

**SEISMIC
EXPLORATION
INC.**

717 South 300 West
~~250 EAST BROADWAY SUITE 230~~ • SALT LAKE CITY, UTAH 84111 • (801) ~~322-1852~~ 364-2082

August 30, 1976

Mr. Art Lange
Amax Corp.
4704 Harlan
Denver, Colo. 80212



Dear Art,

Regarding the interpretation of groundnoise data at Mt. Princeton to determine overburden depths the data quality was so poor that we donot feel justified in charging you for this work. For example, the data was recorded at low gains causing some of the spectra to drop below the dynamic range of the recording system. Several spectra have one hertz spikes caused by one second noise pulses on the time records. Stations such as 12 were recorded on the bank of the Arkansas River and by the highway. Without seeing the time history data that was used to generate the PSD spectra we cannot ascertain the quality of the data and thus determine the reliability of data. Nevertheless we attempted to interpret the data. Results are summarized in Table 1 attached.

One-way travel times were calculated for the surface layer (first reflector) and velocities assumed for this layer in order to estimate a depth. Because of the method that was used to process the data velocities could not be estimated directly from the spectra. A second deeper layer is indicated onseveral spectra (stations 13,15,16) and the travel times in these layers have also been determined. Deeper layers are likely present on other spectra but data quality did not permit interpretation.

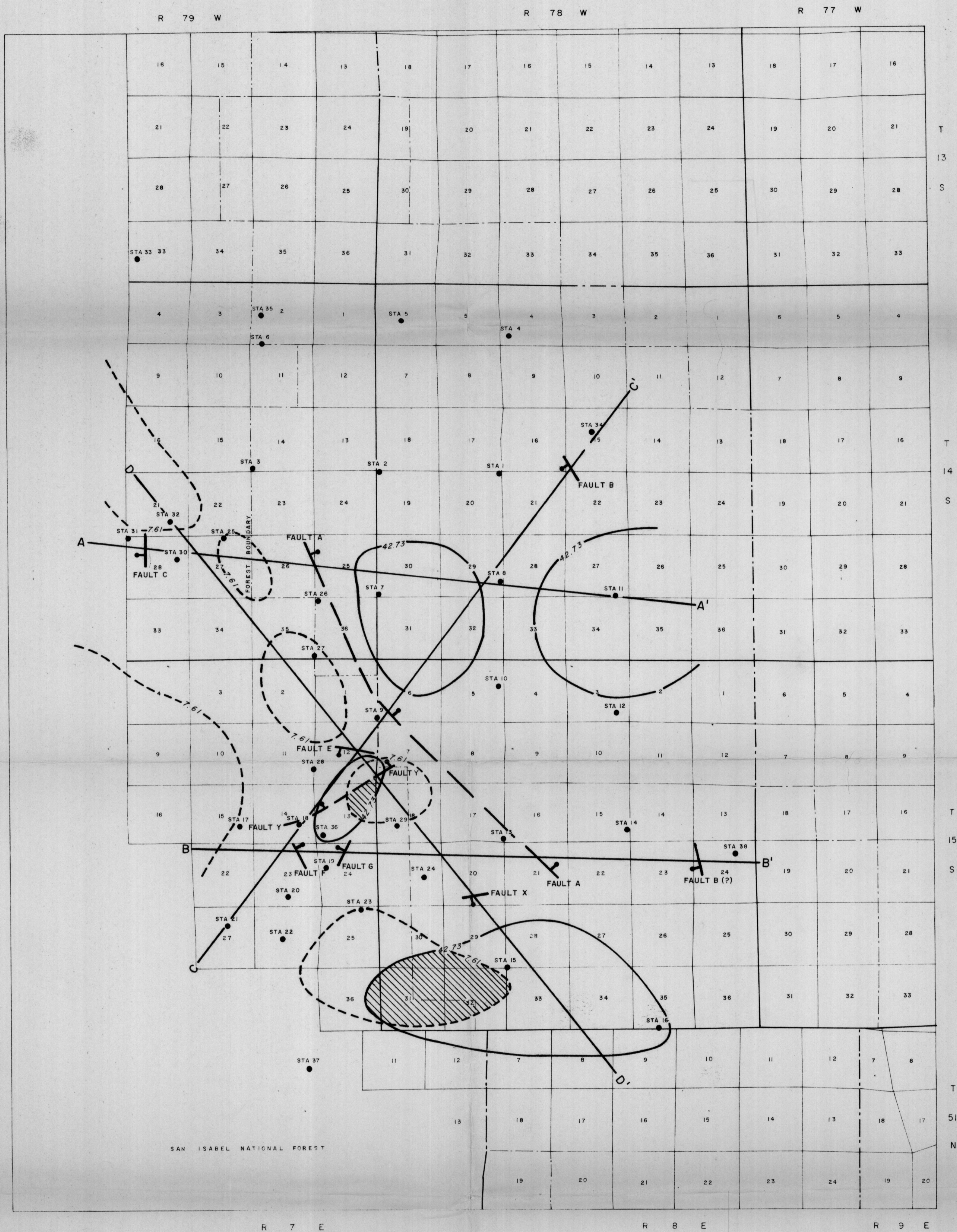
Very truly yours,
SEISMIC EXPLORATION INC

Lewis Katz
Lewis Katz

Table 1

Station	Travel Time(sec)		Depth(Layer 1) Vel=3000-5000 fps	Comments
	Layer 1	Layer 2		
8	.024		72-120 feet	
9	.021		63-105	
10	.023		69-115	
12	.083		249-415	Station located on river bank & highway
13	.024	.100	72-120	
14	.083		249-415	Station located on creek & road
15	.029	.125	87-145	
16	.024	.111	72-120	
17	.018		54-90	Poor
22	.021		63-105	
31	.019		57-95	
32	.019		57-95	

Note: Stations 12 & 14 are located at noisy sites.



LEGEND

CROSS SECTIONS A-A', C-C', B-B'
 FAULT A - GROUNDNOISE DEFINED, STRUCTURALLY INFERRED.

CROSS SECTIONS B-B', C-C'
 FAULT B - GROUNDNOISE DEFINED, STRUCTURALLY INFERRED.

CROSS SECTIONS C-C', D-D'
 FAULT E - GROUNDNOISE DEFINED, TOPOGRAPHICALLY INFERRED.
 FAULT Y - GROUNDNOISE DEFINED, TOPOGRAPHICALLY INFERRED.

CROSS SECTION A-A'
 FAULT C - GROUNDNOISE DEFINED, SOME TOPOGRAPHIC INFERENCE.

CROSS SECTION B-B'
 FAULT F & G - GROUNDNOISE DEFINED.

CROSS SECTION D-D'
 FAULT X - GROUNDNOISE DEFINED, POSSIBLY ASSOCIATED WITH SOUTHERN ANOMALY.

AVERAGE + 1 STD. DEV.
 INT. POWER 42.73
 MEAN FREQ 7.61

AMAX
 AREA: MT. PRINCETON
 COUNTY: CHAFFEE
 STATE: COLORADO

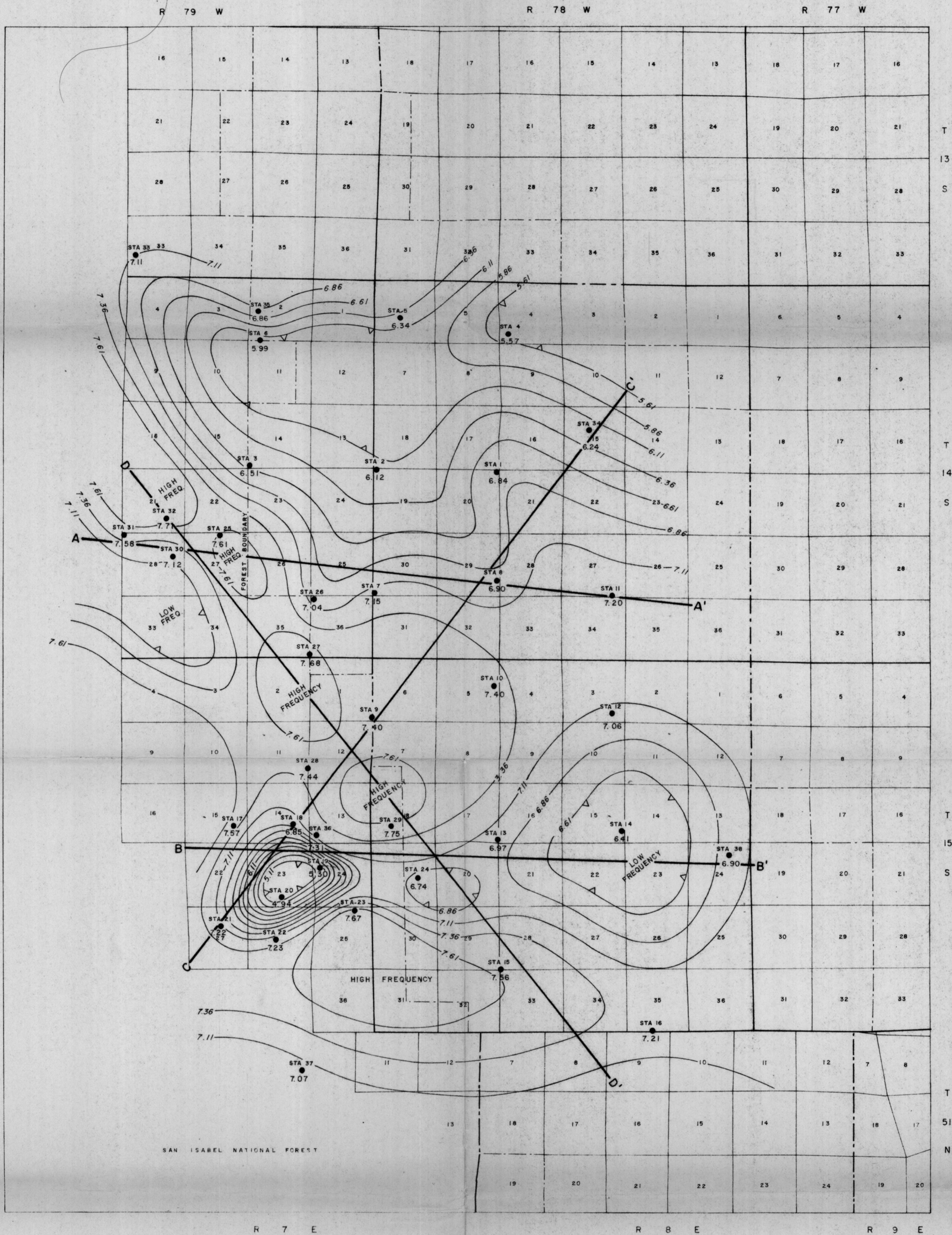
ANOMALOUS AREAS
 INTEGRATED POWER
 MEAN FREQUENCY OF THE INTEGRATED POWER

DATES OF ACQUISITION:
 MARCH 31 - APRIL 6, 1974
 CONTOUR INTERVAL:

0 1 2 3 4
 MILES

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

FIGURE 3



AMAX
AREA: MT. PRINCETON
COUNTY: CHAFFEE
STATE: COLORADO
MEAN FREQUENCY OF THE INTEGRATED POWER

DATES OF ACQUISITION:
 MARCH 31 - APRIL 6, 1974
 CONTOUR INTERVAL: .25 Hz.

0 1 2 3 4
 MILES

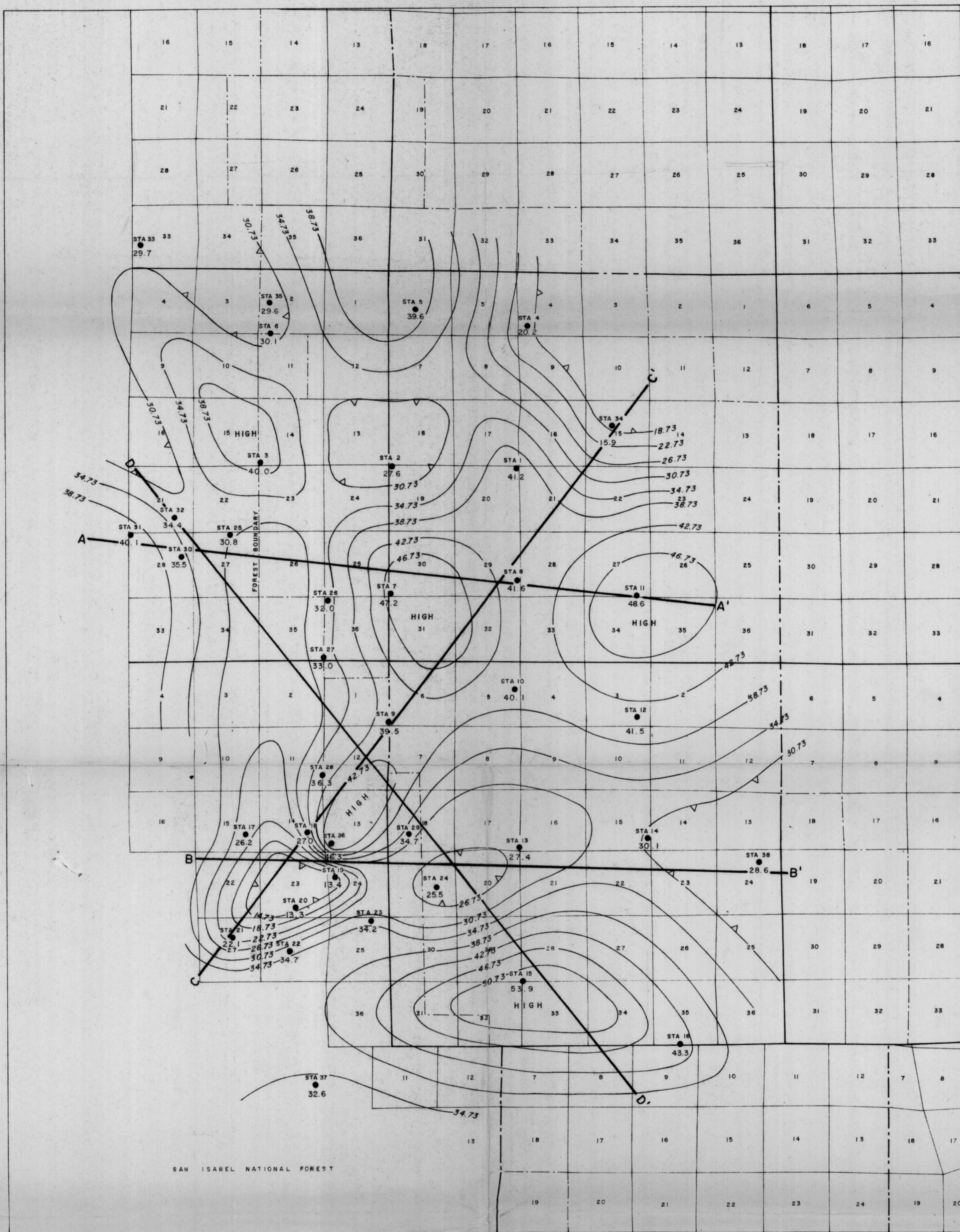
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 TULSA, U. S. A.

FIGURE 2

R 79 W

R 78 W

R 77 W



SAN ISABEL NATIONAL FOREST

R 7 E

R 8 E

R 9 E

AMAX

AREA: MT. PRINCETON

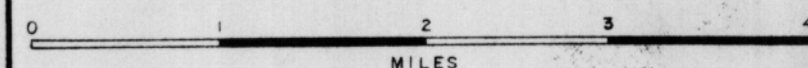
COUNTY: CHAFFEE

STATE: COLORADO

INTEGRATED POWER

DATES OF ACQUISITION:
MARCH 31 - APRIL 6, 1974

CONTOUR INTERVAL: 4 UNITS



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

FIGURE 1