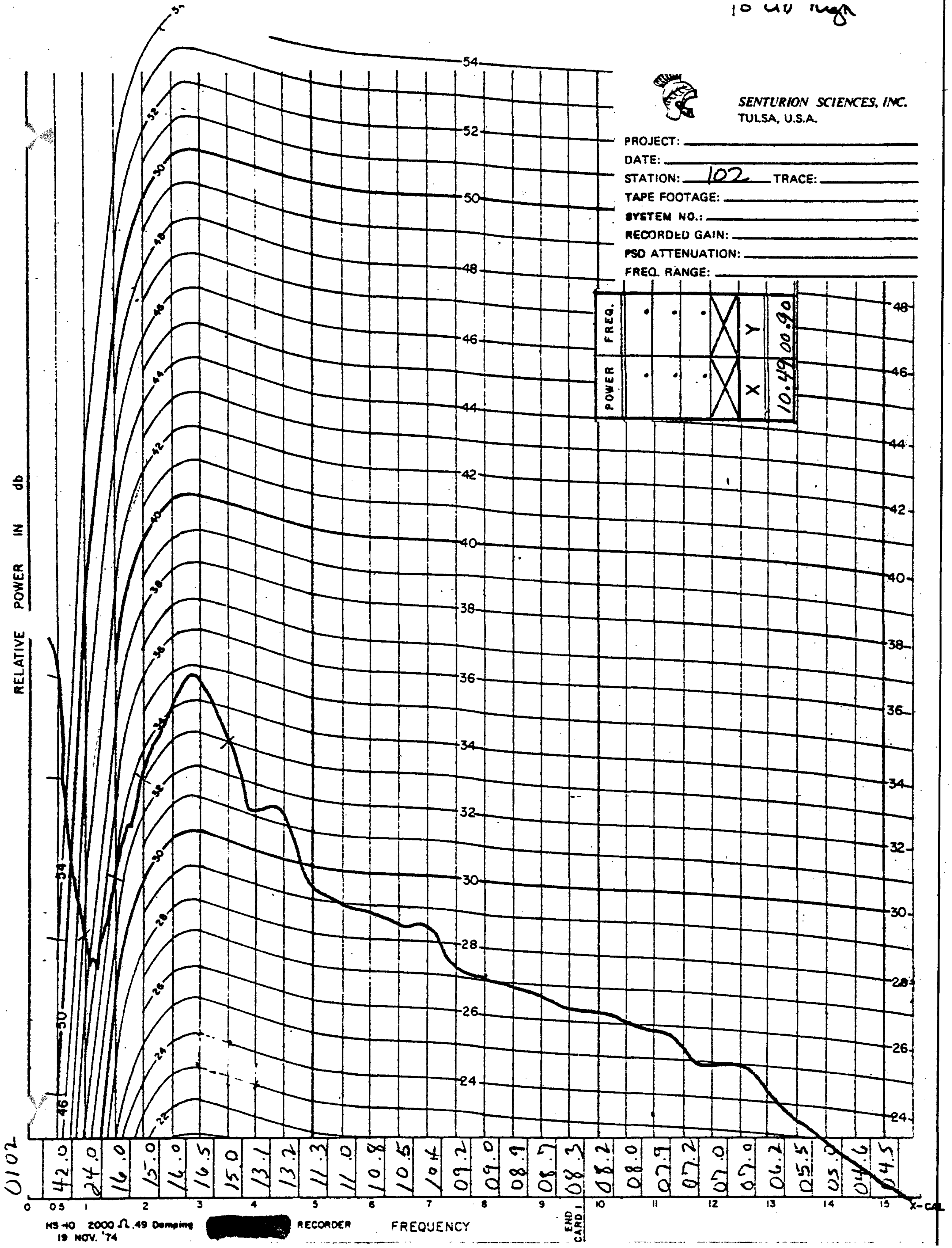
PROJECT:
DATE:
STATION: 101 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:

FREQ.	.	.	.	X	Y	11.40 01.31
POWER	.	.	.	X	X	

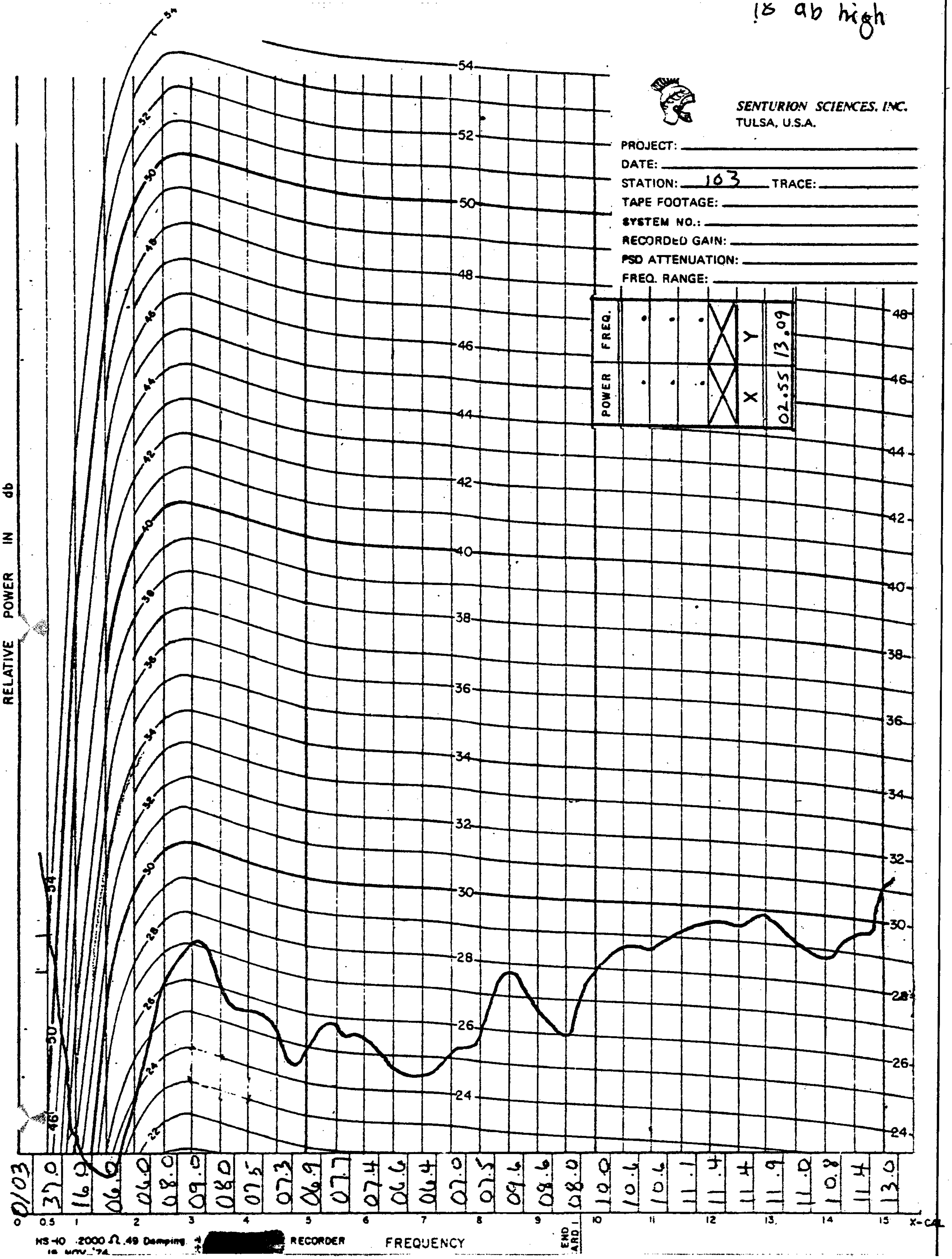


HS-10 2000 Ω .49 Damping
19 NOV. '74

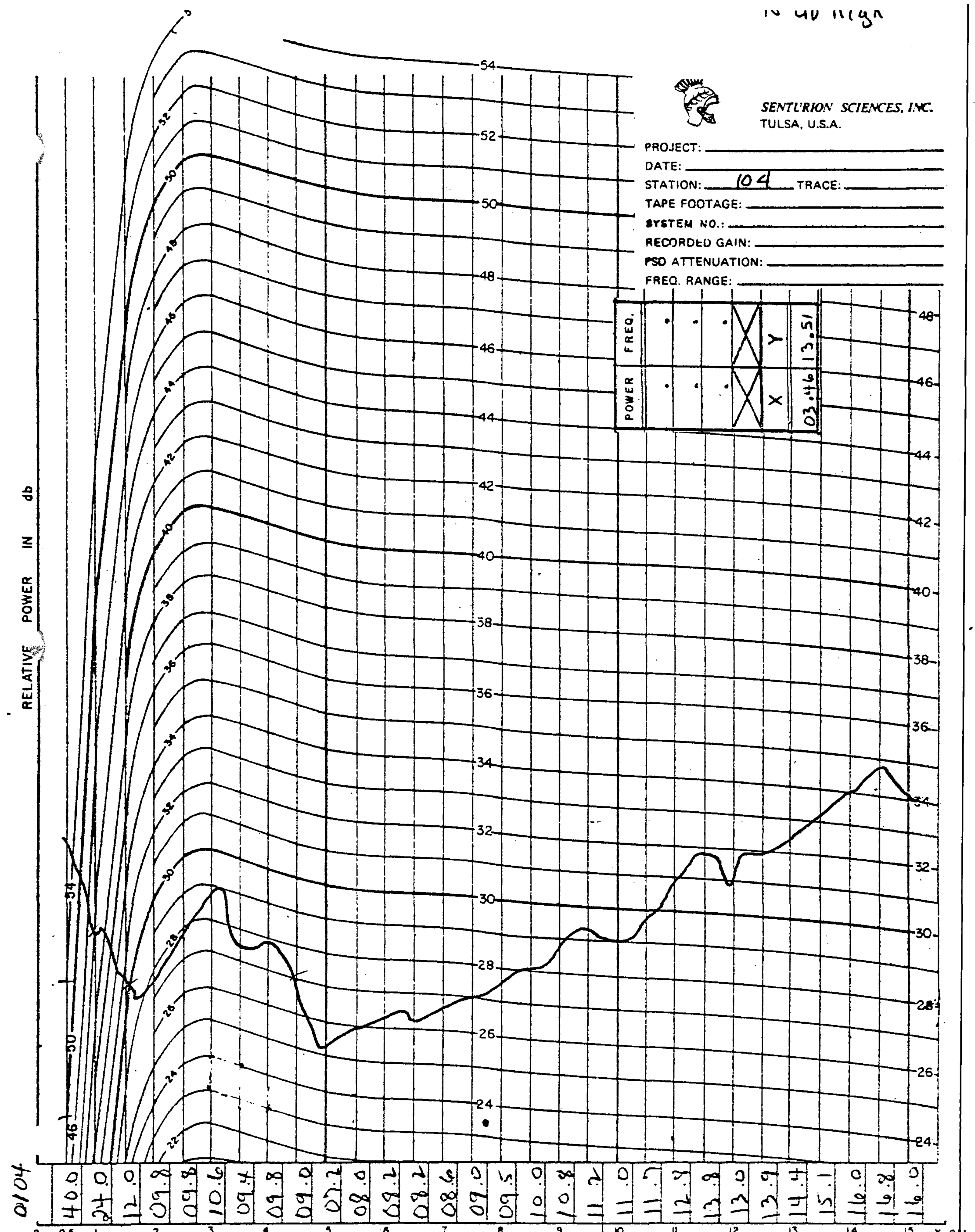
[redacted] RECORDER


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 102 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ. Y 10.49
POWER X 00.90
RELATIVE POWER IN db
0102
42.0 24.0 16.0 15.0 16.0 16.5 15.0 13.1 13.2 11.3 11.0 10.8 10.5 10.4 09.2 09.0 08.9 08.7 08.3 08.2 08.0 07.9 07.2 07.0 07.0 06.2 05.5 05.0 04.6 04.5
X-CAL
FREQUENCY
END CARD I
HS-10 2000 Ω .49 Damping [redacted] RECORDER
19 NOV. '74

18 ab high

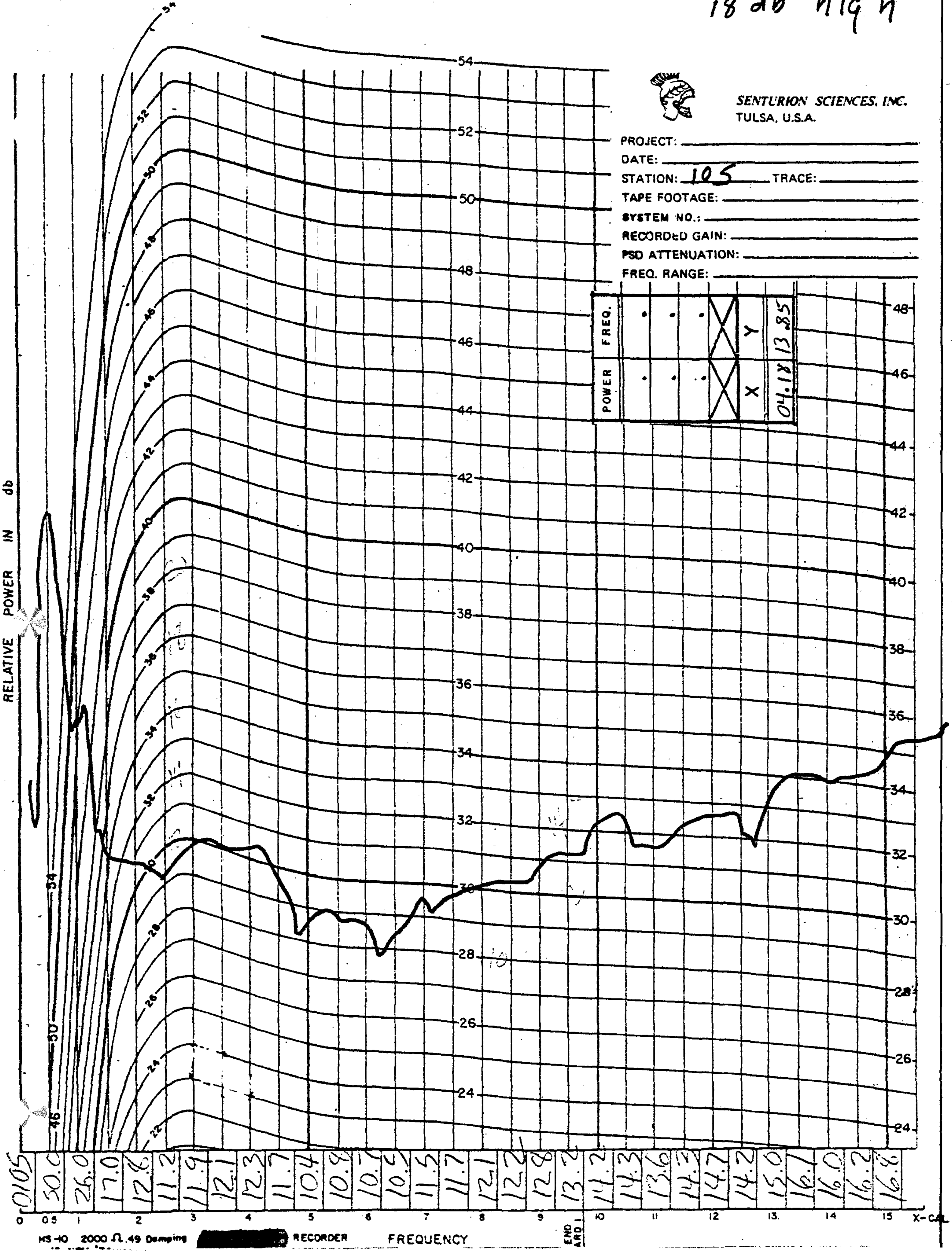


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 103 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ. Y 13.09
POWER X 02.55
RELATIVE POWER IN db
0103
37.0 16.9 06.6 06.0 08.0 09.0 08.0 07.5 07.3 06.9 07.7 07.4 06.6 06.4 07.0 07.5 09.6 09.6 08.0 10.0 10.6 10.6 11.1 11.4 11.4 11.9 11.0 10.8 11.4 13.0
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
HS-10 2000 Ω .49 Damping [redacted] RECORDER
FREQUENCY
END CARD

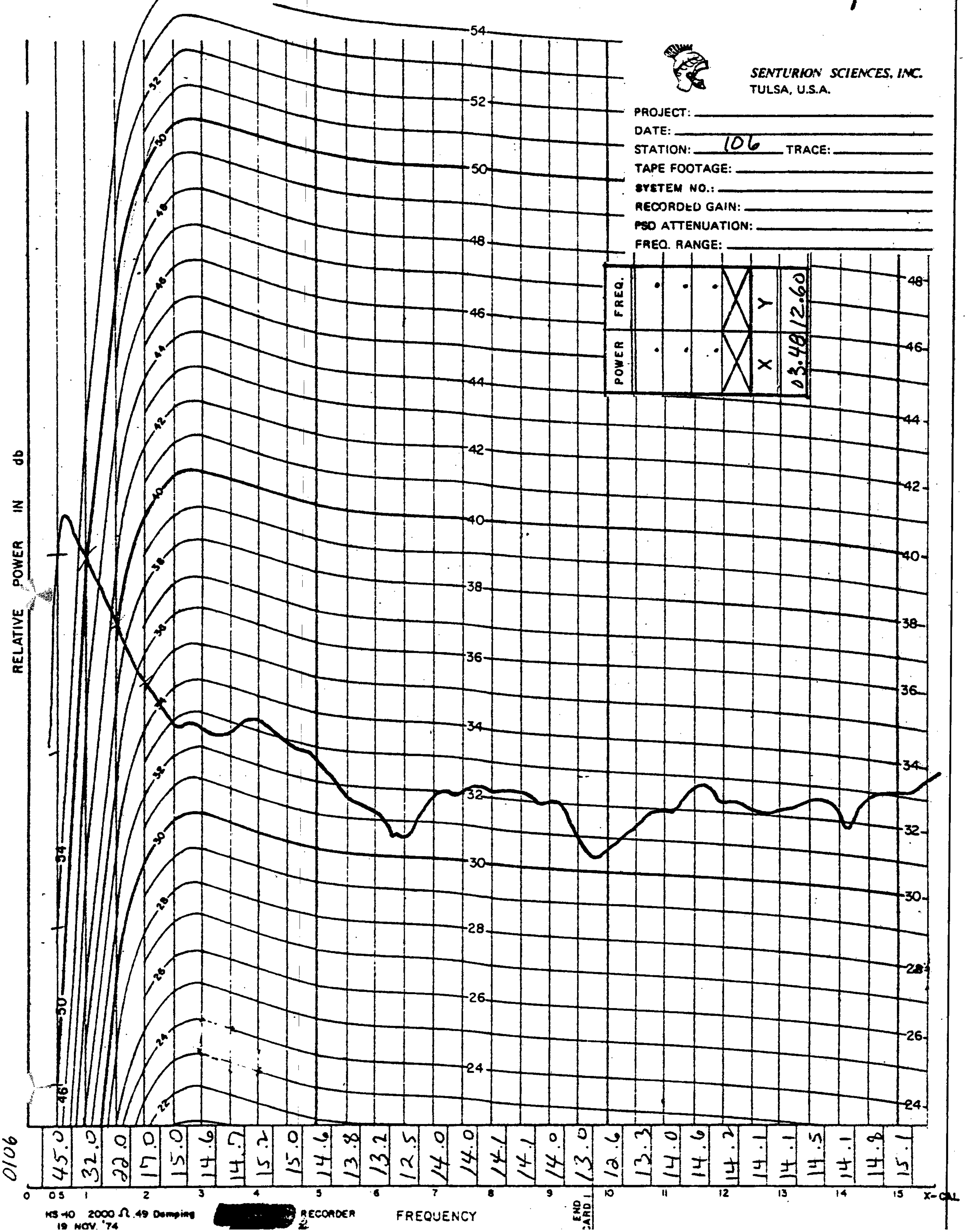


HS-40 2000 Ω .49 Damping [redacted] RECORDER FREQUENCY
19 NOV. '74

18 db high


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 105
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
04.18 13.85
RELATIVE POWER IN db
FREQUENCY
HS-10 2000 Ω .49 Damping
[redacted] RECORDER
X-CAL
0105 30.0 26.0 17.0 12.6 11.2 11.9 12.1 12.3 11.7 10.4 10.8 10.7 10.5 11.5 11.7 12.1 12.2 12.8 13.2 14.2 14.3 13.6 14.2 14.7 14.2 15.0 16.7 16.0 16.2 16.8

18 db high

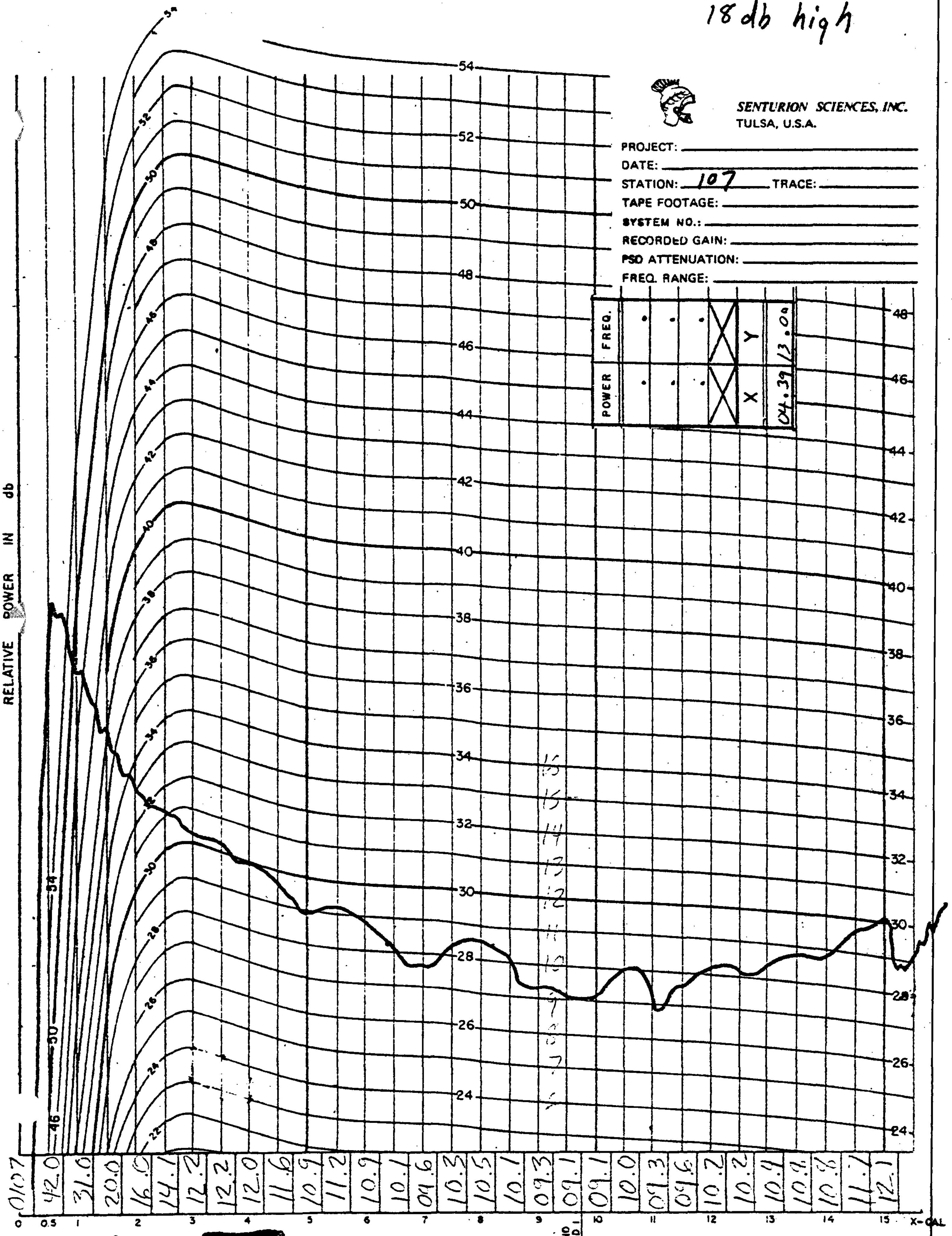

SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 106 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
03.48 12.60
RELATIVE POWER IN db
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
45.0
32.0
22.0
17.0
15.0
14.6
14.7
15.2
15.0
14.6
13.8
13.2
12.5
14.0
14.0
14.1
14.1
14.0
13.0
12.6
13.3
14.0
14.6
14.2
14.1
14.1
14.5
14.1
14.8
15.1
0106
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
END CARD
X-CAL
FREQUENCY
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER

18 db high

SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT:
DATE:
STATION: 107 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:

FREQ.	.	.	.	X	Y	04.39/13.00
POWER	.	.	.	X	X	

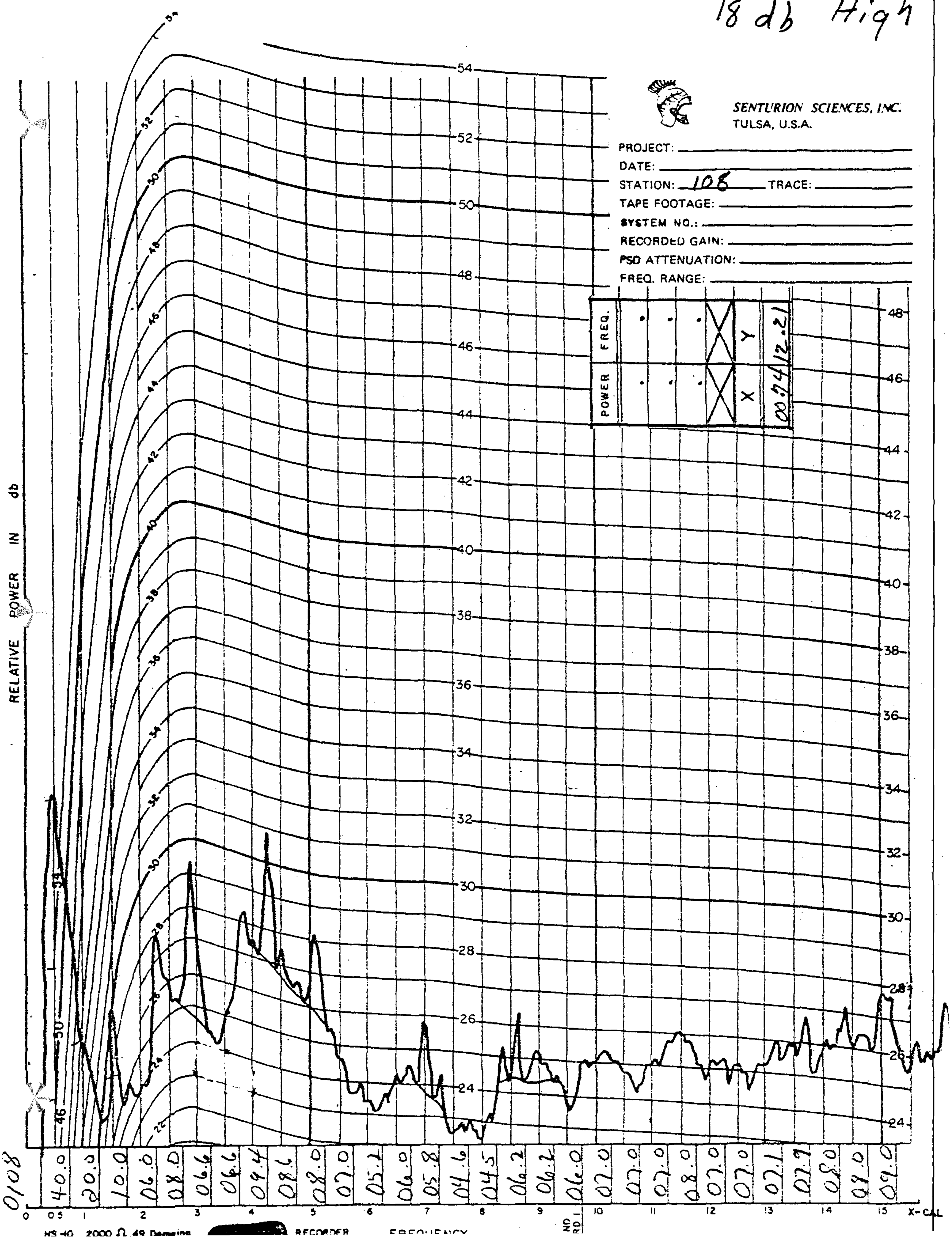


HS-10 2000 Ω .49 Damping [redacted] RECORDER

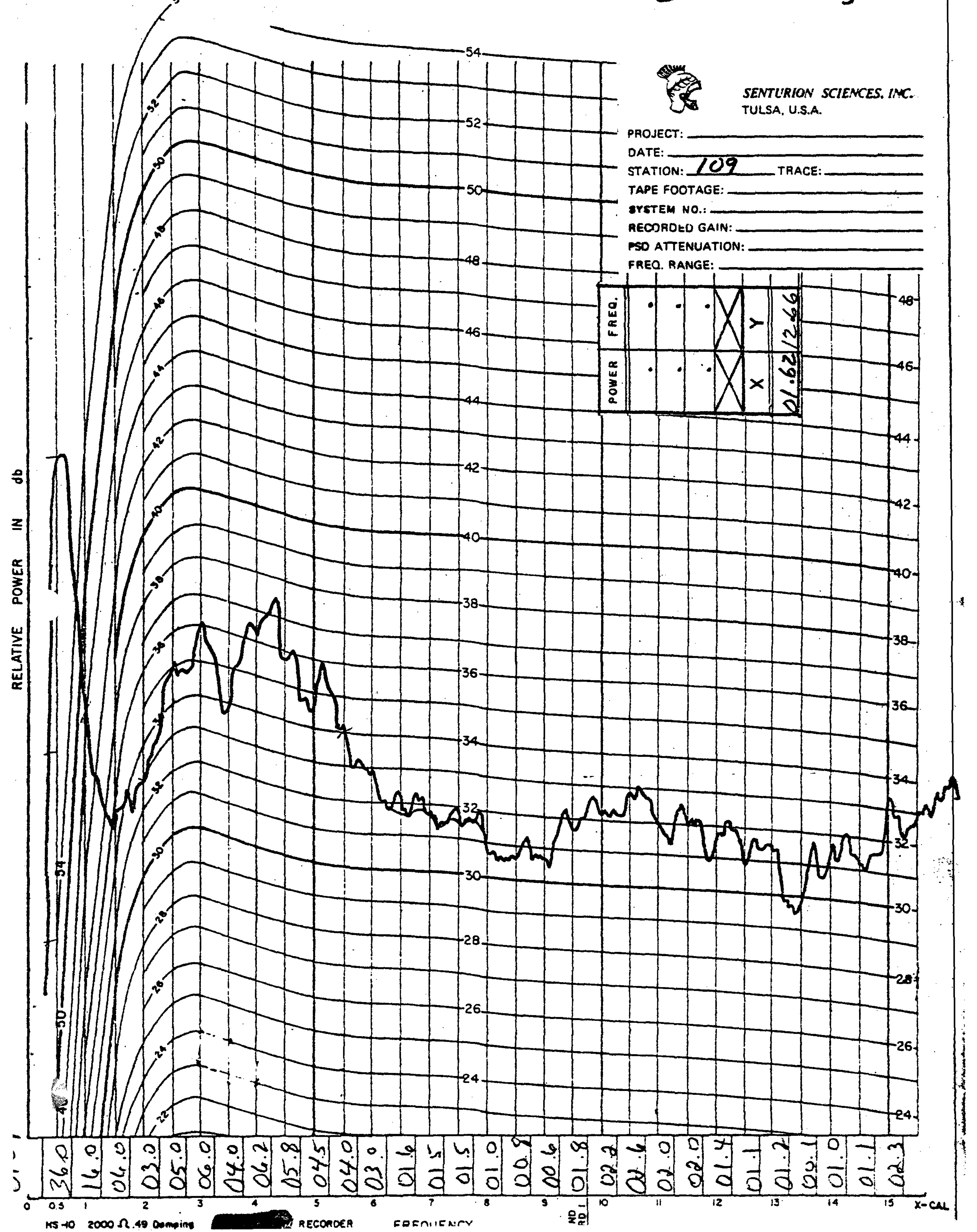
18 db High

SENTURION SCIENCES, INC.
TULSA, U.S.A.

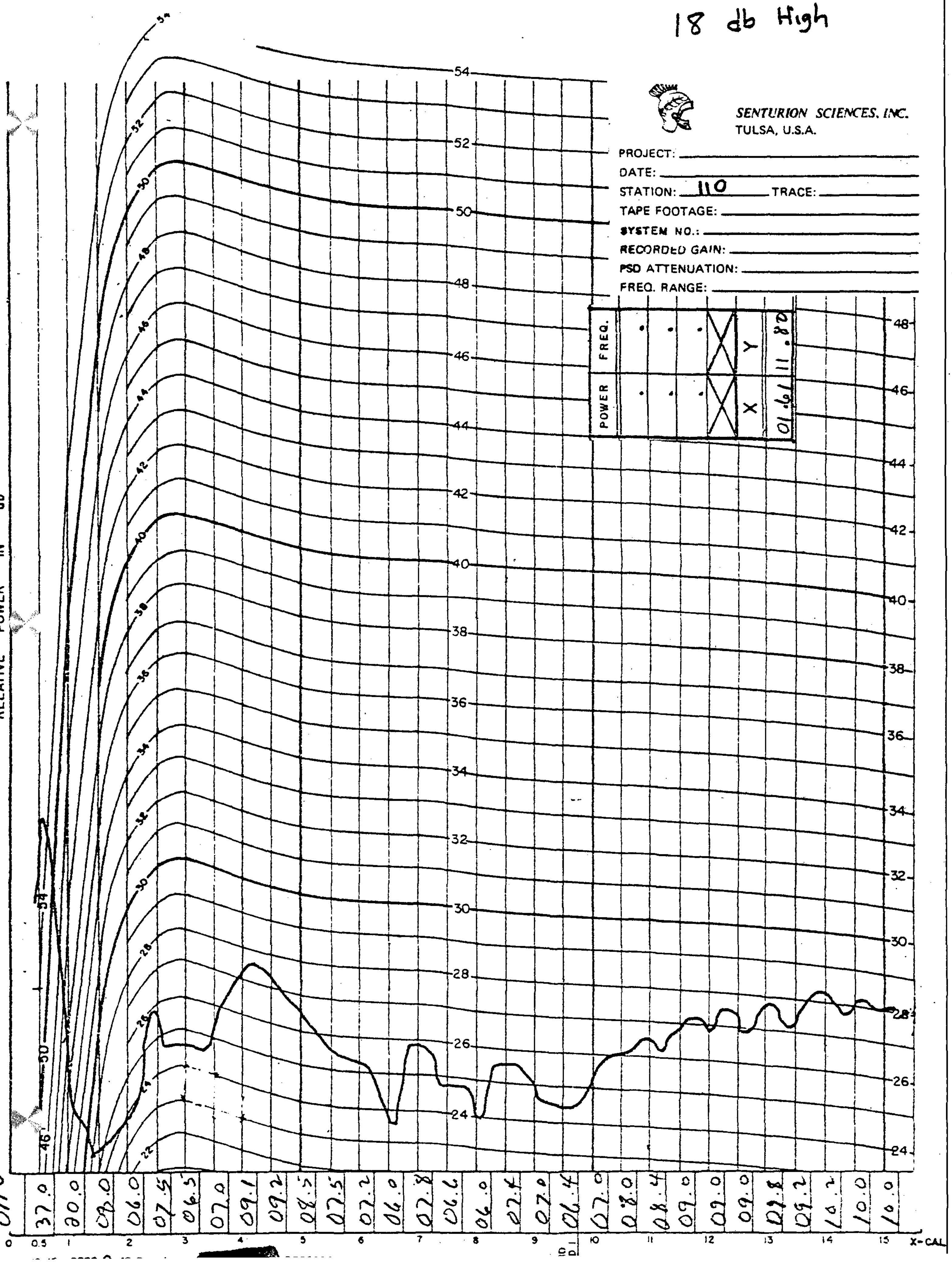
PROJECT:
DATE:
STATION: 108 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:



30 db high


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 109 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
01.62/12.66
RELATIVE POWER IN db
36.0 16.0 06.0 03.0 05.0 06.0 04.0 06.2 05.8 04.5 04.0 03.0 01.6 01.5 01.5 01.0 00.8 00.6 01.8 02.2 02.6 02.0 02.0 01.4 01.1 01.2 00.1 01.0 01.1 02.3
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
HS-10 2000 Ω .49 Damping [redacted] RECORDER FREQUENCY

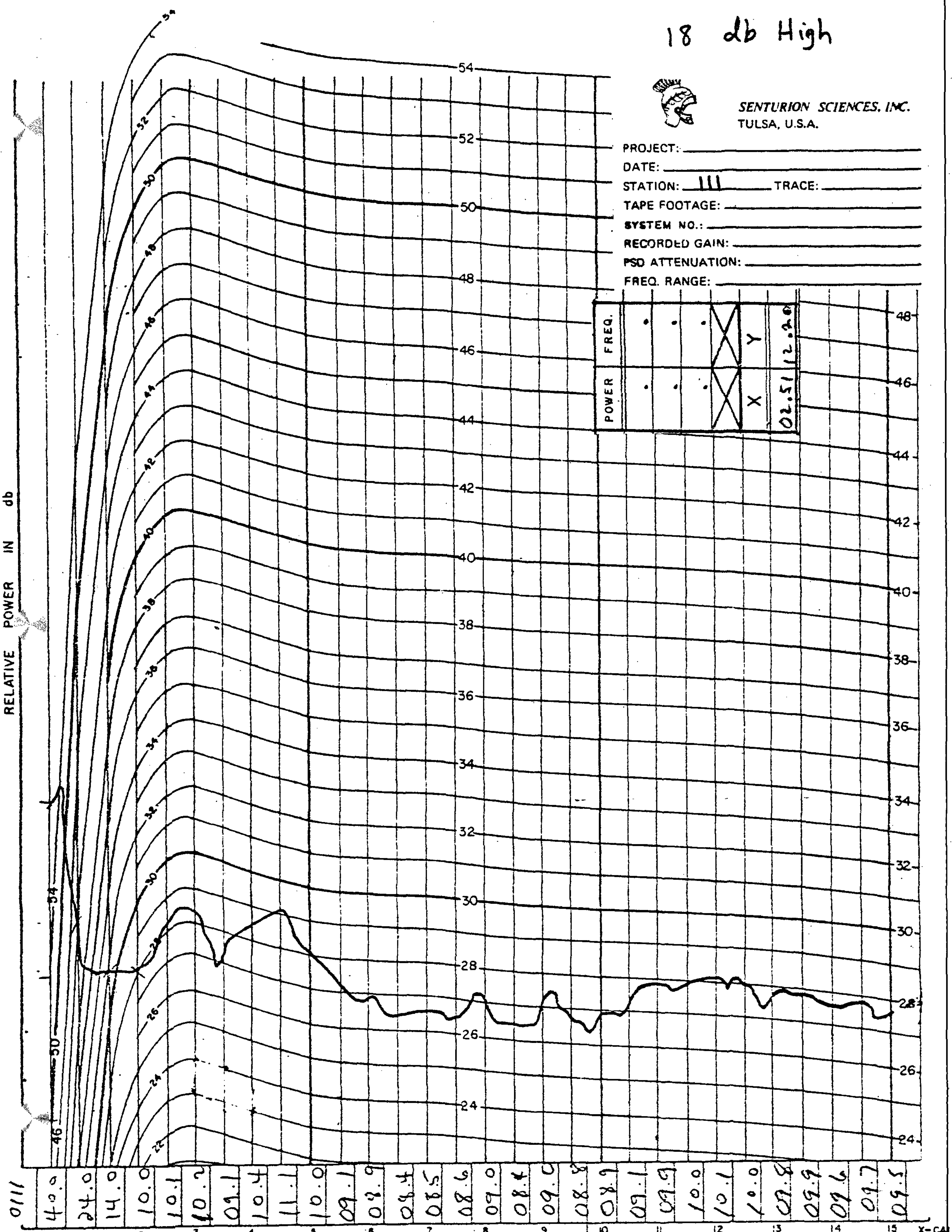
18 db High


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 110
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
RELATIVE POWER IN db
X-CAL
0110

18 db High

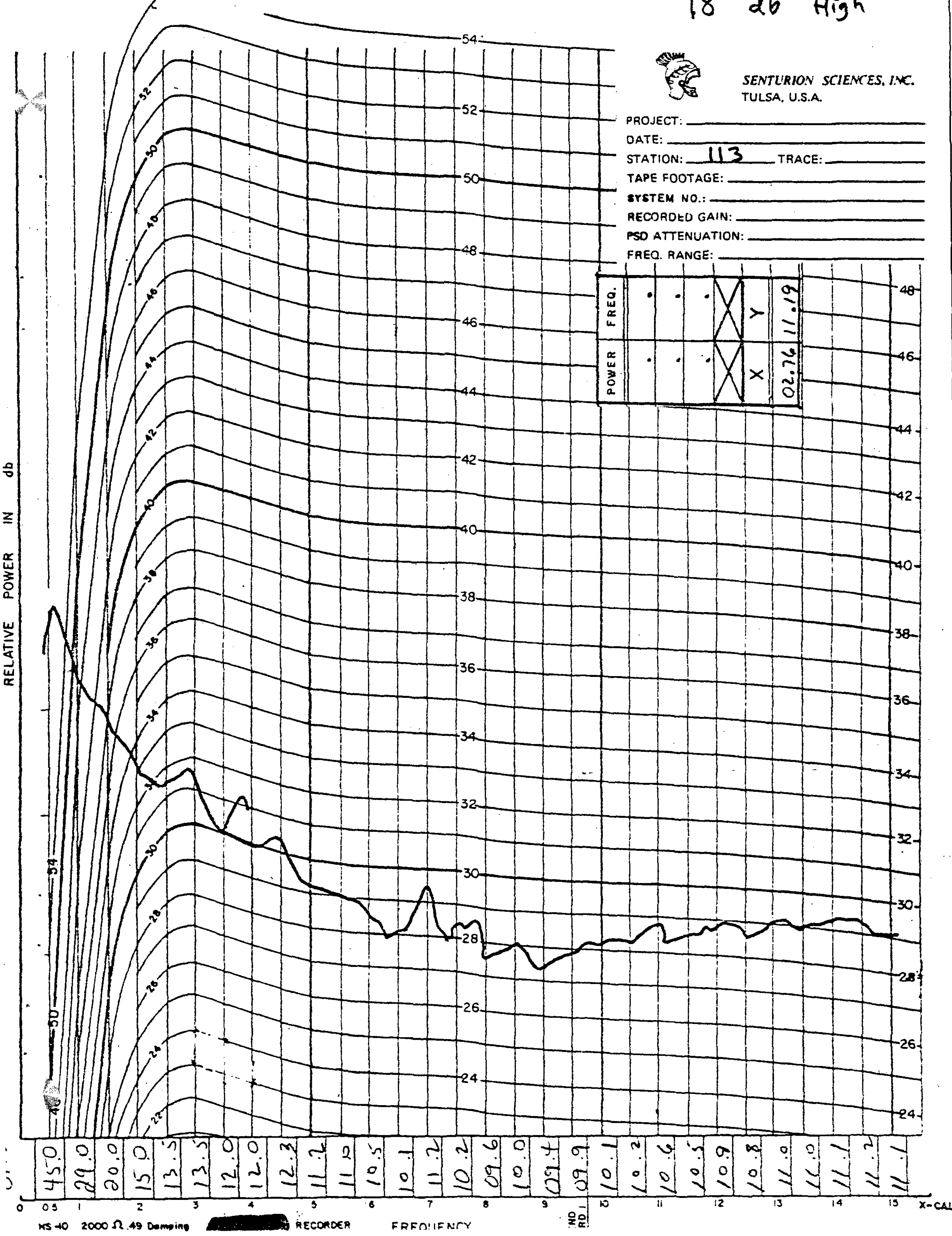
SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT:
DATE:
STATION: 111 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:

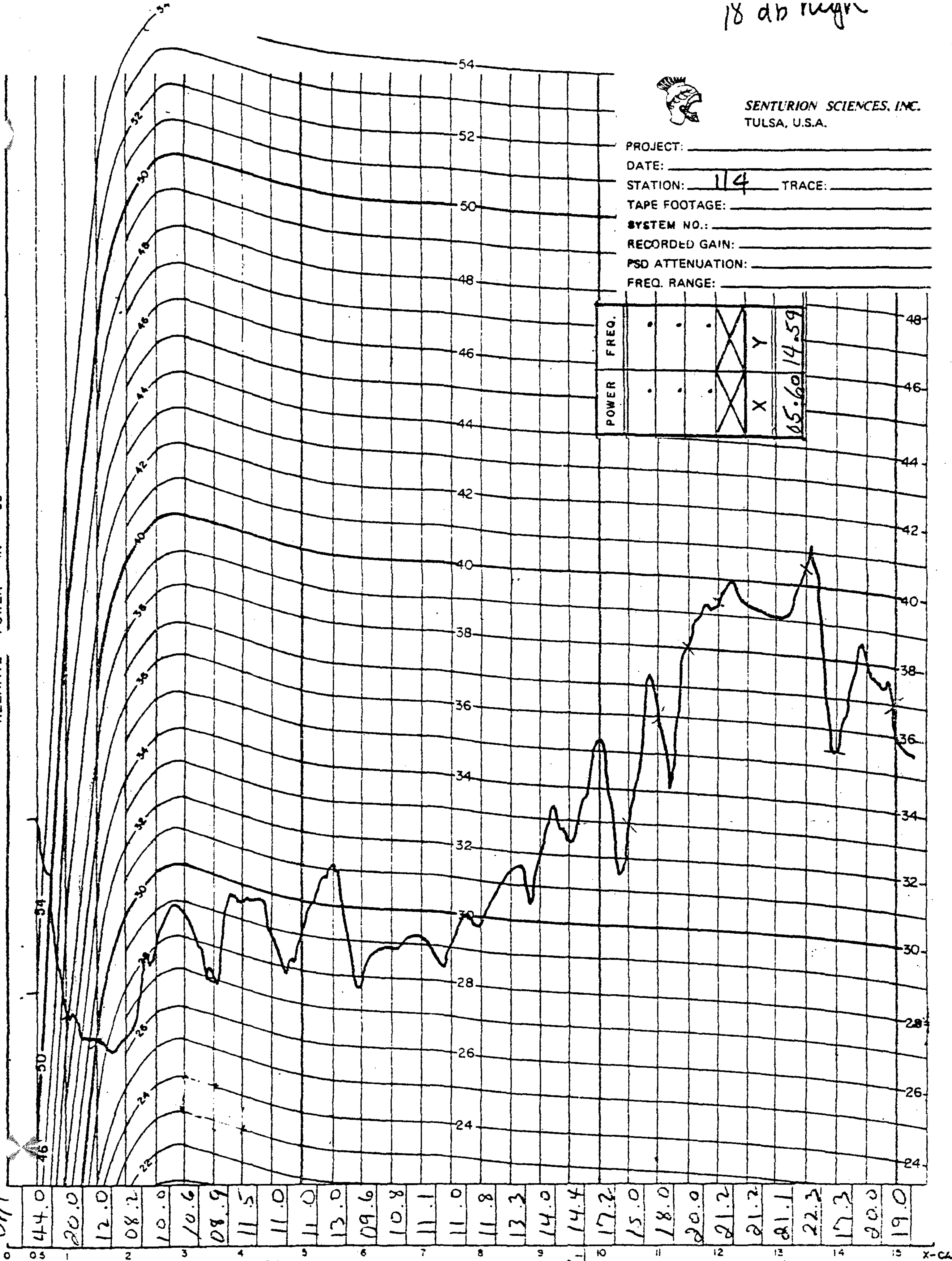


HS-10 2000 Ω .49 Demeine [redacted] RECORDER FREQUENCY

18 db High


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 113 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
02.76 11.19
RELATIVE POWER IN db
45.0 29.0 20.0 15.0 13.5 13.5 12.0 12.0 12.3 11.2 11.2 10.5 10.1 11.2 10.2 09.6 10.0 09.4 09.9 10.1 10.2 10.6 10.5 10.9 10.8 11.0 11.0 11.1 11.2 11.1
X-CAL
HS-40 2000 Ω .49 Damping [redacted] RECORDER FREQUENCY

18 db mgn



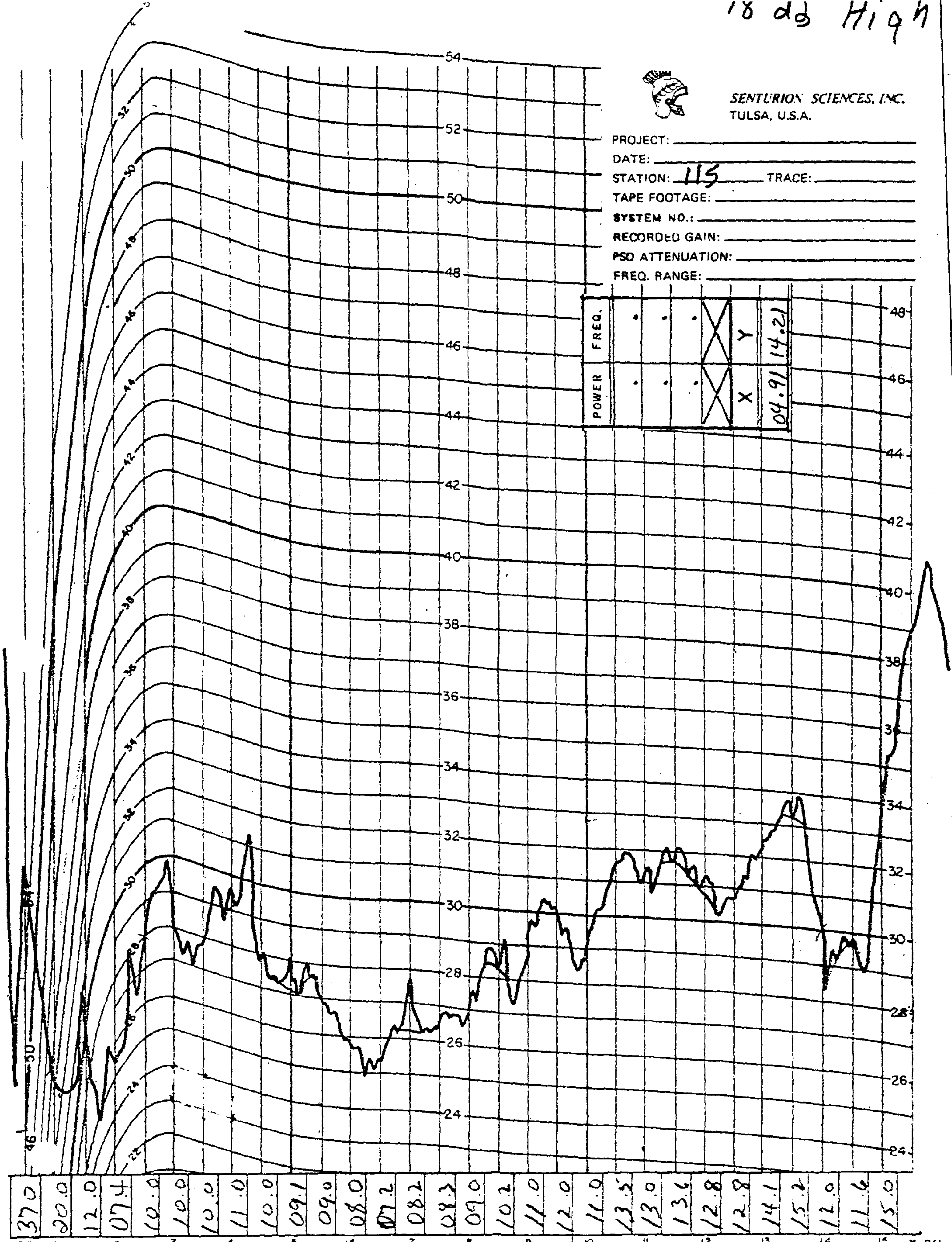
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 114 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ. Y 14.59
POWER X 15.60
RELATIVE POWER IN db
0114
44.0 20.0 12.0 08.2 10.0 10.6 08.9 11.5 11.0 11.0 13.0 09.6 10.8 11.1 11.0 11.8 13.3 14.0 14.4 17.2 15.0 18.0 20.0 21.2 21.2 21.1 22.3 17.3 20.0 19.0
X-CAL
END ARD I
HS-40 2000 Ω .49 Damping
19 NOV '74
[redacted] RECORDER
FREQUENCY

18 db High

SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT:
DATE:
STATION: 115 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:

FREQ.	.	.	.	X	Y	14.21
POWER	.	.	.	X	X	04.91



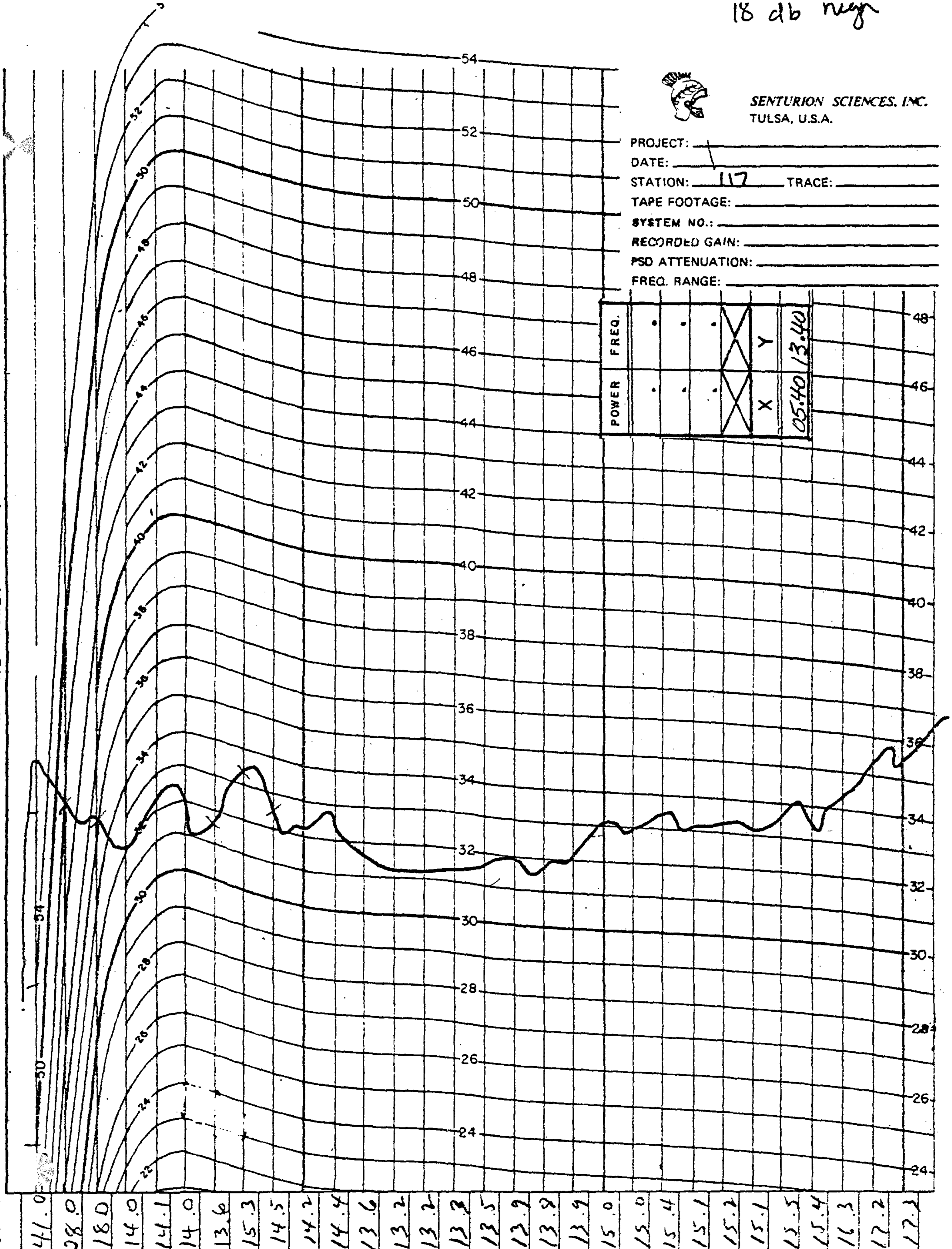
HS-10 2000 Ω .49 Damping
19 NOV. '74

[redacted] RECORDER

FREQUENCY

END CARD 1

18 db neg



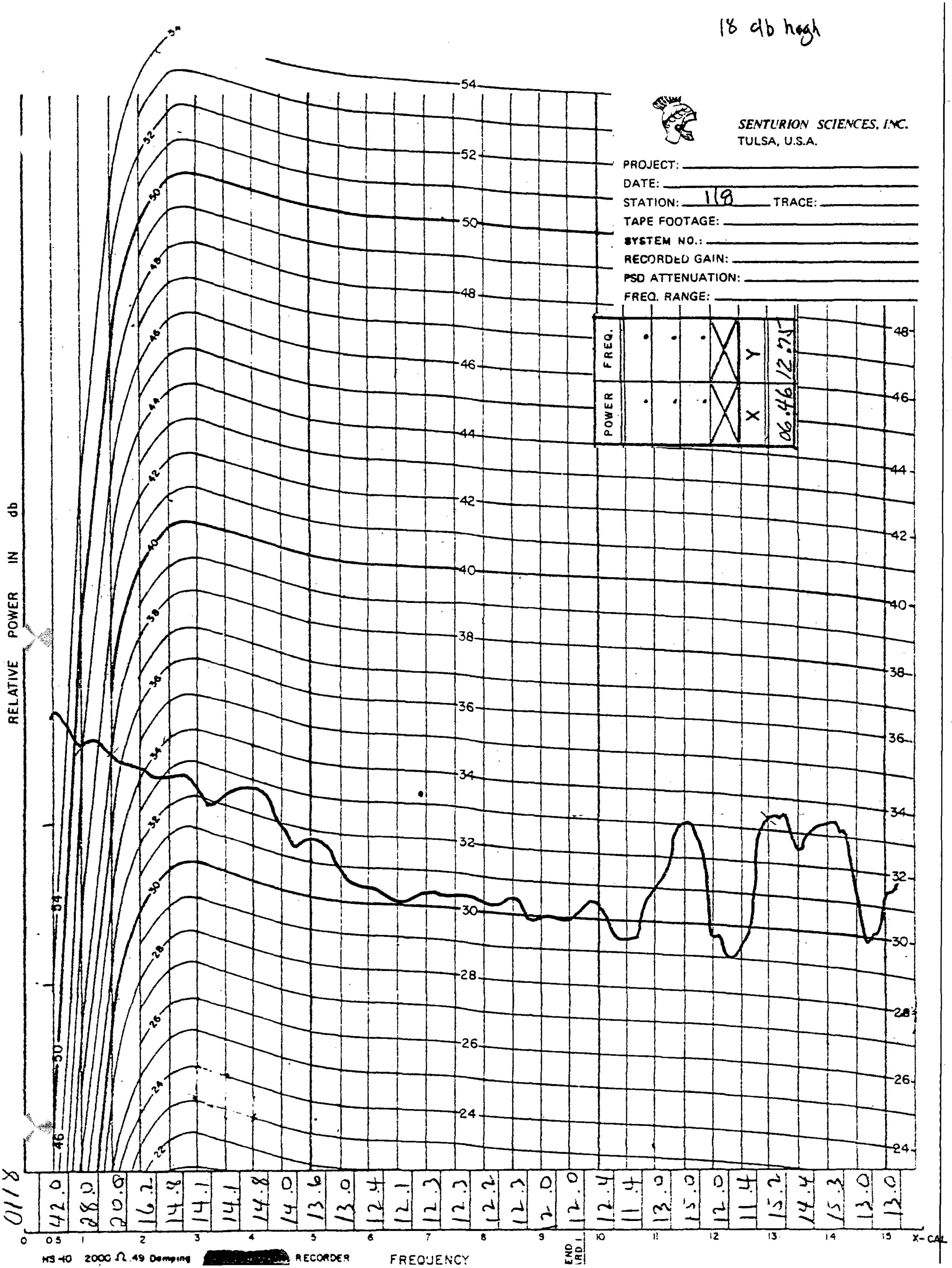
SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT:
DATE:
STATION: 117 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:

FREQ.	.	.	.		Y	13.40
POWER	.	.	.		X	05.40

41.0	28.0	18.0	14.0	14.1	14.0	13.6	15.3	14.5	14.2	14.4	13.6	13.2	13.2	13.2	13.5	13.9	13.8	13.9	15.0	15.0	15.4	15.1	15.2	15.1	15.5	15.4	16.3	17.2	17.2

HS-40 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER FREQUENCY
END CARD I



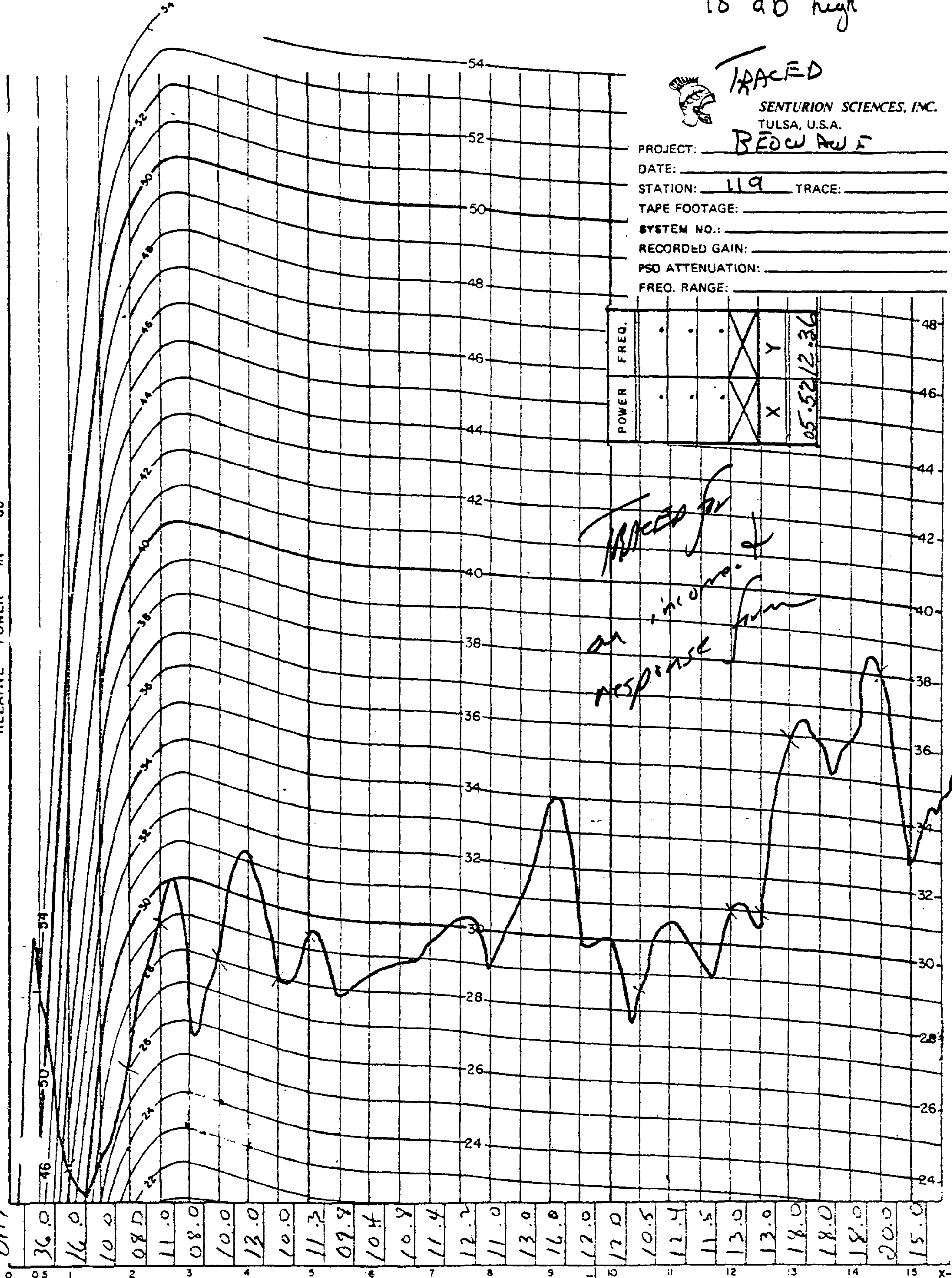
18 db high
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 118
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
06.46/12.75
RELATIVE POWER IN db
0118
42.0 28.0 20.6 16.2 14.8 14.1 14.1 14.8 14.0 13.6 13.0 12.4 12.1 12.3 12.3 12.2 12.3 12.0 12.0 12.4 11.4 13.0 15.0 12.0 11.4 15.2 14.4 15.3 13.0 13.0
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
HS-10 2000 Ω .49 Damping [redacted] RECORDER
FREQUENCY
END IRD.

18 db high

TRACED

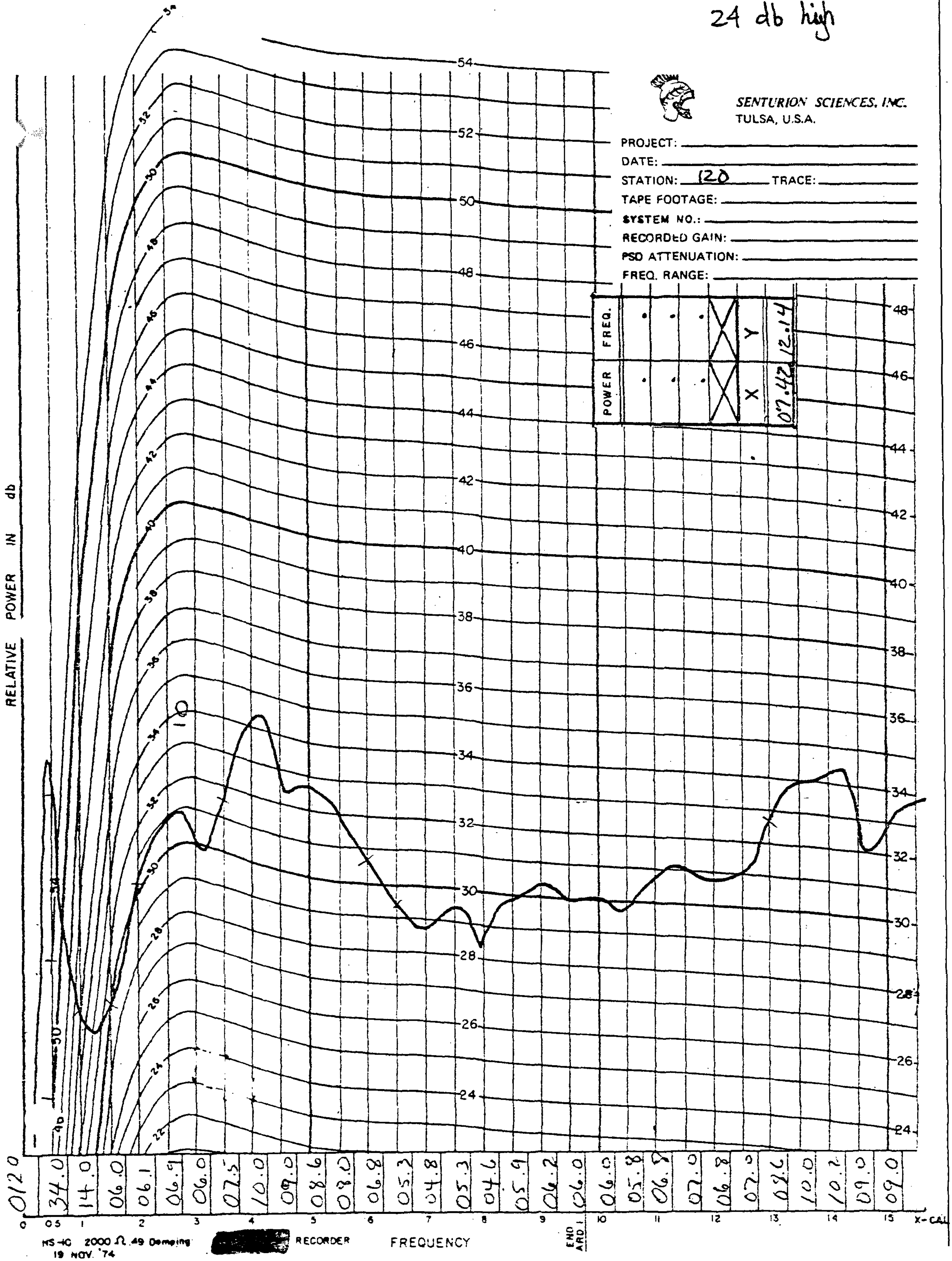
SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT: BEOWAWE
DATE:
STATION: 119 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:

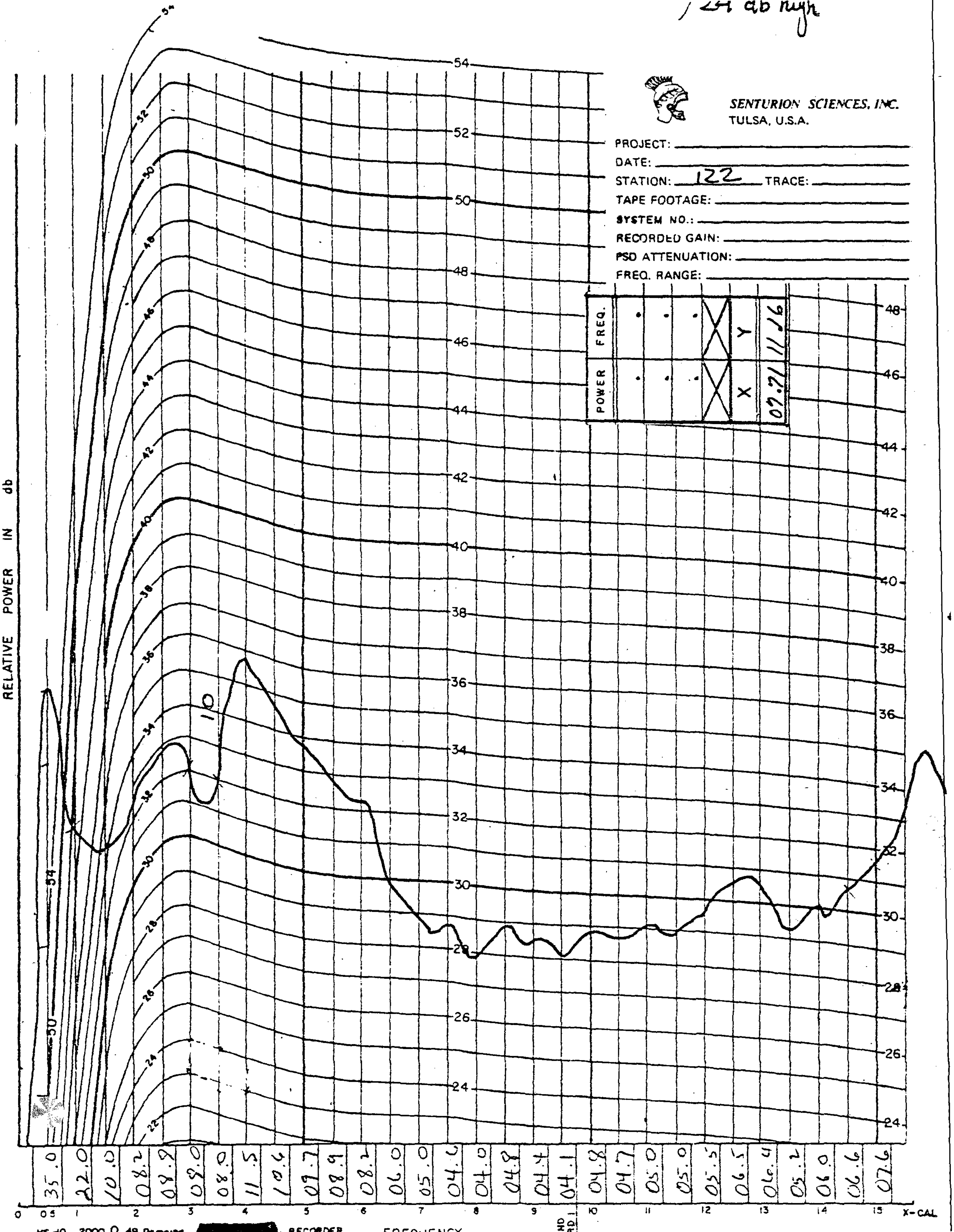


KS-40 2000 Ω 48 Damping [redacted] RECORDER

24 db high

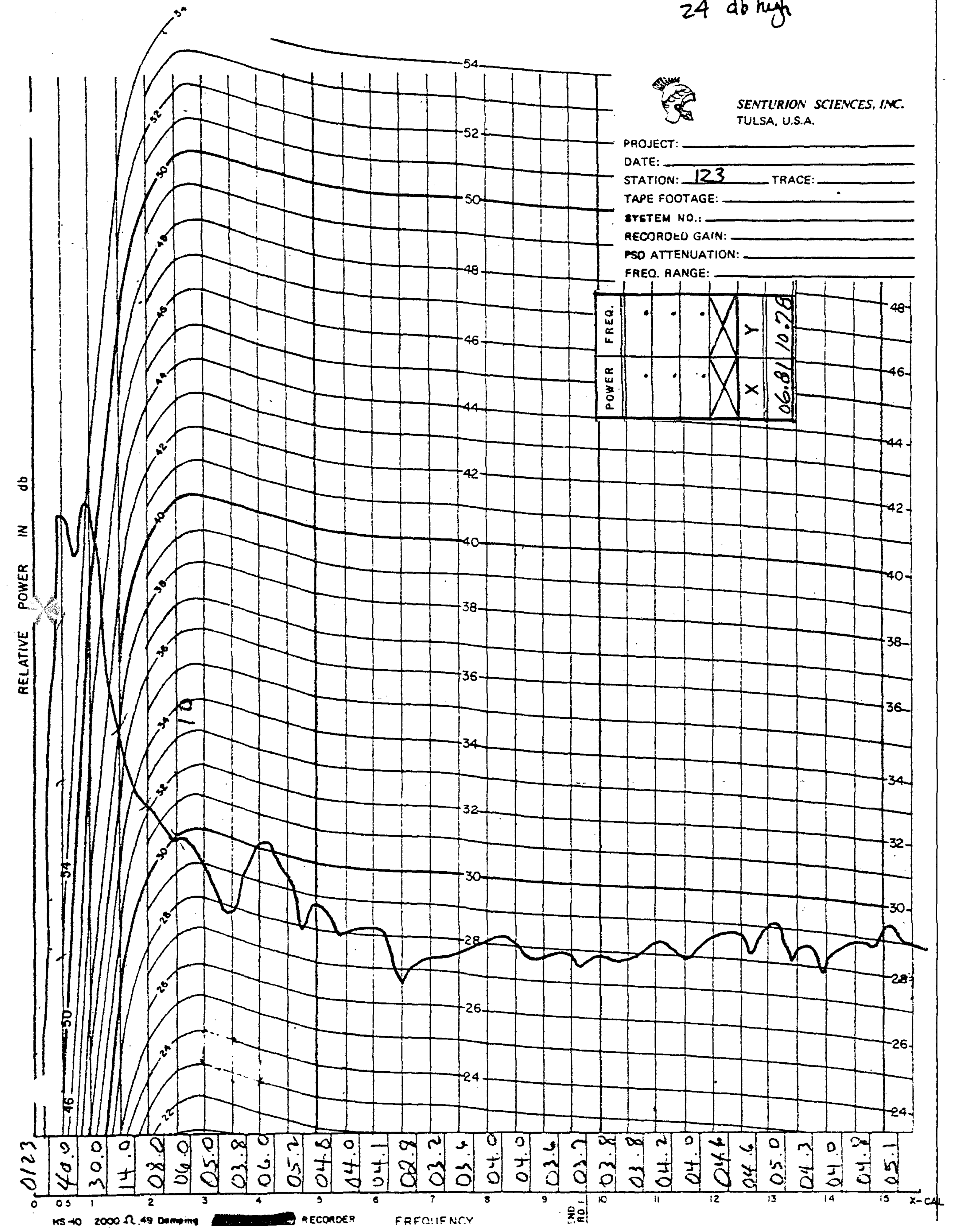

SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 120 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
07.42 12.14
RELATIVE POWER IN db
FREQUENCY
RECORDER
HS-10 2000 Ω .49 Damping
19 NOV. '74
END ARD I
X-CAL
0120 34.0 14.0 06.0 06.1 06.9 06.0 07.5 10.0 09.0 08.6 08.0 06.8 05.3 04.8 05.3 04.6 05.9 06.2 06.0 06.0 05.8 06.8 07.0 06.8 07.0 09.6 10.0 10.2 09.0 09.0

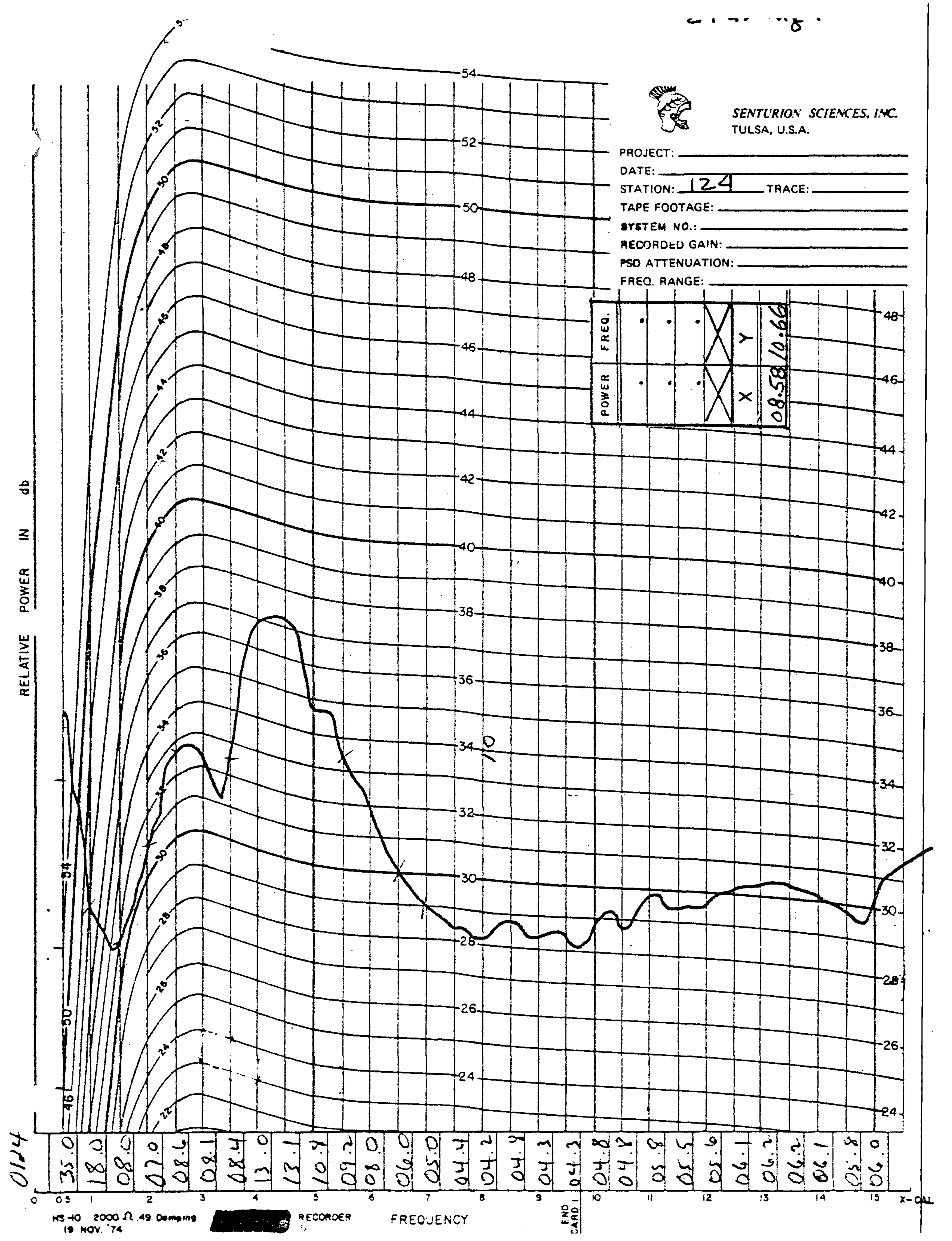
/ 24 db high



HS-40 2000 Ω .49 Damping [redacted] RECORDER

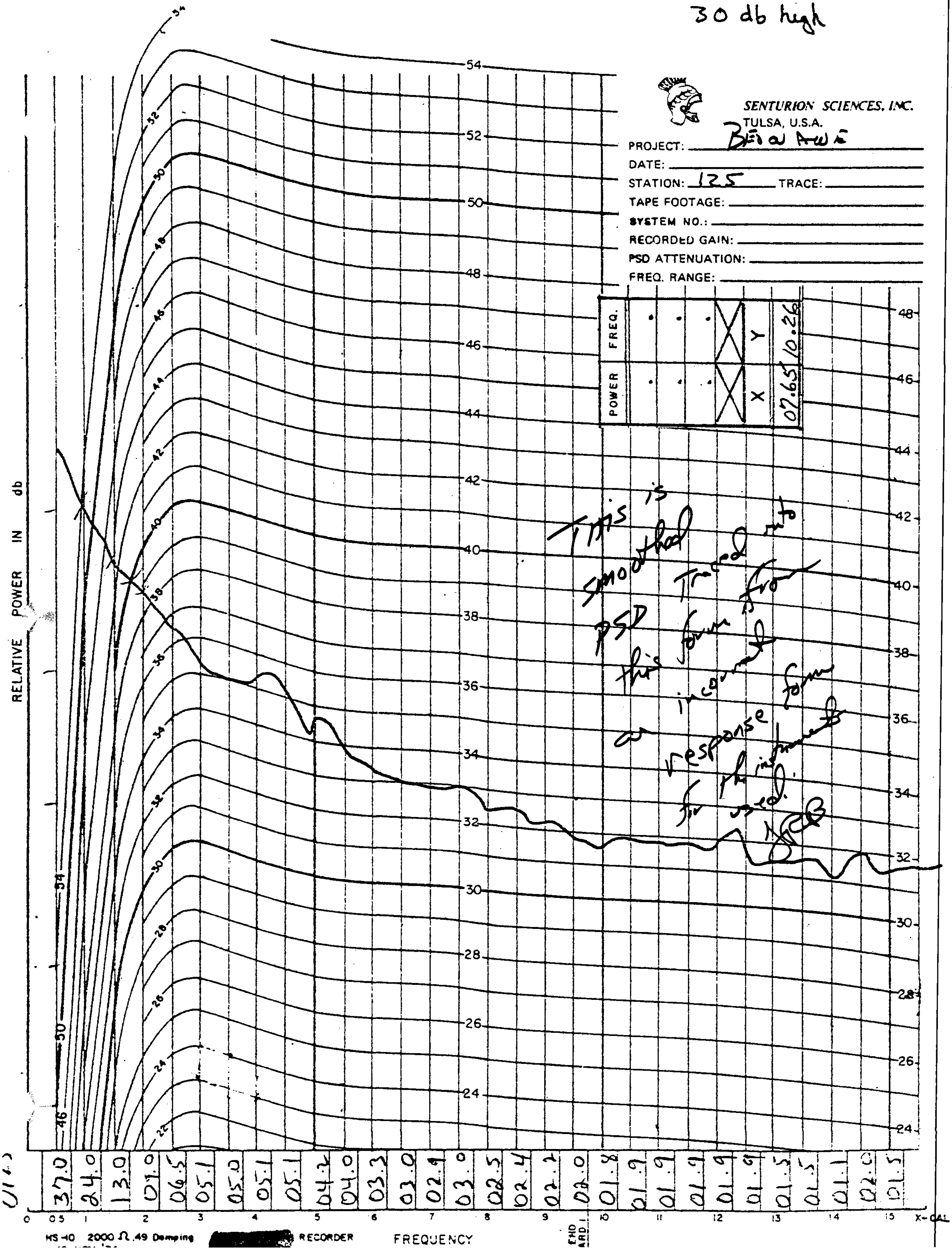
24 db high


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 123
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
Y
10.78
POWER
X
06.81
RELATIVE POWER IN db
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
10
0123
40.9
30.0
14.0
08.0
06.0
05.0
03.8
06.0
05.2
04.8
04.0
04.1
02.9
03.2
03.4
04.0
04.0
03.6
03.2
03.8
03.8
04.2
04.0
04.6
04.6
05.0
04.3
04.0
04.8
05.1
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
END RD I
HS-10 2000 Ω .49 Damping [redacted] RECORDER
FREQUENCY

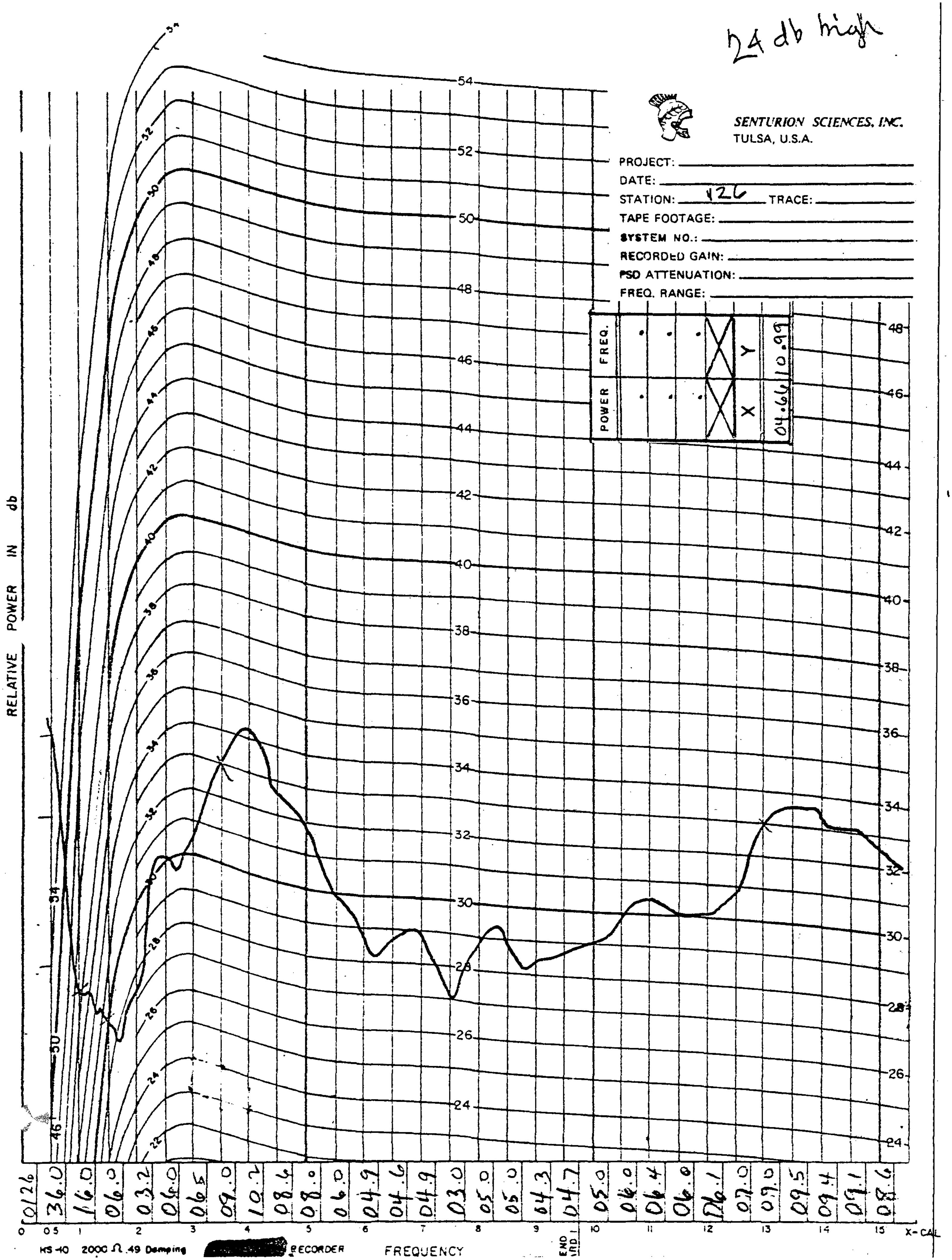


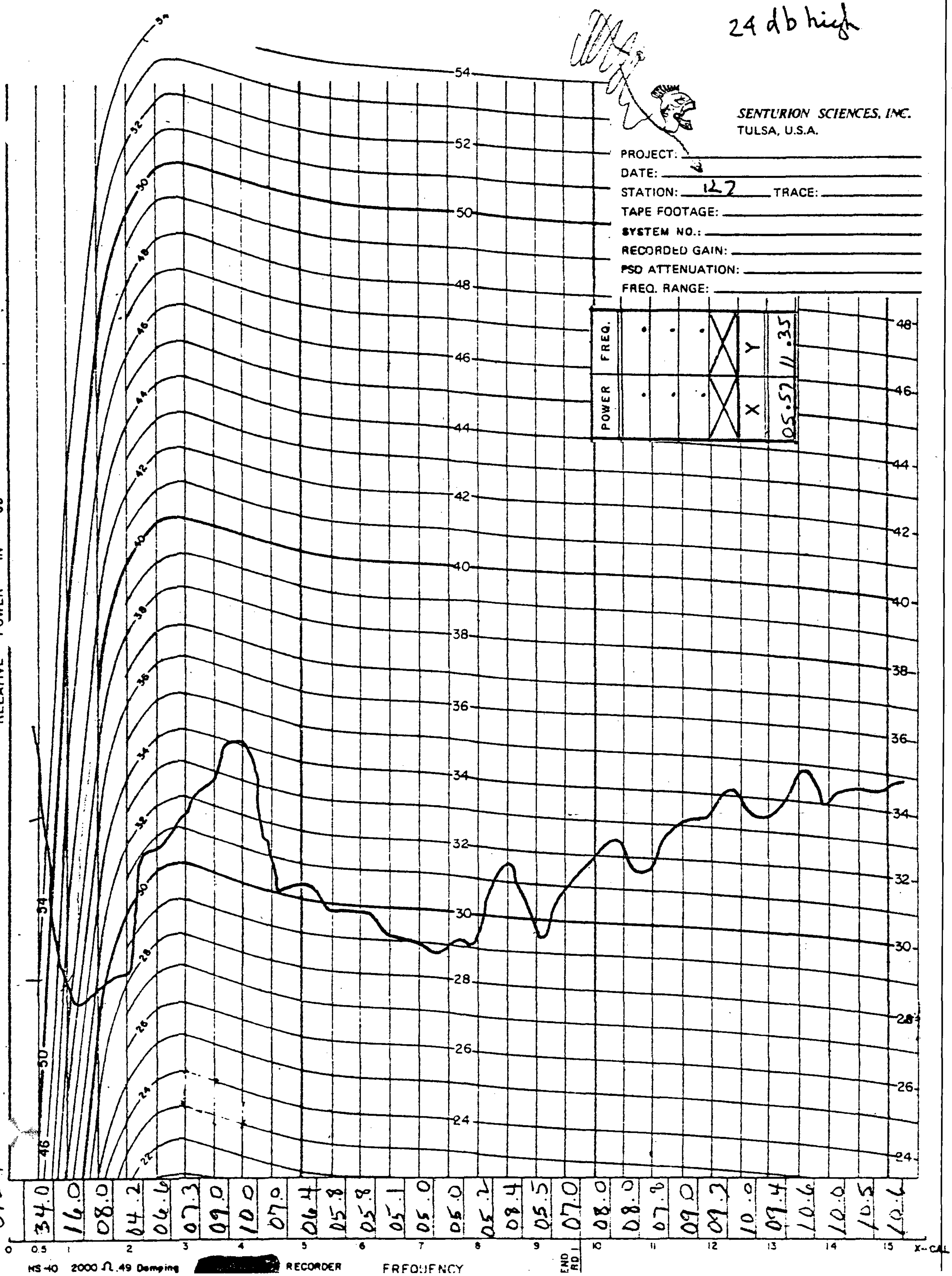
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 124
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
08.58
10.66
RELATIVE POWER IN db
0124
35.0
18.0
08.0
07.0
08.6
08.1
08.4
13.0
13.1
10.9
09.2
08.0
06.0
05.0
04.4
04.2
04.8
04.3
04.3
04.8
04.8
05.8
05.5
05.6
06.1
06.2
06.2
06.1
05.8
06.0
X-CAL
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY
END CARD

30 db high



SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT: BEAR AWE
DATE:
STATION: 125
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
07.65
10.26
RELATIVE POWER IN db
FREQUENCY
This is smoothed PSD traced into this form from an incorrect response form for the instrument used.
37.0 24.0 13.0 07.0 06.5 05.1 05.0 05.1 05.1 04.2 04.0 03.3 03.0 02.9 03.0 02.5 02.4 02.2 02.0 01.8 01.9 01.9 01.9 01.9 01.9 01.5 01.5 01.1 02.0 01.5
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
HS-10 2000 Ω .49 Damping
[redacted] RECORDER

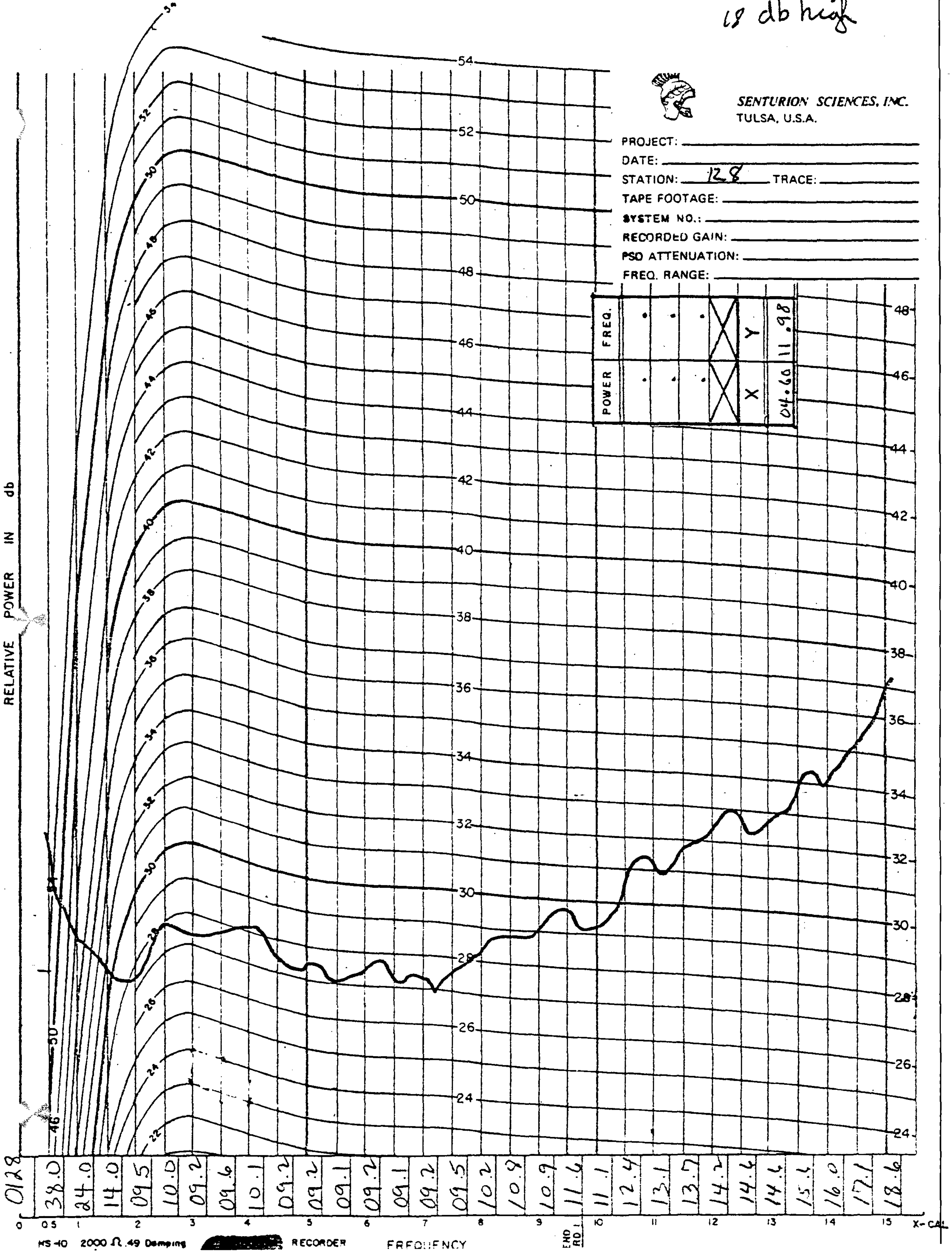

24 db high
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 126
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
04.66 10.99
RELATIVE POWER IN db
FREQUENCY
0126 36.0 16.0 06.0 03.2 06.0 06.5 09.0 10.2 08.6 08.0 06.0 04.9 04.6 04.9 03.0 05.0 05.0 04.3 04.7 05.0 06.0 06.4 06.0 06.1 07.0 09.0 09.5 09.4 09.1 08.6
HS-10 2000 Ω .49 Damping
RECORDER
END IND
X-CAL

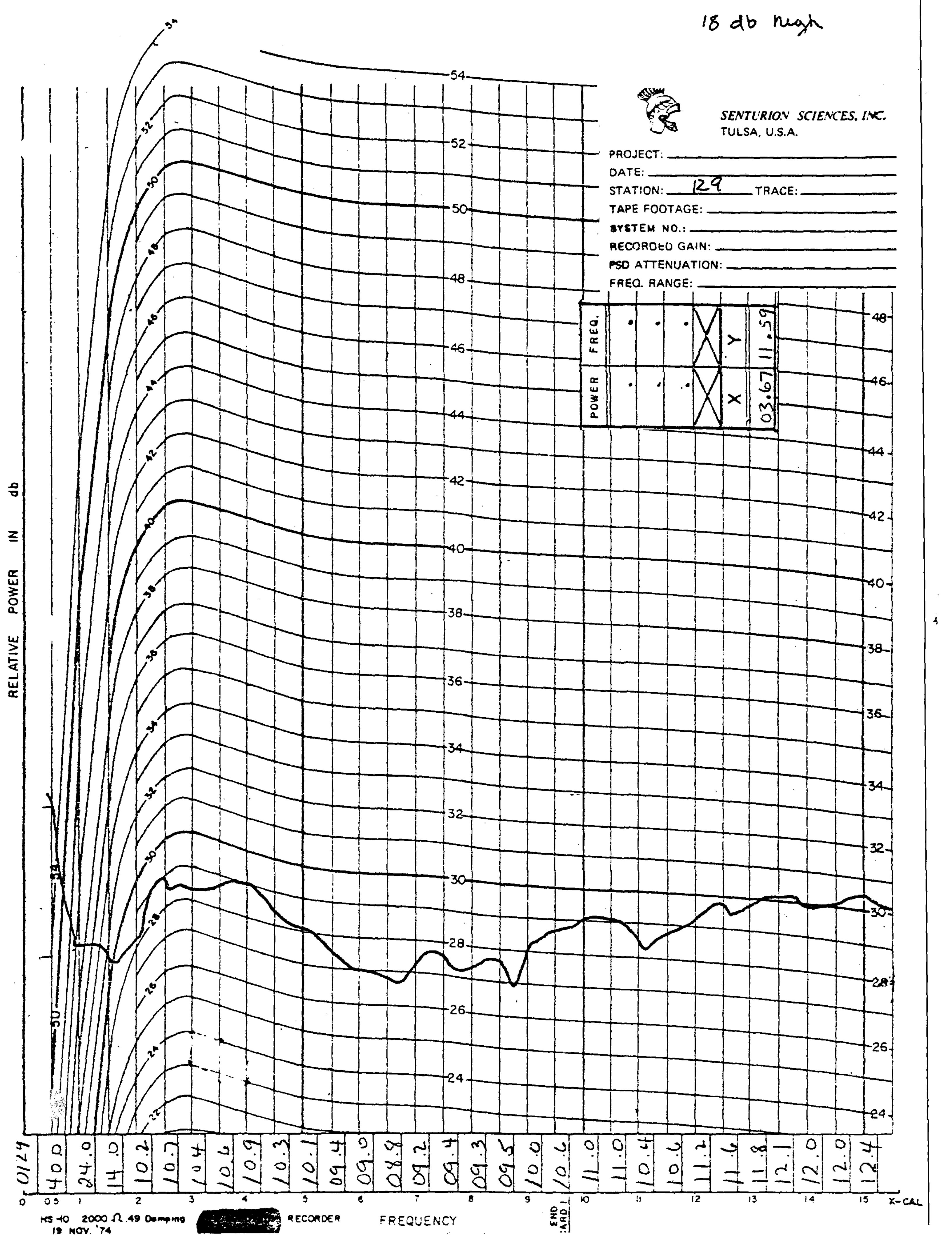

24 db high
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 127
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
11.35
05.57
RELATIVE POWER IN db
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
34.0
16.0
08.0
04.2
06.6
07.3
09.0
10.0
07.0
06.4
05.8
05.8
05.1
05.0
05.0
05.2
08.4
05.5
07.0
08.0
08.0
07.9
09.0
09.3
10.0
09.4
10.6
10.0
10.5
10.6
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
END RD
HS-40 2000 Ω .49 Damping [redacted] RECORDER FREQUENCY

18 db high

SENTURION SCIENCES, INC.
TULSA, U.S.A.

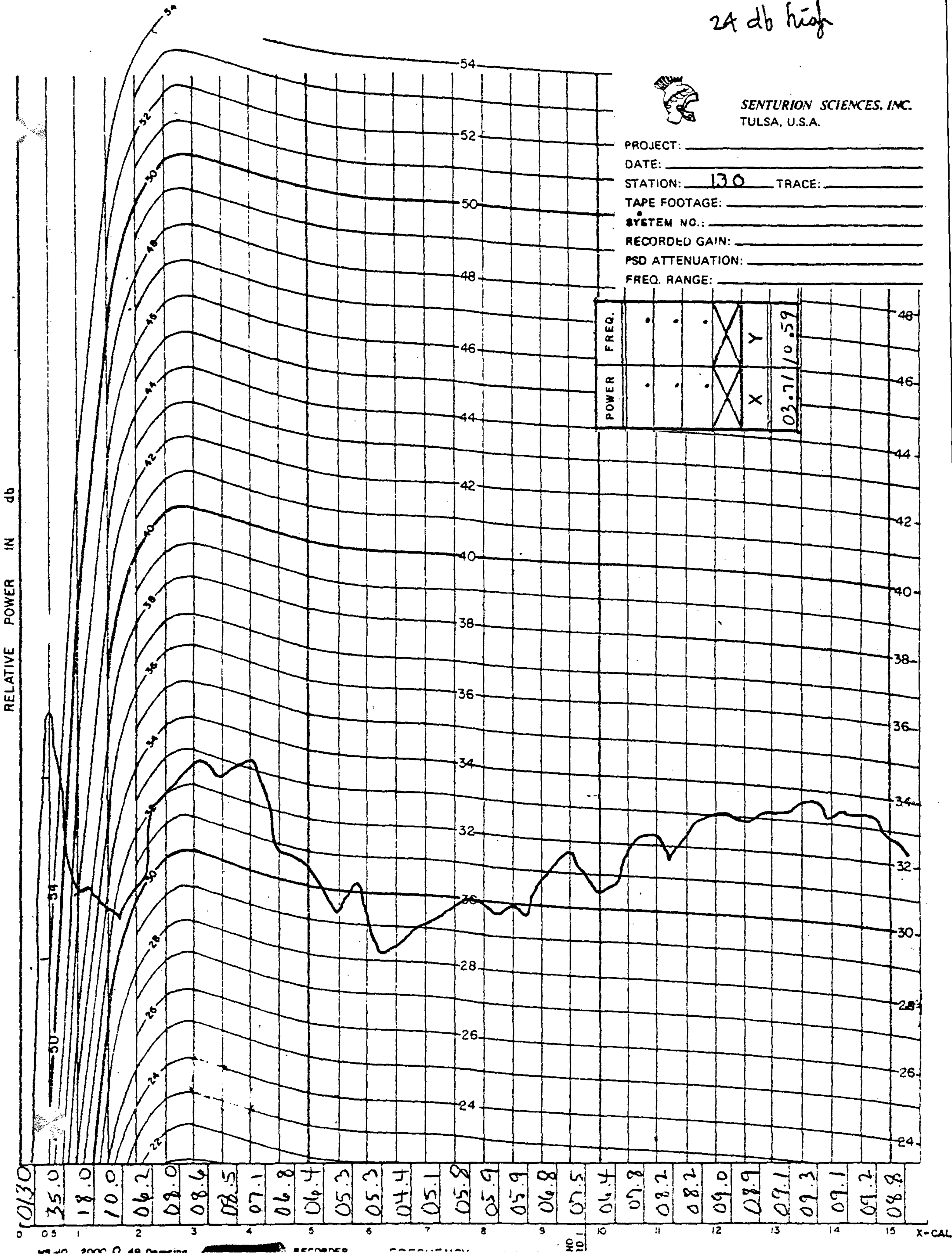
PROJECT:
DATE:
STATION: 128 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSO ATTENUATION:
FREQ. RANGE:

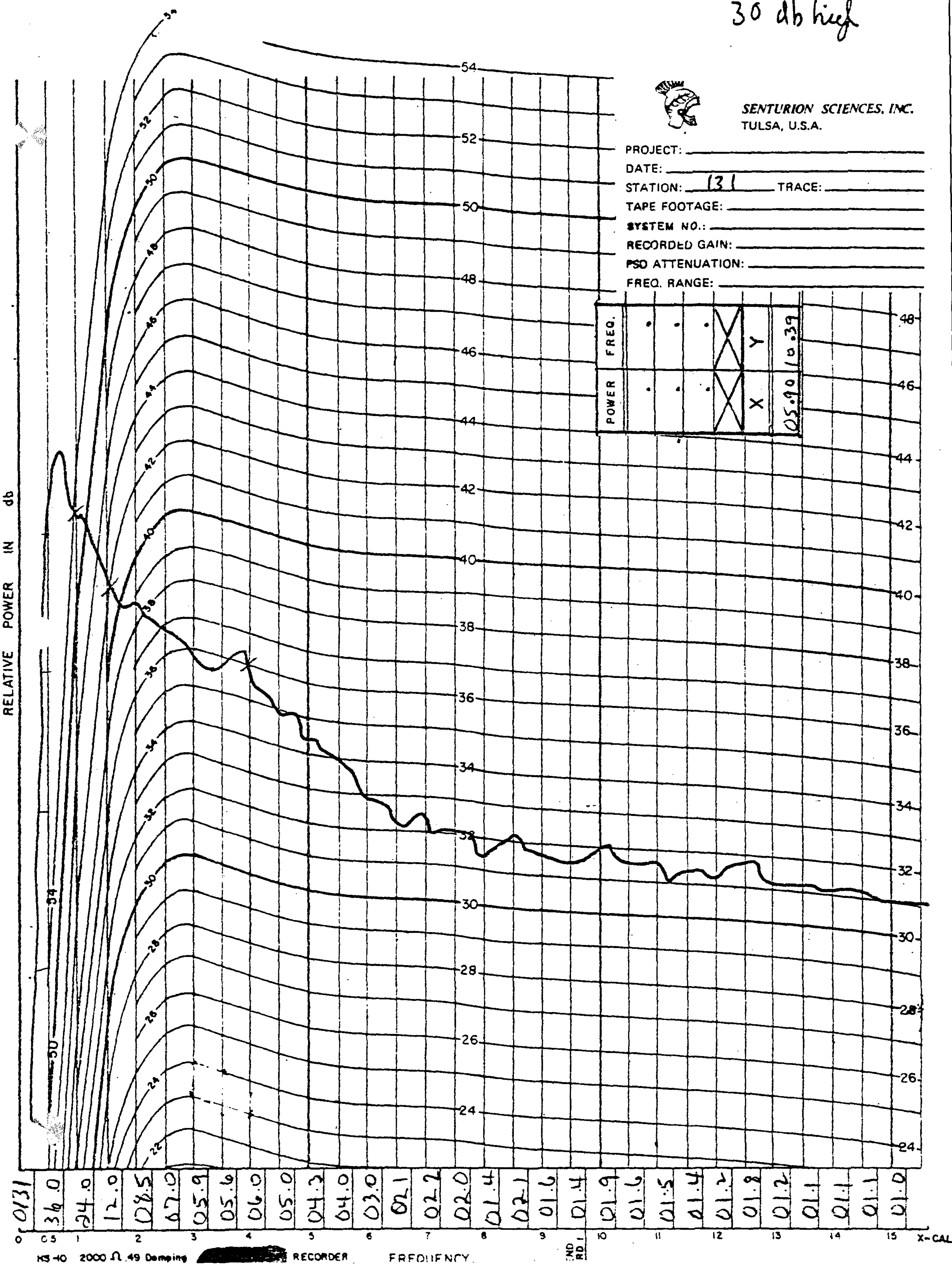




18 db high
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 129 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
11.59
03.67
RELATIVE POWER IN db
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
0124
40.0 24.0 14.0 10.2 10.7 10.4 10.6 10.9 10.3 10.1 09.4 09.0 08.8 09.2 09.4 09.3 09.5 10.0 10.6 11.0 11.0 10.4 10.6 11.2 11.6 11.8 12.1 12.0 12.0 12.4
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY
END CARD

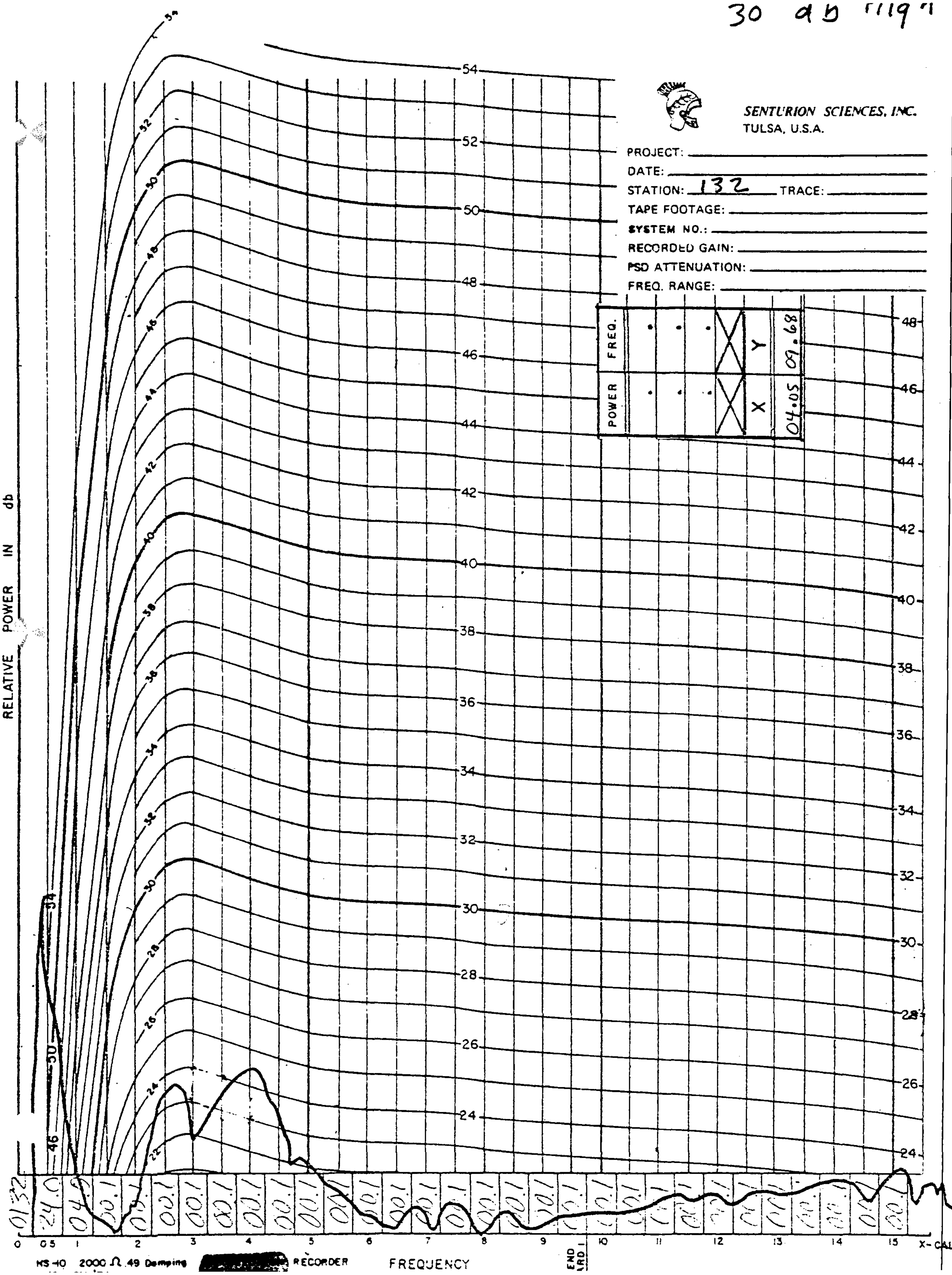
24 db high


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 130 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ. Y
POWER X
03.71/10.59
RELATIVE POWER IN db
X-CAL
0130
35.0
18.0
10.0
06.2
08.0
08.6
08.5
07.1
06.8
06.4
05.3
05.3
04.4
05.1
05.8
05.9
05.9
06.8
07.5
06.4
07.8
08.2
08.2
09.0
08.9
09.1
09.3
09.1
09.2
08.8

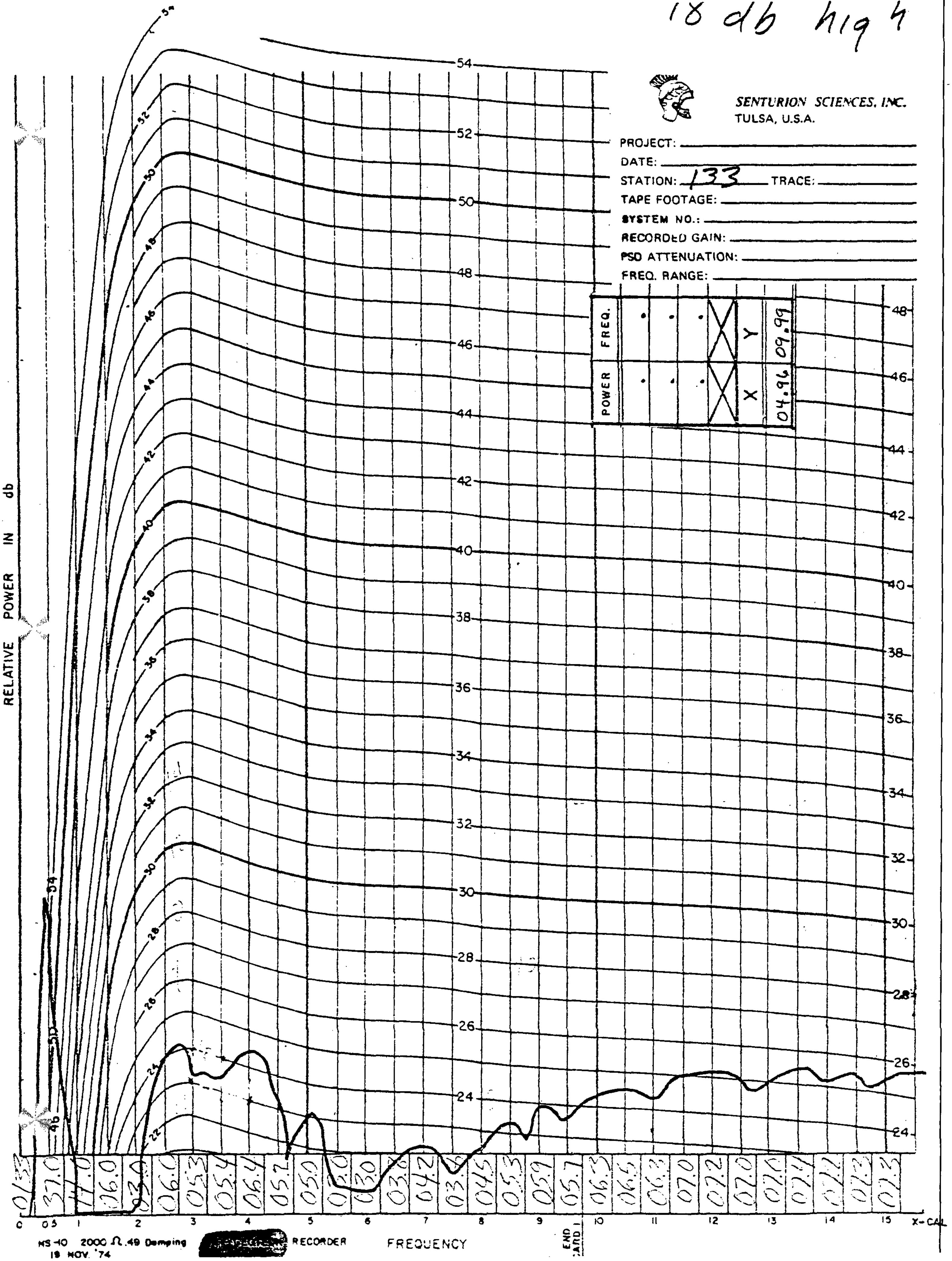


30 db high
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 131
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
05.90 / 0.39
RELATIVE POWER IN db
0131
36.0
34.0
12.0
08.5
07.0
05.9
05.6
06.0
05.0
04.3
04.0
03.0
02.1
02.2
02.0
01.4
02.1
01.6
01.4
01.9
01.6
01.5
01.4
01.2
01.8
01.2
01.1
01.1
01.1
01.0
X-CAL
HS-10 2000 Ω .49 Damping [redacted] RECORDER
FREQUENCY
END RD.

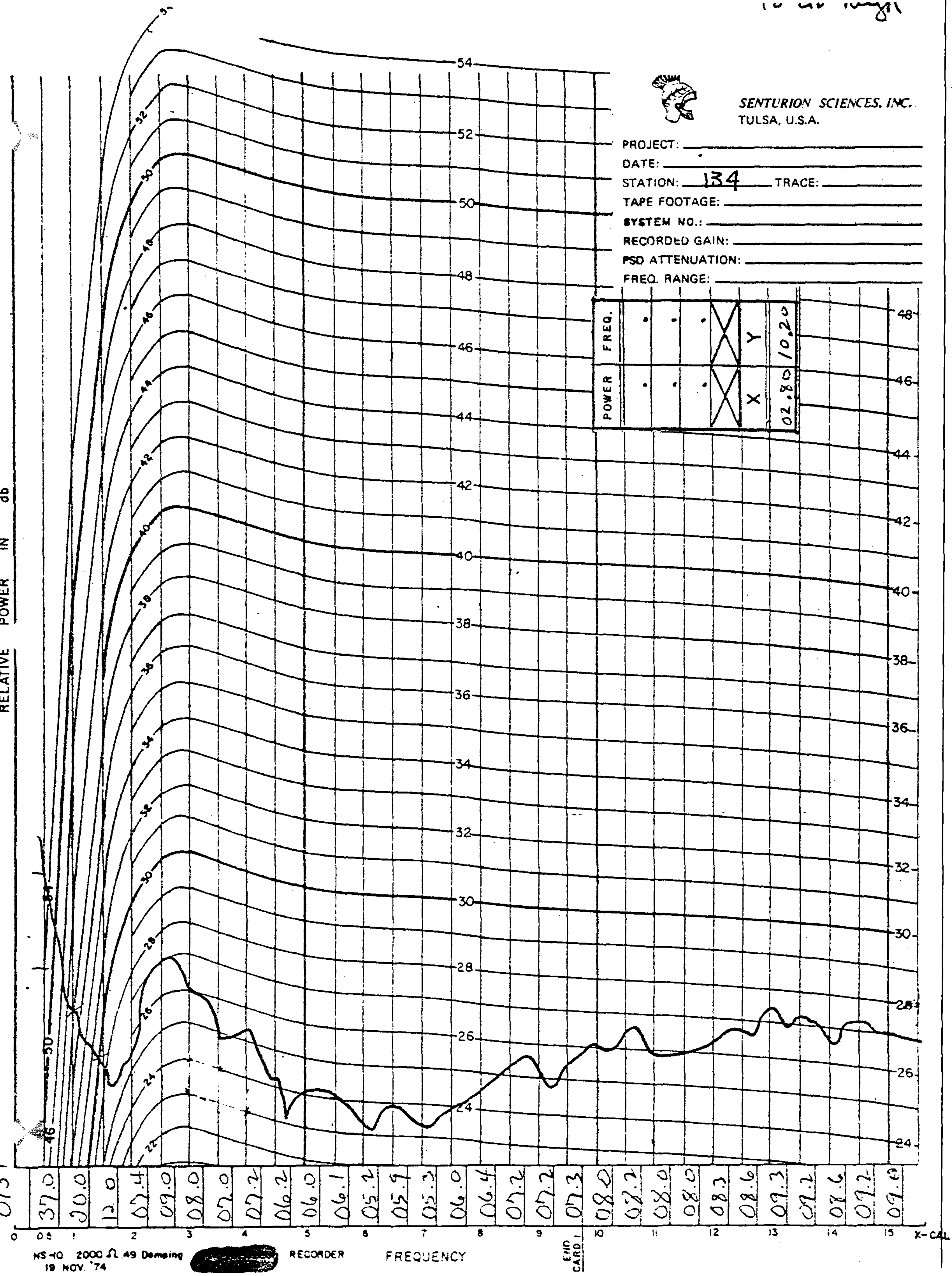
30 db "119"


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 132 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y 09.68
X 04.05
RELATIVE POWER IN db
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
0132
24.0
04.0
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
HS-10 2000 Ω .49 Damping [redacted] RECORDER
FREQUENCY
END CARD

18 db high



SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 133 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ. Y 09.99
POWER X 04.96
RELATIVE POWER IN db
0/33 37.0 17.0 06.0 03.0 06.0 05.3 05.4 06.4 05.2 05.0 02.0 03.0 03.6 04.2 03.6 04.5 05.5 05.9 05.7 06.3 06.5 06.3 07.0 07.2 07.0 07.0 07.1 07.2 07.2 07.3
FREQUENCY
X-CAL
END CARD
HS-10 2000 Ω .49 Damping
19 NOV. '74
RECORDER

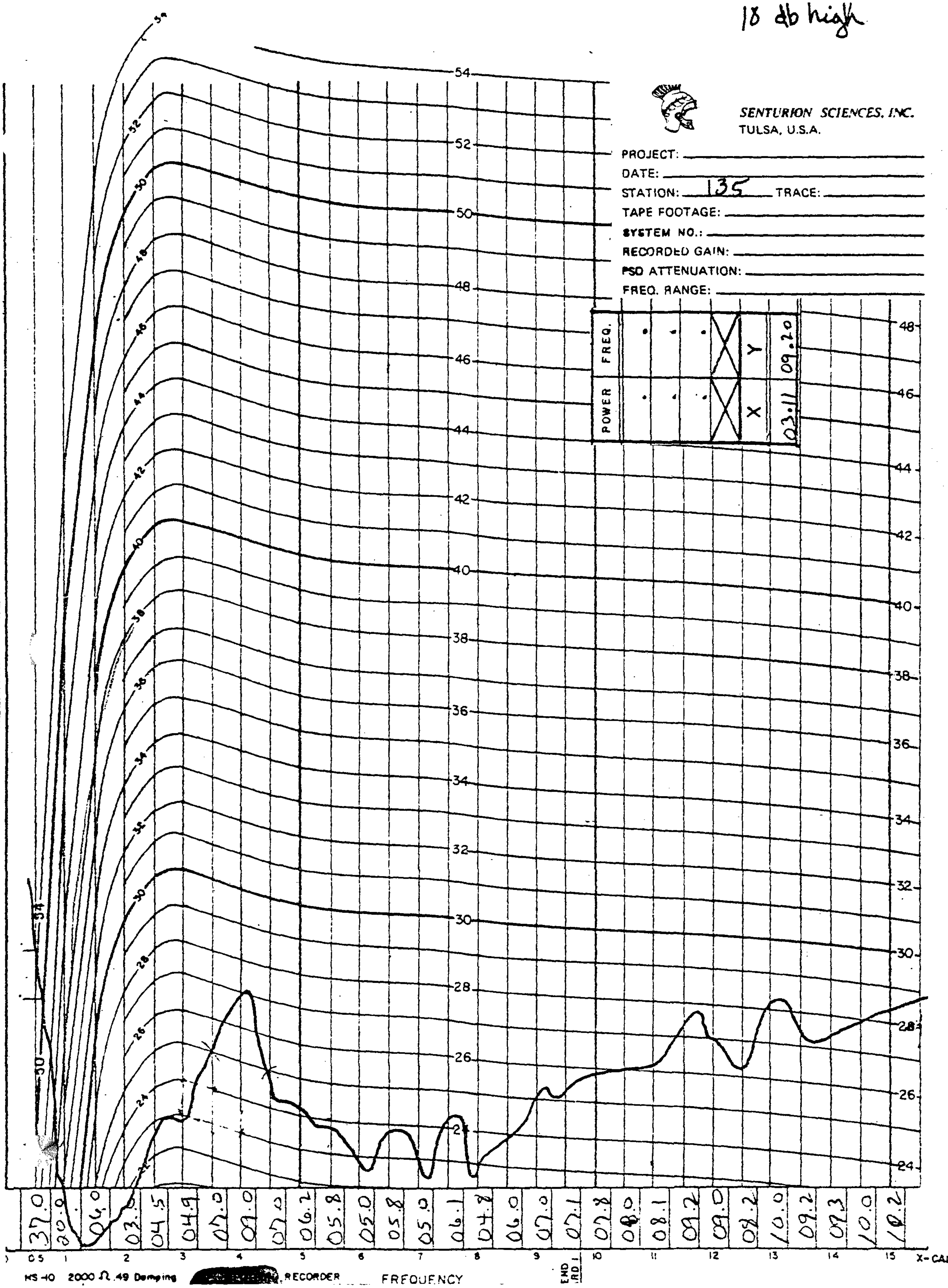

SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 134 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y 10.20
X 02.80
RELATIVE POWER IN db
FREQUENCY
0134
END CARD
X-CAL
HS-10 2000 Ω .49 Damping [redacted] RECORDER
19 NOV. '74

18 db high

SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT:
DATE:
STATION: 135 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:

FREQ.	.	.	.	Y	09.20
POWER	.	.	.	X	03.11

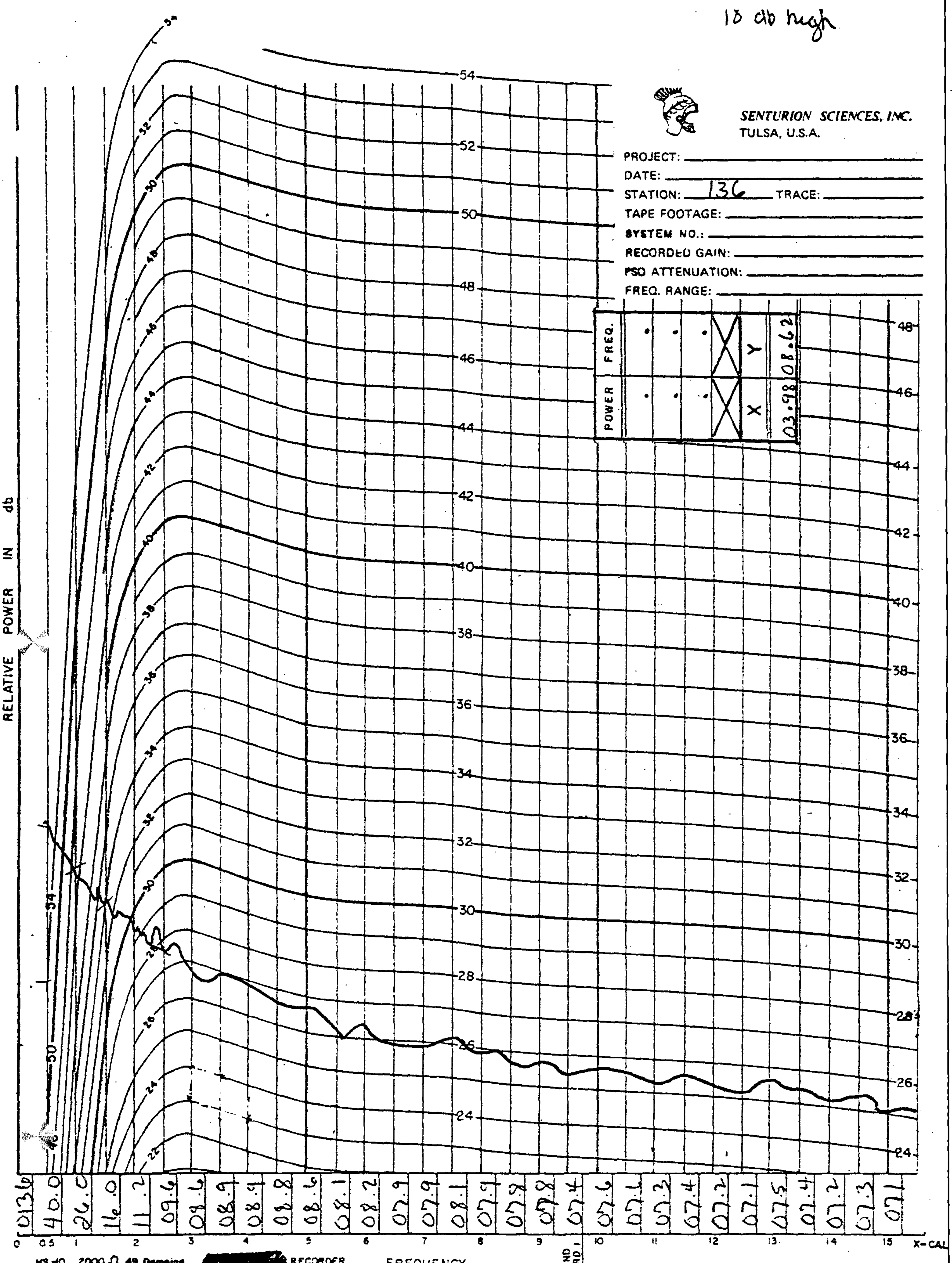


10 db high

SENTURION SCIENCES, INC.
TULSA, U.S.A.

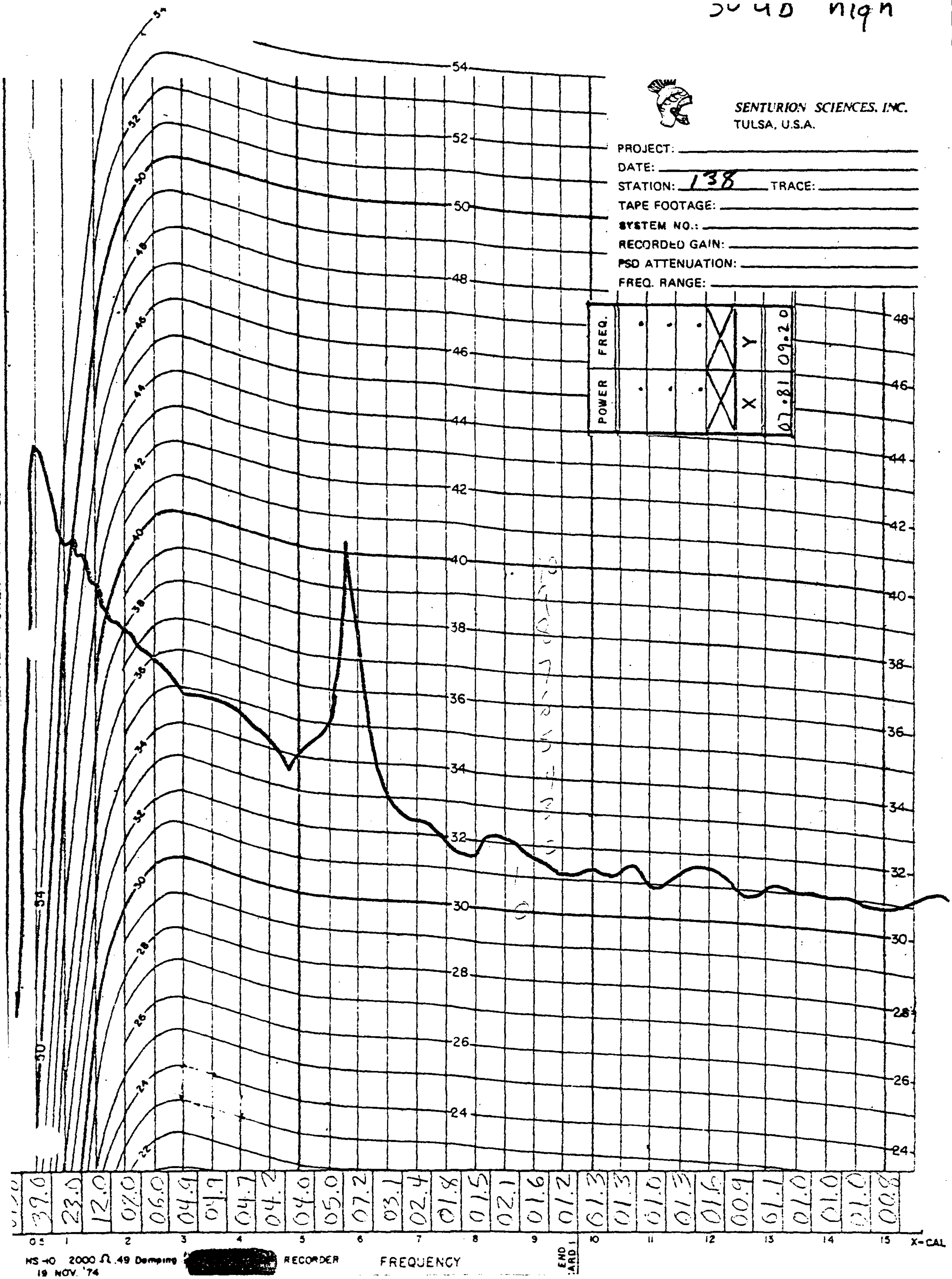
PROJECT:
DATE:
STATION: 136 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:

FREQ.	.	.	.	X	Y	08.62
POWER	.	.	.	X	X	03.98



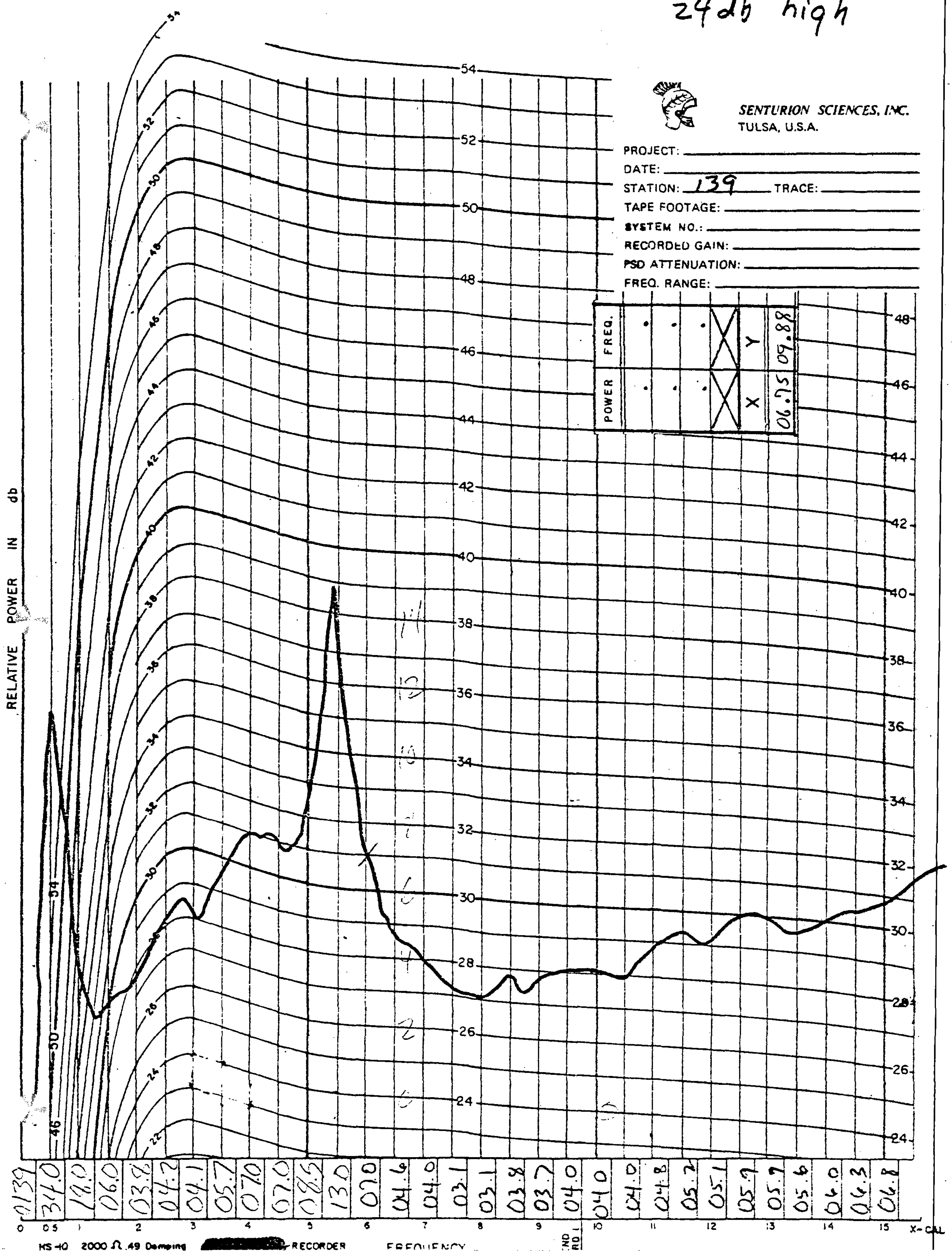
HS-10 2000 Ω .49 Damping [redacted] RECORDER

50 4D high

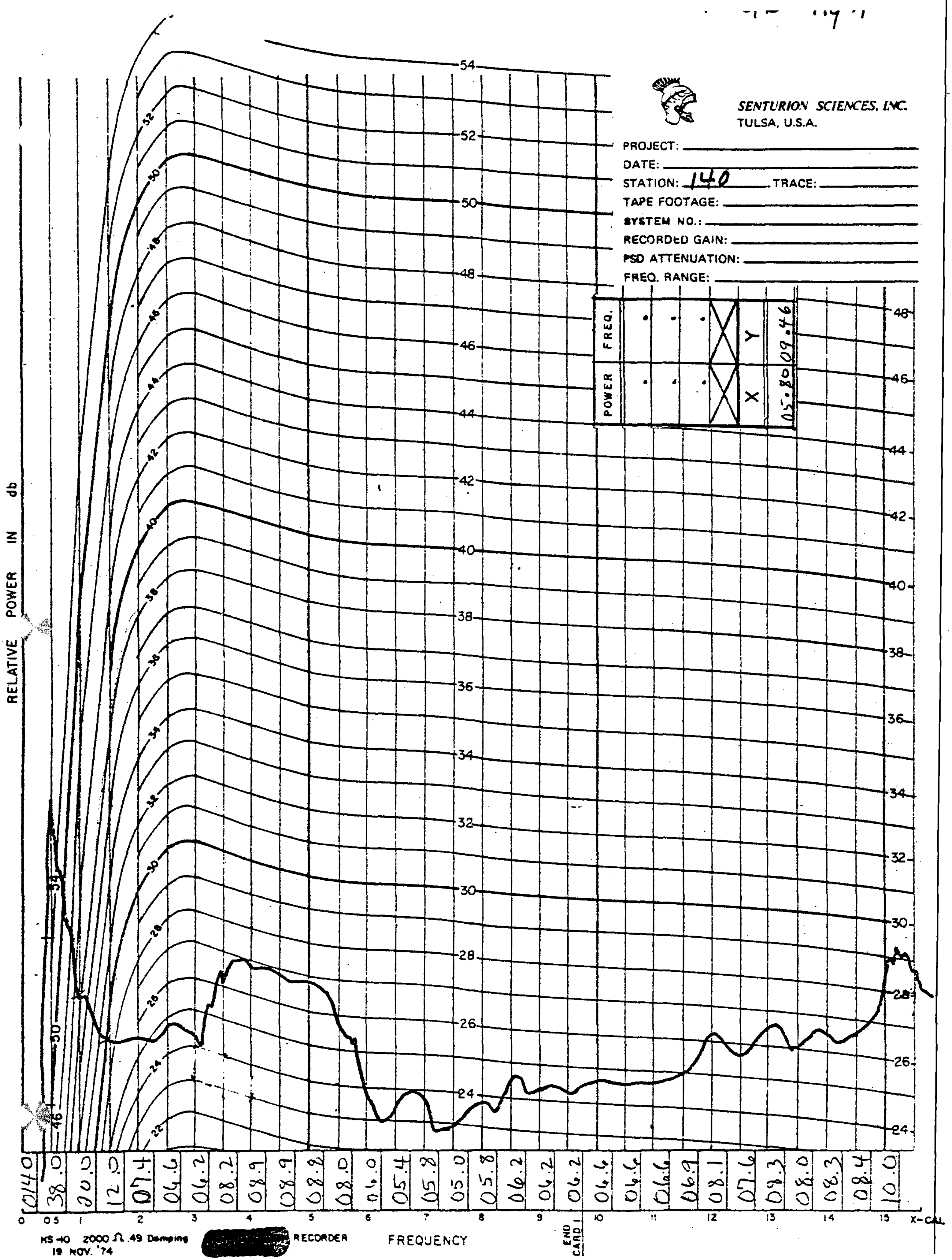


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 138 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ. Y 09.20
POWER X 07.81
39.0 23.0 12.0 08.0 06.0 04.9 04.7 04.7 04.2 04.0 05.0 07.2 03.1 02.4 01.8 01.5 02.1 01.6 01.2 01.3 01.3 01.0 01.3 01.6 00.9 01.1 01.0 01.0 01.0 00.8
0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
END CARD 1
HS-10 2000 Ω .49 Damping [redacted] RECORDER
19 NOV. '74
FREQUENCY

24db high



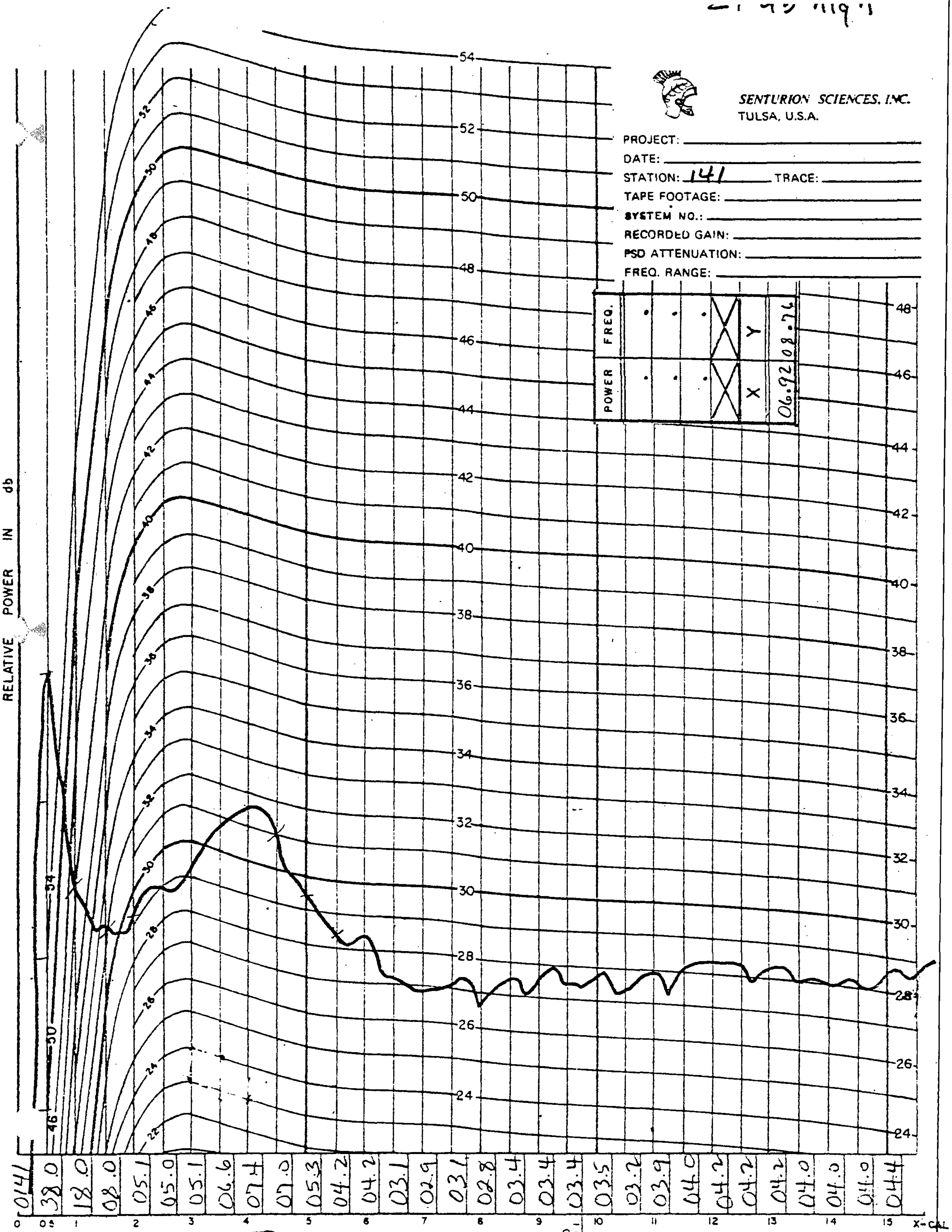
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 139
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
06.75
09.88
RELATIVE POWER IN db
0139
34.0
14.0
06.0
03.8
04.2
04.1
05.7
07.0
07.0
08.5
13.0
07.0
04.6
04.0
03.1
03.1
03.8
03.7
04.0
04.0
04.0
04.8
05.2
05.1
05.9
05.7
05.6
04.0
04.3
04.8
X-CAL
HS-10 2000 Ω .49 Damping [redacted] RECORDER FREQUENCY


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 140 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ. POWER Y X 05.80 09.46
RELATIVE POWER IN db
0140 38.0 20.0 12.0 07.4 06.6 06.2 08.2 08.9 08.9 08.8 08.0 06.0 05.4 05.8 05.0 05.8 06.2 06.2 06.2 06.6 06.6 06.6 06.9 08.1 07.6 09.3 08.0 08.3 08.4 10.0
0 0.5 1 2 3 4 5 6 7 8 9 END CARD 10 11 12 13 14 15 X-CAL
HS-40 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
FREQUENCY

SENTURION SCIENCES, INC.
TULSA, U.S.A.

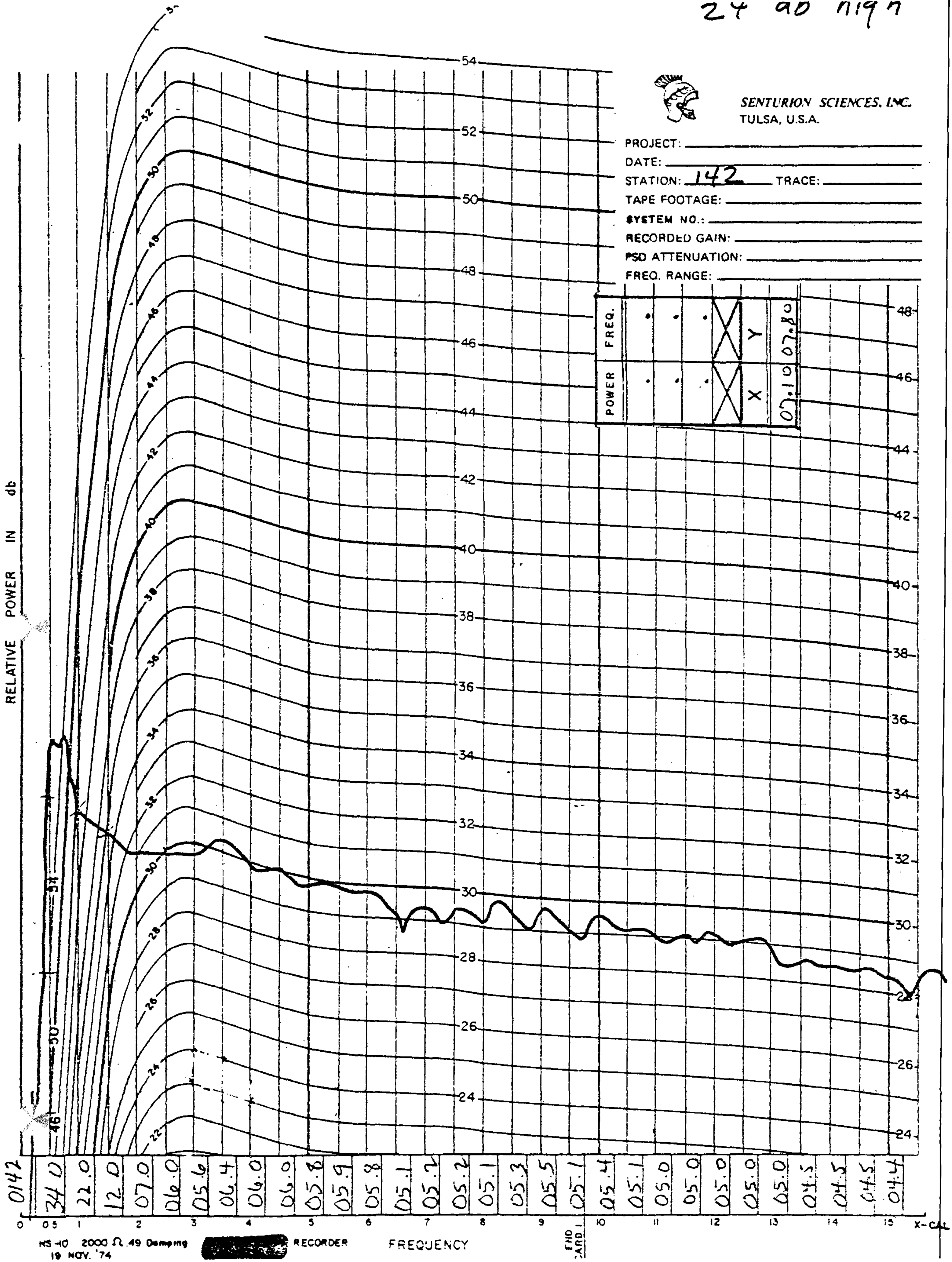
PROJECT:
DATE:
STATION: 141 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:

FREQ.	•	•	•	X	Y	06.92 08.76
POWER	•	•	•	X	X	

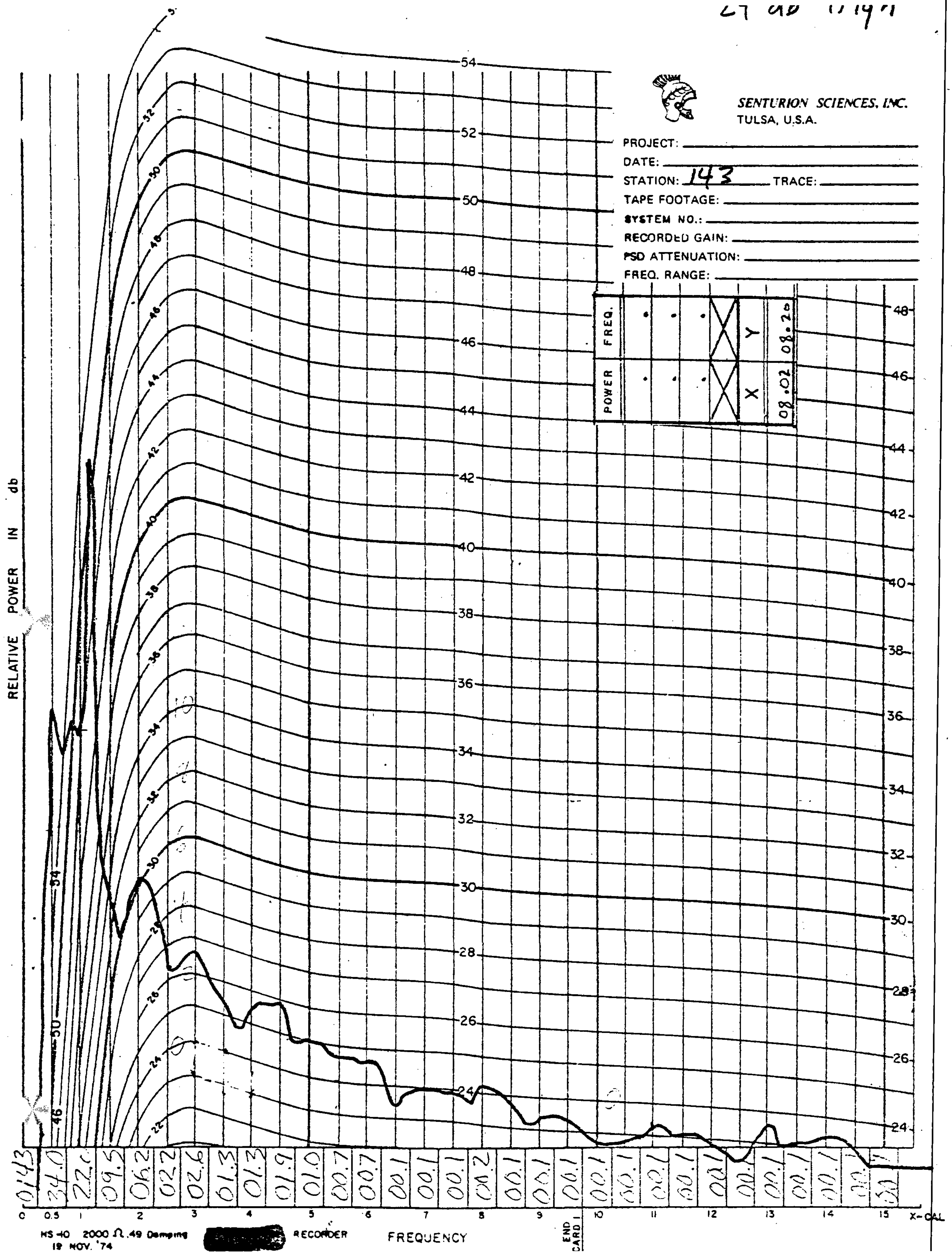


HS-40 2000 Ω .49 Damping [redacted] RECORDER
19 NOV. '74

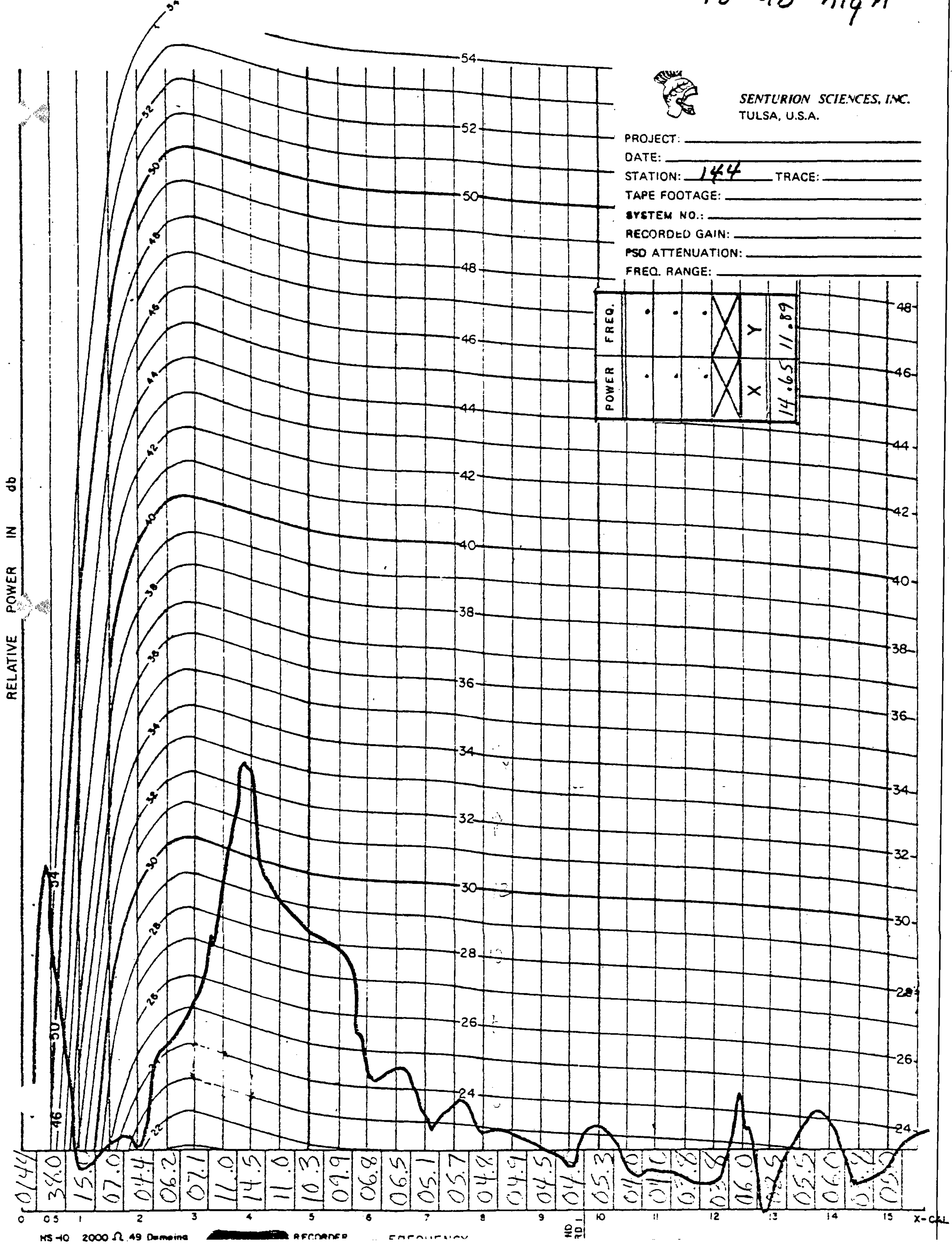
24 90 7197



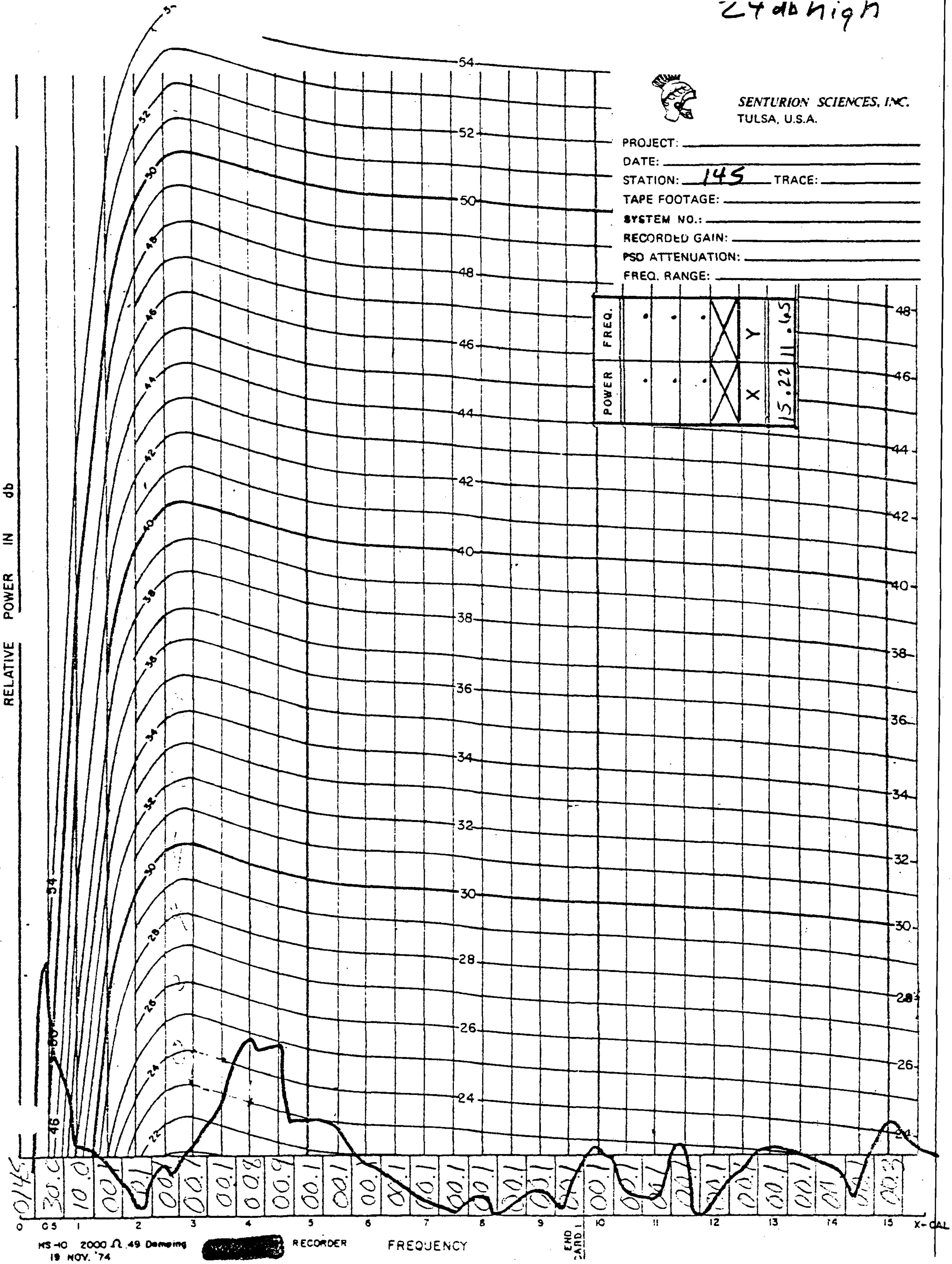
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 142 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
07.80
07.10
RELATIVE POWER IN db
0142
34.0
22.0
12.0
07.0
06.0
05.6
06.4
06.0
06.0
05.8
05.9
05.8
05.1
05.2
05.2
05.1
05.3
05.5
05.1
05.4
05.1
05.0
05.0
05.0
05.0
05.0
04.5
04.5
04.5
04.4
FREQUENCY
X-CAL
END CARD
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER

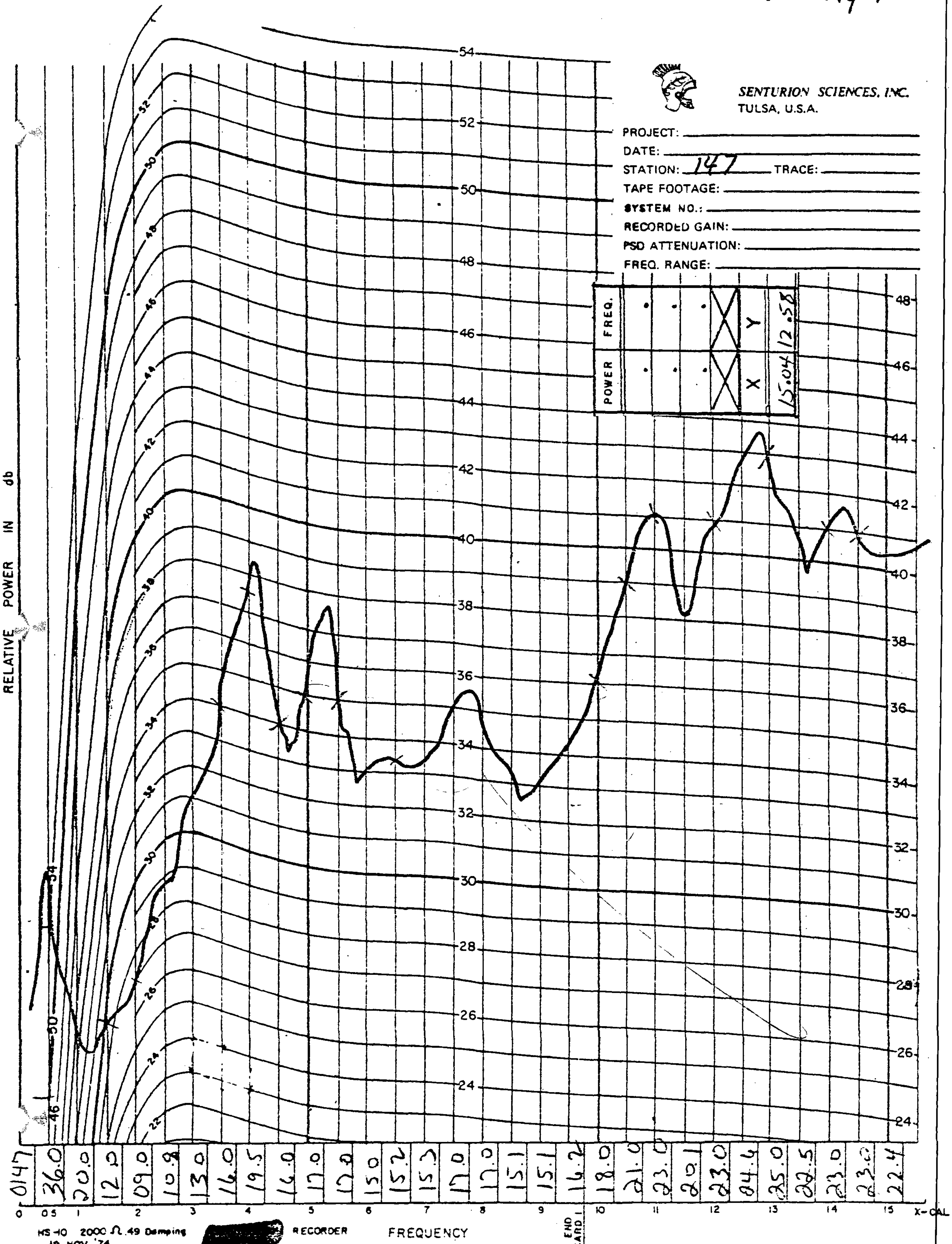

SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 143
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
Y
08.20
POWER
X
08.02
RELATIVE POWER IN db
FREQUENCY
0143
34.0
22.0
09.5
06.2
02.2
02.6
01.3
01.3
01.9
01.0
00.7
00.7
00.1
HS-40 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER
END CARD
X-CAL

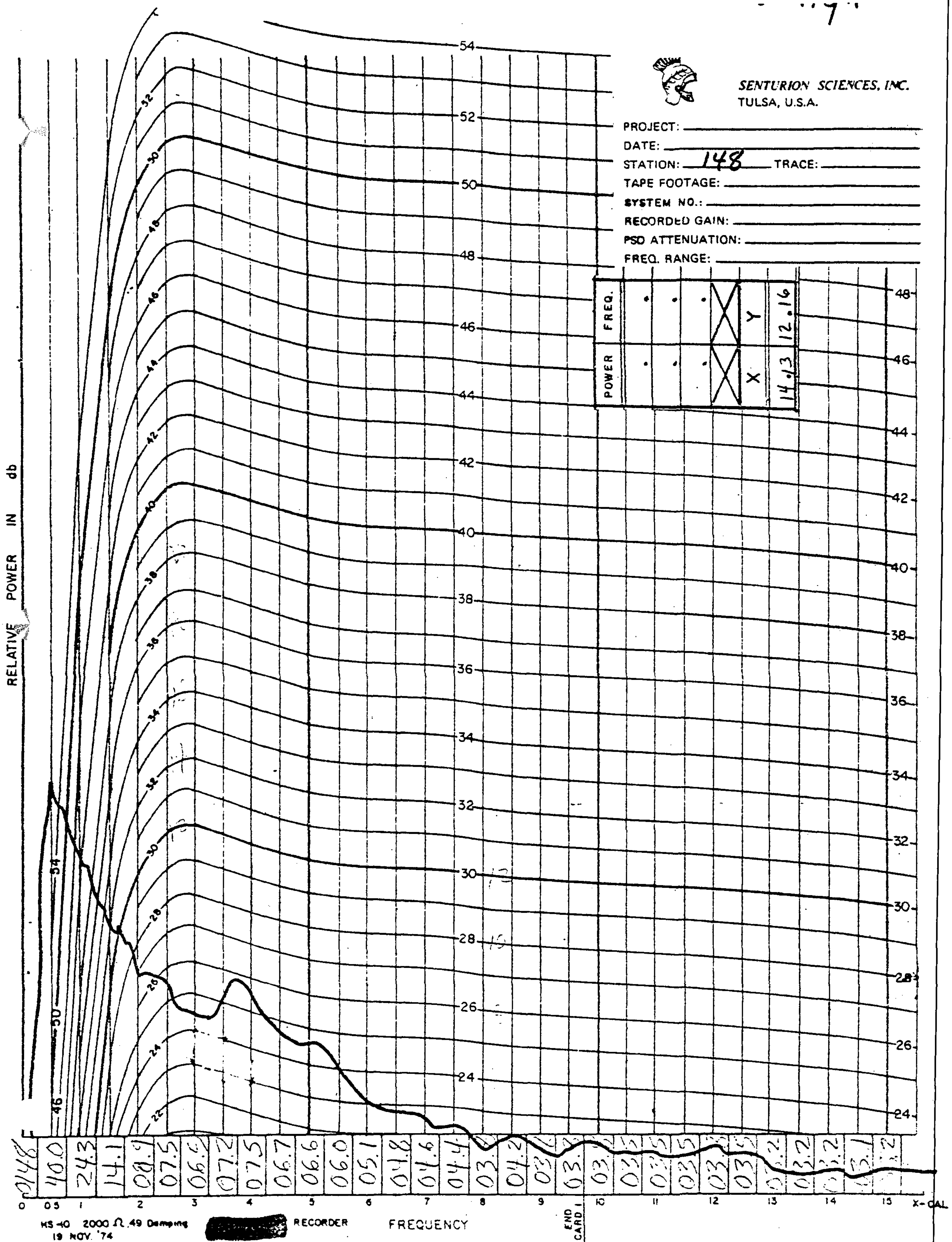
18 db high


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 144
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y 11.89
X 14.65
RELATIVE POWER IN db
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
0144
34.0
15.
67.0
04.4
06.2
07.1
11.0
14.5
11.0
10.3
09.9
06.8
06.5
05.1
05.7
04.8
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
HS-10 2000 Ω .49 Damping
RECORDER
FREQUENCY

24 db high


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 145 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ. Y 11.65
POWER X 15.22
RELATIVE POWER IN db
FREQUENCY
X-CAL
END CARD
HS-10 2000 Ω .49 Damping
19 NOV. '74
[redacted] RECORDER


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 147
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
15.04
12.58
RELATIVE POWER IN db
0147 36.0 20.0 12.0 09.0 10.8 13.0 16.0 19.5 16.0 17.0 17.0 15.0 15.2 15.3 17.0 17.0 15.1 15.1 16.2 18.0 21.0 23.0 20.1 23.0 24.6 25.0 22.5 23.0 23.0 22.4
0 0.5 1 2 3 4 5 6 7 8 9 END CARD 10 11 12 13 14 15 X-CAL
HS-10 2000 Ω .49 Damping
19 NOV. '74
RECORDER
FREQUENCY

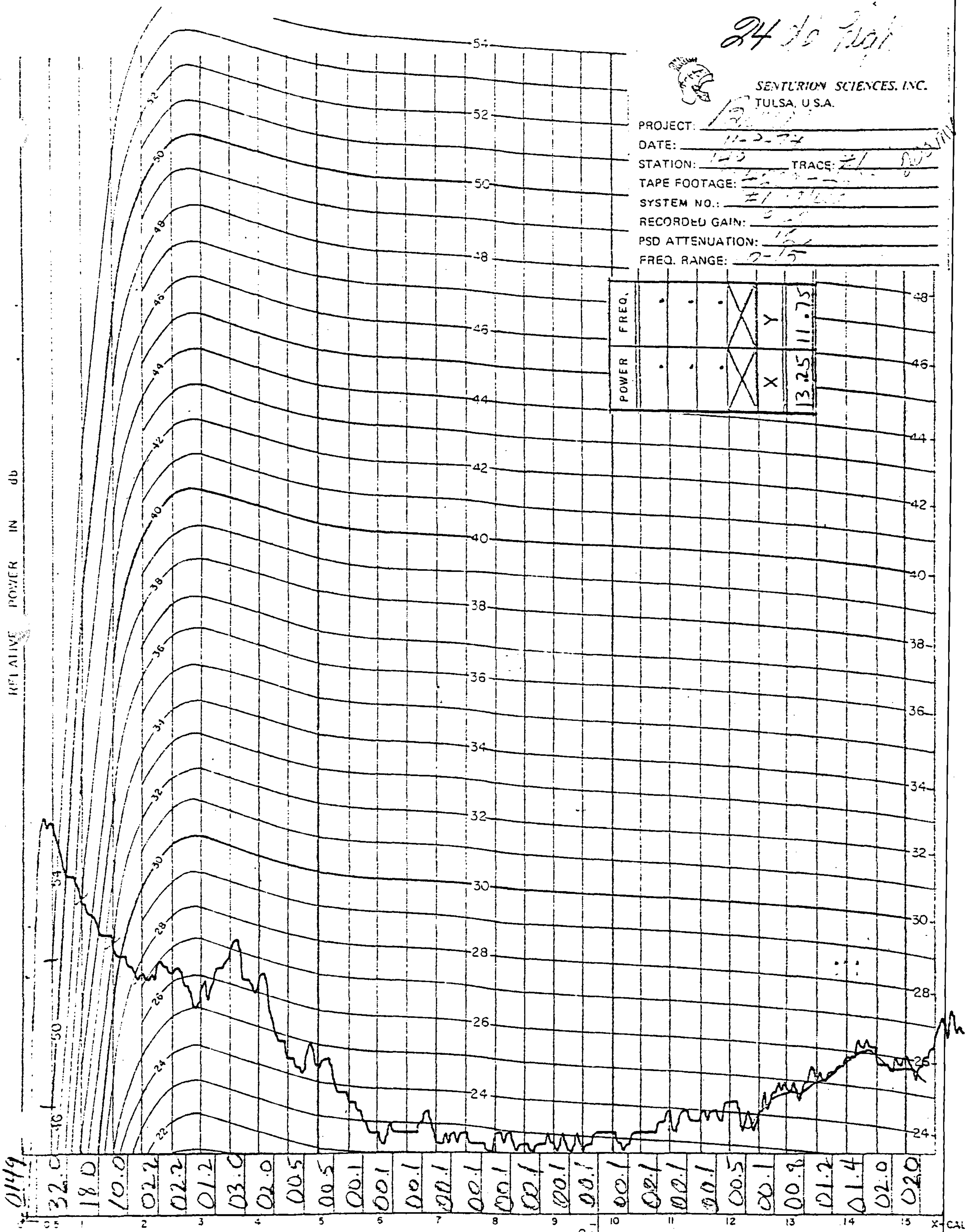

SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION: 148 TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ. Y 12.16
POWER X 14.13
RELATIVE POWER IN db
0148 40.0 24.3 14.1 08.9 07.5 06.6 07.2 07.5 06.7 06.6 06.0 05.1 04.8 04.6 04.4 04.2
0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 X-CAL
END CARD
HS-10 2000 Ω .49 Damping
19 NOV. '74
RECORDER
FREQUENCY

24

SENTURION SCIENCES, INC.
TULSA, U.S.A.

PROJECT: [illegible]
DATE: 11-?-74
STATION: [illegible] TRACE: #1
TAPE FOOTAGE: [illegible]
SYSTEM NO.: #1 [illegible]
RECORDED GAIN: [illegible]
PSD ATTENUATION: [illegible]
FREQ. RANGE: 0-15

FREQ.	.	.	.	Y	11.75
POWER	.	.	.	X	13.25



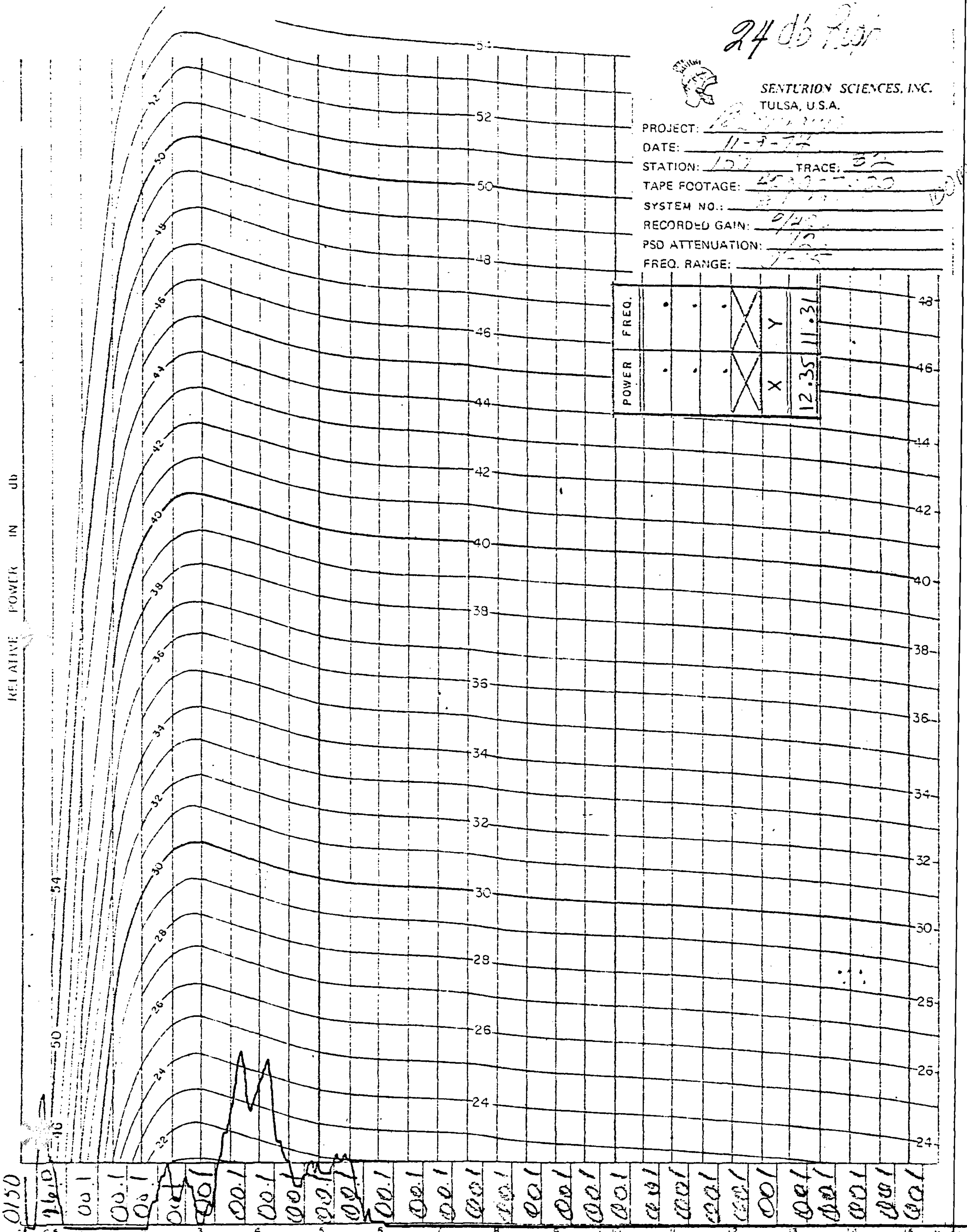
48-40 2000 Ω .49 Damping [redacted] RECORDER
19 NOV '74

24 db

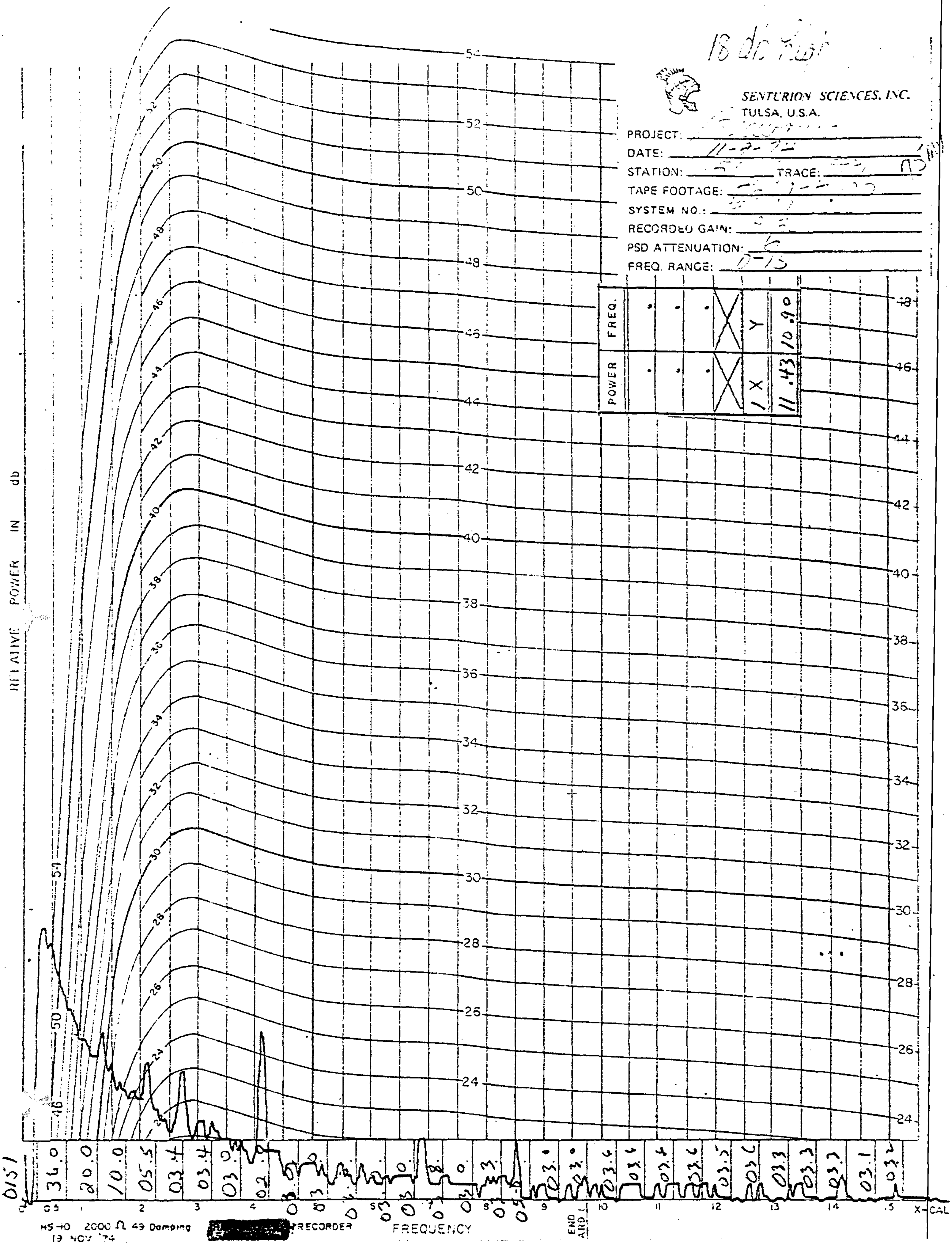
SENTURION SCIENCES, INC.
TULSA, U.S.A.

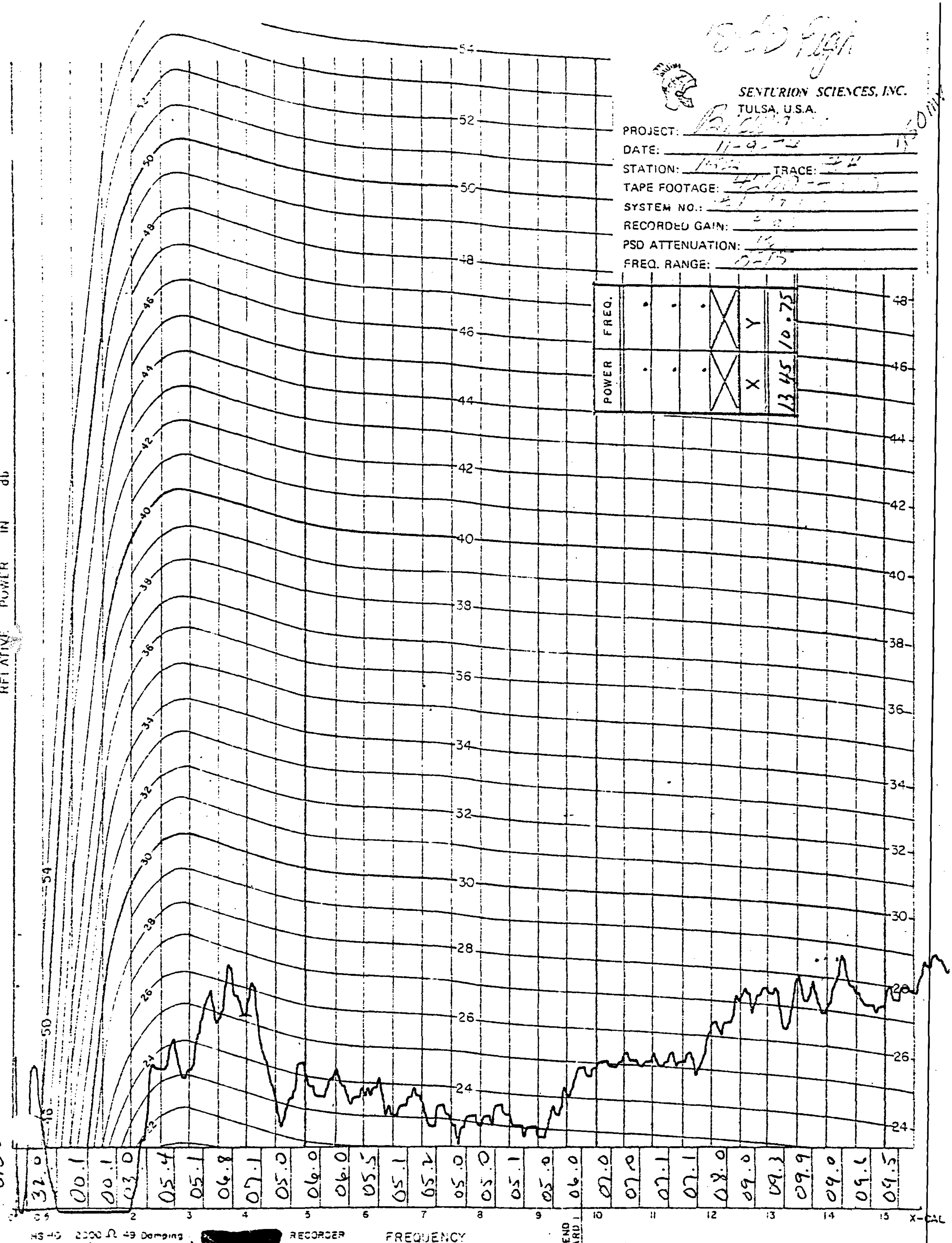
PROJECT: [illegible]
DATE: 11-[illegible]-7[illegible]
STATION: [illegible] TRACE: [illegible]
TAPE FOOTAGE: [illegible]
SYSTEM NO.:
RECORDED GAIN: [illegible]
PSD ATTENUATION: [illegible]
FREQ. RANGE: [illegible]

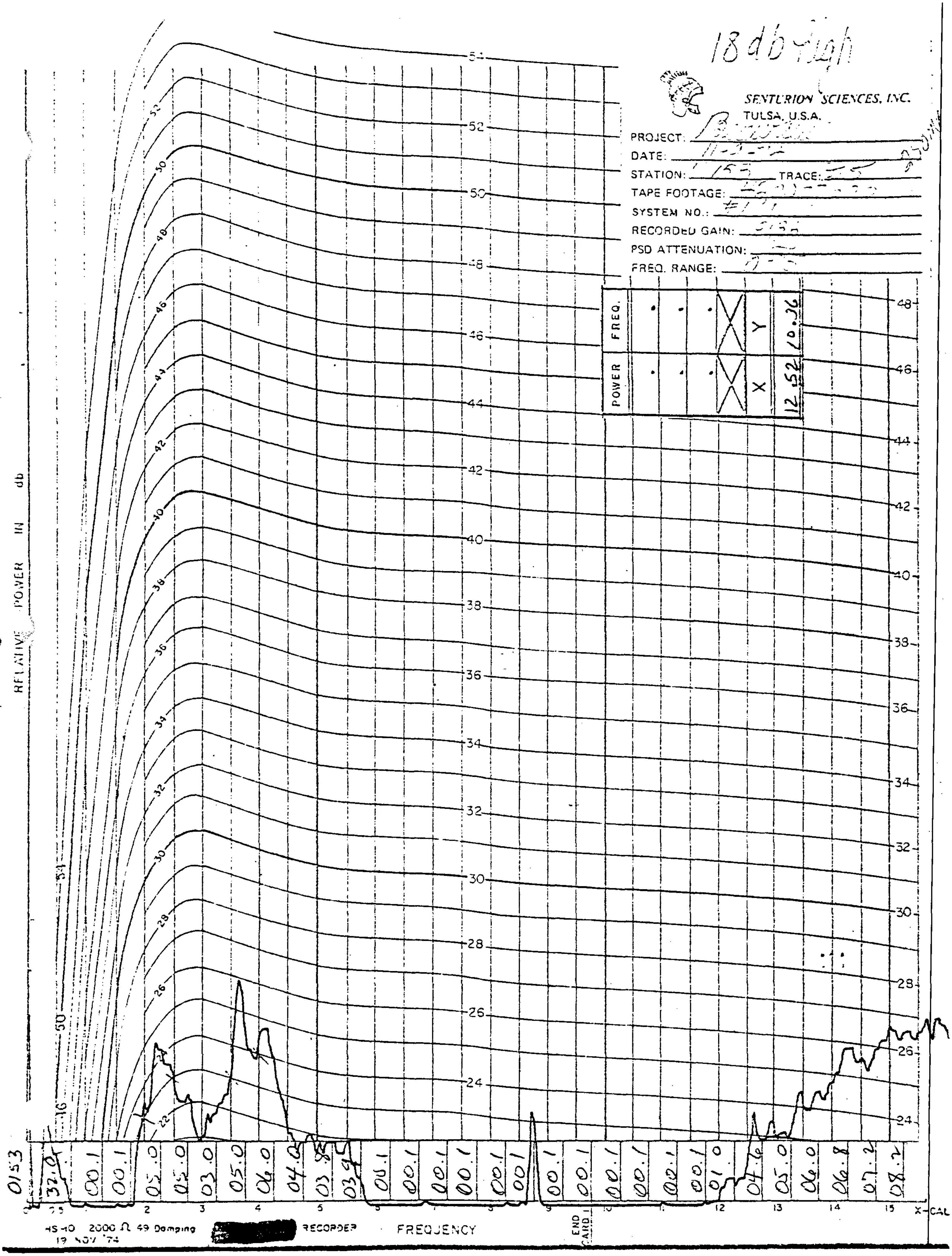
FREQ.	.	.	.	X	Y	11.31
POWER	.	.	.	X	X	12.35



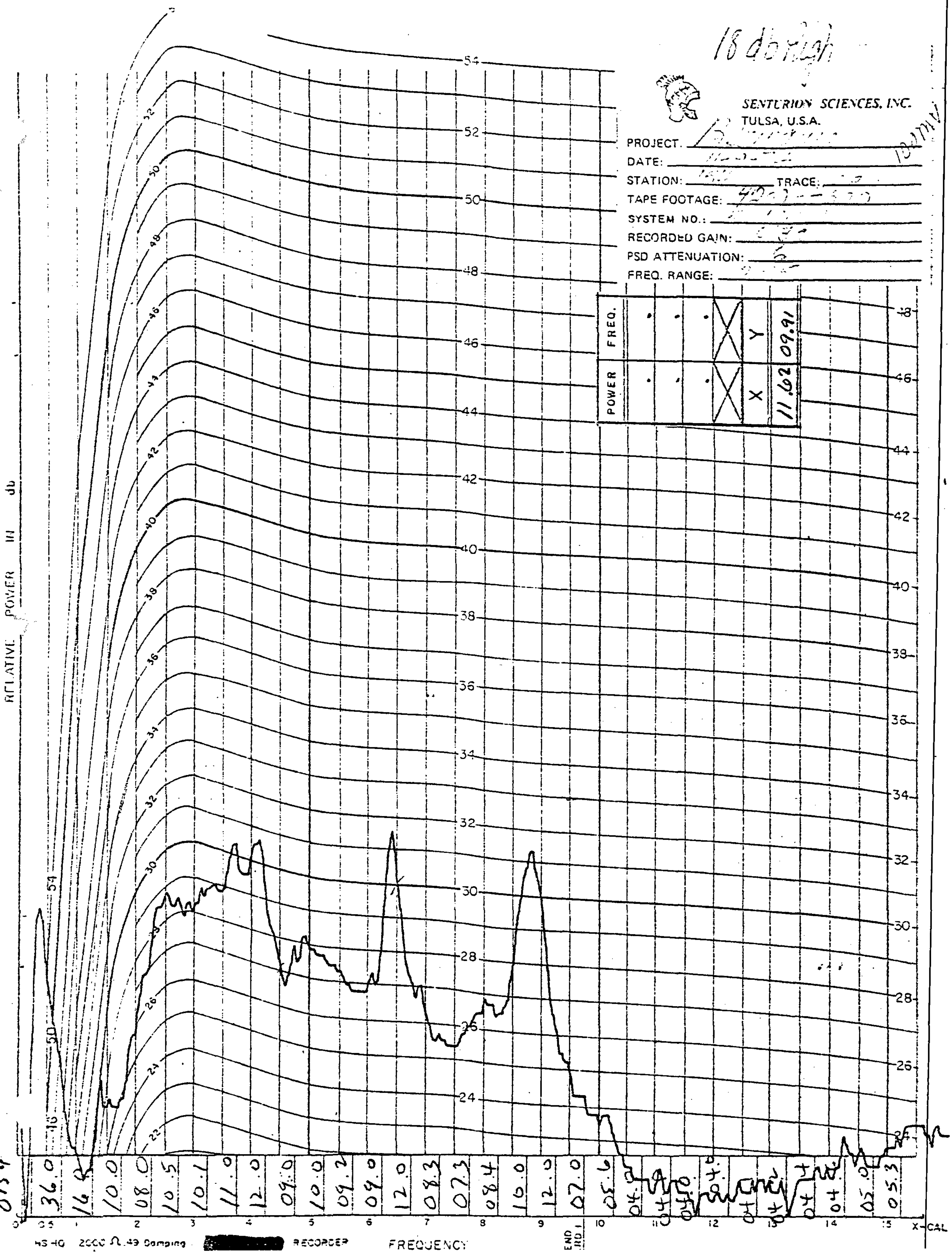
HS-10 2000 Ω 49 Damping [redacted] RECORDER FREQUENCY


18 db Rot
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE: 11-2-72
STATION:
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
10.90
11.43
RELATIVE POWER IN db
FREQUENCY
X-CAL
END
HS-10 2000 Ω 49 Damping
19 NOV '74
[redacted] RECORDER

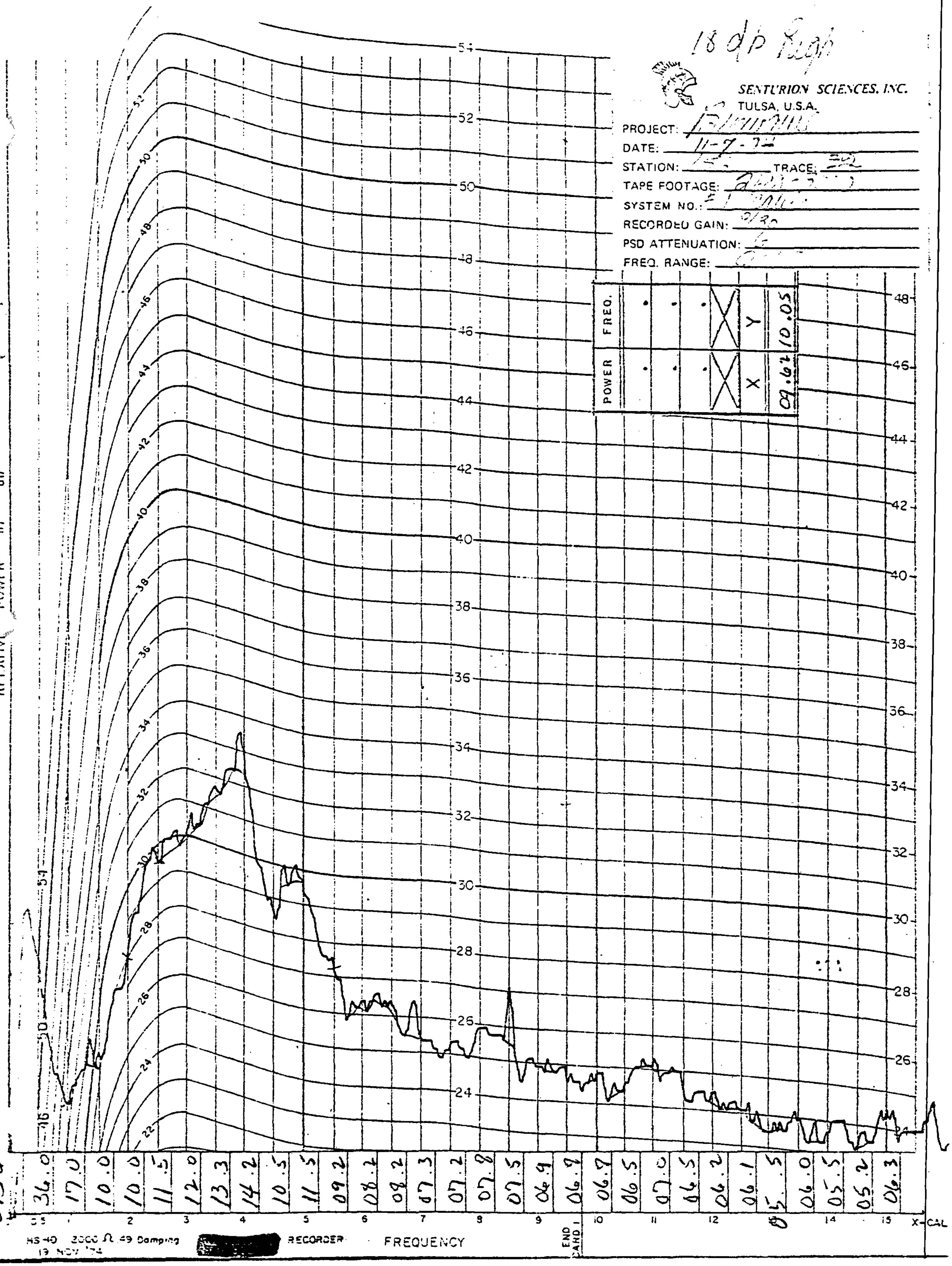

SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION:
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y
X
RELATIVE POWER IN db
FREQUENCY
X-CAL
END CARD
HS-10 2000 Ω 49 Damping
19 NOV '74
[redacted] RECORDER

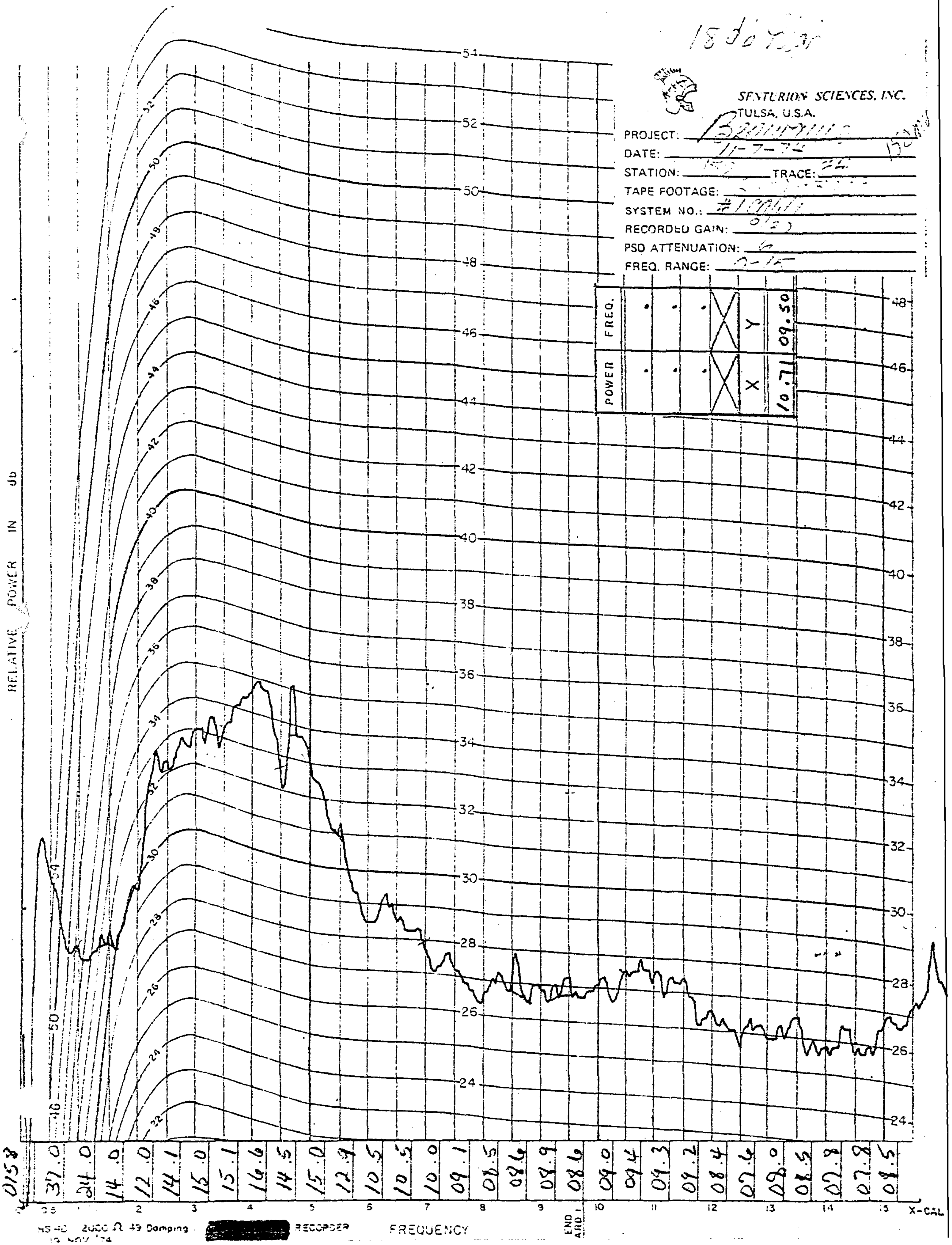


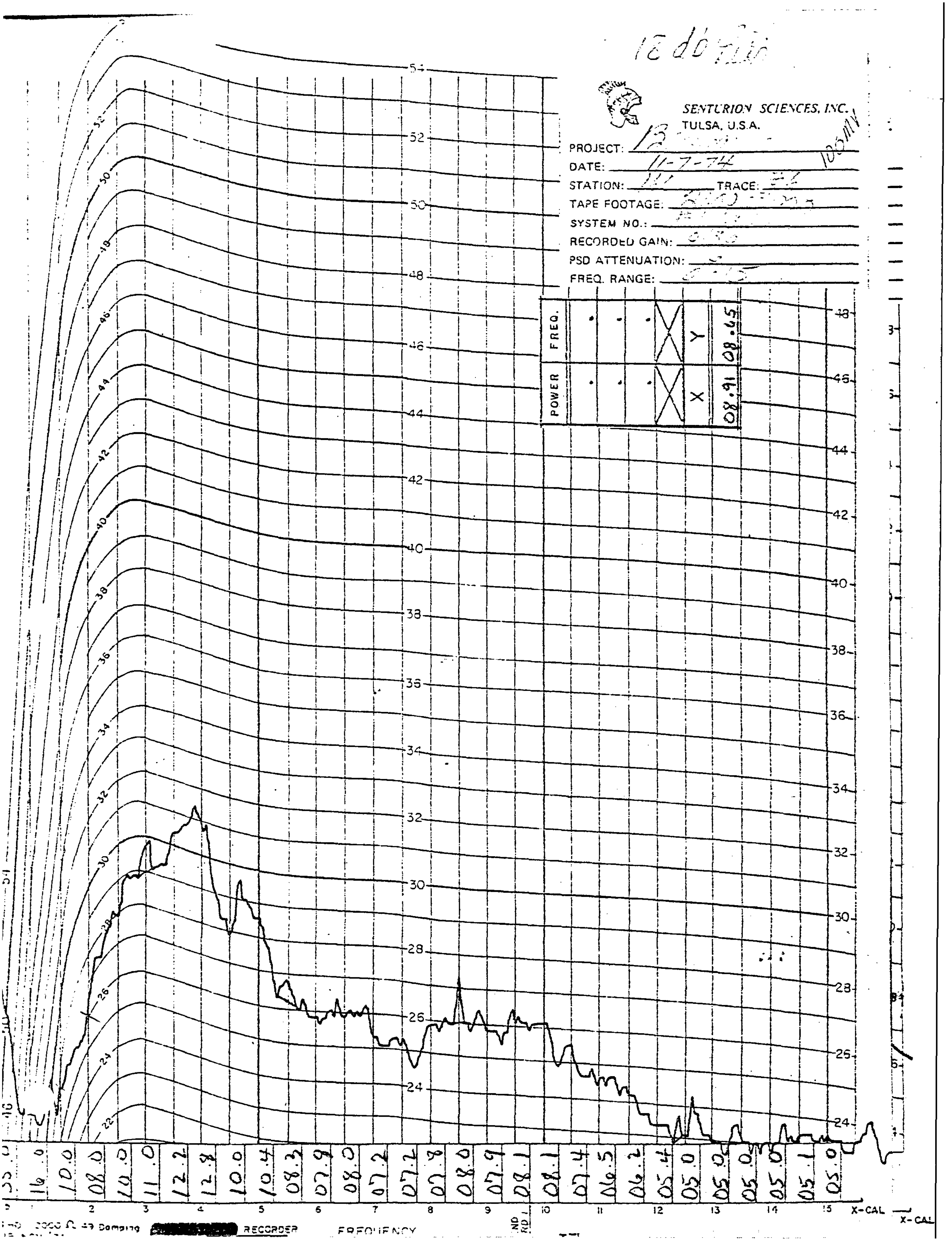
18 db high
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION:
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
Y
10.36
POWER
X
12.52
RELATIVE POWER IN db
0153
FREQUENCY
X-CAL
END CARD
HS-10 2000 Ω 49 Damping
19 NOV '74
[redacted] RECORDER


18 db high
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE:
STATION:
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
Y
09.91
POWER
X
11.62
RELATIVE POWER IN db
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
0154
36.0
16.0
10.0
08.0
10.5
10.1
11.0
12.0
09.0
10.0
09.2
09.0
12.0
08.3
07.3
08.4
10.0
12.0
07.0
05.6
05.3
0.5
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
X-CAL
HS-10 2000 Ω .49 Damping [redacted] RECORDER
FREQUENCY

18 db Peak


SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE: 11-7-7
STATION:
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ. Y 10.05
POWER X 09.64
RELATIVE POWER in db
0156
36.0 17.0 10.0 10.0 11.5 12.0 13.3 14.2 10.5 11.5 09.2 08.2 08.2 07.3 07.2 07.8 07.5 06.9 06.9 06.9 06.5 07.0 06.5 06.2 06.1 05.5 06.0 05.5 05.2 06.3
FREQUENCY
X-CAL
END CARD
HS-40 2000 Ω 49 Damping
19 NOV '74
[redacted] RECORDER


18 db T.V.
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
DATE: 11-7-74
STATION:
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y 09.50
X 10.71
RELATIVE POWER IN db
0158
37.0
24.0
14.0
12.0
14.1
15.0
15.1
16.6
14.5
15.0
12.9
10.5
10.5
10.0
09.1
08.5
08.6
08.9
08.6
09.0
09.4
09.3
09.2
08.4
07.6
09.0
08.5
07.8
07.8
08.5
X-CAL
HS-40 2000 Ω 49 Damping
13 NOV '74
[redacted] RECORDER
FREQUENCY
END ARD


12 db ...
SENTURION SCIENCES, INC.
TULSA, U.S.A.
PROJECT:
100 mV
DATE: 11-7-74
STATION:
TRACE:
TAPE FOOTAGE:
SYSTEM NO.:
RECORDED GAIN:
PSD ATTENUATION:
FREQ. RANGE:
FREQ.
POWER
Y 08.65
X 08.91
16.0
10.0
08.0
10.0
11.0
12.2
12.8
10.0
10.4
08.3
07.9
08.0
07.2
07.2
07.8
08.0
07.9
08.1
08.1
07.4
06.5
06.2
05.4
05.0
05.0
05.0
05.0
05.1
05.0
X-CAL
RECORDER
FREQUENCY