AERIAL RADIOMETRIC AND MAGNETIC RECONNAISSANCE SURVEY OF THE EAGLE-DILLINGHAM AREA, ALASKA Mt. HAYES QUADRANGLE

VOLUME 2-H

TEXAS INSTRUMENTS INCORPORATED
Dallas, Texas

June 1978

WORK PERFORMED UNDER
BENDIX FIELD ENGINEERING CORPORATION
GRAND JUNCTION OPERATIONS, GRAND JUNCTION, COLORADO
Subcontract No. 77-060-L and Bendix Contract EY-76-C-13-1664

PREPARED FOR THE
U.S. DEPARTMENT OF ENERGY
Grand Junction, Colorado 81501

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ABSTRACT

The results of a high-sensitivity aerial gamma-ray spectrometer and magnetometer survey of the Mt. Hayes Quadrangle, Alaska, are presented. Instrumentation and methods are described in Volume 1 of this final report. This work was done by Texas Instruments Incorporated under Bendix Field Engineering Corporation Subcontract No. 77-060-L as part of the U.S. Department of Energy National Uranium Resource Evaluation (NURE) Program.

Statistical and geological analysis of the radiometric data revealed two uranium anomalies worthy of field checking as possible prospects. One is located near Mesozoic granite, which is believed to have the best potential for future economic uranium deposits. Another uranium anomaly is associated with Paleozoic-Precambrian rocks and may be caused by augen gneiss or possibly granitic intrusives.

Two weakly uraniferous provinces merit study: one in the northwest, which may be related to the Tertiary-Cretaceous coal-bearing unit, and a second in the northeast, which may be related to Mesozoic granites.

NARRATIVE

NARRATIVE

SECTION I
INTRODUCTION

A. GENERAL

This volume contains information and survey results pertaining specifically to the Mt. Hayes NTMS 1:250,000 scale Quadrangle, Alaska, one of a group of 13 such quadrangles, portions of the region between Eagle and Dillingham, Alaska, included in an aerial radiometric and magnetic reconnaissance survey. Information of a general nature concerning the instrumentation and methods used in data acquisition, processing, and interpretation is presented in Volume 1 of this final report.

The survey was conducted by Texas Instruments Incorporated under Bendix Field Engineering Corporation Subcontract No. 77-060-L as part of the U.S. Department of Energy National Uranium Resource Evaluation (NURE) Program.

B. URANIUM GEOLOGY AND OCCURRENCES

1. Uranium Occurrences

Table 1-1 summarizes areas that have been investigated for uranium in the Mt. Hayes Quadrangle (Eakins, 1969, 1975; Cobb, 1970). Their locations are shown on the preferred-anomaly map (Figure 2-1).

TABLE 1-1. AREAS OF URANIUM INVESTIGATION IN THE MT. HAYES QUADRANGLE

Occurrence Map No.	Description
1	Maclaren River: Cu in quartz veins associated with Triassic diabasic lava. Maximum eU of 0.003 percent (Eakins, 1969).
2	Delta Coal Mine: No radioactivity was found in coal associated with Tertiary sand, gravel, and clay (Eakins, 1969; Cobb, 1970).
3	Ober Creek: At a placer Au deposit in schist and gneiss, panned concentrates averaged 0.006 percent eU with a maximum of 0.011 percent. High radioactivity was probably from monazite (Eakins, 1969).

Eakins (1969) made a traverse along the Tanana River (dashed line in northeast corner of Figure 2-1) where granite at Cathedral Bluffs recorded a maximum eU of 0.006 percent. A second radiometric traverse along the highway from Delta Junction to Paxton revealed no significant anomalies.

There are no reported productive uranium deposits in the Mt. Hayes Quadrangle (Eakins, 1969, 1975; Cobb, 1970).

2. Geologic Mapping

The geologic map used for the survey of the Mt. Hayes Quadrangle was adapted mainly from the 1:1,000,000-scale preliminary geologic map of the southeast quadrant of Alaska compiled by Beikman (1974) and the geology of the eastern part of the Alaska Range by Moffit (1954). Also used were several 15-minute quadrangle maps (Pewe and Holmes, 1964, and Holmes and Pewe, 1965), as well as the geology along the trans-Alaska pipeline route (Weber, 1971), along the Alaska Highway (Holmes, 1965), and in the Johnson River area (Foster and Holmes, 1968). Photogeologic interpretation of LANDSAT imagery also was used in the compilation of the geologic map. Table T-1 (TABLES Section) lists the mapped geologic units for both the Big Delta and Mt. Hayes Quadrangles that constitute one geologic cell in the interpretation of the gamma-ray data. In this survey, the mapped geologic units were classified as "water-saturated" or "better-drained" on the basis of topographic relief and appearance on LANDSAT imagery as a correction for gamma-ray absorption by soil moisture (see also Volume 1). The "water-saturated" areas are indicated by primed geologic-unit symbols (e.g., Tv′).

The rocks in the Mt. Hayes Quadrangle can be subdivided into three general groups: (1) the foothills along the north flank of the Alaska Range, consisting of rocks ranging in age from Precambrian to Quaternary; (2) part of the Tanana Basin, consisting of Quaternary deposits overlying nonmarine Tertiary sediments and Paleozoic or Precambrian schists; and (3) part of the Yukon-Tanana Upland, consisting predominately of Paleozoic-Precambrian schist and Mesozoic granitic intrusives.

3. Potential Uranium-Bearing Units

a. General

The Mesozoic intrusives in the eastern part of the quadrangle are probably related to the Mesozoic granites of the Eagle Quadrangle. Eakins (1975) suggested that these granites, which include diorite and related rocks, have potential as host rocks for vein-type uranium. Bohse et al. (1975) consider uranium-rich igneous rocks, which may occur as late-stage alkaline granitic differentiates, to be a future low-grade resource (see also Saunders and Potts, 1978). Sorensen (1970) recommends that exploitation of alkaline intrusions should be considered in connection with the occurrences of Nb, Be, Zr, Li, F, and other rare elements in the same regions.

Eakins concluded that, in the Yukon-Tanana Upland, descriptions of most rocks older than Cretaceous do not suggest that they would be favorable hosts for uranium. However, he does recommend that any study of the uranium content of the Paleozoic-Precambrian granitic gneisses should start with the gneiss mapped as "augen gneiss" on Foster's (1970, 1972) geologic maps of the Tanacross and Eagle Quadrangles.

b. Deposits Associated With Sediments

Eakins (1975) considers the uranium potential of the Tanana Basin to be problematical; nonmarine Tertiary sandstones, volcanic ash, and coal are present, but their extent in the subsurface is unknown. He considers the shallow water table (from 0 to 50 feet) a factor against the formation of sedimentary uranium. However, Eakins proposes that the Tertiary coal-bearing group in the foothills of the Alaska Range is favorable as a uranium host rock; this unit contains volcanic ash beds that are a possible source of uranium, and granitic material may have been supplied by the Mesozoic and Tertiary intrusives in the north slope of the Alaska Range. Also, Eakins recommends that a sandstone unit within the coal-bearing zone, which contains abundant feldspar probably derived from granites to the north or northeast, be investigated for uranium.

SECTION II

RADIOMETRIC DATA INTERPRETATION

A. SELECTION OF URANIUM ANOMALIES

1. Statistical Considerations

Each of the equivalent uranium, equivalent uranium/equivalent thorium, and equivalent uranium/potassium data sets was computer processed to identify and outline all individual, or groups, of statistically high data points on the following basis. If a single statistically high point is considered in terms of multiples of the standard deviation above the mean (i.e., significance factor), the probability that its value was caused by random variation of the background is shown in Table 2-1.

TABLE 2-1. PROBABILITY THAT A SINGLE STATISTICALLY HIGH POINT IS CAUSED BY RANDOM DEVIATIONS*

Point Value	Probability
Mean + 1 standard deviation	0.1587 or 1:6.3
Mean + 2 standard deviations	0.0228 or 1:44
Mean + 3 standard deviations	0.0013 or 1:768

*A probability is determined as the area under the standardized normal distribution curve above the indicated value.

The maximum probability of 1:768 was used to judge the reliability of single isolated statistically high points in the data interpretation.

Spatial groupings of statistically high values are less probable than is a scattering of the same values over the map unit. If a spatial grouping consists of adjacent statistically high points, the probability (P) that all the points were caused by random fluctuations is:

$$P = P_1 \cdot P_2 \cdot P_3 \ldots P_n$$

where $P_1, P_2, \ldots, P_n$ represent the single-point probabilities for n points.

Assuming the same certainty criterion of 1:768, Table 2-2 gives the minimum requirements for all adjacent points in a reliable anomaly. This allows groupings of statistically high (or low) points more than 0.87 standard deviation from the mean to be evaluated.

TABLE 2-2. MINIMUM DEVIATION FROM THE MEAN FOR ALL POINTS FOR LIMITING PROBABILITY OF 1:768 (Elkins, 1940)

Number of Points Supporting Anomaly	Minimum Deviation
1	3.00 standard deviations
2	1.79 standard deviations
3	1.22 standard deviations
4	0.87 standard deviation

2. Uranium Anomalies

Data for the Mt. Hayes Quadrangle, including eU,* eU/eTh,* and eU/K,* were searched by the computer and all acceptable significant anomalies were identified. These were printed out on the "preferred-anomaly" map (figure 2-1) as asterisk symbols for each data point constituting a valid anomaly. The eU anomalies are indicated by asterisks along the flight line, and eU/eTh anomalies are shown by asterisks N of E-W flight lines and E of N-S flight lines. The eU/K anomalies are indicated by asterisks S of E-W flight lines and W of N-S flight lines.

Next, those eU anomalies that showed geochemical enrichment of eU over the eTh and/or K present were identified. First-priority anomalies are those that show simultaneous statistically valid eU, eU/eTh, and eU/K anomalies. The preferred-anomaly map (Figure 2-1) has been marked to indicate the locations of all first-priority anomalies, and they are described in Table 2-3.

The data user can outline these anomalies on the appropriate profile maps to evaluate more quantitatively the relative magnitudes of the anomalies. The profile maps also are useful in delineating areas relatively depleted of uranium by geochemical activity to be concentrated in nearby deposits. Recent study has shown that the Gas Hills and Shirley Basin uranium districts are accompanied by uranium-barren altered areas detectable by aerial gamma-ray spectrometry (Texas Instruments, 1977).

Second-priority anomalies that, under special circumstances, may indicate potential uranium prospects are those which show only a combination of two statistically valid anomalies out of the three parameters, eU, eU/eTh, and eU/K. These are easily identifiable on the preferred-anomaly map. Examples of special situations where second-priority anomalies can be important indicators of uranium prospects are given in Table 2-4.

*eU = Equivalent uranium measured by bismuth-214.
eTh = Equivalent thorium measured by thallium-208.
K = Potassium measured by potassium-40.

TABLE 2-3. PREFERRED eU ANOMALIES–MT. HAYES QUADRANGLE

Anomaly No.	Line No.	Geologic Unit(s)	Highest eU S.F.*	Number of Averaged Records	Remarks
(1)	24	Q	2.0	4	Possible U prospect (Mzg)
(2)	25	Pzpt	3.0	4	Possible U prospect (Pzpt-2)
3	32	Tv	1.5	2	Possible high eU shale or tuffaceous unit

*S.F. = Significance Factor (From eU profile map, M-2; recorded to nearest 0.5 unit).

◯ = Possible uranium prospect.

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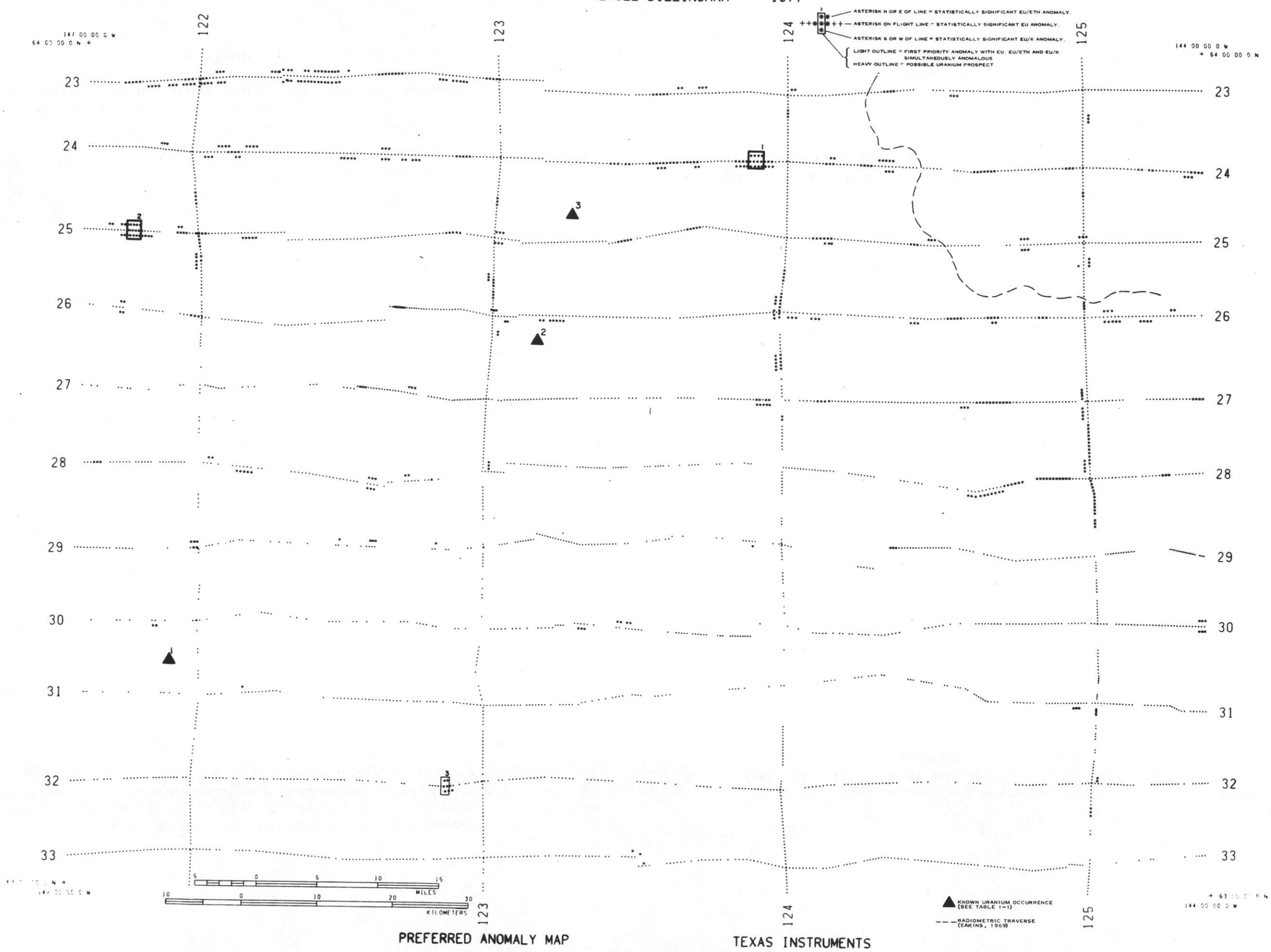

PREFERRED ANOMALY MAP TEXAS INSTRUMENTS

Figure 2-1. Preferred-Anomaly Map

TABLE 2-4. EXAMPLES OF POTENTIALLY IMPORTANT SECOND-PRIORITY ANOMALIES (Texas Instruments, 1977)

Valid Anomalies	No Anomaly	Locality Description
eU + eU/K	eU/eTh	Shirley Basin, Wyoming; high thorium due to surface layer of monazite yields normal eU/eTh even in areas where eU is anomalously high.
eU + eU/eTh	eU/K	Regions with surface evaporite deposits rich in potash yield normal eU/K even when eU is anomalously high.
eU/eTh + eU/K	eU	Areas of water-saturated surface material or heavy vegetation can shield eU, eTh, and K radiations simultaneously, but the ratios will still reflect the hidden relative eU enrichment.

B. DATA TABLES AND HISTOGRAMS

1. General

Microfiche copies of the single-record and averaged-record data listings are included in Volume 1 of this report. Statistical summary tables, flight-line mean values, and histograms for the gamma-ray parameters are presented by geologic unit in this volume. Further explanatory details are given in Volume 1.

2. Statistical Summary Tables

Tables showing the distribution types, statistical parameters and number of samples for each geologic formation are presented for eU, eTh, K, eU/eTh, eU/K, and eTh/K in the TABLES Section. These are useful in studying the magnitudes and variations of the radioactivity of the formations relative to one another and to the normal U, Th, and K abundances in the lithologic types represented. Approximate conversion factors from counts per second to concentration units are given in Table 2-5.

Examination of the statistical summary tables shows Mzg-2 (Mesozoic granite) to have the highest mean eU content; however, it is not abnormally high for its lithology.

3. Flight-Line Averages

Mean values for eU, eTh, K, eU/eTh, eU/K, and eTh/K by geologic unit for each flight line in the Mt. Hayes Quadrangle are given in the TABLES Section. These may be used to study the variation in gamma-ray parameters within a formation as one crosses the quadrangle from N to S or from E to W.

TABLE 2-5. CALIBRATION CONSTANTS*

Element	Constant
eU	10.5 cps/ppm
eTh	4.7 cps/ppm
K	81.3 cps/%

*Based on Lake Mead Test Strip calibration of 25 May 1977.

4. Histograms

Histograms for each radiometric parameter are presented for each geologic unit in the HISTOGRAMS Section.

Several histograms showed multimodal distributions that indicated the presence of more than one distinct lithology in that geologic unit. In situations where the multimodal characteristic of a histogram was obvious, the unit was divided into two or more populations by splitting the histogram based on eTh or K but not eU. For example, in the case of Mzg (Mesozoic granites), the eTh histogram could be reasonably split at one point. The distribution of the unsplit unit is shown in H-26, and the distributions after splitting are shown in H-27 and H-28. New means and standard deviations were calculated before computerized geologic analysis of the data. Table 2-6 summarizes all the histogram splits for the quadrangle. The eU, eTh, and K medians for the resulting subunits are given in concentration units computed from the Statistical Summary Tables and the calibration constants in Table 2-5. Comparing the values in Table 2-6 to the estimated crustal averages for various rock types (Table 2-7) compiled by Kogan et al. (1971; see also Saunders and Potts, 1978) allows at least a reasonable guess as to the probable average lithology of the units. For example, the geologic unit Mzg (Mesozoic granites) probably includes a range of igneous intrusions from granitic igneous rocks (Mzg-2) to intermediate igneous rocks (Mzg-1).

C. MAPS AND PROFILES

1. General

Explanatory details concerning the generation and presentation of maps and profiles are given in Volume 1.

2. Profile Maps

Profile maps showing the significance-factor levels for eU, eTh, K, eU/eTh, eU/K and eTh/K on geologic bases are presented in the MAPS Section, along with a map showing the record locations and geology (M-1 through M-7). These may be compared directly with the preferred-anomaly map (Figure 2-1) to determine the relative strengths of the eU, eU/eTh, and eU/K anomalies and their geologic locations. They are also useful in studying the geographic variations in the other radiometric parameters.

3. Radiometric Stacked Profiles

Stacked profiles showing the variation in absolute magnitudes of eU, eTh, K, eU/eTh, eU/K, and eTh/K, as well as gross count, residual magnetic field, terrain clearance, eU-air values, and geology along each flight line are presented in the PROFILES Section (P-1 through P-15). This presentation provides a convenient way of examining simultaneously all the data at each

TABLE 2-6. RADIOMETRIC ANALYSIS OF SELECTED MAP UNITS

Geologic Unit	Split on (cps)	Median Values eU (ppm)	eTh (ppm)	K (Percent)	eTh/eU	Probable Lithology
Q-1	K = 50	0.8	2.1	0.43	2.6	Wet sediment
Q-2		1.7	5.4	1.06	3.2	Sand
Q′-1	K = 60	0.9	2.4	0.50	2.7	Wet sediment
Q′-2		2.1	6.4	1.02	3.0	Sand
Qg-1	K = 60	0.7	1.7	0.24	2.4	Glacial debris (high ice content)
Qg-2		1.4	5.1	1.30	3.6	Moraine
Qg′-1	K = 60	0.9	2.1	0.29	2.3	Glacial debris (high ice content)
Qg′-2		1.7	6.2	1.08	3.6	Moraine
uMz-1	K = 60	0.6	1.6	0.80	2.7	Limestone
uMz-2		0.9	2.9	2.43	3.2	Shaly limestone
MzPz-1	Th = 35	0.8	2.1	1.29	2.6	Sedimentary rocks
MzPz-2		1.4	8.1	2.81	5.8	Intermediate igneous rocks
Mzg-1	Th = 65	2.4	7.4	1.04	3.1	Diorite (low K)
Mzg-2		4.5	17.3	1.05	3.8	Granite (low K)
Ps-1	Th = 40	1.9	5.5	1.04	2.9	Sandstone
Ps-2	Th = 55	3.2	9.3	1.05	2.9	Shaly sandstone
Ps-3		3.8	13.4	1.20	3.5	Granitic intrusives (low K)
Pz-1	Th = 40	1.1	3.2	1.07	2.9	Sedimentary rocks
Pz-2		2.5	9.7	2.09	3.9	Granodiorite
Pzu-1	K = 55	0.4	1.9	0.55	4.8	Basalt
Pzu-2		1.0	3.6	0.83	3.6	Greenstones
PzpЄ-1	K = 120	1.9	6.1	0.96	3.2	Sandstone
PzpЄ-2		2.7	12.1	2.08	4.5	Granodiorite (possibly PzpЄg)

averaged-record location. The data, as shown, are not corrected for geology (as in the case with the profile maps) and provide an opportunity to study the relative differences in counting rates among the geologic map units.

The altitude (terrain-clearance) trace allows identification of portions of flight lines where terrain-clearance requirements were exceeded and the data were discarded in the statistical processing. The averaged-record locations are flagged along the baseline. The eU, eTh, and K traces are similarly flagged for data discarded because of Currie significance test failure. The discarded data points are included in the stacked profiles and may be examined, keeping in mind

TABLE 2-7. AVERAGE U, Th, K CONTENT OF ROCKS
(after Kogan et al., 1971)

Rock Type	Average Values U (ppm)	Th (ppm)	K (%)	Th/U
Continental Crust	2.5	13.0	2.5	5.2
Igneous Rocks				
Acidic (granites)	3.5	18.0	3.34	5.1
Intermed. (diorites)	1.8	7.0	2.31	4.0
Basic (basalt-gabbro)	0.5	3.0	0.83	6.0
Ultrabasic (dunite-peridotite)	0.003	0.005	0.03	1.7
Sediments				
Shale, clay	4.0	11.0	3.2	2.8
Sandstone	3.0	10.0	1.2	3.3
Limestone	1.4	1.8	0.3	1.3
Evaporite	0.1	0.4	0.1	4.0

that they are generally statistically unreliable. If the rock types are sufficiently radioactive, normal terrain clearance may be exceeded somewhat with reasonably reliable data statistics, and the added information may be useful.

4. Magnetic Stacked Profiles

The single-record (unaveraged) data on flight-level air temperature, flight-level barometric pressure, average terrain clearance, diurnal magnetics, residual total magnetic field, and geology are shown for each flight line in the PROFILES Section (P-16 through P-30).

D. CONCLUSIONS

1. General

Table 2-8 lists the number of first-priority anomalies and the total number of eU records in each formation. Of the three first-priority uranium anomalies in this quadrangle, two have been classified as possible uranium prospects based on their geologic location and eU-anomaly characteristics (see Table 2-3). Anomaly 1 is located in an area that may contain Mesozoic granite that is known to be uranium-bearing elsewhere, and it is judged to have the best potential for economic deposits in this quadrangle. Anomaly 2 may be associated with Pzpt-2 (intrusives into Paleozoic-Precambrian rocks or possibly Paleozoic-Precambrian augen gneiss), which might contain vein-type uranium mineralization. Anomaly 3 is associated with Triassic volcanics which contain shale and tuffaceous units that may be responsible for the anomalously high uranium values.

TABLE 2-8. GEOLOGIC UNITS WITH eU ANOMALIES

Geologic Unit	Number of First-Priority Anomalies	Total Number of eU Records in Unit	Geologic Unit	Number of First-Priority Anomalies	Total Number of eU Records in Unit
Q	1	6,611	Mzi	1	0
Q′	–	11,052	Mzi′	–	1
Qg	–	2,746	MzPzi	–	10
Qg′	–	344	Ŧv	1	941
Tn	–	80	Ŧv′	–	24
Ts	–	74	Mzu	–	33
Tkc	–	519	Pl	–	20
Tkc′	–	80	Ps	–	130
TMzu	–	60	Pz	–	943
Tg	–	22	Pz′	–	16
Tkg	–	202	Pzv	–	75
uMz	–	677	PzpЄ	1	8,886
MzPz	–	161	PzpЄ′	–	282
Mzg	–	1,889	um	–	55
Mzg′	–	200			

2. **Uraniferous Provinces**

A grouping of statistically significant eU anomalies (not of first-priority classification) lies northeast of anomaly 2 in the northwest corner of the quadrangle. These anomalies are located in an area that may be underlain by Tertiary-Cretaceous coal-bearing units. Another grouping of anomalies is located in the northeast part of the quadrangle. This set may be related to granitic units of the Yukon-Tanana Upland.

3. **Suggestions for Further Work**

Follow-up studies should include ground checks of the most promising eU anomalies as well as checks of second-priority eU/eTh + eU/K anomalies to determine if the lack of eU anomalies is caused by vegetative or shallow-groundwater shielding of gamma rays emanating from possible prospects or uraniferous source rocks.

If the ground checks prove fruitful, it could be advantageous to fly detailed aerial radiometric surveys over the areas surrounding the most promising anomalies (in areas considered as uraniferous geochemical provinces). This survey covered only a small percentage of the surface and closer line spacing would delineate all anomalies that might represent potential uranium deposits.

Summary discussions of possible follow-up exploration methods are presented by Saunders and Potts (1978).

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TABLES

TABLES

TABLE T-1. GEOLOGIC MAP UNITS–MT. HAYES QUADRANGLE

Computer Symbol	Map Symbol	Description
	Quaternary	
Q	Q	Undifferentiated Quaternary Deposits: Includes unconsolidated sand, gravel and silt; alluvium of streams, glacial moraines, outwash gravel, and the marine Bootlegger clay.
QG	Qg	Glaciers: Areas of active glaciation.
	Tertiary Sedimentary	
TN	Tn	Nenana Gravel: Continental deposits. Includes poorly consolidated pebble to boulder conglomerate and coarse sandstone, with interbedded mudflows, claystone, and local thin lignite beds.
TC	Tc	Cantwell Formation: Continental deposits. Includes interbedded sand, gravel, and clay and may include the Nenana gravel.
TS	Ts	Cantwell Formation: Includes numerous beds of coal locally.
TKC	TKc	Tertiary and Upper Cretaceous Conglomerate: Continental deposits. Includes breccia, sandstone, mudstone, shale, tuffaceous sediments, and conglomerate.
	Intrusives	
TF	Tf	Felsic Rocks: Plugs and sills composed of porphyritic rhyolite, dacite, and latite.
TG	Tg	Granitic Rocks: Quartz diorite to granite.
TKG	TKg	Tertiary-Cretaceous Granitic Rocks: Quartz diorite to granite.
TMZG	TMzg	Tertiary–Mesozoic Granitic Rocks: Includes quartz monzonite, granodiorite, and quartz diorite with subordinate granite and diorite.
TMZU	TMzu	Tertiary–Mesozoic Undifferentiated Granitic Rocks: Includes quartz monzonite and granodiorite
	Mesozoic Sedimentary	
UMZ	uMz	Undifferentiated Mesozoic Rocks: Mainly Cretaceous and Jurassic argillite, shale, graywacke, conglomerate, lava, tuff, and agglomerate; some rocks metamorphosed to the amphibolite facies.

TABLE T-1. GEOLOGIC MAP UNITS–MT. HAYES QUADRANGLE (Continued)

Computer Symbol	Map Symbol	Description
	Mesozoic Sedimentary (continued)	
MZPZ	MzPz	Mesozoic–Paleozoic Rocks: Undifferentiated sedimentary rocks with interstratified volcanic rocks and many intrusives; chiefly hard limy argillite, hard sandy or tuffaceous beds, limy grit or conglomerate, limestone, sandstone or quartzite, volcanic breccias, and limy tuff; many intrusive dikes and sills.
	Intrusive	
MZG	Mzg	Granites: Light colored, coarse-grained diorite, quartz diorite, and related intrusives; markedly porphyritic in places.
MZI	Mzi	Intrusive Rocks: Includes gabbro, basalt, and basaltic breccia.
MZPZI	MzPzi	Mesozoic–Paleozoic Intrusives: Undifferentiated crystalline rocks of various types, with diorite, basic intrusive rocks, lavas, and tuffs.
	Extrusive	
TRV	Trv	Triassic Volcanics: Includes amygdaloidal basaltic lava, diabase, and intercalated tuffaceous and shaly beds. Includes nikolai greenstone.
MZV	Mzv	Volcanics: Of uncertain age and type.
	Permian	
PL	Pl	Limestone
PS	Ps	Sediments: Includes shale, arkosic sandstone and conglomerate, with basaltic flows and intrusives.
	Paleozoic	
PZ	Pz	Undifferentiated Rocks: North of McKinley Strand–Denali Fault. It includes lower paleozoic rocks from Cambrian to Devonian: argillite, graywacke, phyllite, quartzite, slate, limestone, and chert. South of the fault, it includes rocks of Permian to Precambrian age including slate, argillite, conglomerate, volcanics, intrusions, schist, and limestone.
PZL	Pzl	Limestone

TABLE T-1. GEOLOGIC MAP UNITS–MT. HAYES QUADRANGLE (Continued)

Computer Symbol	Map Symbol	Description
Paleozoic (continued)		
PZV	Pzv	Volcanic Rocks: Includes greenstones, with minor quartzite chert and phyllite; also amygdaloidal basalts, tuffs, and intrusives; may include some shale.
PZU	Pzu	Ultramafic Rocks: Metamorphosed. Chiefly altered peridotite.
PZPC	PzpЄ	Paleozoic–Precambrian Rocks: Undifferentiated, chiefly schist derived from argillaceous and quartzite rocks.
PZPCG	PzpЄg	Paleozoic–Precambrian Gneiss: Includes augen gneiss and biotite gneiss derived from metamorphism of granitic intrusive rocks.
Precambrian		
UM	Um	Ultramafic Rocks: Includes dunite, serpentinite and peridotite of uncertain age.

TABLE T-2. STATISTICAL SUMMARIES

DISTRIBUTION TYPES OF GAMMA-RAY PARAMETERS

GEOL UNIT	TH	U	K	U/K	U/TH	TH/K
Q-1	LN	LN	N	LN	LN	LN
Q-2	LN	LN	LN	N	N	N
Q'-1	LN	LN	N	LN	LN	LN
Q'-2	N	N	LN	N	N	N
QG-1	LN	LN	LN	LN	LN	LN
QG-2	LN	LN	LN	N	LN	LN
QG'-1	LN	N	LN	LN	LN	LN
QG'-2	N	N	LN	N	LN	N
TN	N	LN	LN	LN	LN	LN
TS	N	N	LN	N	LN	N
TKC	LN	N	LN	LN	LN	LN
TKC'	N	LN	LN	LN	LN	LN
TMZU	N	N	LN	N	N	N
TG	N	N	N	N	N	N
TKG	LN	N	N	LN	LN	LN
UMZ-1	LN	LN	N	LN	LN	LN
UMZ-2	LN	LN	LN	LN	LN	LN
MZPZ-1	LN	LN	LN	LN	N	LN
MZPZ-2	(LN)	(LN)	(LN)	(LN)	(LN)	(LN)
MZG-1	N	N	N	LN	LN	N
MZG-2	LN	LN	N	N	LN	N
MZG'	N	N	N	LN	LN	N
MZI	(LN)	(LN)	(LN)	(LN)	(LN)	(LN)
MZI'	(LN)	(LN)	(LN)	(LN)	(LN)	(LN)
MZPZI	(LN)	(LN)	(LN)	(LN)	(LN)	(LN)
TRV	LN	LN	LN	LN	LN	LN
TRV'	N	N	LN	N	N	LN
MZV	LN	N	N	N	N	N
PL	(LN)	(LN)	(LN)	(LN)	(LN)	(LN)
PS-1	LN	N	N	LN	N	LN
PS-2	(LN)	(LN)	(LN)	(LN)	(LN)	(LN)
PS-3	(LN)	(LN)	(LN)	(LN)	(LN)	(LN)
PZ-1	LN	LN	N	LN	LN	LN
PZ-2	LN	N	N	N	N	N
PZ'	LN	(LN)	LN	(LN)	(LN)	LN
PZV-1	N	(LN)	LN	(LN)	(LN)	N
PZV-2	N	LN	LN	LN	N	N
PZPC-1	N	N	N	LN	LN	N
PZPC-2	N	LN	N	LN	LN	N
PZPC'	LN	N	LN	N	LN	N
UM	LN	LN	N	LN	LN	LN

GEOLOGIC UNITS ARE ABBREVIATIONS. FOR ACTUAL NAMES AND DESCRIPTIONS SEE TEXT.

N=NORMAL; LN=LOGNORMAL. (LN) INDICATES ASSUMED DISTRIBUTION TYPE; INSUFFICIENT DATA AVAILABLE FOR VALID STATISTICAL TEST

TABLE T-2. STATISTICAL SUMMARIES (Continued)

STATISTICAL SUMMARY FOR THORIUM

GEOL UNIT	NUM. SAMPLES	-3 S.D.	-2 S.D.	-1 S.D.	MEDIAN	+1 S.D.	+2 S.D.	+3 S.D.
Q-1	2725.	3.421	4.890	6.992	9.995	14.290	20.430	29.208
Q-2	4672.	3.904	7.299	13.646	25.513	47.699	89.179	166.729
Q'-1	5714.	3.004	4.666	7.249	11.260	17.491	27.169	42.204
Q'-2	5896.	0.533	10.342	20.150	29.958	39.766	49.575	59.383
QG-1	1660.	1.631	2.776	4.724	8.040	13.683	23.288	39.634
QG-2	1528.	5.548	9.054	14.775	24.110	39.344	64.205	104.774
QG'-1	236.	2.481	3.904	6.145	9.671	15.222	23.959	37.709
QG'-2	135.	-1.931	8.487	18.906	29.324	39.742	50.161	60.579
TN	80.	13.858	15.689	17.521	19.352	21.183	23.014	24.846
TS	130.	3.646	5.929	8.212	10.495	12.778	15.061	17.344
TKC	571.	3.807	5.694	8.518	12.742	19.061	28.513	42.653
TKC'	80.	2.938	5.628	8.319	11.009	13.699	16.390	19.080
TMZU	60.	18.912	22.198	25.485	28.771	32.057	35.343	38.630
TG	49.	2.531	6.313	10.096	13.878	17.660	21.442	25.224
TKG	354.	2.727	4.593	7.738	13.034	21.956	36.985	62.302
UMZ-1	461.	2.720	3.844	5.432	7.676	10.847	15.329	21.662
UMZ-2	680.	4.340	6.363	9.327	13.673	20.044	29.384	43.075
MZPZ-1	241.	2.760	4.203	6.401	9.748	14.845	22.608	34.430
MZPZ-2	18.	32.503	34.273	36.141	38.109	40.186	42.375	44.683
MZG-1	1595.	-0.408	11.285	22.977	34.669	46.362	58.054	69.746
MZG-2	312.	55.099	62.677	71.297	81.102	92.256	104.944	119.377
MZG'	200.	2.478	10.245	18.013	25.781	33.549	41.316	49.084
MZI	9.	3.128	4.034	5.202	6.709	8.653	11.160	14.393
MZI'	10.	8.709	9.308	9.949	10.633	11.365	12.146	12.982
MZPZI	10.	45.554	47.219	48.945	50.733	52.588	54.510	56.502
TRV	1384.	2.442	3.477	4.952	7.052	10.042	14.301	20.365
TRV'	30.	4.202	5.154	6.106	7.059	8.011	8.963	9.916
MZV	33.	24.879	29.393	34.725	41.025	48.468	57.260	67.648
PL	20.	37.454	39.495	41.647	43.916	46.308	48.831	51.491
PS-1	101.	11.592	15.175	19.866	26.006	34.045	44.568	58.344
PS-2	18.	33.989	36.934	40.135	43.613	47.393	51.500	55.964
PS-3	11.	52.493	55.782	59.278	62.993	66.940	71.135	75.592
PZ-1	1170.	2.295	4.273	7.955	14.809	27.570	51.325	95.550
PZ-2	142.	35.928	38.878	42.071	45.525	49.264	53.309	57.687
PZ'	30.	2.160	3.944	7.203	13.153	24.019	43.862	80.097
PZV-1	24.	4.873	6.284	7.695	9.107	10.518	11.929	13.341
PZV-2	73.	10.528	12.710	14.891	17.073	19.255	21.436	23.618
PZPC-1	4439.	-3.645	7.057	17.758	28.460	39.161	49.863	60.564
PZPC-2	4682.	7.133	23.778	40.424	57.070	73.716	90.361	107.007
PZPC'	282.	5.874	8.667	12.788	18.868	27.839	41.076	60.607
UM	70.	4.076	5.032	6.213	7.670	9.469	11.690	14.432

VALUES LISTED ARE STATISTICALLY DERIVED ABSOLUTE COUNTING RATES AT 1,2, AND 3 STD. DEVIATIONS ABOVE AND BELOW THE RESPECTIVE MEANS. ANY NEGATIVE VALUES ARE THE RESULT OF STATISTICS ONLY AND HAVE NO REAL MEANING. RELATIVE MAGNITUDES OF THE LISTED MEDIAN VALUES ARE INDICATORS OF RELATIVE CONCENTRATIONS OF THE ELEMENTS IN THE VARIOUS GEOLOGIC ROCK UNITS.

TABLE T-2. STATISTICAL SUMMARIES (Continued)

STATISTICAL SUMMARY FOR URANIUM

GEOL UNIT	NUM. SAMPLES	-3 S.D.	-2 S.D.	-1 S.D.	MEDIAN	+1 S.D.	+2 S.D.	+3 S.D.
Q-1	2398.	2.093	3.287	5.164	8.111	12.740	20.012	31.435
Q-2	4213.	2.946	5.347	9.704	17.610	31.958	57.997	105.252
Q'-1	5235.	2.080	3.424	5.634	9.271	15.256	25.106	41.314
Q'-2	5817.	2.045	8.681	15.317	21.952	28.588	35.224	41.860
QG-1	1371.	1.713	2.725	4.335	6.897	10.972	17.457	27.773
QG-2	1375.	3.498	5.662	9.164	14.832	24.007	38.857	62.892
QG'-1	216.	-1.749	2.126	6.001	9.876	13.751	17.626	21.501
QG'-2	128.	1.756	7.015	12.273	17.532	22.791	28.049	33.308
TN	80.	10.940	12.455	14.181	16.146	18.382	20.929	23.828
TS	74.	0.489	2.625	4.761	6.898	9.034	11.171	13.307
TKC	519.	-0.661	3.115	6.890	10.666	14.441	18.217	21.992
TKC'	80.	3.538	4.707	6.262	8.330	11.082	14.742	19.612
TMZU	60.	16.674	18.139	19.605	21.070	22.536	24.001	25.467
TG	22.	-0.936	2.216	5.367	8.519	11.670	14.821	17.973
TKG	202.	-1.182	2.437	6.057	9.676	13.295	16.915	20.534
UMZ-1	260.	2.060	3.024	4.440	6.517	9.566	14.043	20.613
UMZ-2	417.	2.285	3.598	5.667	8.925	14.055	22.135	34.859
MZPZ-1	143.	2.663	3.843	5.545	8.000	11.544	16.658	24.036
MZPZ-2	18.	6.064	8.242	11.201	15.223	20.689	28.118	38.214
MZG-1	1577.	3.454	10.585	17.716	24.847	31.978	39.109	46.241
MZG-2	312.	24.504	30.493	37.945	47.218	58.757	73.116	90.985
MZG'	200.	5.110	10.100	15.090	20.080	25.070	30.060	35.050
MZI	0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MZI'	1.	4.171	4.171	4.171	4.171	4.171	4.171	4.171
MZPZI	10.	24.158	25.987	27.955	30.072	32.348	34.798	37.432
TRV	941.	1.902	2.716	3.877	5.536	7.904	11.284	16.111
TRV'	24.	2.329	3.343	4.356	5.370	6.384	7.398	8.411
MZV	33.	14.878	17.612	20.345	23.078	25.811	28.545	31.278
PL	20.	24.665	26.943	29.431	32.149	35.118	38.361	41.903
PS-1	101.	2.580	8.387	14.194	20.001	25.808	31.615	37.422
PS-2	18.	21.259	24.811	28.957	33.796	39.444	46.035	53.728
PS-3	11.	32.545	34.968	37.571	40.368	43.373	46.602	50.072
PZ-1	801.	2.662	4.328	7.035	11.436	18.590	30.219	49.123
PZ-2	142.	11.913	16.536	21.160	25.783	30.407	35.030	39.654
PZ'	16.	2.347	4.388	8.205	15.341	28.684	53.632	100.277
PZV-1	2.	4.204	4.360	4.522	4.690	4.865	5.045	5.233
PZV-2	73.	3.384	4.995	7.373	10.885	16.068	23.719	35.014
PZPC-1	4278.	-0.207	6.552	13.312	20.071	26.831	33.590	40.349
PZPC-2	4608.	10.365	14.496	20.275	28.357	39.661	55.471	77.584
PZPC'	282.	2.312	6.875	11.437	15.999	20.561	25.124	29.686
UM	55.	2.419	3.254	4.378	5.891	7.926	10.663	14.347

VALUES LISTED ARE STATISTICALLY DERIVED ABSOLUTE COUNTING RATES AT 1,2, AND 3 STD. DEVIATIONS ABOVE AND BELOW THE RESPECTIVE MEANS. ANY NEGATIVE VALUES ARE THE RESULT OF STATISTICS ONLY AND HAVE NO REAL MEANING. RELATIVE MAGNITUDES OF THE LISTED MEDIAN VALUES ARE INDICATORS OF RELATIVE CONCENTRATIONS OF THE ELEMENTS IN THE VARIOUS GEOLOGIC ROCK UNITS.

TABLE T-2. STATISTICAL SUMMARIES (Continued)

STATISTICAL SUMMARY FOR POTASSIUM

GEOL UNIT	NUM. SAMPLES	-3 S.D.	-2 S.D.	-1 S.D.	MEDIAN	+1 S.D.	+2 S.D.	+3 S.D.
Q-1	2766.	7.969	17.026	26.083	35.141	44.198	53.255	62.312
Q-2	4682.	25.351	38.107	57.281	86.102	129.424	194.545	292.431
Q'-1	5752.	2.680	15.216	27.752	40.289	52.825	65.361	77.897
Q'-2	5896.	43.900	54.298	67.158	83.065	102.739	127.074	157.171
QG-1	2188.	2.112	4.431	9.297	19.508	40.934	85.890	180.220
QG-2	1548.	36.808	52.345	74.440	105.861	150.545	214.090	304.459
QG'-1	285.	4.485	7.827	13.660	23.839	41.602	72.603	126.705
QG'-2	135.	40.292	52.292	67.865	88.077	114.308	148.352	192.535
TN	80.	35.200	40.345	46.243	53.002	60.750	69.630	79.808
TS	130.	26.639	32.388	39.378	47.877	58.210	70.773	86.047
TKC	578.	11.810	19.193	31.192	50.694	82.388	133.896	217.608
TKC'	80.	9.652	14.698	22.383	34.085	51.906	79.044	120.370
TMZU	60.	60.878	66.623	72.909	79.789	87.319	95.558	104.575
TG	49.	4.993	40.609	76.225	111.841	147.457	183.073	218.688
TKG	360.	-32.885	10.953	54.792	98.630	142.468	186.306	230.145
UMZ-1	581.	-12.806	2.277	17.360	32.442	47.525	62.608	77.691
UMZ-2	691.	43.518	56.487	73.321	95.172	123.535	160.351	208.138
MZPZ-1	277.	18.872	28.527	43.123	65.187	98.538	148.954	225.165
MZPZ-2	18.	105.836	130.398	160.661	197.948	243.887	300.489	370.227
MZG-1	1595.	-3.505	32.563	68.631	104.699	140.768	176.836	212.904
MZG-2	312.	54.941	112.907	170.873	228.839	286.804	344.770	402.736
MZG'	200.	20.343	37.005	53.667	70.328	86.990	103.652	120.313
MZI	10.	26.119	30.816	36.358	42.897	50.611	59.713	70.451
MZI'	10.	20.821	24.079	27.846	32.202	37.240	43.066	49.803
MZPZI	10.	156.418	161.169	166.064	171.107	176.304	181.659	187.176
TRV	1517.	9.702	14.152	20.644	30.114	43.927	64.077	93.470
TRV'	30.	18.768	21.701	25.093	29.015	33.550	38.793	44.856
MZV	33.	78.671	94.929	111.186	127.444	143.702	159.959	176.217
PL	20.	75.346	80.181	85.326	90.801	96.627	102.827	109.425
PS-1	101.	18.907	40.744	62.581	84.418	106.254	128.091	149.928
PS-2	18.	53.923	62.890	73.349	85.548	99.775	116.368	135.721
PS-3	11.	81.264	86.469	92.008	97.901	104.172	110.844	117.944
PZ-1	1262.	-39.690	2.414	44.519	86.623	128.728	170.832	212.936
PZ-2	142.	53.367	92.294	131.222	170.149	209.077	248.005	286.932
PZ'	30.	34.534	46.653	63.026	85.144	115.025	155.393	209.927
PZV-1	27.	29.225	33.637	38.716	44.562	51.291	59.036	67.949
PZV-2	73.	54.124	58.198	62.580	67.292	72.358	77.806	83.664
PZPC-1	4502.	0.580	26.528	52.475	78.423	104.371	130.318	156.266
PZPC-2	4682.	45.882	87.085	128.288	169.491	210.695	251.898	293.101
PZPC'	282.	16.453	24.193	35.575	52.312	76.923	113.113	166.330
UM	70.	12.267	17.991	23.716	29.440	35.164	40.889	46.613

VALUES LISTED ARE STATISTICALLY DERIVED ABSOLUTE COUNTING RATES AT 1,2, AND 3 STD. DEVIATIONS ABOVE AND BELOW THE RESPECTIVE MEANS. ANY NEGATIVE VALUES ARE THE RESULT OF STATISTICS ONLY AND HAVE NO REAL MEANING. RELATIVE MAGNITUDES OF THE LISTED MEDIAN VALUES ARE INDICATORS OF RELATIVE CONCENTRATIONS OF THE ELEMENTS IN THE VARIOUS GEOLOGIC ROCK UNITS.

TABLE T-2. STATISTICAL SUMMARIES (Continued)

STATISTICAL SUMMARY FOR URAN./POT.

GEOL UNIT	NUM. SAMPLES	-3 S.D.	-2 S.D.	-1 S.D.	MEDIAN	+1 S.D.	+2 S.D.	+3 S.D.
Q-1	2395.	0.052	0.086	0.143	0.238	0.395	0.657	1.091
Q-2	4213.	-0.032	0.052	0.136	0.220	0.304	0.388	0.472
Q'-1	5226.	0.049	0.084	0.143	0.245	0.419	0.716	1.223
Q'-2	5817.	0.031	0.108	0.185	0.262	0.339	0.417	0.494
QG-1	1114.	0.053	0.092	0.160	0.276	0.478	0.827	1.430
QG-2	1375.	-0.026	0.032	0.091	0.150	0.209	0.268	0.327
QG'-1	206.	0.086	0.139	0.225	0.365	0.590	0.954	1.543
QG'-2	128.	0.037	0.090	0.143	0.196	0.249	0.303	0.356
TN	80.	0.197	0.227	0.263	0.305	0.353	0.408	0.472
TS	74.	0.008	0.055	0.103	0.151	0.198	0.246	0.293
TKC	519.	0.037	0.066	0.117	0.206	0.365	0.645	1.140
TKC'	80.	0.062	0.098	0.155	0.244	0.385	0.608	0.959
TMZU	60.	0.187	0.213	0.239	0.265	0.291	0.316	0.342
TG	22.	0.010	0.027	0.044	0.060	0.077	0.094	0.111
TKG	202.	0.017	0.031	0.056	0.103	0.190	0.350	0.644
UMZ-1	259.	0.045	0.075	0.123	0.202	0.333	0.548	0.901
UMZ-2	417.	0.022	0.036	0.057	0.091	0.147	0.235	0.376
MZPZ-1	143.	0.025	0.041	0.067	0.110	0.180	0.296	0.485
MZPZ-2	18.	0.049	0.057	0.066	0.077	0.089	0.104	0.121
MZG-1	1567.	0.089	0.124	0.172	0.239	0.333	0.464	0.646
MZG-2	312.	0.115	0.148	0.182	0.215	0.248	0.281	0.314
MZG'	200.	0.123	0.163	0.215	0.284	0.376	0.497	0.657
MZI	0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MZI'	1.	0.152	0.152	0.152	0.152	0.152	0.152	0.152
MZPZI	10.	0.134	0.147	0.161	0.176	0.192	0.210	0.230
TRV	935.	0.048	0.074	0.114	0.174	0.267	0.409	0.627
TRV'	24.	0.070	0.109	0.148	0.187	0.225	0.264	0.303
MZV	33.	0.091	0.122	0.153	0.184	0.215	0.245	0.276
PL	20.	0.240	0.273	0.311	0.354	0.403	0.459	0.523
PS-1	101.	0.080	0.114	0.163	0.233	0.334	0.477	0.682
PS-2	18.	0.169	0.224	0.297	0.395	0.525	0.697	0.926
PS-3	11.	0.371	0.384	0.398	0.412	0.427	0.442	0.458
PZ-1	798.	0.027	0.045	0.076	0.127	0.211	0.353	0.591
PZ-2	142.	0.038	0.078	0.118	0.159	0.199	0.239	0.280
PZ'	16.	0.061	0.085	0.118	0.164	0.228	0.316	0.438
PZV-1	2.	0.060	0.070	0.082	0.095	0.111	0.129	0.150
PZV-2	73.	0.051	0.075	0.110	0.162	0.238	0.349	0.514
PZPC-1	4276.	0.087	0.123	0.175	0.248	0.351	0.498	0.706
PZPC-2	4608.	0.070	0.095	0.127	0.171	0.231	0.311	0.418
PZPC'	282.	0.033	0.125	0.217	0.309	0.401	0.493	0.585
UM	55.	0.057	0.087	0.133	0.203	0.309	0.471	0.718

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TABLE T-2. STATISTICAL SUMMARIES (Continued)

STATISTICAL SUMMARY FOR URAN./THOR.

GEOL UNIT	NUM. SAMPLES	-3 S.D.	-2 S.D.	-1 S.D.	MEDIAN	+1 S.D.	+2 S.D.	+3 S.D.
Q-1	2378.	0.259	0.375	0.544	0.789	1.144	1.658	2.404
Q-2	4212.	0.075	0.272	0.468	0.665	0.862	1.058	1.255
Q'-1	5206.	0.270	0.387	0.557	0.800	1.150	1.652	2.374
Q'-2	5817.	0.223	0.397	0.571	0.745	0.920	1.094	1.268
QG-1	1009.	0.193	0.309	0.495	0.792	1.269	2.031	3.252
QG-2	1363.	0.186	0.272	0.398	0.582	0.850	1.243	1.816
QG'-1	192.	0.250	0.388	0.601	0.931	1.442	2.233	3.460
QG'-2	128.	0.265	0.345	0.450	0.586	0.764	0.995	1.297
TN	80.	0.471	0.571	0.692	0.838	1.016	1.231	1.492
TS	74.	0.202	0.295	0.431	0.630	0.921	1.347	1.968
TKC	513.	0.259	0.367	0.521	0.738	1.047	1.484	2.104
TKC'	80.	0.238	0.353	0.526	0.782	1.162	1.728	2.569
TMZU	60.	0.482	0.568	0.654	0.740	0.826	0.912	0.998
TG	22.	-0.608	-0.187	0.234	0.655	1.076	1.497	1.918
TKG	196.	0.140	0.226	0.365	0.591	0.956	1.547	2.502
UMZ-1	240.	0.212	0.336	0.533	0.846	1.342	2.129	3.379
UMZ-2	412.	0.114	0.202	0.356	0.630	1.113	1.967	3.475
MZPZ-1	130.	-0.190	0.150	0.489	0.829	1.169	1.508	1.848
MZPZ-2	18.	0.173	0.228	0.302	0.399	0.528	0.699	0.925
MZG-1	1568.	0.319	0.420	0.553	0.729	0.960	1.265	1.666
MZG-2	312.	0.356	0.419	0.494	0.582	0.686	0.809	0.953
MZG'	200.	0.361	0.470	0.611	0.796	1.036	1.348	1.754
MZI	0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MZI'	1.	0.440	0.440	0.440	0.440	0.440	0.440	0.440
MZPZI	10.	0.435	0.482	0.535	0.593	0.657	0.728	0.807
TRV	894.	0.221	0.331	0.495	0.742	1.110	1.662	2.488
TRV'	24.	0.152	0.372	0.592	0.812	1.032	1.252	1.472
MZV	33.	0.227	0.341	0.455	0.569	0.683	0.797	0.912
PL	20.	0.585	0.631	0.680	0.732	0.789	0.850	0.915
PS-1	101.	0.269	0.429	0.588	0.748	0.907	1.066	1.226
PS-2	18.	0.521	0.595	0.679	0.775	0.884	1.009	1.152
PS-3	11.	0.516	0.555	0.596	0.641	0.689	0.740	0.795
PZ-1	793.	0.176	0.268	0.406	0.616	0.936	1.421	2.157
PZ-2	142.	0.240	0.349	0.458	0.567	0.677	0.786	0.895
PZ'	16.	0.436	0.547	0.685	0.859	1.078	1.351	1.694
PZV-1	2.	0.288	0.332	0.384	0.443	0.512	0.591	0.683
PZV-2	73.	-0.013	0.220	0.453	0.686	0.919	1.152	1.385
PZPC-1	4268.	0.286	0.384	0.516	0.693	0.930	1.249	1.676
PZPC-2	4608.	0.235	0.305	0.394	0.510	0.661	0.855	1.107
PZPC'	282.	0.308	0.426	0.589	0.814	1.126	1.557	2.154
UM	55.	0.218	0.336	0.518	0.798	1.230	1.895	2.920

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TABLE T-2. STATISTICAL SUMMARIES (Continued)

STATISTICAL SUMMARY FOR THOR./POT.

GEOL UNIT	NUM. SAMPLES	-3 S.D.	-2 S.D.	-1 S.D.	MEDIAN	+1 S.D.	+2 S.D.	+3 S.D.
Q-1	2723.	0.104	0.147	0.208	0.294	0.417	0.590	0.836
Q-2	4672.	0.016	0.116	0.216	0.316	0.416	0.516	0.615
Q'-1	5709.	0.106	0.149	0.211	0.298	0.422	0.597	0.844
Q'-2	5896.	0.112	0.192	0.271	0.351	0.431	0.510	0.590
QG-1	1513.	0.092	0.142	0.219	0.337	0.519	0.800	1.232
QG-2	1528.	0.069	0.102	0.152	0.227	0.338	0.504	0.751
QG'-1	230.	0.122	0.176	0.254	0.367	0.529	0.763	1.100
QG'-2	135.	0.072	0.156	0.240	0.324	0.408	0.492	0.576
TN	80.	0.232	0.269	0.313	0.363	0.422	0.490	0.570
TS	130.	0.070	0.120	0.170	0.220	0.270	0.319	0.369
TKC	571.	0.056	0.093	0.153	0.251	0.414	0.682	1.123
TKC'	80.	0.147	0.189	0.243	0.313	0.402	0.517	0.665
TMZU	60.	0.245	0.284	0.322	0.360	0.398	0.437	0.475
TG	49.	0.043	0.072	0.101	0.129	0.158	0.187	0.216
TKG	354.	0.052	0.074	0.104	0.148	0.209	0.296	0.420
UMZ-1	459.	0.072	0.107	0.157	0.232	0.342	0.505	0.744
UMZ-2	680.	0.063	0.083	0.110	0.144	0.189	0.249	0.327
MZPZ-1	241.	0.059	0.079	0.106	0.143	0.192	0.258	0.347
MZPZ-2	18.	0.115	0.137	0.162	0.193	0.228	0.271	0.322
MZG-1	1585.	0.114	0.188	0.262	0.336	0.410	0.484	0.558
MZG-2	312.	0.212	0.264	0.316	0.368	0.420	0.472	0.525
MZG'	200.	0.162	0.229	0.296	0.364	0.431	0.498	0.566
MZI	9.	0.071	0.091	0.118	0.152	0.197	0.254	0.328
MZI'	10.	0.202	0.238	0.280	0.330	0.389	0.458	0.539
MZPZI	10.	0.272	0.280	0.288	0.297	0.305	0.314	0.323
TRV	1383.	0.092	0.125	0.169	0.230	0.312	0.425	0.577
TRV'	30.	0.127	0.157	0.195	0.241	0.299	0.370	0.458
MZV	33.	0.224	0.258	0.292	0.326	0.360	0.394	0.428
PL	20.	0.363	0.400	0.440	0.484	0.532	0.585	0.644
PS-1	101.	0.153	0.195	0.249	0.319	0.408	0.522	0.668
PS-2	18.	0.299	0.357	0.427	0.510	0.609	0.728	0.871
PS-3	11.	0.515	0.555	0.597	0.643	0.693	0.747	0.804
PZ-1	1167.	0.049	0.075	0.117	0.182	0.284	0.441	0.686
PZ-2	142.	0.140	0.186	0.232	0.278	0.324	0.369	0.415
PZ'	30.	0.055	0.077	0.109	0.154	0.219	0.309	0.437
PZV-1	24.	0.126	0.150	0.173	0.197	0.221	0.245	0.269
PZV-2	73.	0.172	0.199	0.226	0.253	0.280	0.307	0.334
PZPC-1	4432.	0.095	0.184	0.273	0.362	0.451	0.539	0.628
PZPC-2	4682.	0.115	0.190	0.265	0.340	0.415	0.490	0.565
PZPC'	282.	0.182	0.243	0.305	0.366	0.427	0.489	0.550
UM	70.	0.138	0.172	0.214	0.266	0.331	0.411	0.511

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TABLE T-3. FLIGHT-LINE AVERAGES

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 23

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	12.1	458.	11.4	458.	28.3	458.	0.44	458.	1.01	458.	0.44	458.
Q-2	26.7	72.	19.1	72.	75.6	72.	0.26	72.	0.73	72.	0.36	72.
Q'-1	12.8	855.	12.2	855.	31.4	855.	0.47	855.	1.09	855.	0.44	855.
Q'-2	30.1	1015.	21.6	1015.	87.4	1015.	0.25	1015.	0.74	1015.	0.35	1015.
MZG-1	41.7	70.	27.5	70.	124.1	70.	0.22	70.	0.68	70.	0.34	70.
PZPC-1	31.7	747.	22.1	747.	87.1	747.	0.26	747.	0.71	747.	0.37	747.
PZPC-2	36.8	13.	23.7	13.	123.3	13.	0.19	13.	0.64	13.	0.30	13.

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 24

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	13.6	296.	11.9	296.	35.6	296.	0.36	296.	0.90	296.	0.40	296.
Q-2	23.5	64.	20.4	64.	65.8	64.	0.31	64.	0.89	64.	0.36	64.
Q'-1	15.9	479.	14.3	479.	43.6	479.	0.34	479.	0.93	479.	0.37	479.
Q'-2	32.4	1231.	25.1	1231.	85.7	1231.	0.30	1231.	0.80	1231.	0.38	1231.
TKC	11.1	130.	10.9	130.	27.5	130.	0.43	130.	1.01	130.	0.43	130.
MZG-1	37.0	110.	26.6	110.	93.7	110.	0.29	110.	0.74	110.	0.40	110.
PZPC-1	28.1	736.	22.1	736.	73.2	736.	0.31	736.	0.81	736.	0.39	736.
PZPC-2	45.2	14.	28.8	14.	124.7	14.	0.23	14.	0.64	14.	0.36	14.
PZPC'	16.4	140.	14.4	140.	46.7	140.	0.32	140.	0.92	140.	0.35	140.

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 25

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	18.4	62.	15.7	62.	46.4	62.	0.34	62.	0.88	62.	0.40	62.
Q-2	44.4	358.	27.6	358.	118.5	358.	0.25	358.	0.68	358.	0.37	358.
Q'-1	14.9	636.	13.2	636.	39.2	636.	0.36	636.	0.91	636.	0.39	636.
Q'-2	31.4	904.	22.4	904.	85.6	904.	0.27	904.	0.73	904.	0.37	904.
QG-1	12.9	16.	20.3	16.	33.8	16.	0.68	16.	1.66	16.	0.41	16.
QG-2	24.2	14.	19.0	14.	77.9	14.	0.26	14.	0.81	14.	0.31	14.
QG'-1	13.1	69.	12.8	69.	30.3	69.	0.48	69.	1.06	69.	0.48	69.
QG'-2	27.0	11.	18.4	11.	79.9	11.	0.23	11.	0.70	11.	0.34	11.
TKC'	11.0	80.	8.7	80.	37.1	80.	0.27	80.	0.84	80.	0.32	80.
MZG-1	40.0	320.	26.3	320.	122.4	320.	0.23	320.	0.68	320.	0.33	320.
MZG-2	82.1	210.	46.5	210.	212.6	210.	0.22	210.	0.57	210.	0.39	210.
MZG'	18.1	50.	13.4	50.	62.2	50.	0.23	50.	0.82	50.	0.28	50.
PZPC-1	27.5	206.	22.0	206.	80.9	206.	0.28	206.	0.83	206.	0.34	206.
PZPC-2	54.6	274.	38.6	274.	163.4	274.	0.24	274.	0.71	274.	0.34	274.
PZPC'	25.9	70.	17.2	70.	71.5	70.	0.28	70.	0.76	70.	0.37	70.

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 26

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	25.2	4.	23.5	4.	47.8	4.	0.49	4.	0.93	4.	0.53	4.
Q-2	32.8	706.	23.9	706.	85.8	706.	0.29	706.	0.76	706.	0.38	706.
Q'-1	12.8	247.	12.4	247.	34.7	247.	0.37	247.	1.05	247.	0.37	247.
Q'-2	33.5	603.	24.9	603.	87.1	603.	0.29	603.	0.76	603.	0.38	603.
QG-1	35.3	64.	24.9	64.	74.7	64.	0.90	64.	0.93	64.	0.89	64.
QG-2	32.9	146.	21.1	146.	133.2	146.	0.16	146.	0.65	146.	0.24	146.
QG'-1	13.5	82.	10.9	82.	47.9	82.	0.68	82.	0.95	82.	0.65	82.
QG'-2	30.9	48.	16.0	48.	93.4	48.	0.18	48.	0.56	48.	0.33	48.
TKC	17.9	290.	11.9	290.	66.8	290.	0.19	290.	0.68	290.	0.28	290.
MZG-1	31.6	50.	24.5	50.	92.7	50.	0.26	50.	0.77	50.	0.34	50.
MZG'	29.1	130.	22.7	130.	75.3	130.	0.31	130.	0.82	130.	0.39	130.
PZ-1	47.5	98.	23.5	98.	134.5	98.	0.22	98.	0.62	98.	0.36	98.
PZ-2	46.7	72.	26.5	72.	154.3	72.	0.17	72.	0.58	72.	0.30	72.
PZPC-1	38.1	192.	25.7	192.	91.1	192.	0.30	192.	0.70	192.	0.42	192.
PZPC-2	63.0	578.	33.1	578.	180.2	578.	0.19	578.	0.54	578.	0.35	578.

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 27

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	47.2	40.	27.4	40.	98.2	40.	0.35	40.	0.71	40.	0.49	40.
Q-2	44.8	810.	26.0	810.	120.7	810.	0.23	810.	0.60	810.	0.38	810.
Q'-1	20.4	9.	19.7	9.	54.8	9.	0.36	9.	0.99	9.	0.37	9.
Q'-2	36.0	151.	25.4	151.	94.1	151.	0.27	151.	0.74	151.	0.38	151.
QG-1	20.2	325.	5.2	325.	48.8	325.	0.74	325.	0.66	325.	1.05	325.
QG-2	39.4	165.	17.2	165.	159.8	165.	0.12	165.	0.58	165.	0.26	165.
QG'-1	5.1	118.	4.8	118.	19.5	118.	0.38	118.	1.10	118.	0.39	118.
QG'-2	22.1	82.	13.0	82.	74.1	82.	0.16	82.	0.63	82.	0.29	82.
MZG-1	41.0	324.	26.8	324.	113.9	324.	0.25	324.	0.68	324.	0.37	324.
MZG-2	87.2	86.	56.1	86.	283.4	86.	0.20	86.	0.64	86.	0.32	86.
PZ-1	18.7	280.	10.0	280.	90.8	280.	0.66	280.	0.68	280.	0.29	280.
PZPC-1	40.6	128.	26.2	128.	96.4	128.	0.28	128.	0.66	128.	0.43	128.
PZPC-2	62.3	1002.	30.0	1002.	176.4	1002.	0.17	1002.	0.49	1002.	0.35	1002.
PZPC'	40.9	10.	18.3	10.	129.4	10.	0.14	10.	0.45	10.	0.32	10.

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 28

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	31.7	1.	23.4	1.	46.9	1.	0.50	1.	0.74	1.	0.67	1.
Q-2	64.4	379.	31.6	379.	178.7	379.	0.18	379.	0.49	379.	0.36	379.
Q'-1	33.3	48.	25.5	48.	72.1	48.	0.36	48.	0.77	48.	0.47	48.
Q'-2	28.9	72.	20.7	72.	67.5	72.	0.31	72.	0.72	72.	0.43	72.
QG-1	8.8	549.	6.0	549.	25.7	549.	0.70	549.	1.00	549.	0.64	549.
QG-2	28.2	501.	13.2	501.	123.2	501.	0.11	501.	0.48	501.	0.23	501.
QG'-1	10.5	58.	6.2	58.	25.3	58.	0.29	58.	0.70	58.	0.40	58.
QG'-2	27.4	22.	19.2	22.	102.8	22.	0.19	22.	0.69	22.	0.28	22.
TKG	16.9	160.	8.9	160.	98.3	160.	0.14	160.	0.72	160.	0.19	160.
UMZ-2	24.8	80.	10.3	80.	128.5	80.	0.08	80.	0.42	80.	0.19	80.
MZV	40.9	40.	22.2	40.	128.0	40.	0.18	40.	0.55	40.	0.32	40.
PZ-1	19.7	415.	11.1	415.	86.3	415.	0.13	415.	0.59	415.	0.24	415.
PZ-2	43.7	15.	26.0	15.	139.9	15.	0.18	15.	0.59	15.	0.31	15.
PZ'	29.5	10.	24.2	10.	122.1	10.	0.20	10.	0.82	10.	0.25	10.
PZPC-1	31.0	392.	19.1	392.	82.1	392.	0.33	392.	0.64	392.	0.47	392.
PZPC-2	62.9	678.	31.9	678.	172.9	678.	0.21	678.	0.52	678.	0.40	678.
PZPC'	33.3	50.	23.7	50.	92.1	50.	0.29	50.	0.75	50.	0.38	50.

TABLE T-3. FLIGHT-LINE AVERAGES (Continued)

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 29

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	53.5	10.	24.5	10.	124.6	10.	0.20	10.	0.46	10.	0.43	10.
Q-2	31.3	350.	15.9	350.	116.1	350.	0.15	350.	0.52	350.	0.28	350.
Q'-1	39.9	32.	16.7	32.	84.6	32.	0.22	32.	0.49	32.	0.47	32.
Q'-2	29.6	58.	13.3	58.	76.3	58.	0.17	58.	0.45	58.	0.39	58.
QG-1	12.2	979.	5.8	979.	35.5	979.	0.63	979.	0.87	979.	0.72	979.
QG-2	24.2	491.	11.2	491.	90.6	491.	0.16	491.	0.52	491.	0.38	491.
TG	12.4	50.	1.7	50.	88.0	50.	0.01	50.	0.13	50.	0.15	50.
TKG	17.9	60.	9.5	60.	104.9	60.	0.09	60.	0.54	60.	0.17	60.
UMZ-1	4.7	81.	4.1	81.	23.6	81.	0.10	81.	0.64	81.	0.28	81.
UMZ-2	8.1	29.	2.2	29.	95.1	29.	0.02	29.	0.30	29.	0.09	29.
MZG-1	36.4	10.	16.5	10.	155.1	10.	0.11	10.	0.46	10.	0.23	10.
PZ-1	25.0	20.	8.1	20.	182.5	20.	0.04	20.	0.33	20.	0.14	20.
PZPC-1	29.7	650.	15.2	650.	86.1	650.	0.19	650.	0.51	650.	0.37	650.
PZPC-2	52.8	950.	26.6	950.	168.9	950.	0.17	950.	0.51	950.	0.33	950.
PZPC'	29.7	10.	15.8	10.	75.3	10.	0.21	10.	0.53	10.	0.40	10.

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 30

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	17.0	85.	3.9	85.	101.6	85.	0.08	85.	0.38	85.	0.21	85.
Q-2	19.7	165.	9.5	165.	83.4	165.	0.13	165.	0.45	165.	0.24	165.
Q'-1	23.0	35.	4.7	35.	135.3	35.	0.12	35.	0.51	35.	0.22	35.
Q'-2	24.8	45.	17.2	45.	75.9	45.	0.23	45.	0.72	45.	0.32	45.
QG-1	8.8	861.	4.8	861.	25.8	861.	2.32	861.	0.75	861.	0.86	861.
QG-2	21.6	169.	11.7	169.	86.5	169.	0.14	169.	0.56	169.	0.26	169.
QG'-1	11.1	40.	6.1	40.	26.8	40.	0.49	40.	1.54	40.	0.33	40.
TKG	11.4	110.	3.0	110.	106.0	110.	0.03	110.	0.30	110.	0.36	110.
UMZ-1	8.6	414.	4.3	414.	43.6	414.	0.15	414.	0.63	414.	0.28	414.
UMZ-2	14.2	466.	6.0	466.	92.6	466.	0.07	466.	0.49	466.	0.15	466.
MZPZ-1	12.0	110.	7.0	110.	81.6	110.	0.11	110.	0.64	110.	0.15	110.
MZG-1	4.7	50.	6.3	50.	32.3	50.	0.22	50.	1.41	50.	0.17	50.
MZI	6.6	10.	0.8	10.	43.4	10.	0.02	10.	0.16	10.	0.15	10.
MZI'	10.7	10.	1.6	10.	32.5	10.	0.05	10.	0.15	10.	0.33	10.
PZPC-1	23.5	271.	12.8	271.	72.2	271.	0.20	271.	0.59	271.	0.34	271.
PZPC-2	55.3	659.	24.1	659.	176.5	659.	0.14	659.	0.45	659.	0.32	659.

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 31

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	8.5	430.	5.4	430.	33.3	430.	0.18	430.	0.69	430.	0.27	430.
Q-2	14.9	240.	6.2	240.	77.3	240.	0.08	240.	0.41	240.	0.19	240.
Q'-1	12.3	225.	7.5	225.	52.7	225.	0.16	225.	0.73	225.	0.24	225.
Q'-2	14.3	45.	8.1	45.	71.5	45.	0.11	45.	0.57	45.	0.20	45.
QG-1	10.1	703.	5.2	703.	32.4	703.	0.31	703.	0.64	703.	0.58	703.
QG-2	26.1	327.	13.3	327.	98.3	327.	0.14	327.	0.54	327.	0.27	327.
QG'-1	6.6	10.	12.1	10.	19.9	10.	0.61	10.	1.84	10.	0.33	10.
TS	10.5	100.	4.9	100.	46.5	100.	0.11	100.	0.49	100.	0.23	100.
TKG	7.3	30.	1.4	30.	60.8	30.	0.02	30.	0.19	30.	0.12	30.
UMZ-1	7.8	18.	0.3	18.	47.8	18.	0.00	18.	0.04	18.	0.17	18.
UMZ-2	16.0	132.	4.0	132.	117.5	132.	0.04	132.	0.27	132.	0.14	132.
MZPZ-1	8.9	182.	3.6	182.	66.5	182.	0.05	182.	0.45	182.	0.14	182.
MZPZ-2	38.2	18.	15.8	18.	201.9	18.	0.08	18.	0.41	18.	0.20	18.
MZG-1	24.2	40.	7.7	40.	150.2	40.	0.04	40.	0.26	40.	0.16	40.
MZPZI	50.8	10.	30.1	10.	171.2	10.	0.18	10.	0.60	10.	0.30	10.
TRV	6.7	390.	3.1	390.	28.3	390.	0.13	390.	0.49	390.	0.26	390.
TRV'	6.6	10.	5.0	10.	26.0	10.	0.20	10.	0.77	10.	0.26	10.
PZ-1	1.5	30.	1.2	30.	8.2	30.	0.12	30.	0.81	30.	0.23	30.
PZPC-1	16.8	340.	10.0	340.	53.1	340.	0.32	340.	0.62	340.	0.45	340.
PZPC-2	52.5	280.	24.6	280.	179.4	280.	0.14	280.	0.48	280.	0.29	280.
UM	7.8	50.	5.4	50.	27.2	50.	0.21	50.	0.78	50.	0.29	50.

FLIGHT LINE 32

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	8.9	535.	5.8	535.	34.8	535.	0.17	535.	0.69	535.	0.27	535.
Q-2	12.5	365.	3.5	365.	77.6	365.	0.06	365.	0.30	365.	0.18	365.
Q'-1	9.1	548.	5.2	548.	40.7	548.	0.14	548.	0.60	548.	0.23	548.
Q'-2	15.2	272.	6.6	272.	79.8	272.	0.08	272.	0.47	272.	0.19	272.
QG-1	24.8	84.	13.9	84.	85.6	84.	0.21	84.	0.63	84.	0.33	84.
QG-2	32.3	26.	14.8	26.	135.6	26.	0.12	26.	0.46	26.	0.26	26.
TS	10.5	30.	4.2	30.	56.6	30.	0.08	30.	0.42	30.	0.19	30.
TRV	7.4	750.	4.6	750.	31.4	750.	0.17	750.	0.75	750.	0.25	750.
PZ-1	18.4	204.	8.6	204.	99.2	204.	0.08	204.	0.42	204.	0.19	204.
PZ-2	46.2	16.	28.3	16.	190.3	16.	0.15	16.	0.61	16.	0.24	16.
PZV-1	8.6	27.	1.0	27.	45.0	27.	0.02	27.	0.10	27.	0.19	27.
PZV-2	11.2	3.	6.6	3.	58.5	3.	0.11	3.	0.59	3.	0.19	3.
PZPC-1	28.3	260.	16.8	260.	87.0	260.	0.20	260.	0.64	260.	0.32	260.
PZPC-2	40.3	250.	20.7	250.	145.7	250.	0.14	250.	0.48	250.	0.28	250.
PZPC'	21.0	10.	9.4	10.	74.5	10.	0.13	10.	0.44	10.	0.28	10.

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 33

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	10.4	371.	6.3	371.	40.4	371.	0.16	371.	0.63	371.	0.26	371.
Q-2	12.9	509.	7.6	509.	59.9	509.	0.13	509.	0.58	509.	0.22	509.
Q'-1	9.6	1661.	6.0	1661.	41.4	1661.	0.15	1661.	0.66	1661.	0.24	1661.
Q'-2	17.6	179.	10.1	179.	74.6	179.	0.13	179.	0.58	179.	0.24	179.
MZG-1	22.8	40.	15.1	40.	90.9	40.	0.17	40.	0.67	40.	0.25	40.
TRV	8.9	120.	4.3	120.	44.6	120.	0.10	120.	0.53	120.	0.20	120.
TRV'	7.3	20.	4.5	20.	31.0	20.	0.14	20.	0.67	20.	0.24	20.
PL	44.0	20.	32.3	20.	91.0	20.	0.36	20.	0.73	20.	0.49	20.
PS-1	27.0	101.	20.0	101.	84.4	101.	0.25	101.	0.75	101.	0.33	101.
PS-2	43.8	18.	34.1	18.	86.6	18.	0.41	18.	0.78	18.	0.52	18.
PS-3	63.1	11.	40.5	11.	98.1	11.	0.41	11.	0.64	11.	0.65	11.
PZ-1	12.7	322.	3.6	322.	77.3	322.	0.04	322.	0.24	322.	0.16	322.
PZ-2	47.4	8.	17.4	8.	295.9	8.	0.06	8.	0.37	8.	0.16	8.
PZV-2	17.3	70.	11.9	70.	67.8	70.	0.18	70.	0.69	70.	0.26	70.

TABLE T-3. FLIGHT-LINE AVERAGES (Continued)

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 122

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	14.2	74.	13.4	74.	40.4	74.	0.33	74.	0.93	74.	0.35	74.
Q-2	33.1	116.	22.8	116.	102.8	116.	0.23	116.	0.70	116.	0.32	116.
Q'-1	10.4	481.	7.1	481.	42.5	481.	0.19	481.	0.71	481.	0.27	481.
Q'-2	13.8	9.	5.5	9.	61.6	9.	0.09	9.	0.42	9.	0.22	9.
QG-1	9.5	373.	3.8	373.	31.9	373.	0.46	373.	1.42	373.	0.84	373.
QG-2	22.3	247.	10.0	247.	123.8	247.	0.14	247.	0.73	247.	0.32	247.
QG'-1	7.0	10.	15.0	10.	55.2	10.	0.86	10.	4.60	10.	0.19	10.
TN	19.4	80.	16.3	80.	53.5	80.	0.31	80.	0.85	80.	0.37	80.
UMZ-1	7.3	88.	3.0	88.	36.7	88.	0.09	88.	0.41	88.	0.23	88.
UMZ-2	12.9	122.	4.8	122.	108.9	122.	0.05	122.	0.56	122.	0.13	122.
MZG-1	37.4	165.	26.4	165.	127.2	165.	0.21	165.	0.73	165.	0.29	165.
MZG-2	69.2	25.	38.9	25.	192.9	25.	0.20	25.	0.57	25.	0.36	25.
TRV	7.6	220.	3.4	220.	39.2	220.	0.09	220.	0.46	220.	0.20	220.
PZ-1	17.7	103.	11.2	103.	85.8	103.	0.13	103.	0.61	103.	0.25	103.
PZ-2	44.9	57.	29.6	57.	172.9	57.	0.17	57.	0.67	57.	0.26	57.
PZPC-1	19.3	109.	12.5	109.	57.7	109.	0.25	109.	0.66	109.	0.36	109.
PZPC-2	52.9	31.	31.3	31.	178.1	31.	0.17	31.	0.54	31.	0.29	31.
PZPC'	10.6	20.	11.0	20.	25.9	20.	0.43	20.	1.05	20.	0.42	20.

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 123

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	9.3	486.	5.6	486.	43.1	486.	0.15	486.	0.68	486.	0.23	486.
Q-2	24.9	224.	18.1	224.	66.4	224.	0.27	224.	0.74	224.	0.37	224.
Q'-1	16.7	458.	13.0	458.	47.2	458.	0.27	458.	0.78	458.	0.35	458.
Q'-2	27.6	562.	20.7	562.	83.3	562.	0.26	562.	0.79	562.	0.33	562.
QG-1	6.7	72.	2.0	72.	33.7	72.	0.05	72.	0.28	72.	0.24	72.
QG-2	20.7	138.	13.4	138.	109.4	138.	0.14	138.	0.71	138.	0.20	138.
TG	34.9	30.	4.4	30.	219.8	30.	0.03	30.	0.31	30.	0.15	30.
UMZ-1	7.5	80.	2.7	80.	25.3	80.	0.09	80.	0.36	80.	0.33	80.
TRV	6.8	120.	4.7	120.	34.6	120.	0.14	120.	0.75	120.	0.20	120.
PZ-1	29.8	104.	11.3	104.	129.2	104.	0.11	104.	0.45	104.	0.25	104.
PZ-2	41.5	6.	26.1	6.	153.7	6.	0.17	6.	0.63	6.	0.27	6.
PZPC-1	10.6	129.	5.5	129.	57.6	129.	0.08	129.	0.48	129.	0.19	129.
PZPC-2	23.0	21.	11.0	21.	127.9	21.	0.09	21.	0.62	21.	0.18	21.
UM	8.0	20.	5.5	20.	35.1	20.	0.16	20.	0.70	20.	0.23	20.

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 125

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	37.3	50.	29.1	50.	107.8	50.	0.35	50.	0.84	50.	0.41	50.
Q-2	39.8	180.	28.9	180.	103.4	180.	0.29	180.	0.76	180.	0.39	180.
Q'-1	30.0	125.	21.8	125.	96.2	125.	0.27	125.	0.78	125.	0.34	125.
Q'-2	34.9	215.	23.5	215.	105.6	215.	0.22	215.	0.70	215.	0.32	215.
QG-1	11.7	82.	9.3	82.	33.0	82.	0.29	82.	0.81	82.	0.38	82.
QG-2	32.4	78.	20.5	78.	100.8	78.	0.24	78.	0.66	78.	0.35	78.
TMZU	28.8	60.	21.1	60.	80.1	60.	0.26	60.	0.74	60.	0.36	60.
MZG-1	29.8	410.	24.8	410.	82.4	410.	0.41	410.	0.88	410.	0.40	410.
MZG'	23.3	20.	19.9	20.	58.1	20.	0.37	20.	0.87	20.	0.41	20.
PZ-1	13.4	100.	6.3	100.	113.1	100.	0.05	100.	0.30	100.	0.11	100.
PZ'	9.1	20.	2.6	20.	73.0	20.	0.04	20.	0.32	20.	0.12	20.
PZPC-1	29.2	674.	21.9	674.	79.7	674.	0.31	674.	0.79	674.	0.39	674.
PZPC-2	67.3	586.	35.1	586.	193.9	586.	0.18	586.	0.54	586.	0.35	586.
PZPC'	48.2	10.	28.4	10.	108.2	10.	0.27	10.	0.59	10.	0.45	10.

AVERAGE COUNTING RATES PER GEOLOGIC UNIT

FLIGHT LINE 124

GEOLOGIC UNIT	TH AVG.	TH SAMPLES	U AVG.	U SAMPLES	K AVG.	K SAMPLES	U/K AVG.	U/K SAMPLES	U/TH AVG.	U/TH SAMPLES	TH/K AVG.	TH/K SAMPLES
Q-1	9.3	72.	4.6	72.	40.4	72.	0.11	72.	0.53	72.	0.23	72.
Q-2	16.8	358.	10.7	358.	64.5	358.	0.16	358.	0.65	358.	0.25	358.
Q'-1	23.0	76.	19.9	76.	56.5	76.	0.35	76.	0.87	76.	0.41	76.
Q'-2	30.4	594.	23.3	594.	81.8	594.	0.29	594.	0.78	594.	0.37	594.
QG-1	12.9	449.	8.6	449.	32.8	449.	2.53	449.	1.47	449.	1.00	449.
QG-2	48.9	41.	26.4	41.	142.2	41.	0.19	41.	0.55	41.	0.35	41.
TKC	9.0	170.	5.1	170.	64.5	170.	0.09	170.	0.59	170.	0.16	170.
MZG-1	34.0	90.	24.3	90.	101.9	90.	0.23	90.	0.72	90.	0.32	90.
PZPC-1	42.8	241.	31.9	241.	126.5	241.	0.38	241.	0.84	241.	0.42	241.
PZPC-2	72.0	519.	39.1	519.	196.1	519.	0.34	519.	0.56	519.	0.50	519.
PZPC'	38.0	10.	27.1	10.	128.1	10.	0.22	10.	0.72	10.	0.30	10.

MAPS

MAPS

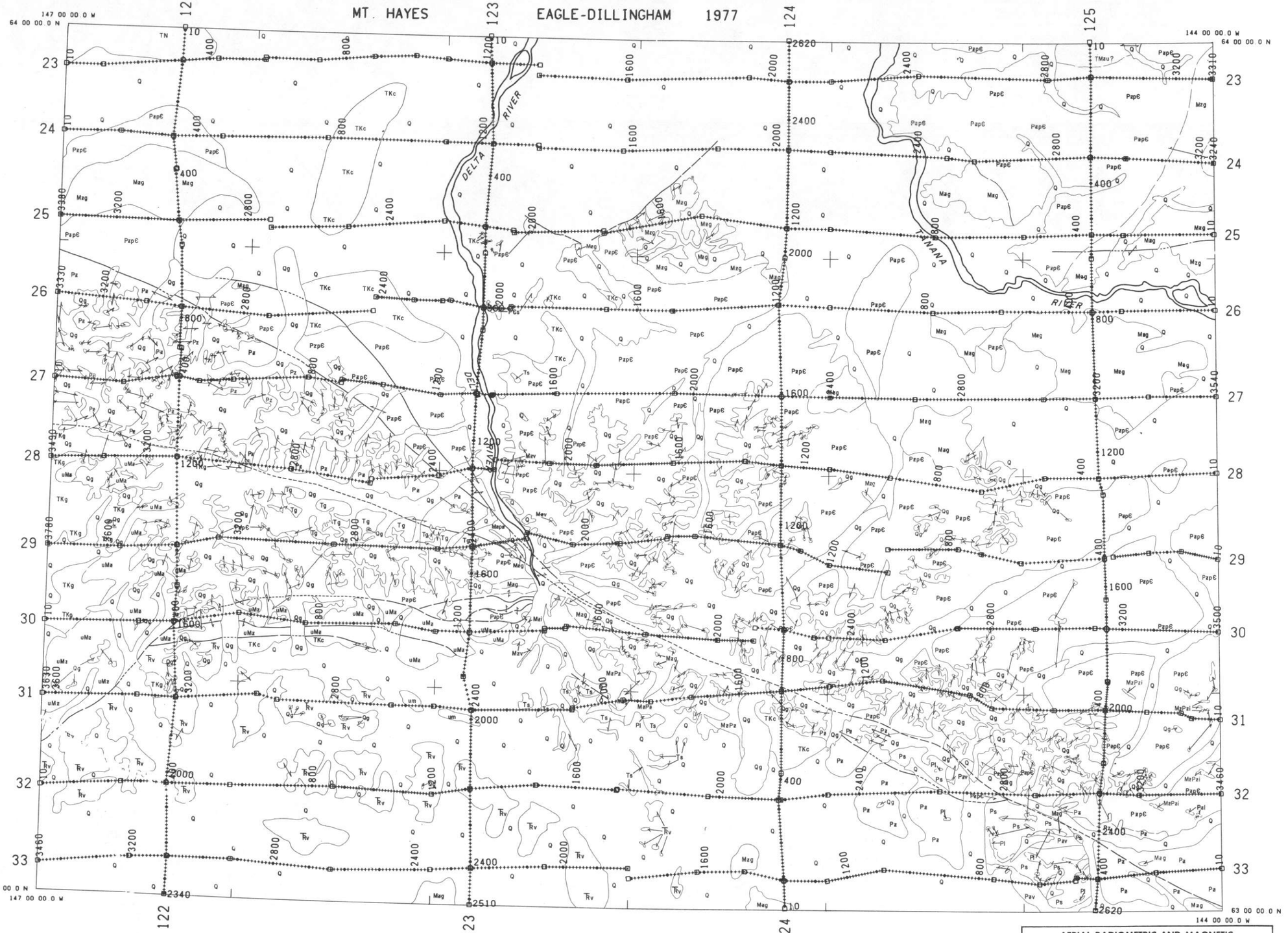
MT. HAYES EAGLE-DILLINGHAM 1977

147 00 00.0 W
64 00 00.0 N

144 00 00.0 W
64 00 00.0 N

63 00 00.0 N
147 00 00.0 W

63 00 00.0 N
144 00 00.0 W



RECORD LOCATION MAP

LEGEND : □ = PHOTO RECOVERED POINT

5 0 5 10 15 MILES

10 0 10 20 30 KILOMETERS

AERIAL RADIOMETRIC AND MAGNETIC RECONNAISSANCE SURVEY

PREPARED BY
TEXAS INSTRUMENTS INCORPORATED
DALLAS, TEXAS
1977
WORK PERFORMED UNDER
BENDIX FIELD ENGINEERING CORPORATION
SUBCONTRACT NO. 77-060-L
PREPARED FOR
U.S. DEPARTMENT OF ENERGY

M-1

MT. HAYES EAGLE-DILLINGHAM 1977

147 00 00.0 W
64 00 00.0 N
144 00 00.0 W
63 00 00.0 N

122 123 124

PROFILE MAP

URANIUM 6.0 S.D./IN. TEXAS INSTRUMENTS

LEGEND: POSITIVE SIGNIFICANCE FACTORS—SOLID LINES
NEGATIVE SIGNIFICANCE FACTORS—DOTTED LINES

5 0 5 10 15 MILES
10 0 10 20 30 KILOMETERS

AERIAL RADIOMETRIC AND MAGNETIC RECONNAISSANCE SURVEY

PREPARED BY
TEXAS INSTRUMENTS INCORPORATED
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1977
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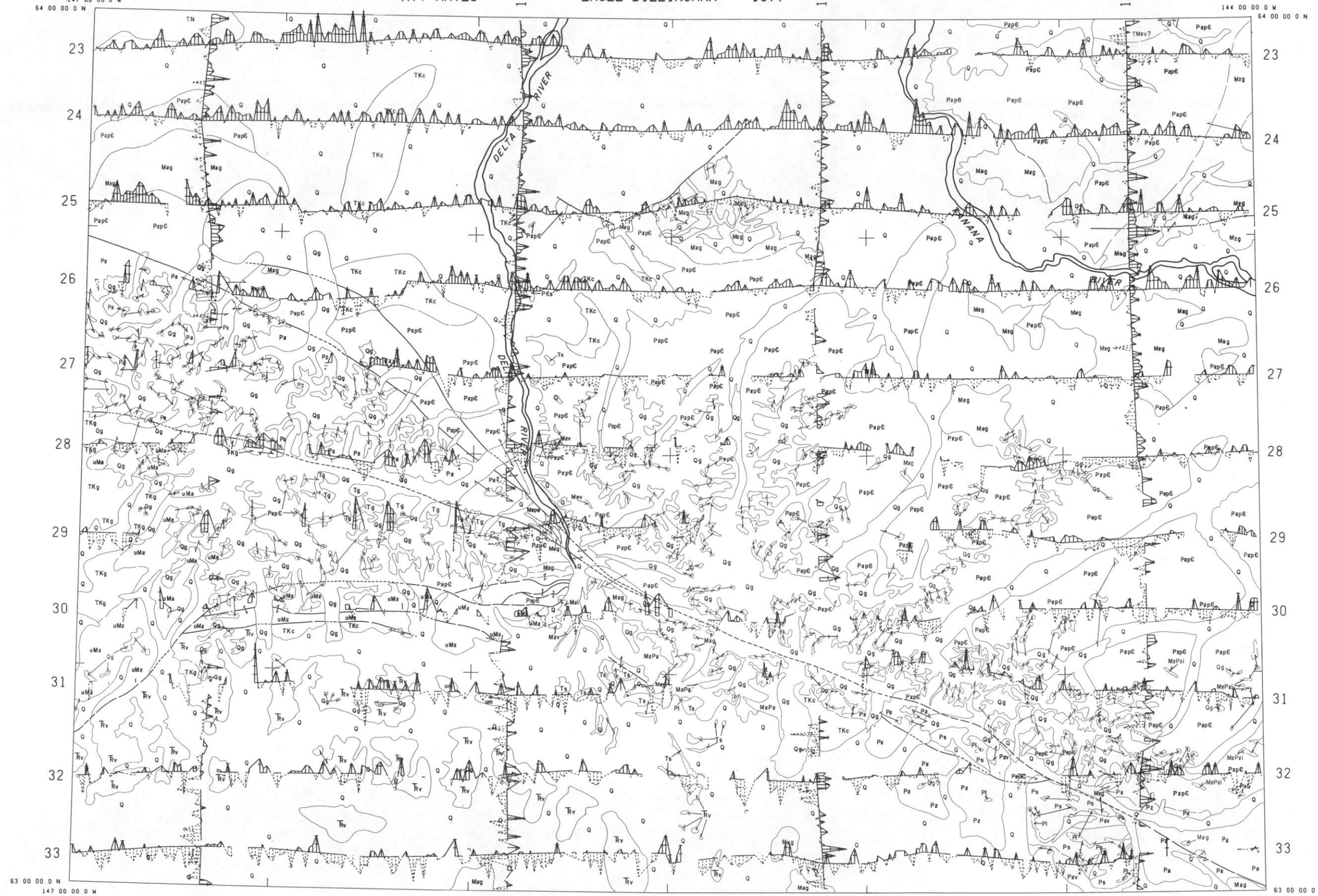
SUBCONTRACT NO. 77-060-L
PREPARED FOR
U.S. DEPARTMENT OF ENERGY

M-2

MT. HAYES EAGLE-DILLINGHAM 1977



PROFILE MAP U/TH 6.0 S.D./IN. TEXAS INSTRUMENTS

LEGEND: POSITIVE SIGNIFICANCE FACTORS—SOLID LINES
NEGATIVE SIGNIFICANCE FACTORS—DOTTED LINES

5 0 5 10 15 MILES
10 0 10 20 30 KILOMETERS

AERIAL RADIOMETRIC AND MAGNETIC RECONNAISSANCE SURVEY

PREPARED BY
TEXAS INSTRUMENTS INCORPORATED
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1977
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SUBCONTRACT NO. 77-060-L
PREPARED FOR
U.S. DEPARTMENT OF ENERGY

M-3

MT. HAYES EAGLE-DILLINGHAM 1977

147 00 00.0 W
64 00 00.0 N

144 00 00.0 W
64 00 00.0 N

63 00 00.0 N
147 00 00.0 W

63 00 00.0 N
144 00 00.0 W

122 123 124 125

23 24 25 26 27 28 29 30 31 32 33

DELTA RIVER

TANANA RIVER

PROFILE MAP U/K 6.0 S.D./IN. TEXAS INSTRUMENTS

5 0 5 10 15 MILES

0 10 20 30 KILOMETERS

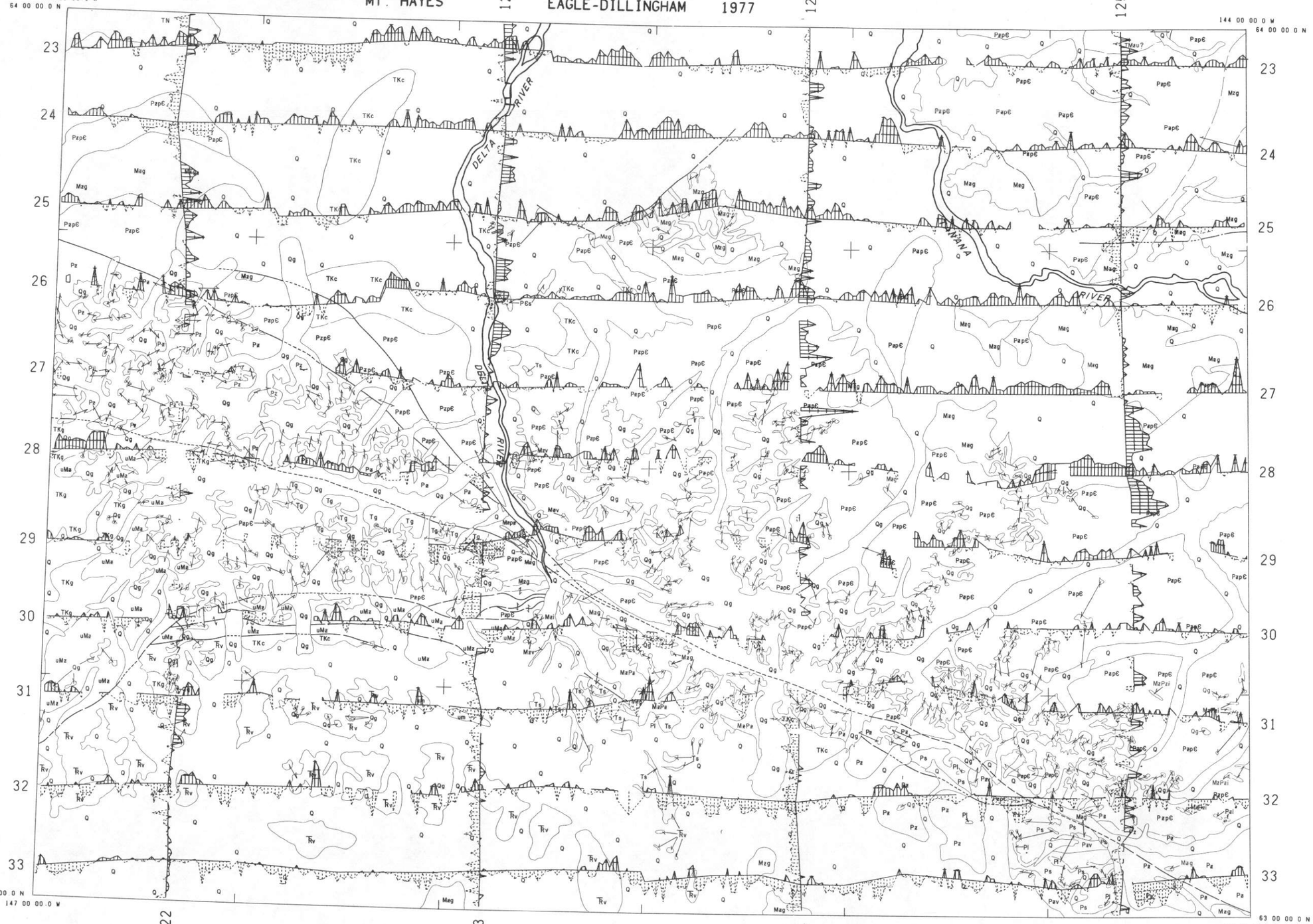
LEGEND: POSITIVE SIGNIFICANCE FACTORS—SOLID LINES
NEGATIVE SIGNIFICANCE FACTORS—DOTTED LINES

AERIAL RADIOMETRIC AND MAGNETIC RECONNAISSANCE SURVEY

PREPARED BY
TEXAS INSTRUMENTS INCORPORATED
DALLAS, TEXAS
1977

WORK PERFORMED UNDER
BENDIX FIELD ENGINEERING CORPORATION
SUBCONTRACT NO. 77-060-L
PREPARED FOR
U.S. DEPARTMENT OF ENERGY

MT. HAYES EAGLE-DILLINGHAM 1977



PROFILE MAP

THORIUM 6.0 S.D./IN. TEXAS INSTRUMENTS

LEGEND: POSITIVE SIGNIFICANCE FACTORS—SOLID LINES
NEGATIVE SIGNIFICANCE FACTORS—DOTTED LINES

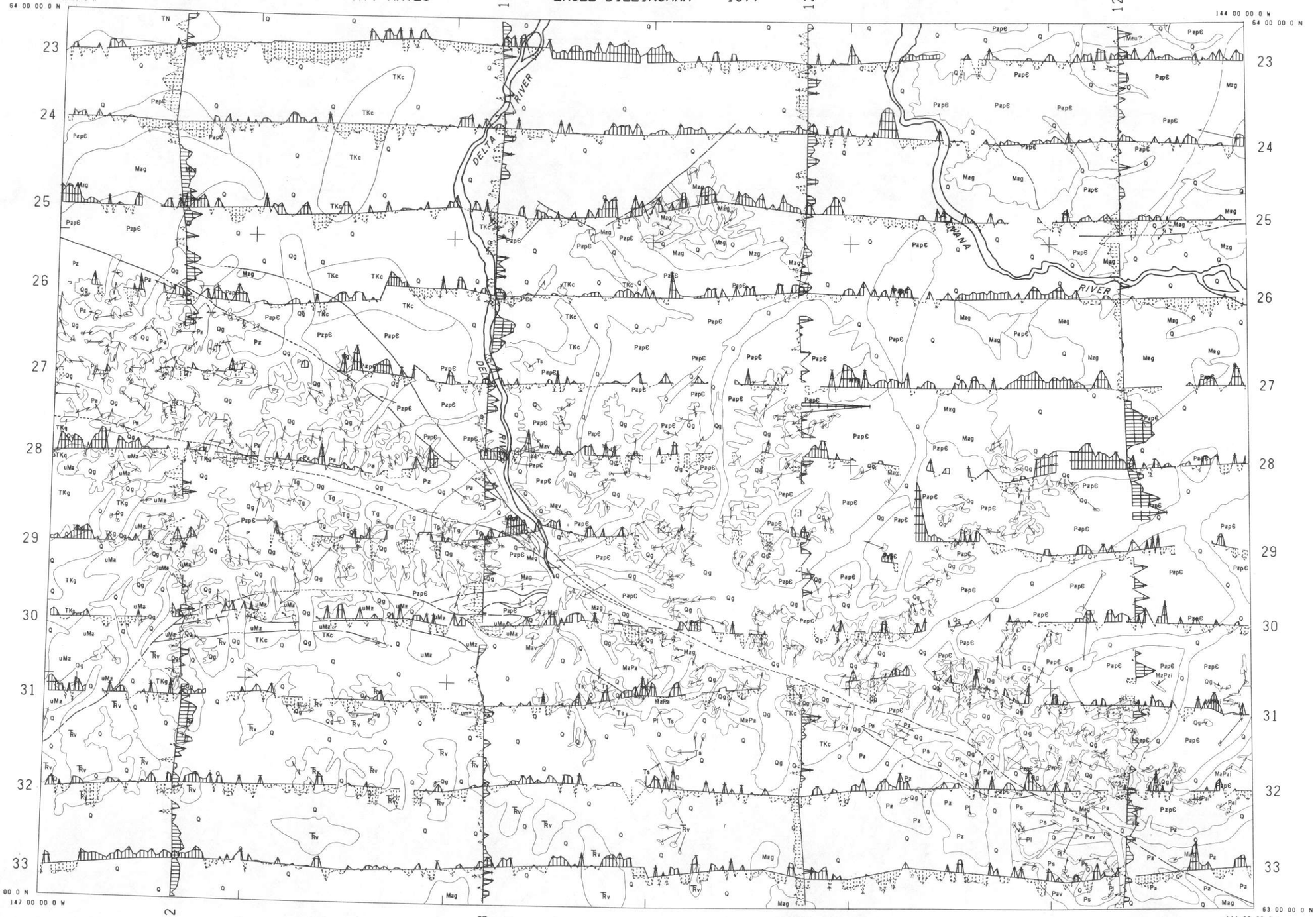
5 0 5 10 15 MILES
10 0 10 20 30 KILOMETERS

AERIAL RADIOMETRIC AND MAGNETIC RECONNAISSANCE SURVEY

PREPARED BY
TEXAS INSTRUMENTS INCORPORATED
DALLAS, TEXAS
1977
WORK PERFORMED UNDER
BENDIX FIELD ENGINEERING CORPORATION
SUBCONTRACT NO. 77-060-L
PREPARED FOR
U.S. DEPARTMENT OF ENERGY

M-5

MT. HAYES EAGLE-DILLINGHAM 1977



PROFILE MAP POTASSIUM 6.0 S.D./IN. TEXAS INSTRUMENTS

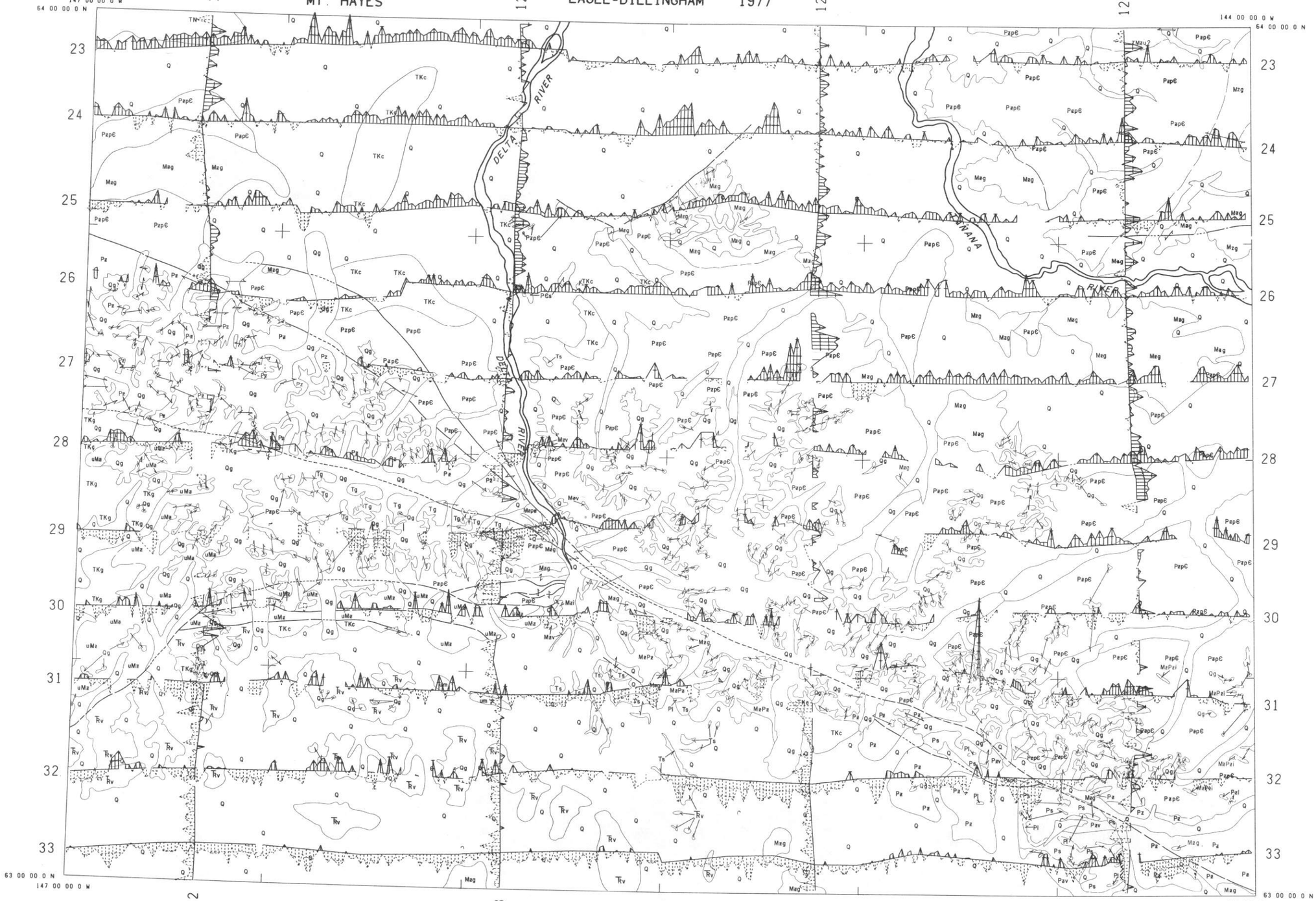
LEGEND: POSITIVE SIGNIFICANCE FACTORS—SOLID LINES
NEGATIVE SIGNIFICANCE FACTORS—DOTTED LINES

5 0 5 10 15 MILES
10 0 10 20 30 KILOMETERS

AERIAL RADIOMETRIC AND MAGNETIC RECONNAISSANCE SURVEY

PREPARED BY
TEXAS INSTRUMENTS INCORPORATED
DALLAS, TEXAS
1977
WORK PERFORMED UNDER
BENDIX FIELD ENGINEERING CORPORATION
SUBCONTRACT NO. 77-060-L
PREPARED FOR
U.S. DEPARTMENT OF ENERGY

MT. HAYES — EAGLE-DILLINGHAM — 1977



PROFILE MAP TH/K 6.0 S.D./IN. TEXAS INSTRUMENTS

LEGEND: POSITIVE SIGNIFICANCE FACTORS—SOLID LINES
NEGATIVE SIGNIFICANCE FACTORS—DOTTED LINES

5 0 5 10 15 MILES

10 0 10 20 30 KILOMETERS

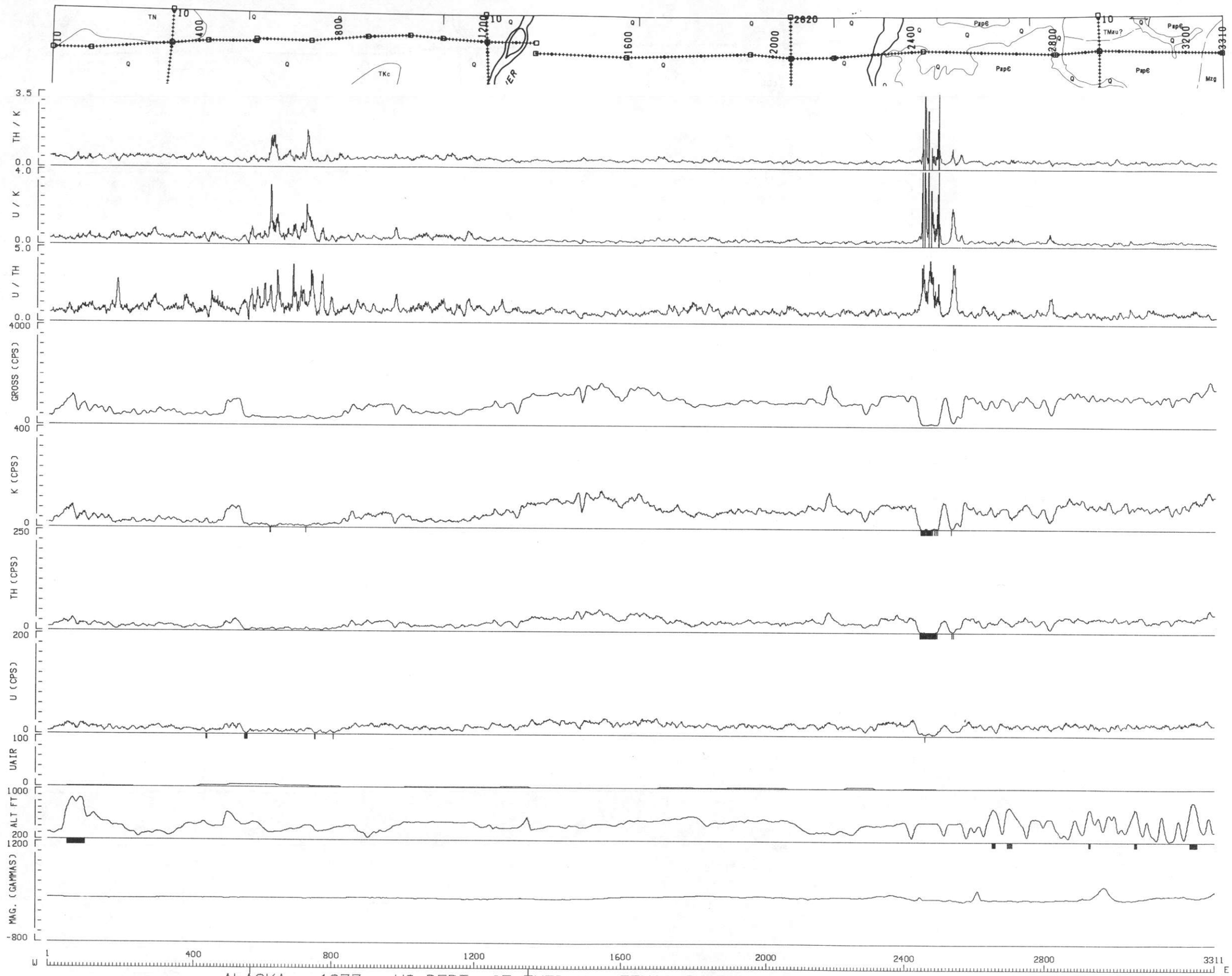
AERIAL RADIOMETRIC AND MAGNETIC RECONNAISSANCE SURVEY

PREPARED BY
TEXAS INSTRUMENTS INCORPORATED
DALLAS, TEXAS
1977
WORK PERFORMED UNDER
BENDIX FIELD ENGINEERING CORPORATION
SUBCONTRACT NO. 77-060-L
PREPARED FOR
U.S. DEPARTMENT OF ENERGY

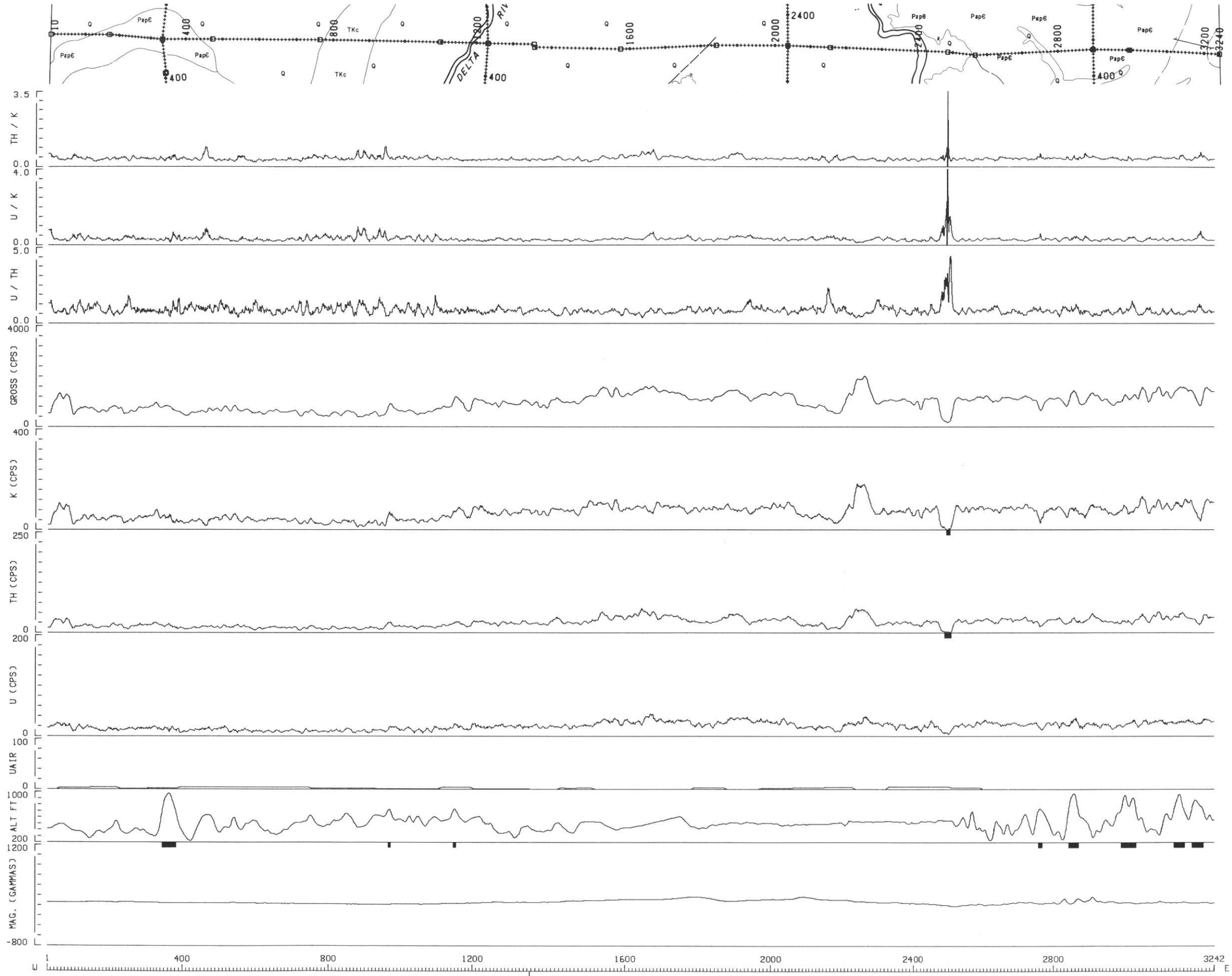
M-7

PROFILES

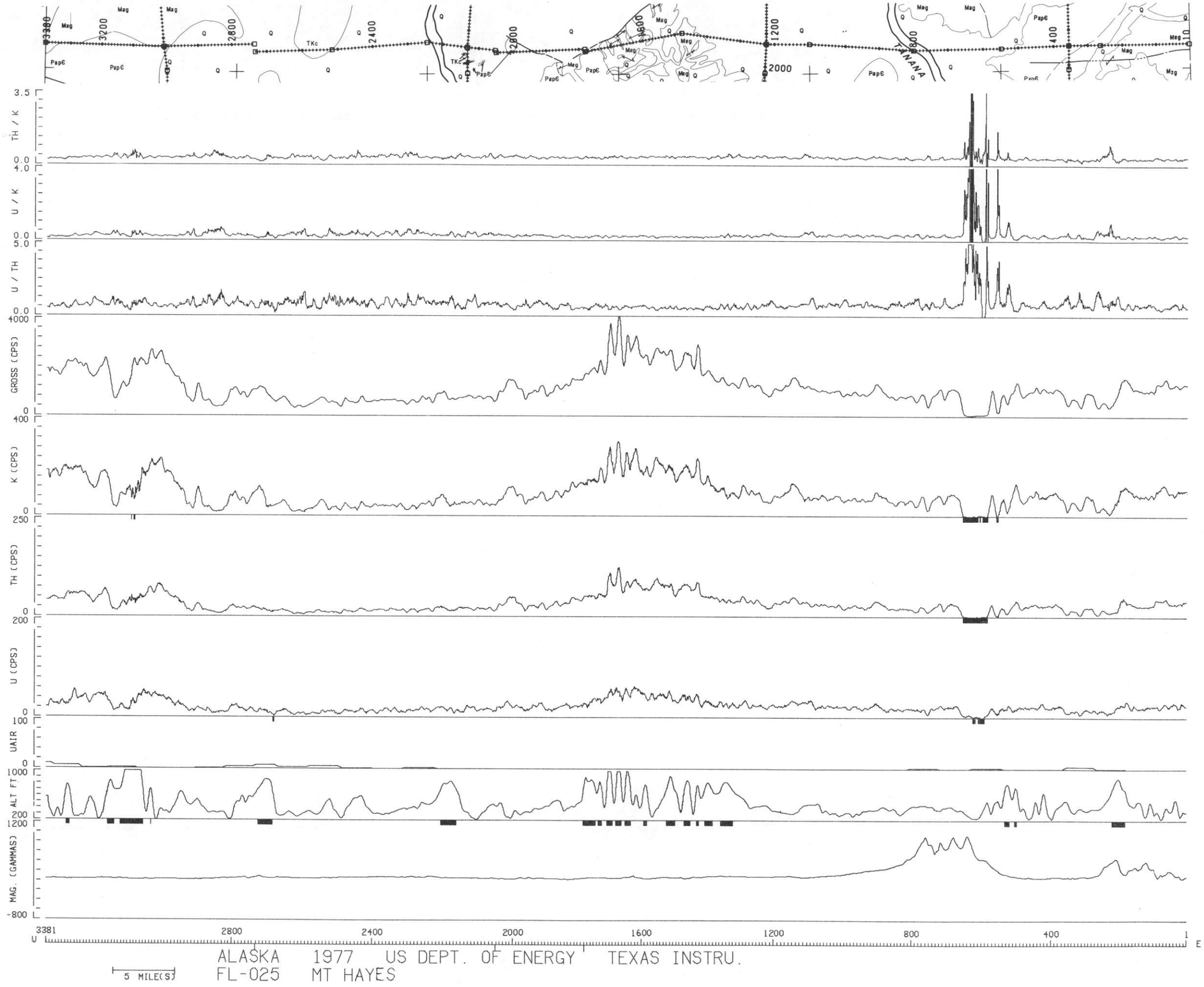
PROFILES

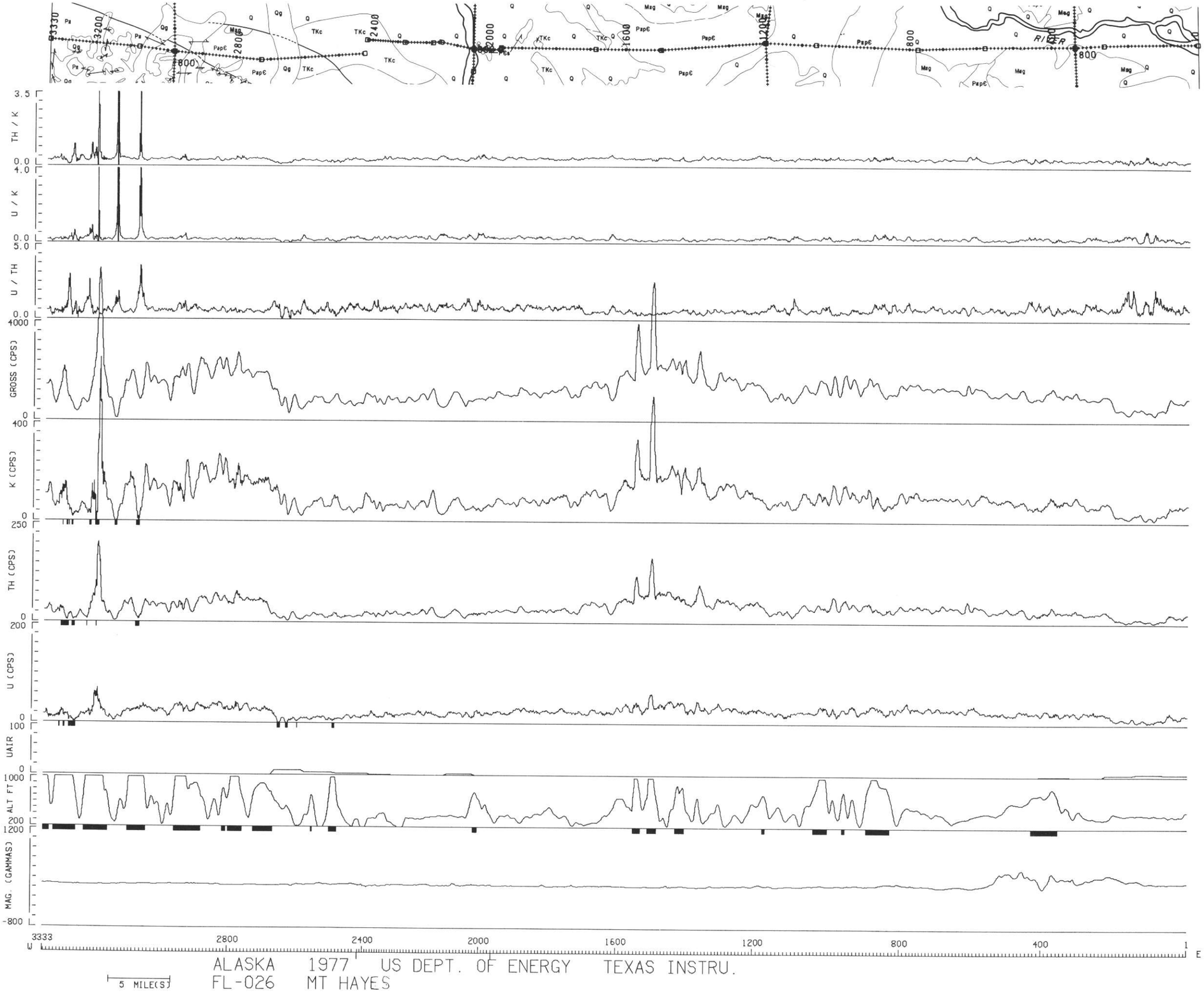


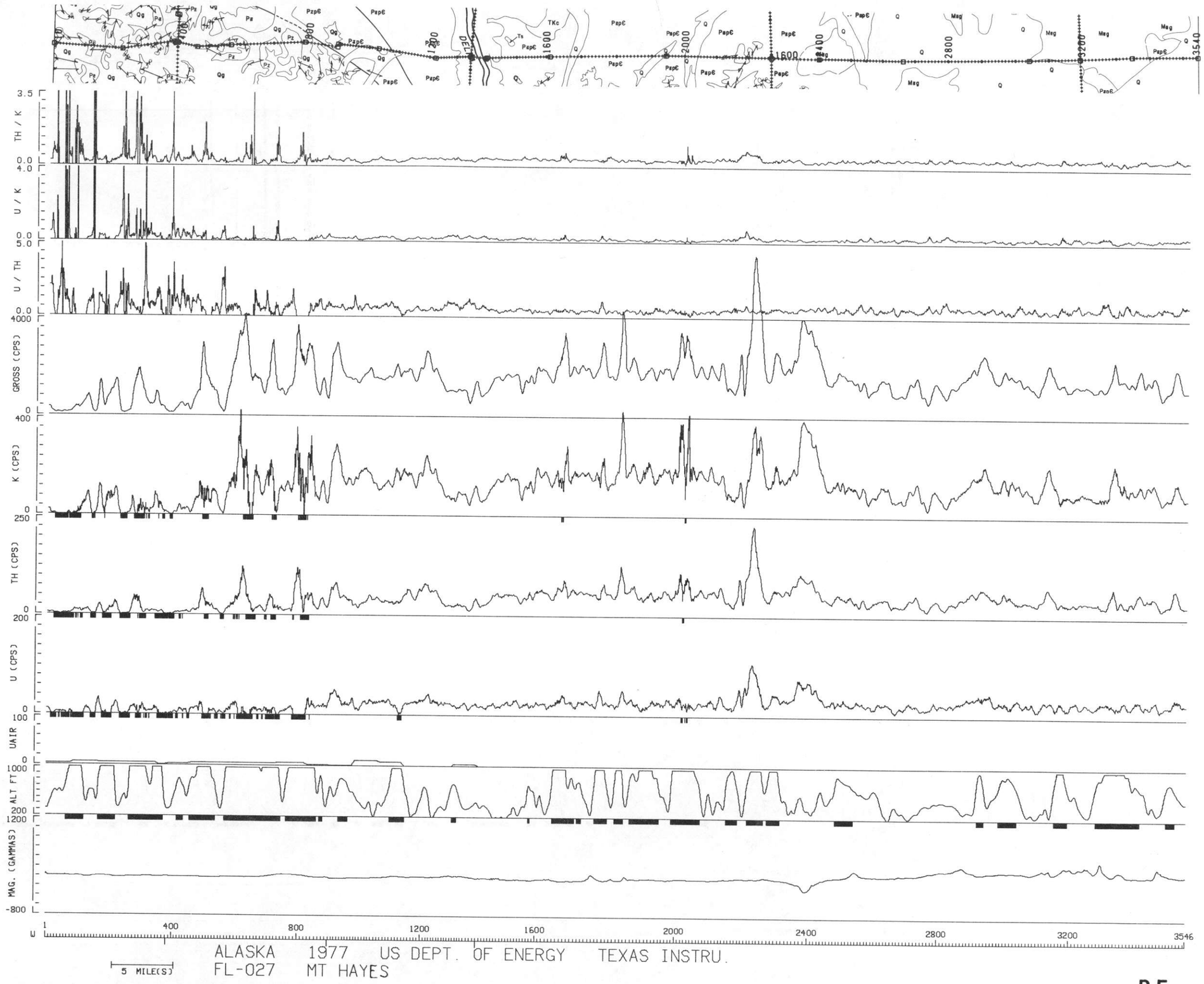
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-023 MT HAYES

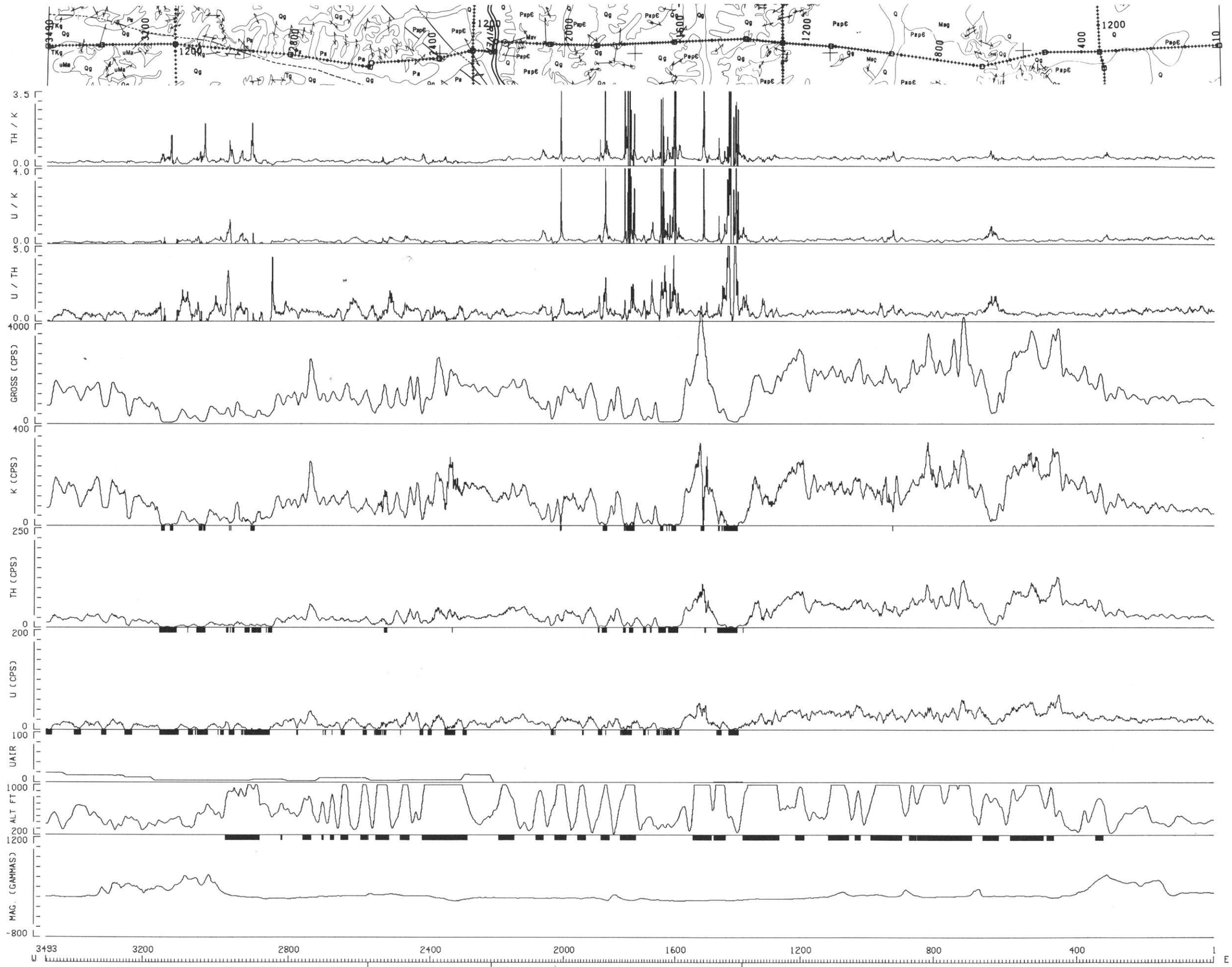


ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-024 MT HAYES

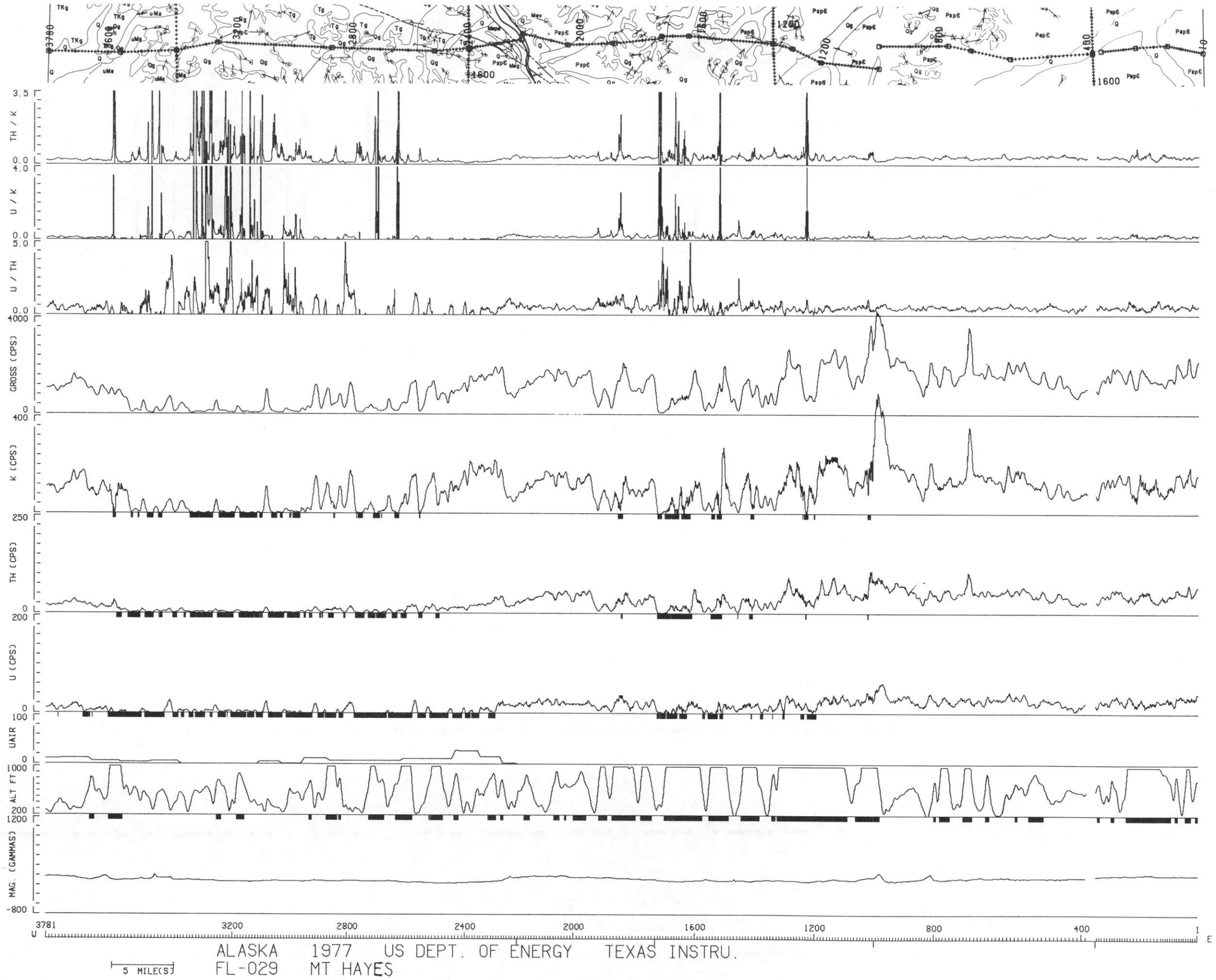

TH / K
U / K
U / TH
GROSS (CPS)
K (CPS)
TH (CPS)
U (CPS)
UAIR
ALT FT
MAG (GAMMAS)
3381
2800
2400
2000
1600
1200
800
400
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-025 MT HAYES

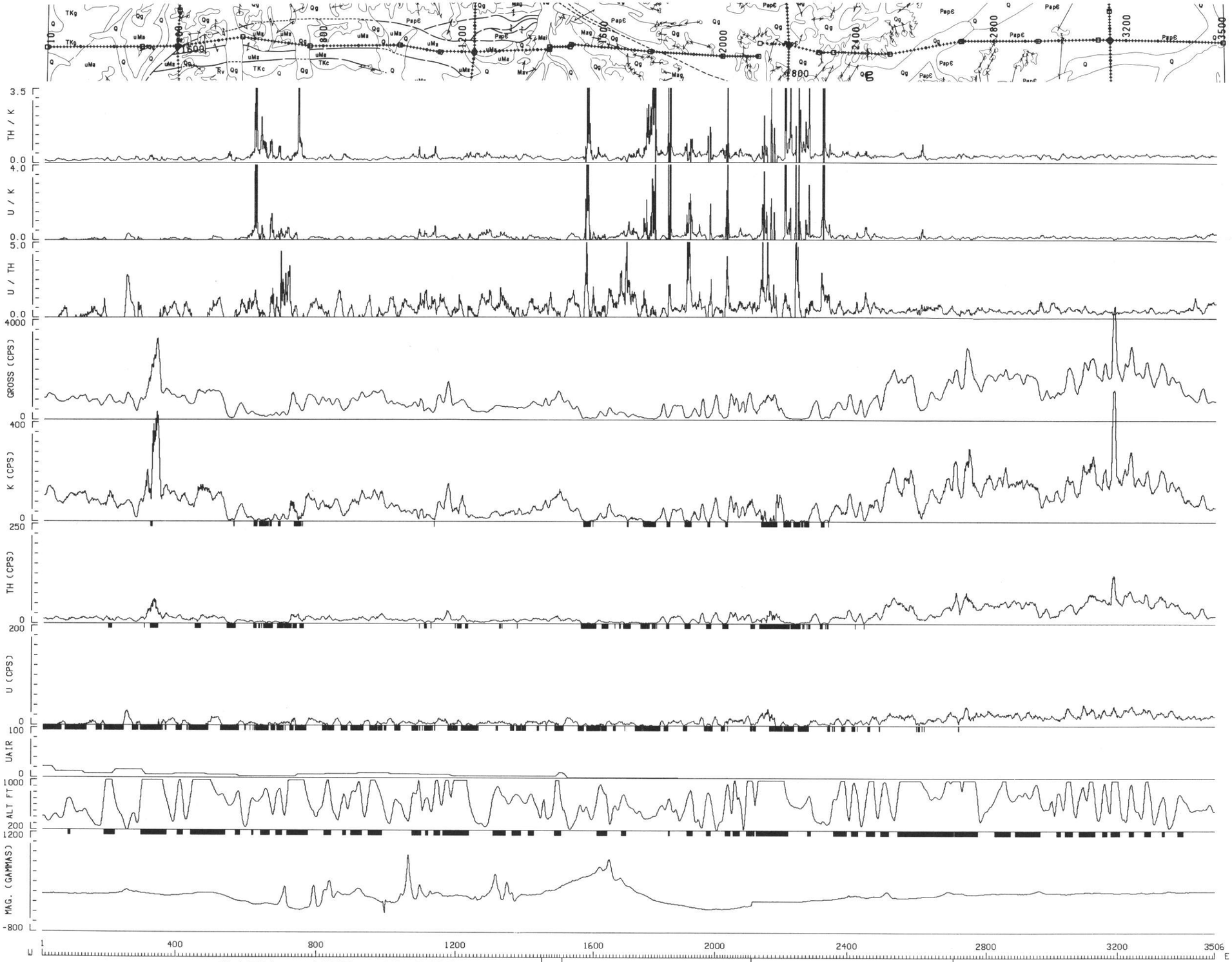

TH / K
U / K
U / TH
GROSS (CPS)
K (CPS)
TH (CPS)
U (CPS)
UAIR
ALT FT
MAG. (GAMMAS)
3333
2800
2400
2000
1600
1200
800
400
W
E
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-026 MT HAYES

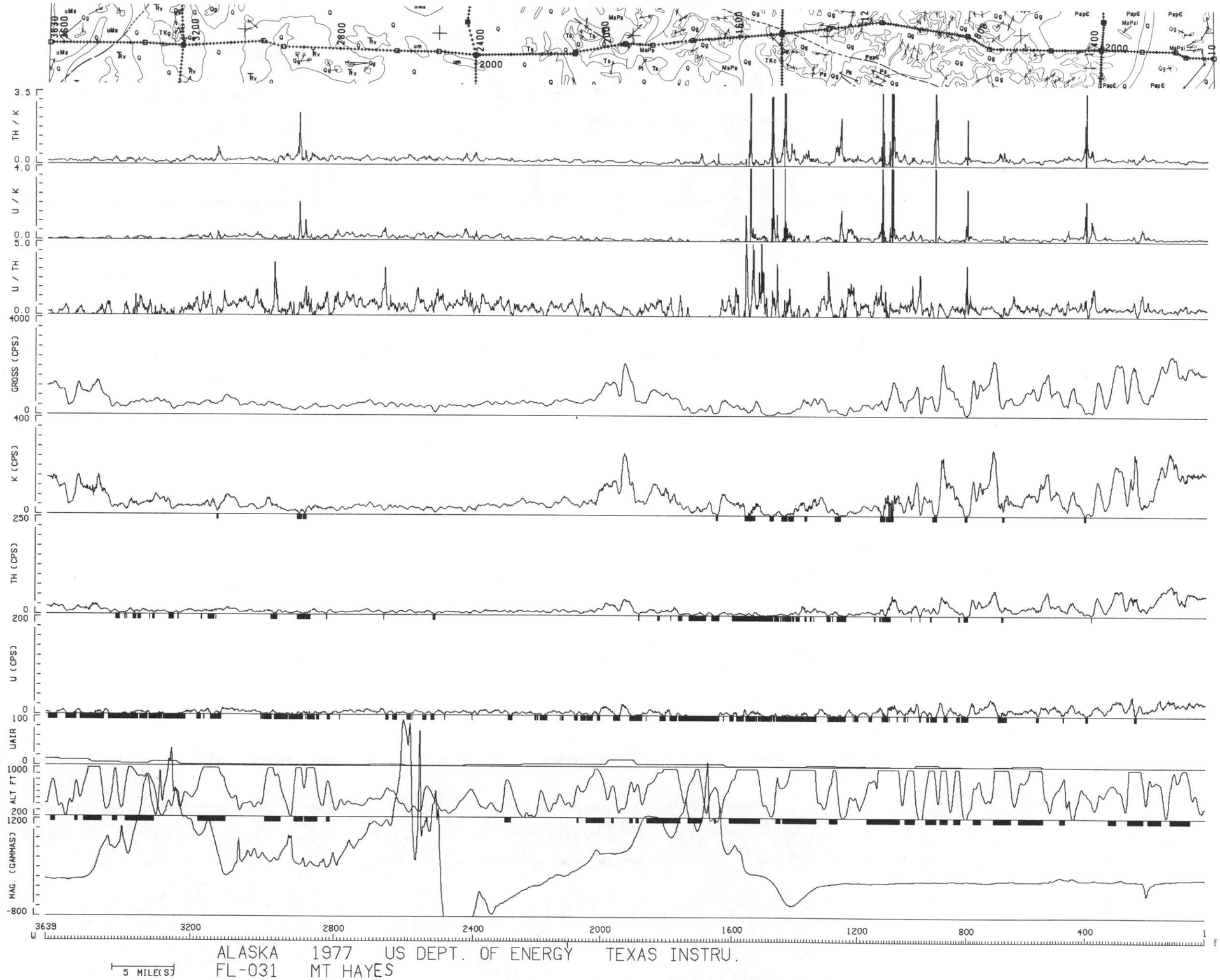

TH / K
U / K
U / TH
GROSS (CPS)
K (CPS)
TH (CPS)
U (CPS)
UAIR
ALT FT
MAG. (GAMMAS)
1
400
800
1200
1600
2000
2400
2800
3200
3546
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-027 MT HAYES



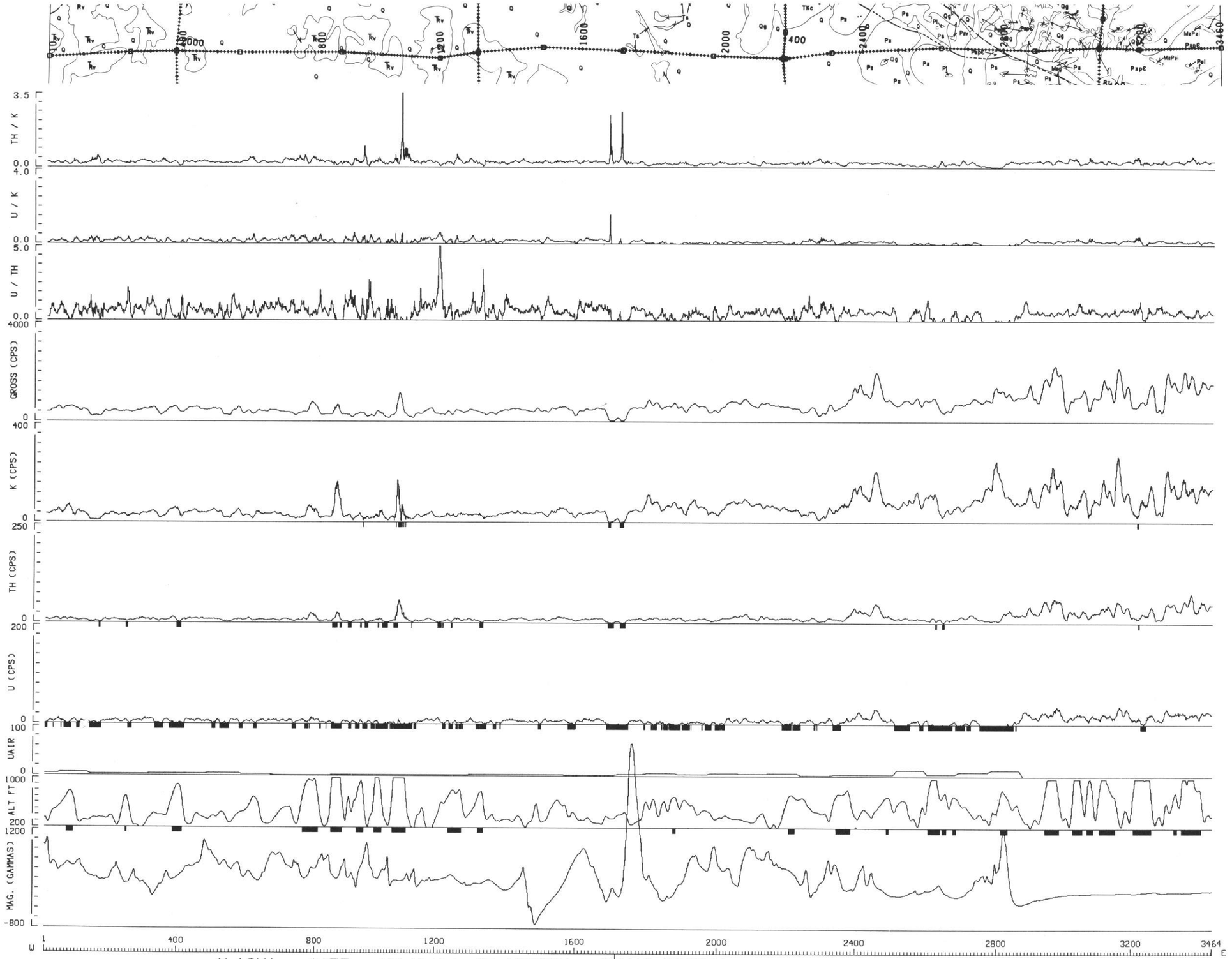
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-028 MT HAYES

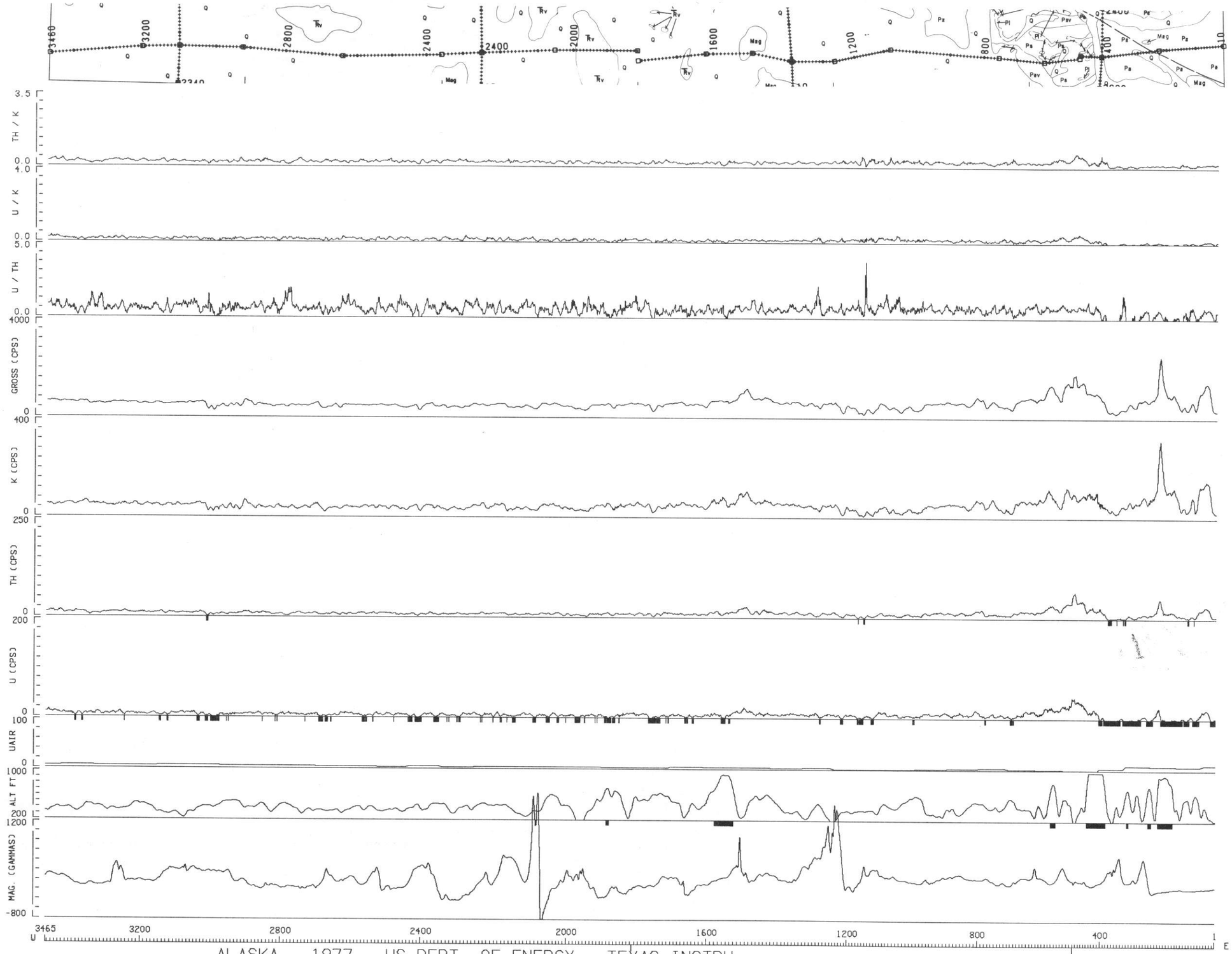

TH / K
U / K
U / TH
GROSS (CPS)
K (CPS)
TH (CPS)
U (CPS)
UAIR
ALT FT
MAG. (GAMMAS)
3781
3200
2800
2400
2000
1600
1200
800
400
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-029 MT HAYES

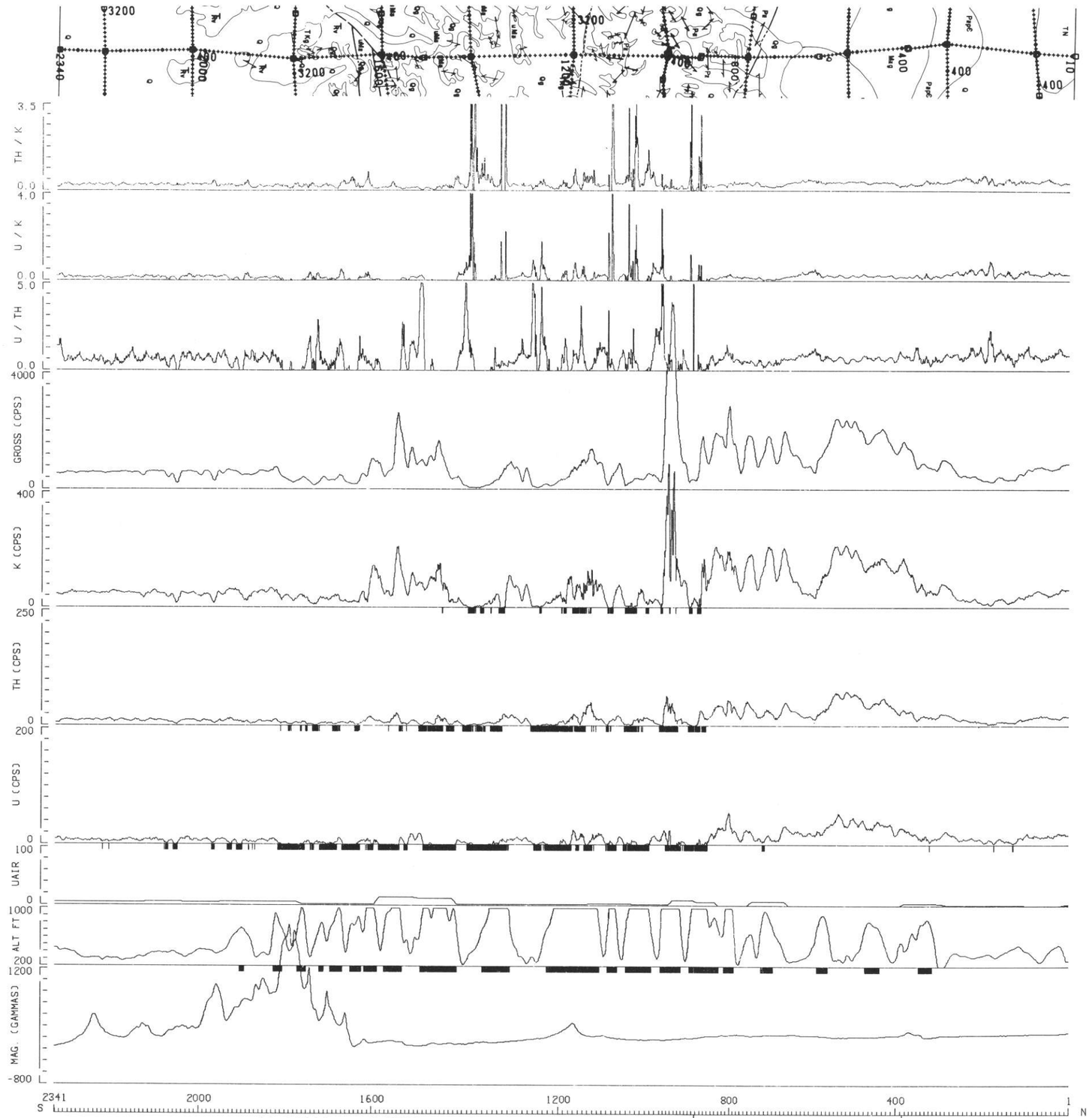

TH / K
U / K
U / TH
GROSS (CPS)
K (CPS)
TH (CPS)
U (CPS)
UAIR
ALT FT
MAG. (GAMMAS)
3.5
0.0
4.0
5.0
4000
400
250
200
100
1000
-800
1
400
800
1200
1600
2000
2400
2800
3200
3506
W
E
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-030 MT HAYES

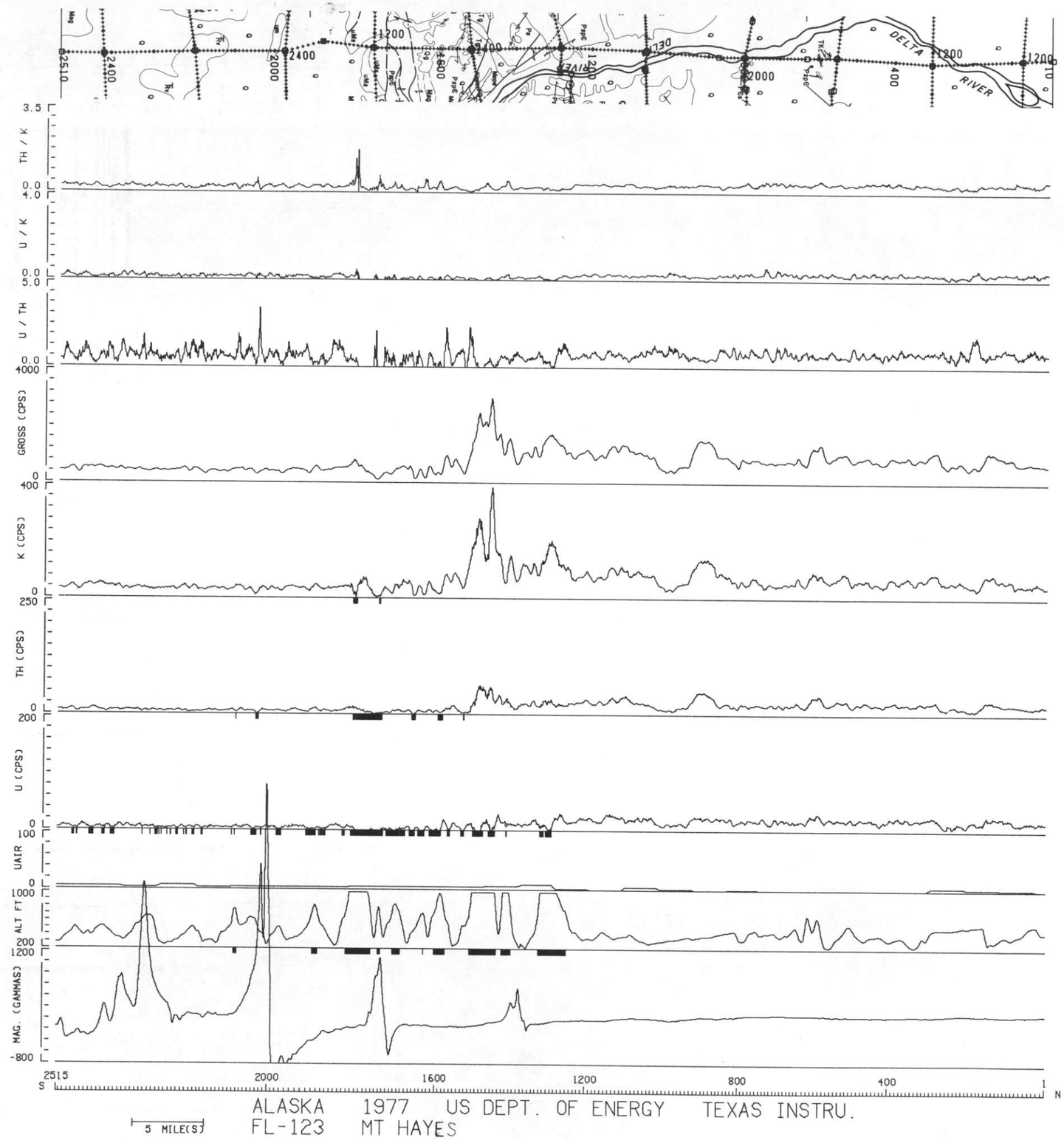


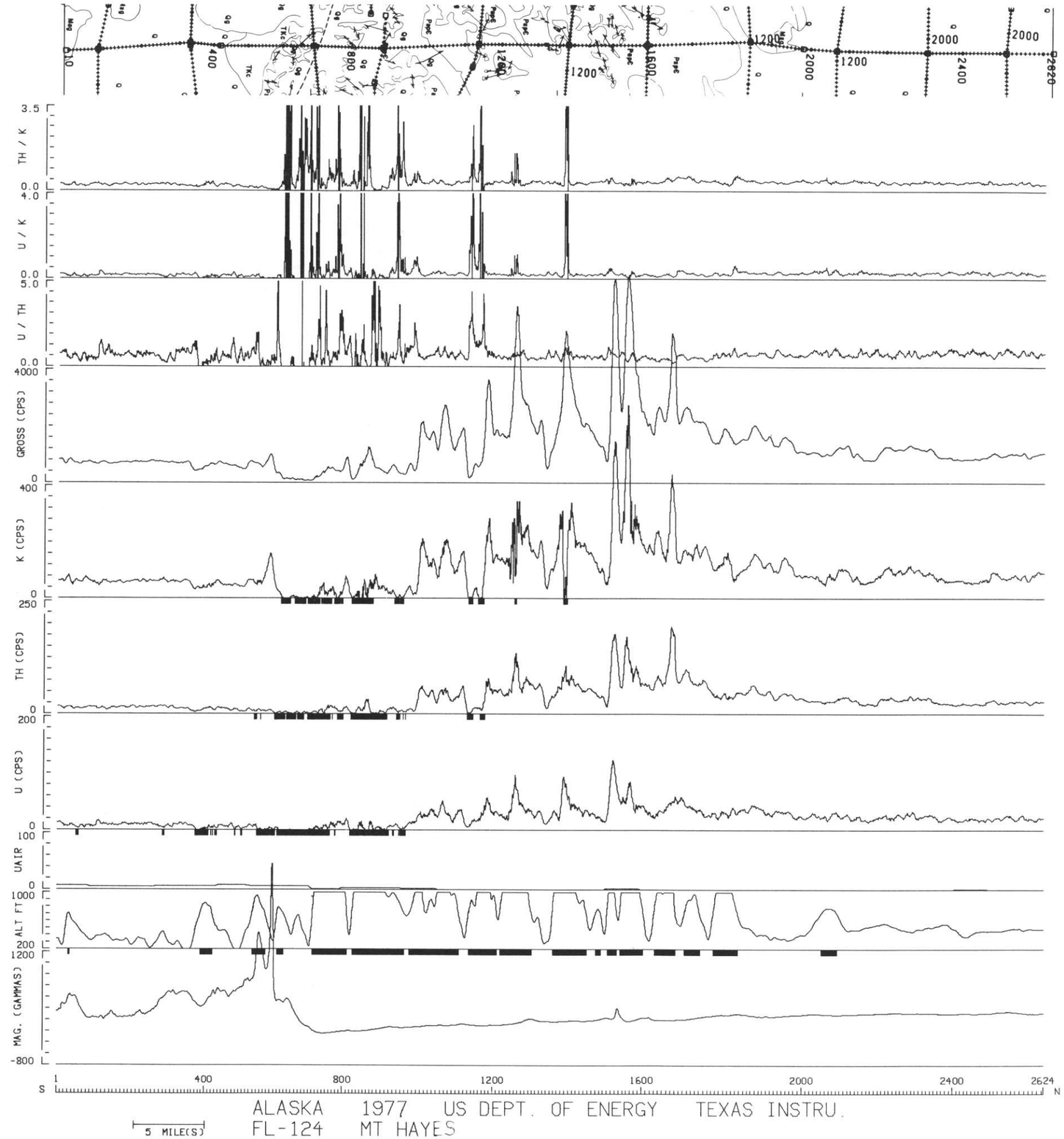
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-031 MT HAYES

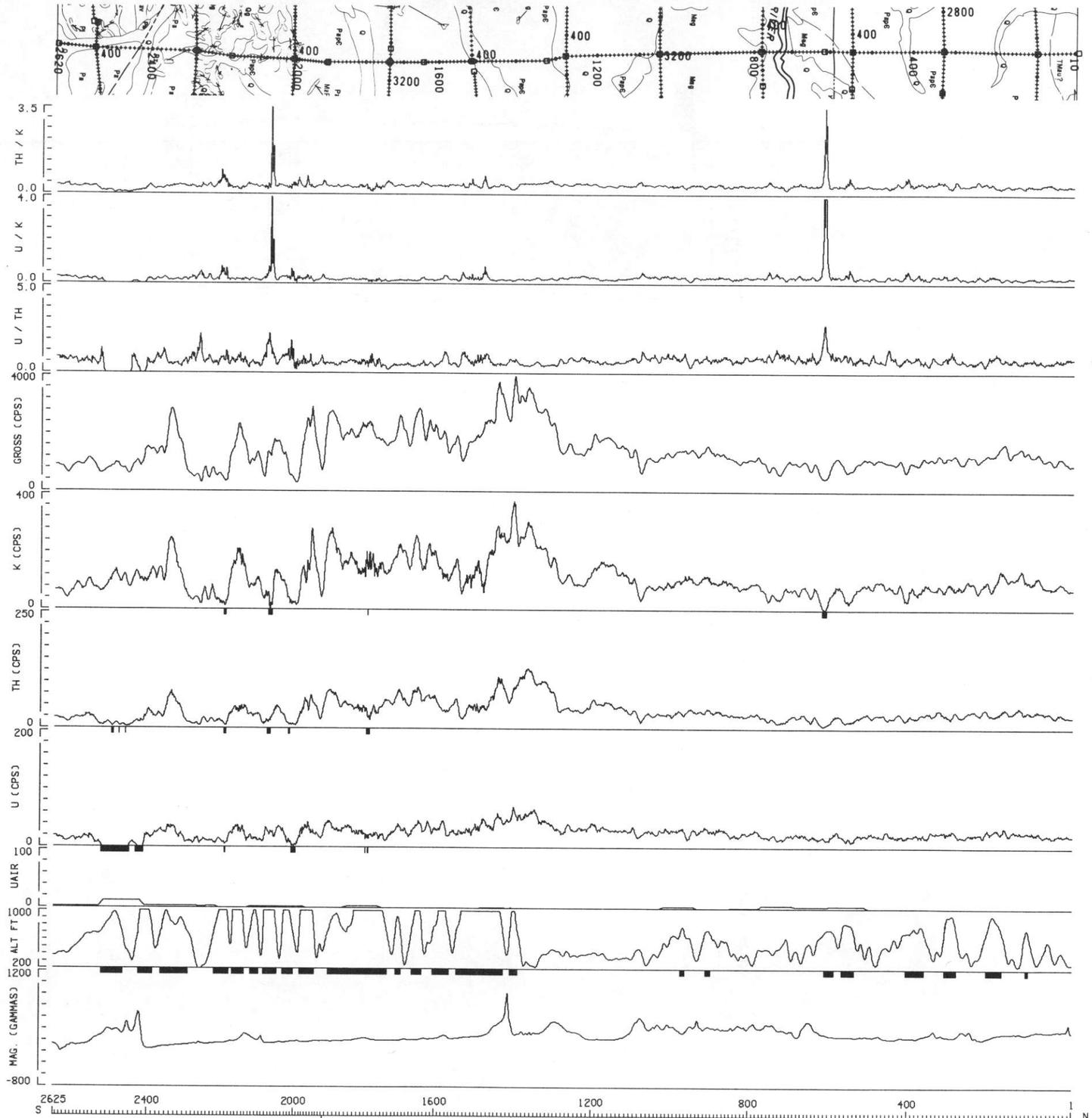

TH / K
U / K
U / TH
GROSS (CPS)
K (CPS)
TH (CPS)
U (CPS)
UAIR
ALT FT
MAG. (GAMMAS)
W
E
1
400
800
1200
1600
2000
2400
2800
3200
3464
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-032 MT HAYES

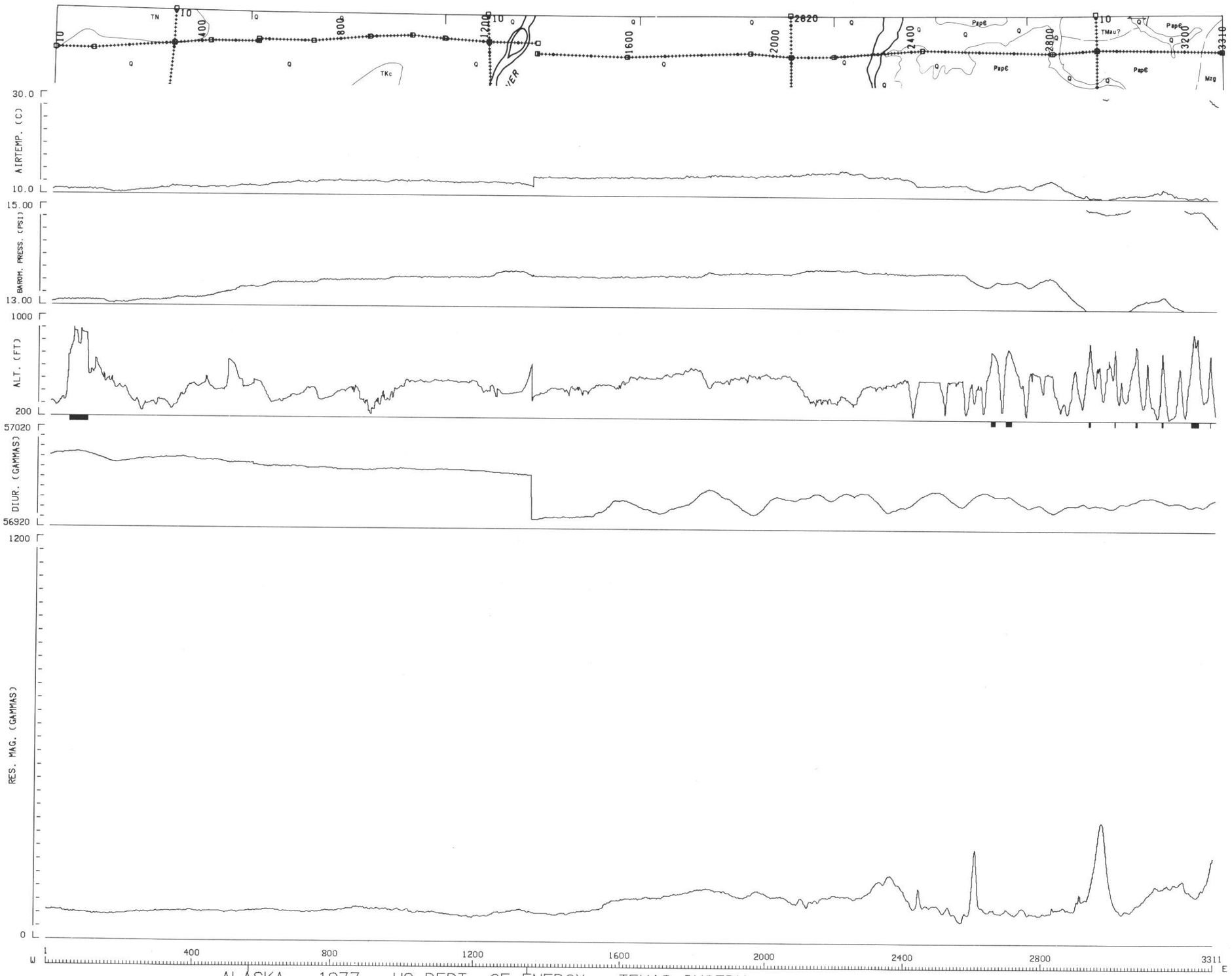

TH / K
U / K
U / TH
GROSS (CPS)
K (CPS)
TH (CPS)
U (CPS)
UAIR
ALT FT
MAG. (GAMMAS)
3465
3200
2800
2400
2000
1600
1200
800
400
W
E
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-033 MT HAYES


TH / K
U / K
U / TH
GROSS (CPS)
K (CPS)
TH (CPS)
U (CPS)
UAIR
ALT FT
MAG. (GAMMAS)
2341
2000
1600
1200
800
400
S
N
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-122 MT HAYES

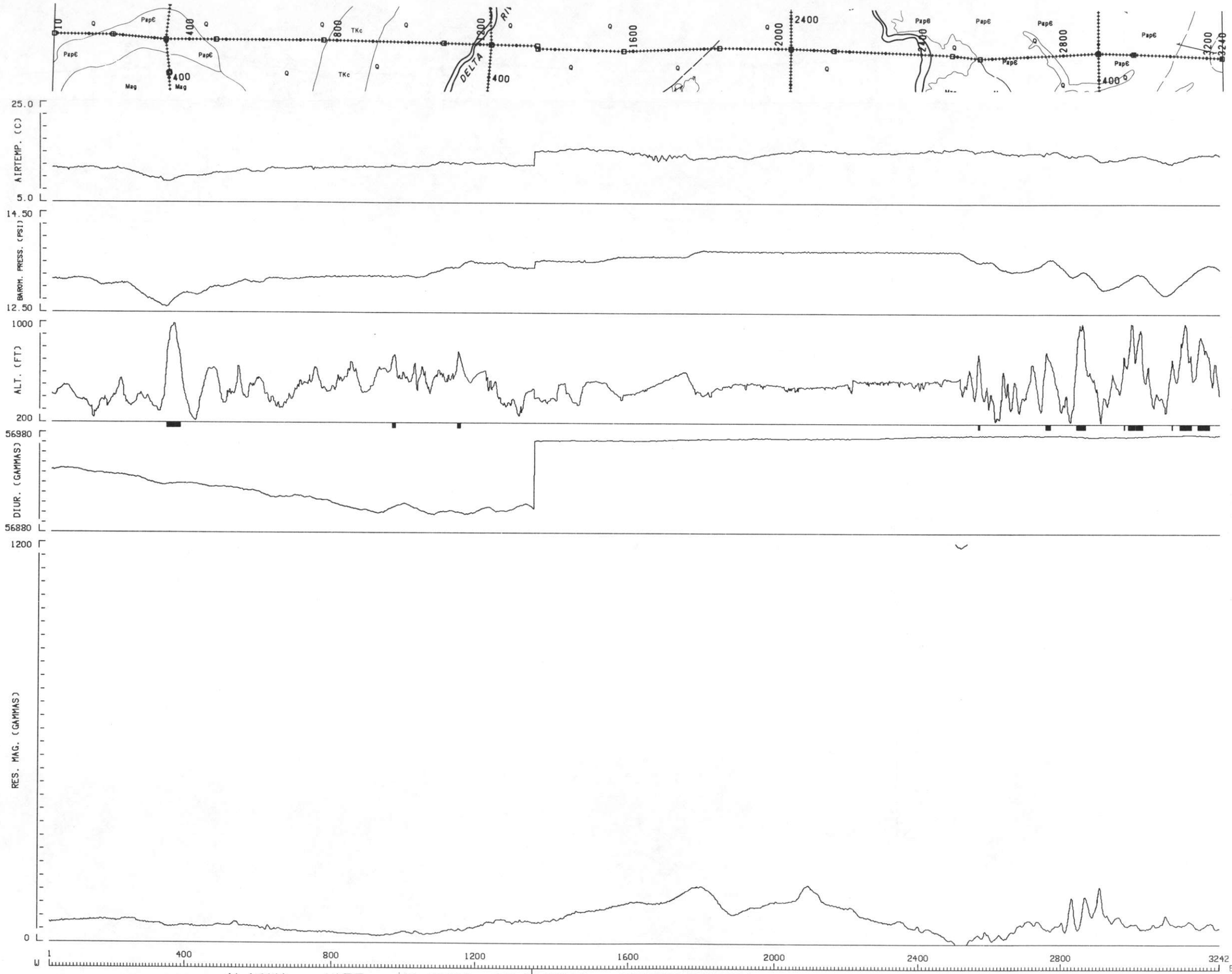

2510
2400
2000
1600
1200
800
400
DELTA RIVER
TH / K
U / K
U / TH
GROSS (CPS)
K (CPS)
TH (CPS)
U (CPS)
UAIR
ALT FT
MAG. (GAMMAS)
3.5
0.0
4.0
5.0
1000
400
250
200
100
1200
-800
S
N
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-123 MT HAYES


TH / K
3.5
0.0
U / K
4.0
0.0
U / TH
5.0
0.0
GROSS (CPS)
4000
0
K (CPS)
400
0
TH (CPS)
250
0
U (CPS)
200
0
UAIR
100
0
ALT FT
1000
200
MAG. (GAMMAS)
1200
-800
S
N
1
400
800
1200
1600
2000
2400
2624
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-124 MT HAYES

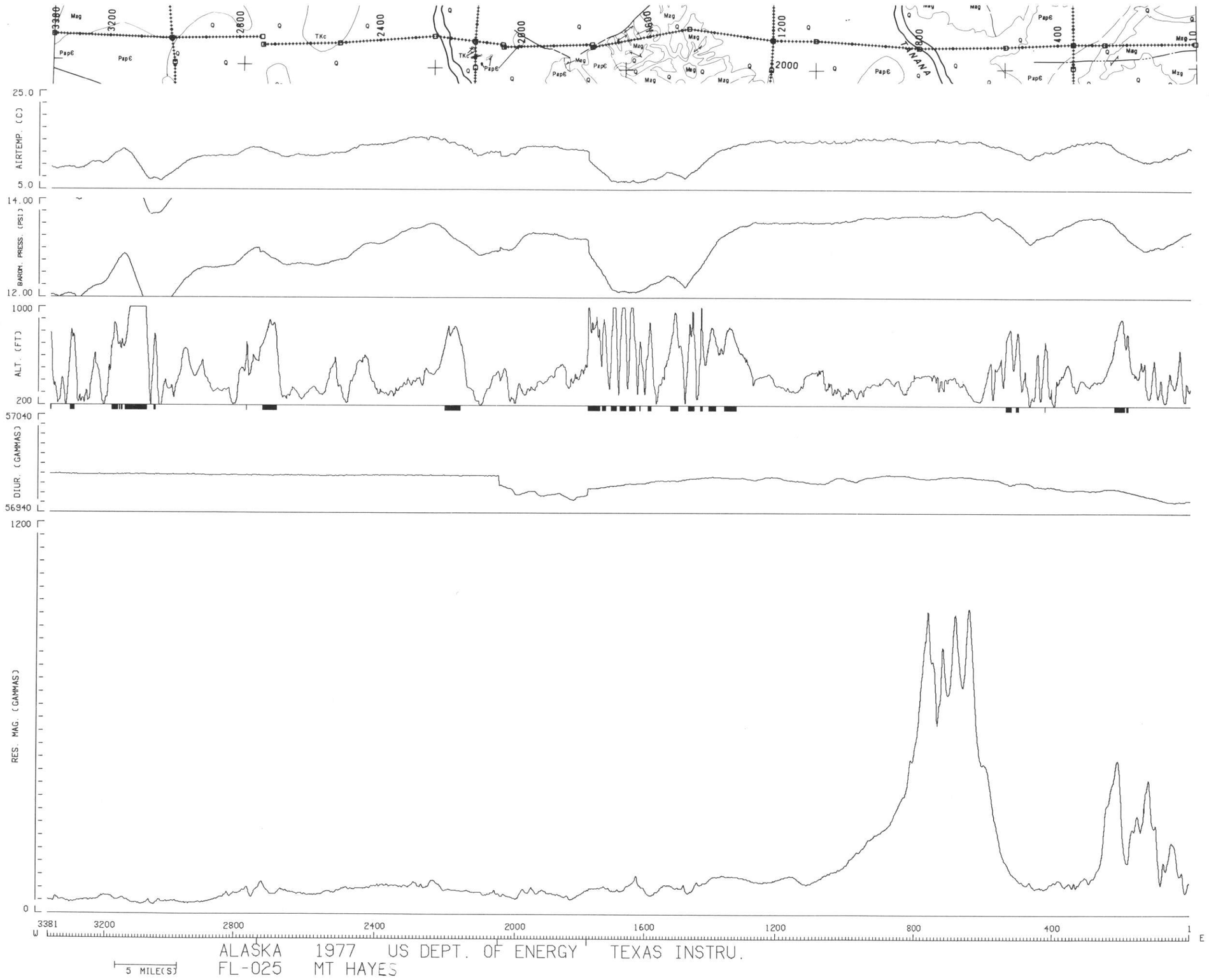

TH / K
U / K
U / TH
GROSS (CPS)
K (CPS)
TH (CPS)
U (CPS)
UAIR
ALT FT
MAG. (GAMMAS)
2625
2400
2000
1600
1200
800
400
S
N
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-125 MT HAYES

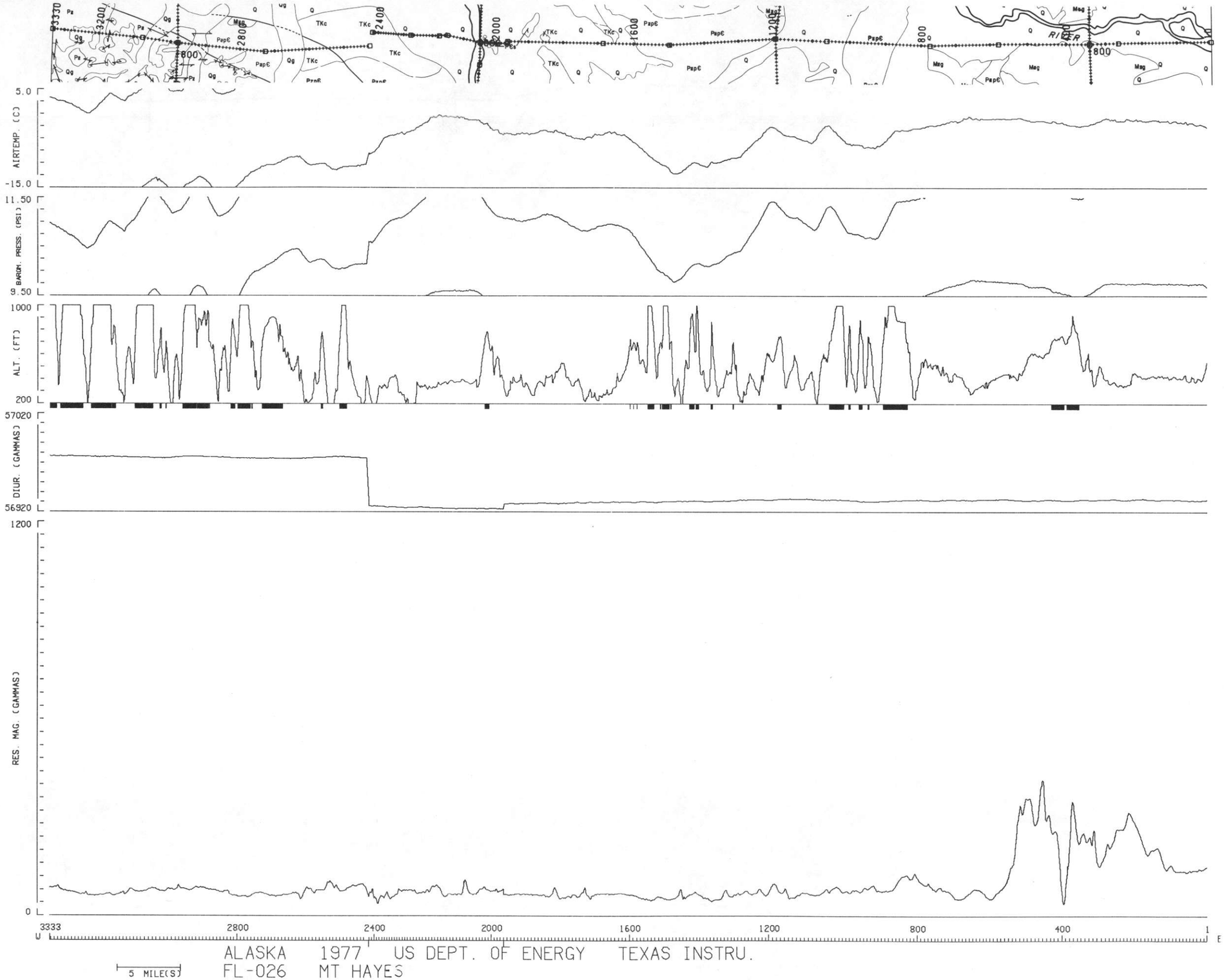


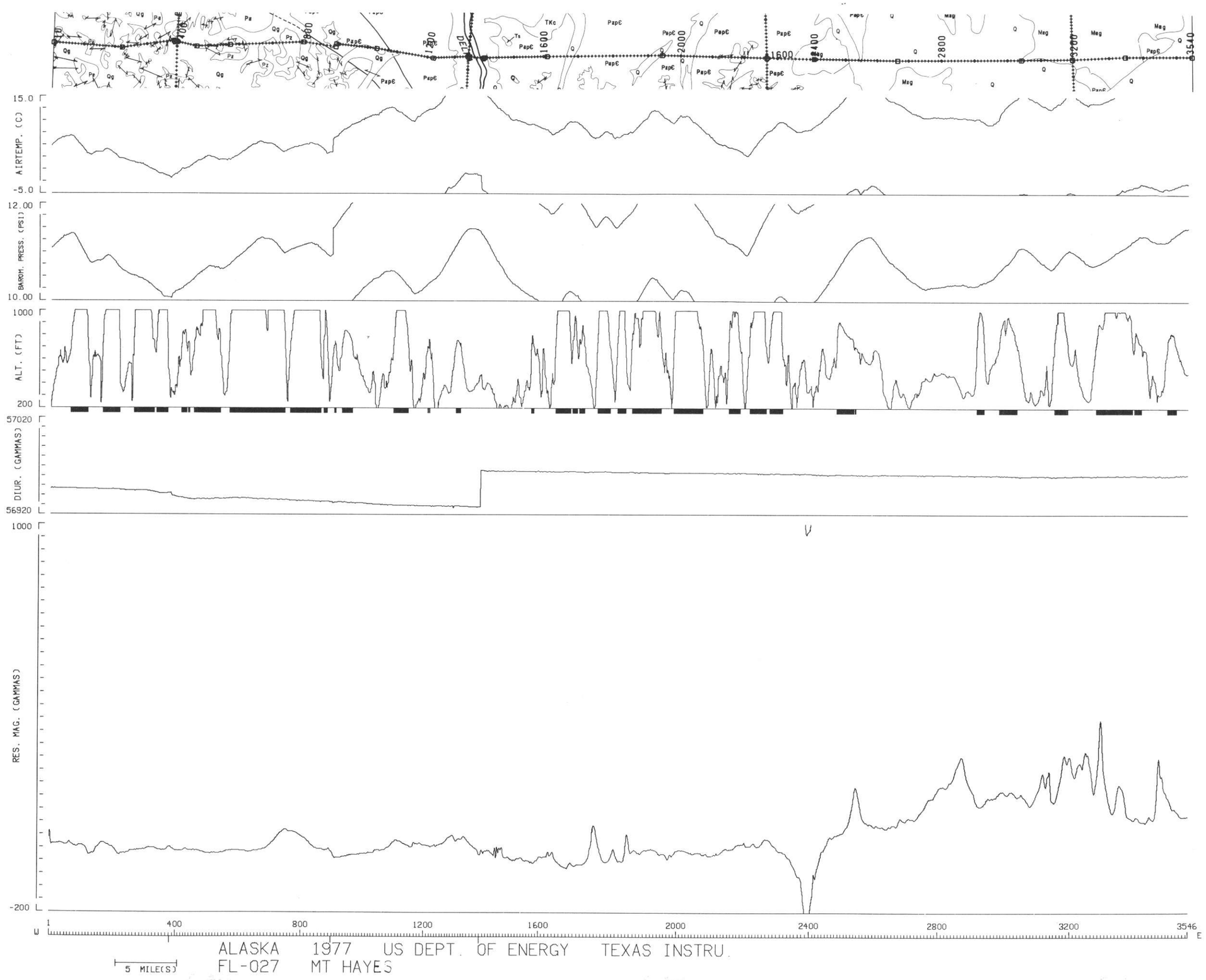
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-023 MT HAYES



ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-024 MT HAYES


AIRTEMP. (C)
25.0
5.0
BAROM. PRESS. (PSI)
14.00
12.00
ALT. (FT)
1000
200
DIUR. (GAMMAS)
57040
56940
RES. MAG. (GAMMAS)
1200
0
3381
3200
2800
2400
2000
1600
1200
800
400
1
W
E
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-025 MT HAYES


AIRTEMP. (C)
5.0
-15.0
BAROM. PRESS. (PSI)
11.50
9.50
ALT. (FT)
1000
200
DIUR. (GAMMAS)
57020
56920
RES. MAG. (GAMMAS)
1200
0
3333
2800
2400
2000
1600
1200
800
400
W
E
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-026 MT HAYES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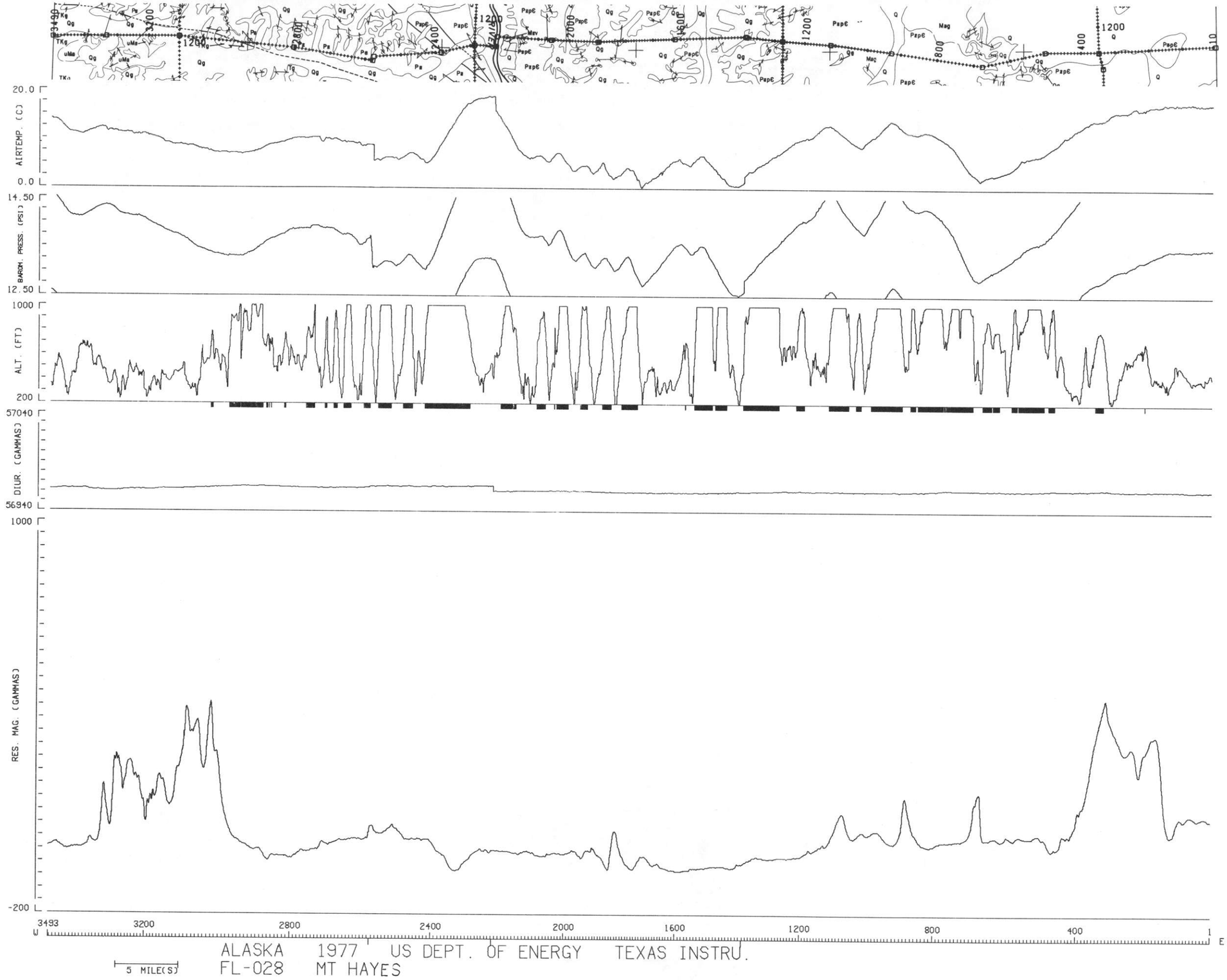
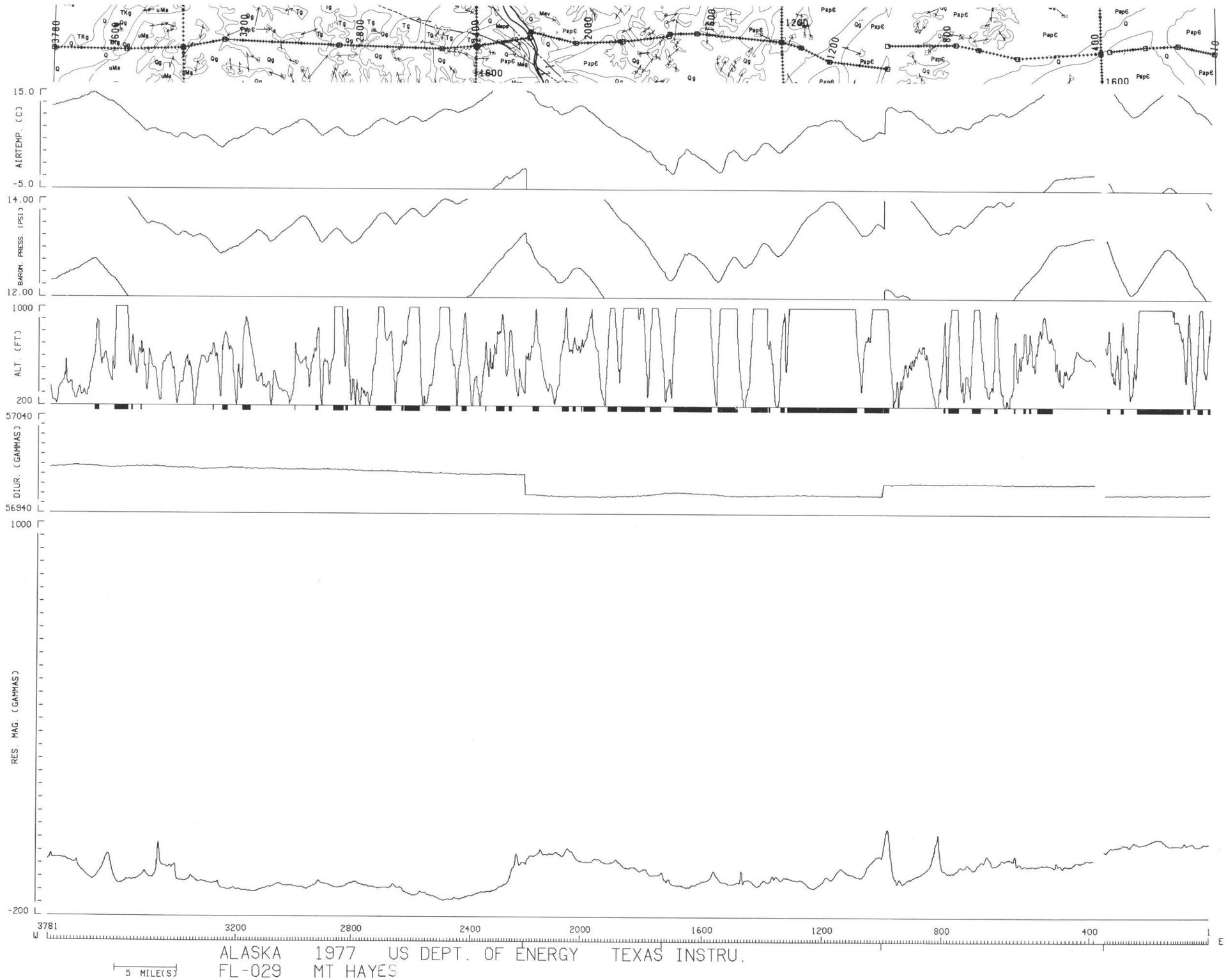
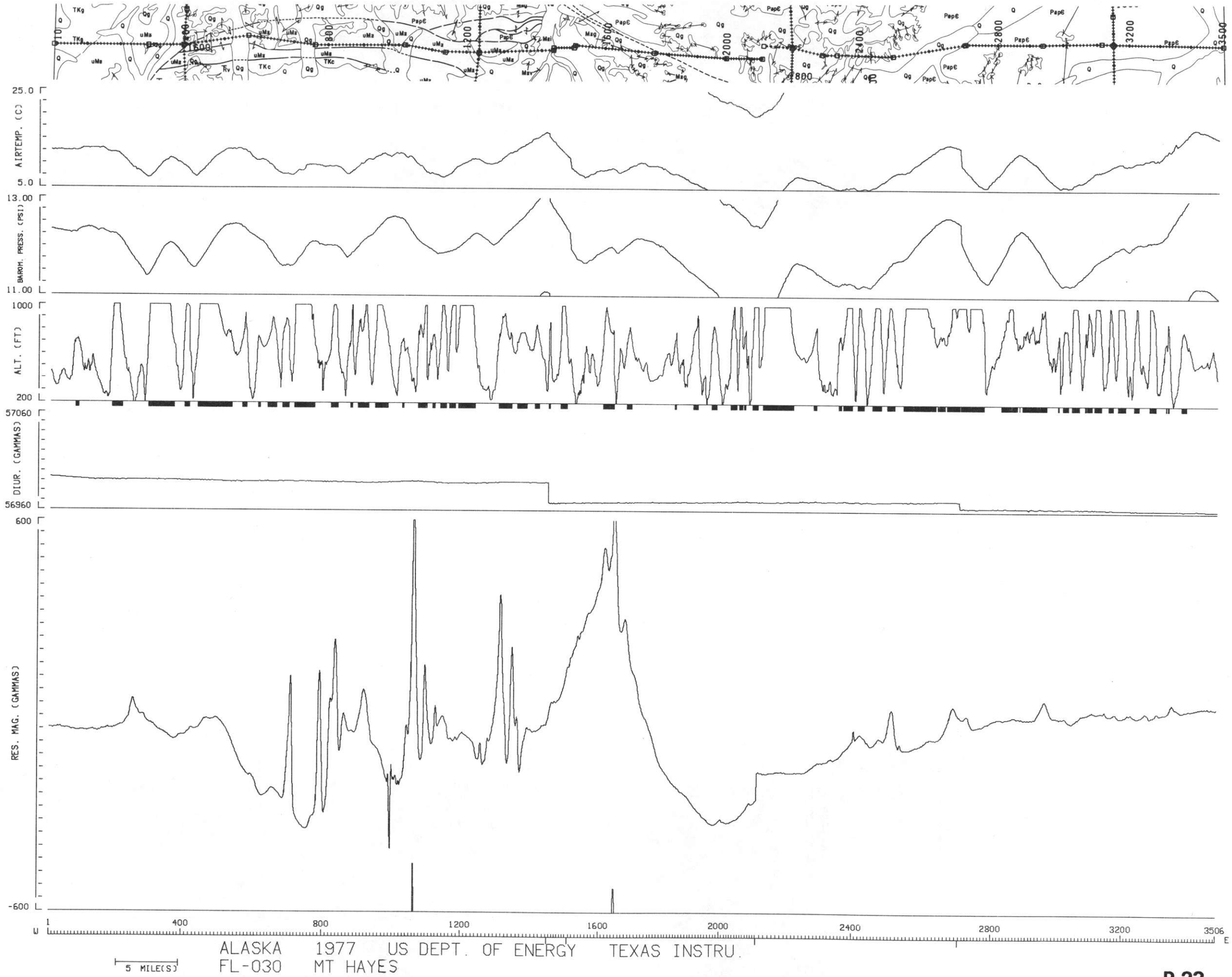
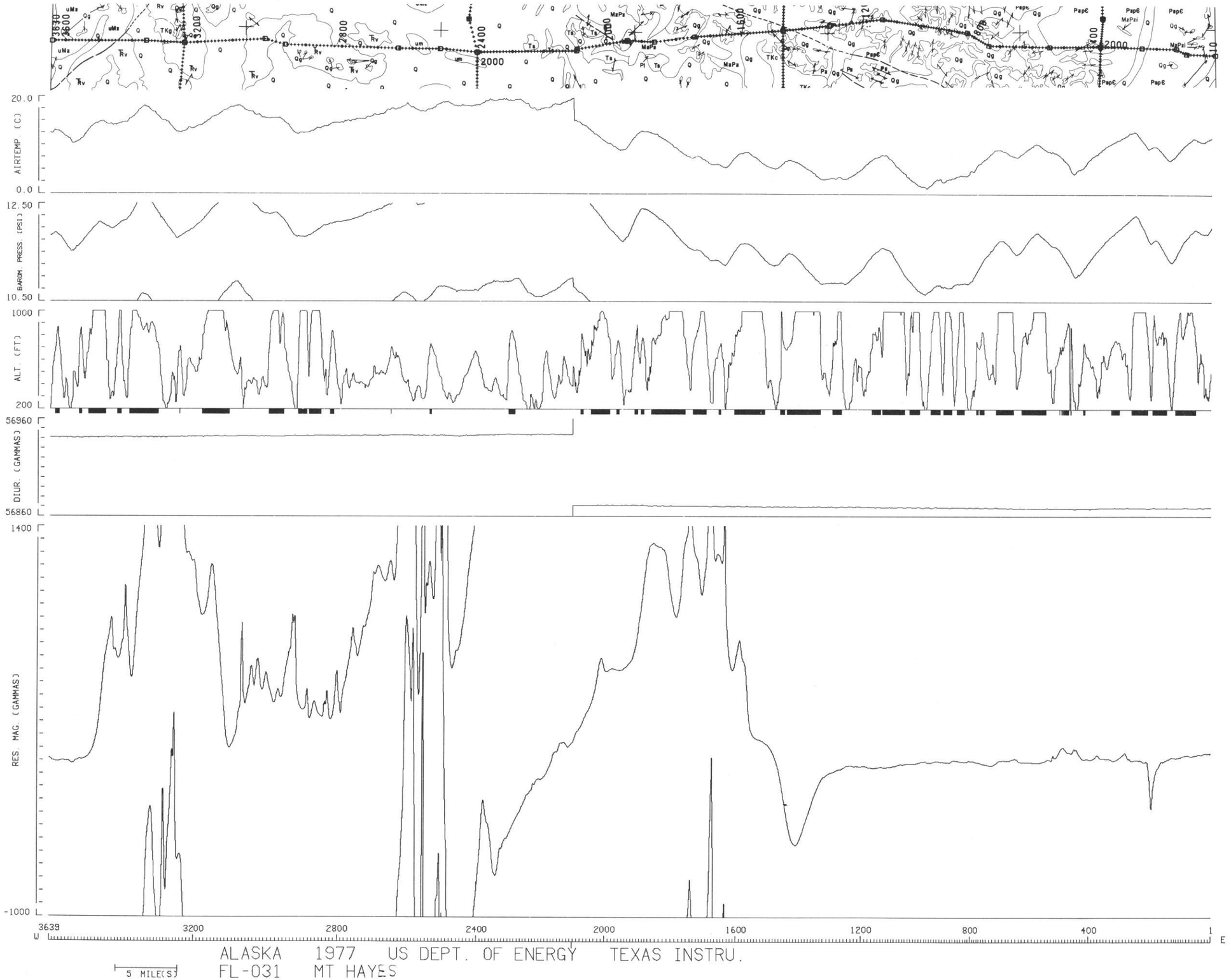
-5.0
BAROM. PRESS. (PSI)
12.00
10.00
ALT. (FT)
1000
200
DIUR. (GAMMAS)
57020
56920
RES. MAG. (GAMMAS)
1000
-200
1
400
800
1200
1600
2000
2400
2800
3200
3546
E
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-027 MT HAYES

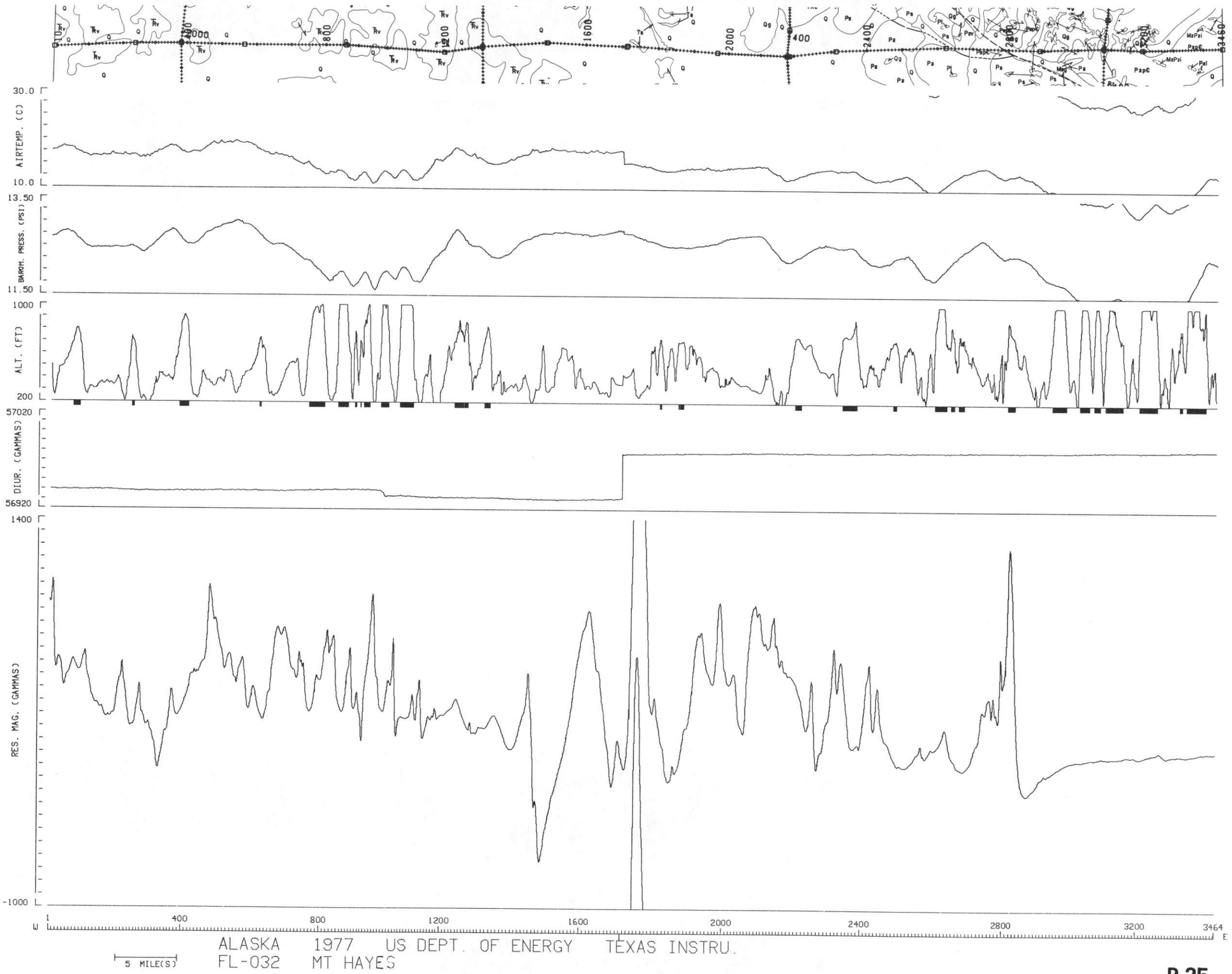

AIRTEMP. (C)
20.0
0.0
BAROM. PRESS. (PSI)
14.50
12.50
ALT. (FT)
1000
200
DIUR. (GAMMAS)
57040
56940
RES. MAG. (GAMMAS)
1000
-200
3493
3200
2800
2400
2000
1600
1200
800
400
1
E
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-028 MT HAYES


AIRTEMP. (C)
15.0
-5.0
BAROM. PRESS. (PSI)
14.00
12.00
ALT. (FT)
1000
200
DIUR. (GAMMAS)
57040
56940
RES. MAG. (GAMMAS)
1000
-200
3781
3200
2800
2400
2000
1600
1200
800
400
W
E
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-029 MT HAYES

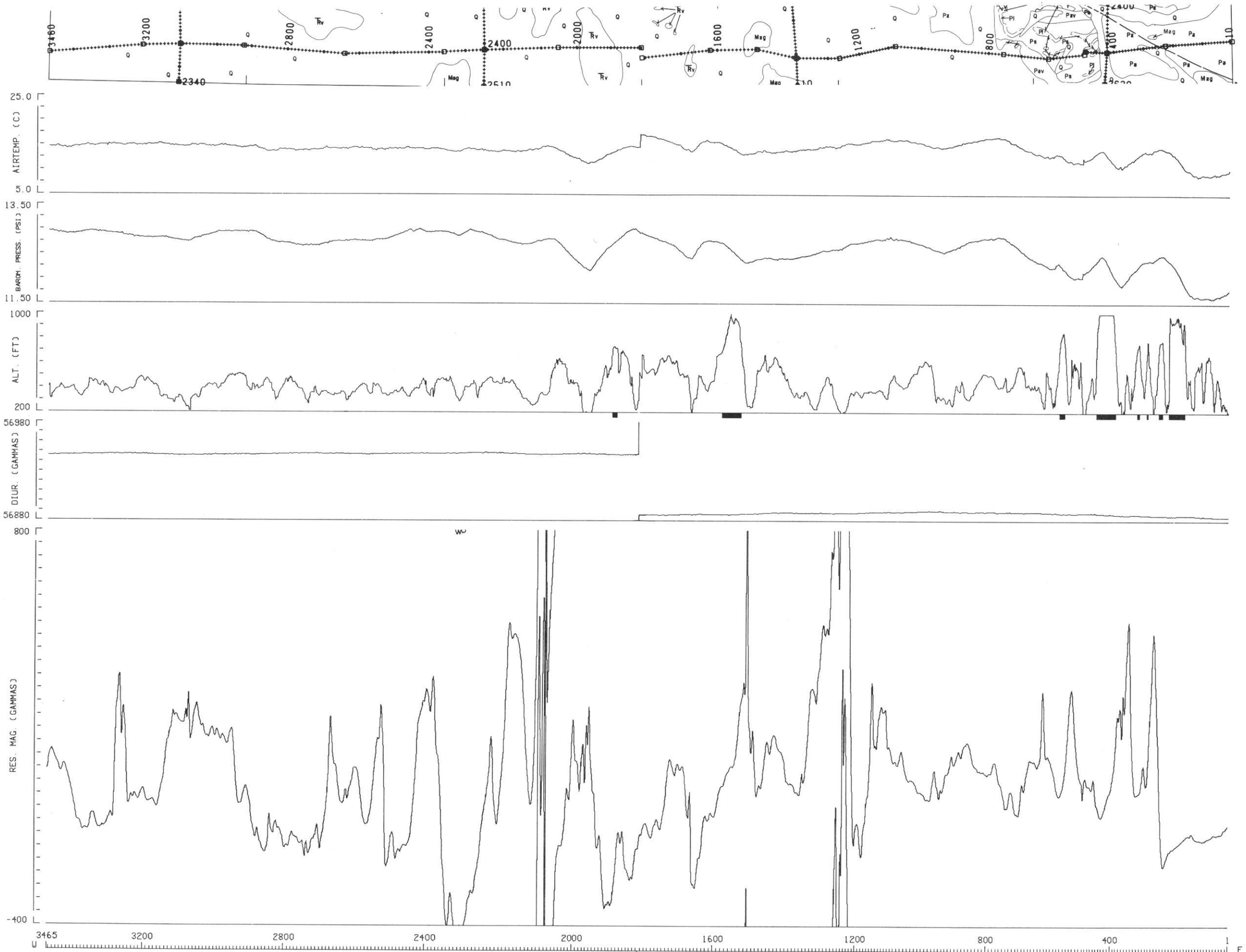

AIRTEMP. (C)
25.0
5.0
BAROM. PRESS. (PSI)
13.00
11.00
ALT. (FT)
1000
200
DIUR. (GAMMAS)
57060
56960
RES. MAG. (GAMMAS)
600
-600
1
400
800
1200
1600
2000
2400
2800
3200
3506
W
E
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-030 MT HAYES



ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-031 MT HAYES



ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-032 MT HAYES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2510
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Mag
Pz
Pl
Psv
Ps
25.0
AIRTEMP. (C)
5.0
13.50
BAROM. PRESS. (PSI)
11.50
1000
ALT. (FT)
200
56980
DIUR. (GAMMAS)
56880
800
RES. MAG. (GAMMAS)
-400
3465
3200
2800
2400
2000
1600
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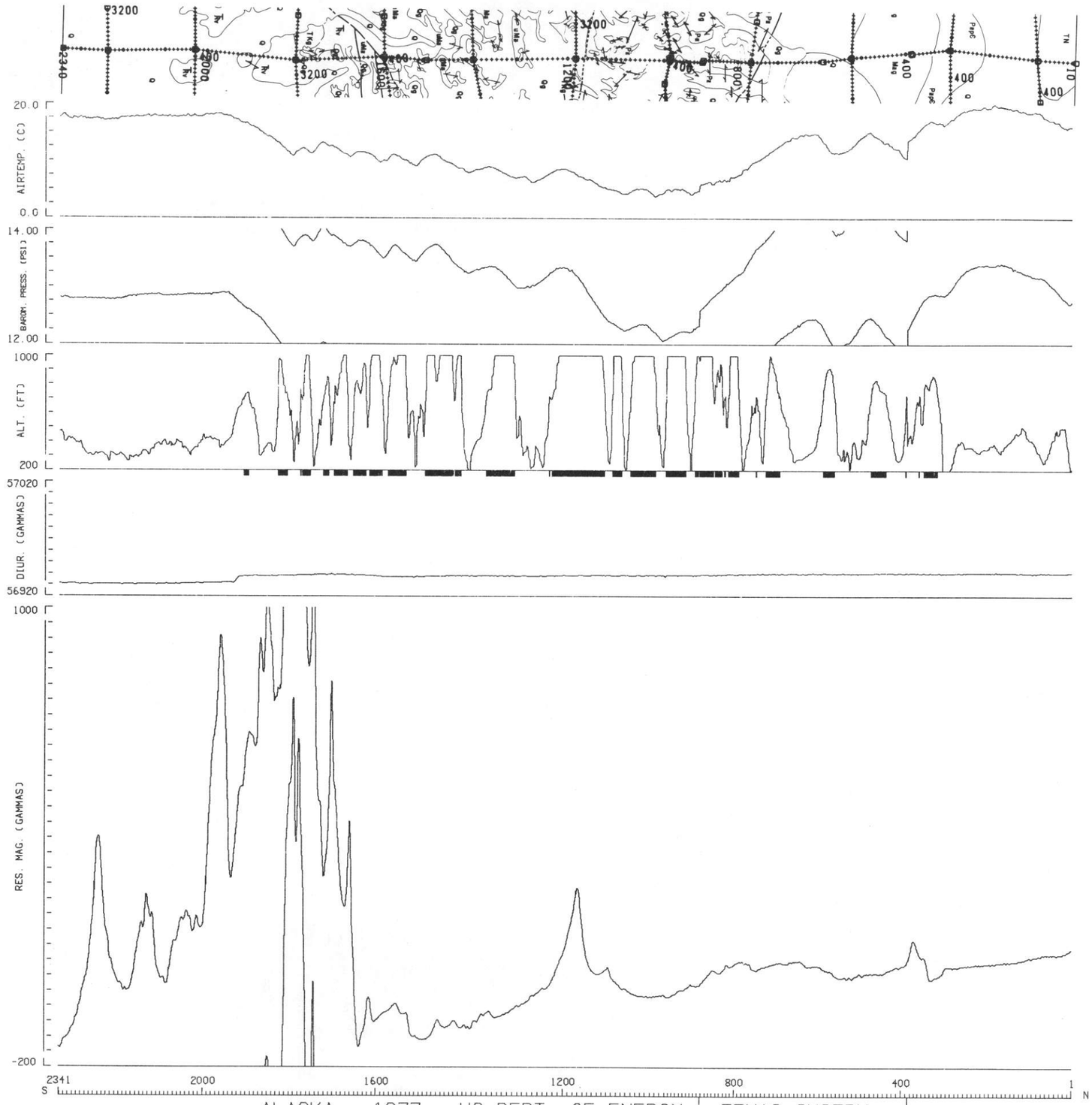
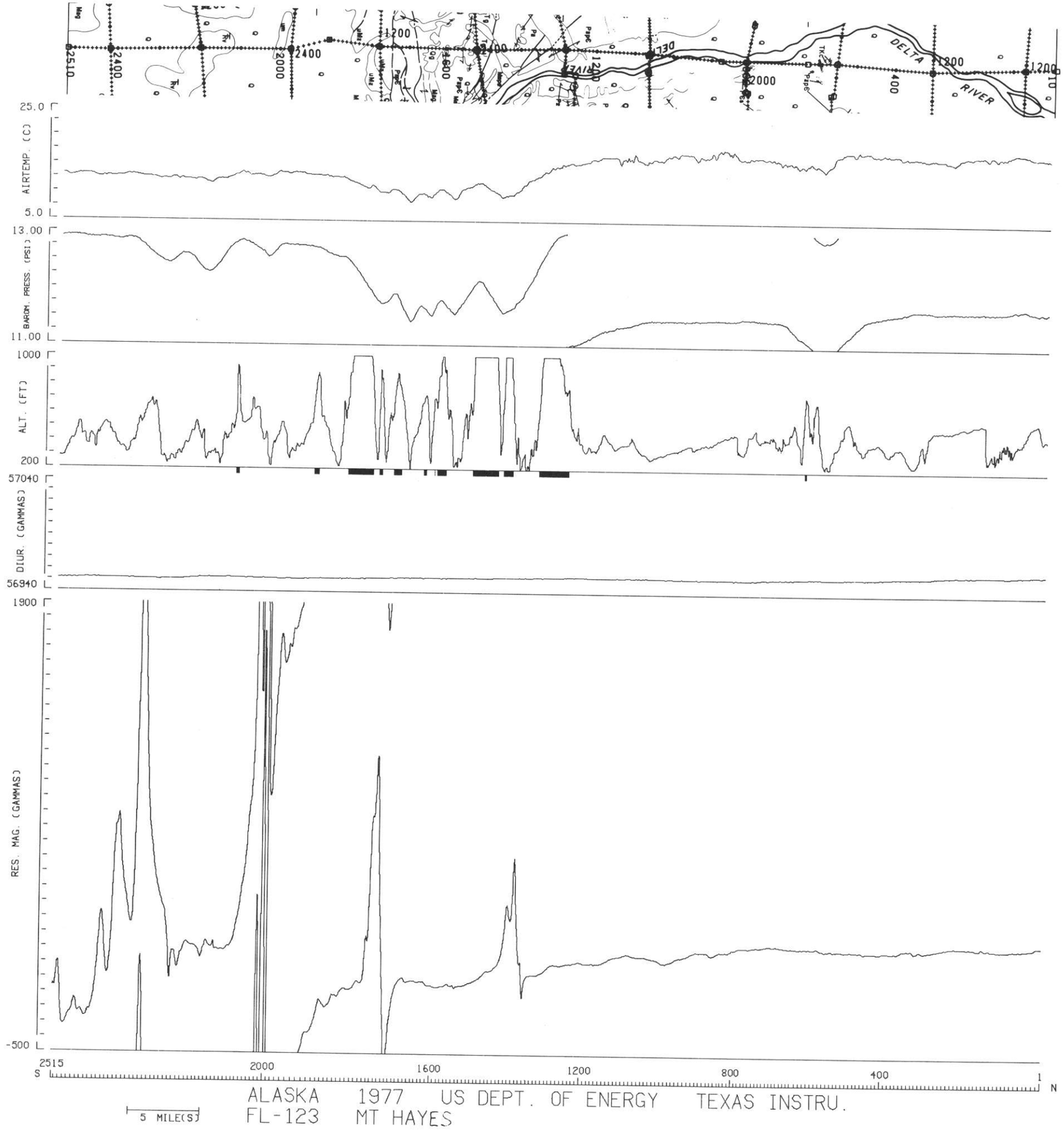
800
400
1
W
E
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-033 MT HAYES



ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-122 MT HAYES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RIVER
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13.00
BAROM. PRESS. (PSI)
11.00
1000
ALT. (FT)
200
57040
DIUR. (GAMMAS)
56940
1900
RES. MAG. (GAMMAS)
-500
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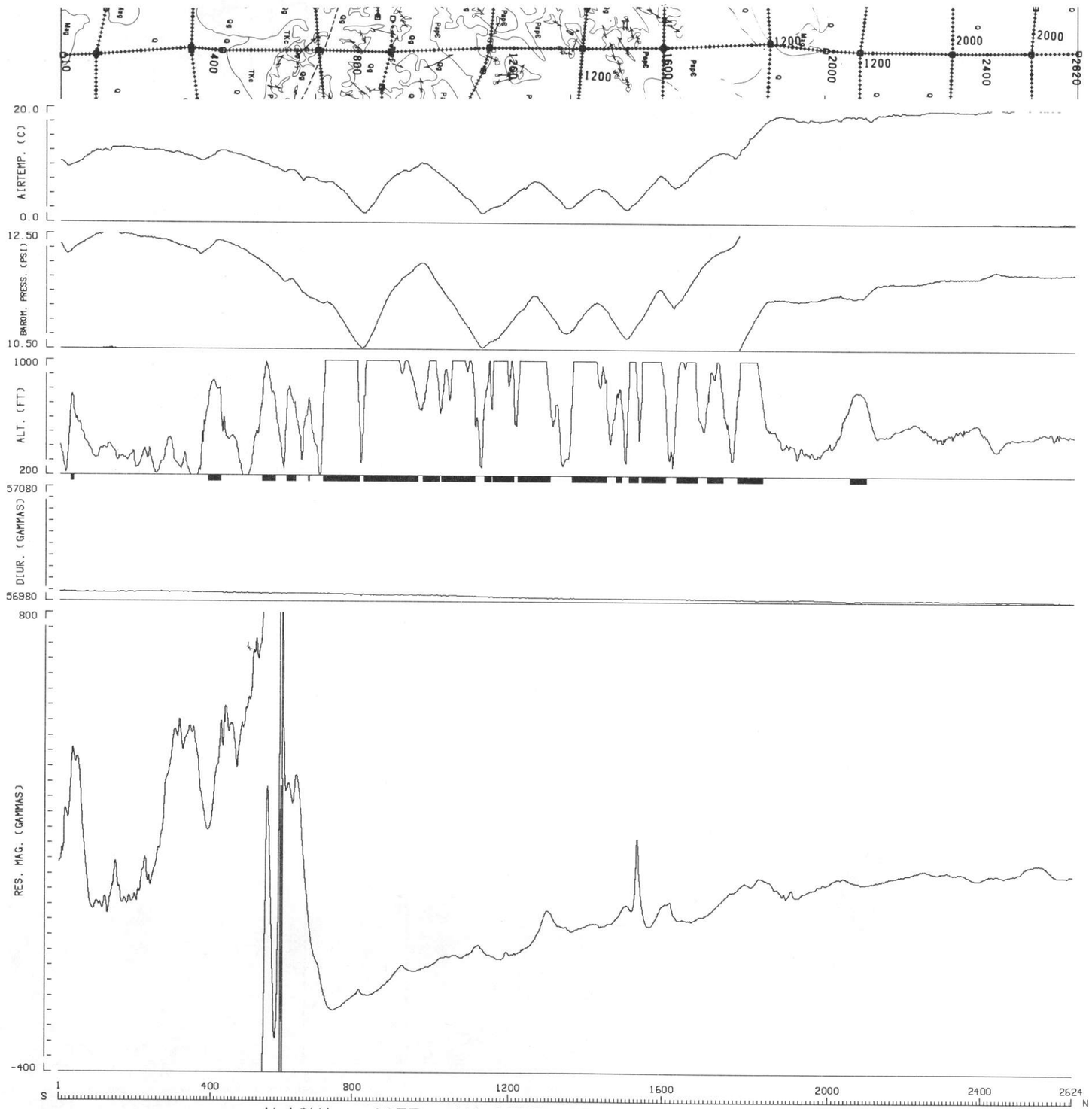
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-123 MT HAYES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57080
56980
RES. MAG. (GAMMAS)
800
-400
S
N
1
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1600
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2400
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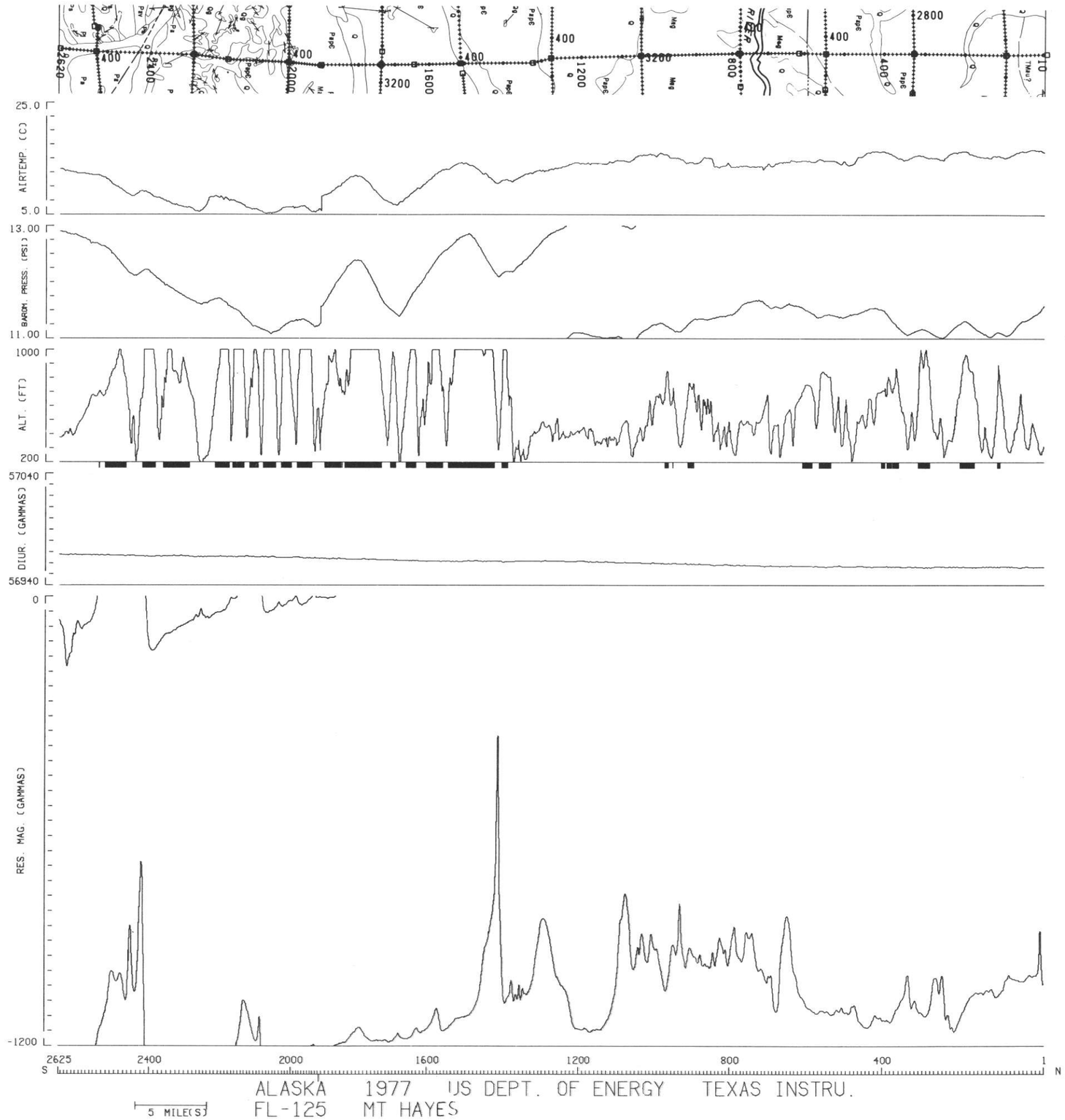
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-124 MT HAYES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AIRTEMP. (C)
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ALT. (FT)
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57040
DIUR. (GAMMAS)
56940
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RES. MAG. (GAMMAS)
-1200
2625
2400
2000
1600
1200
800
400
1
S
N
5 MILE(S)
ALASKA 1977 US DEPT. OF ENERGY TEXAS INSTRU.
FL-125 MT HAYES

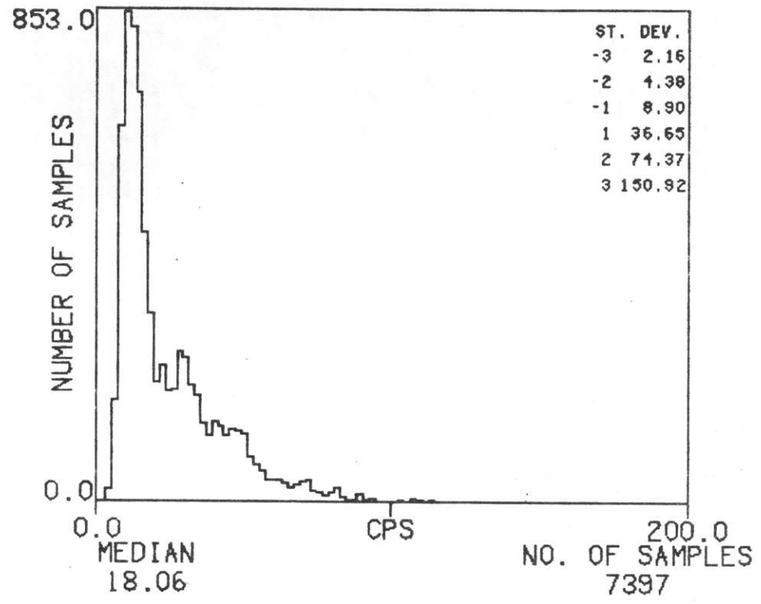
HISTOGRAMS

HISTOGRAMS

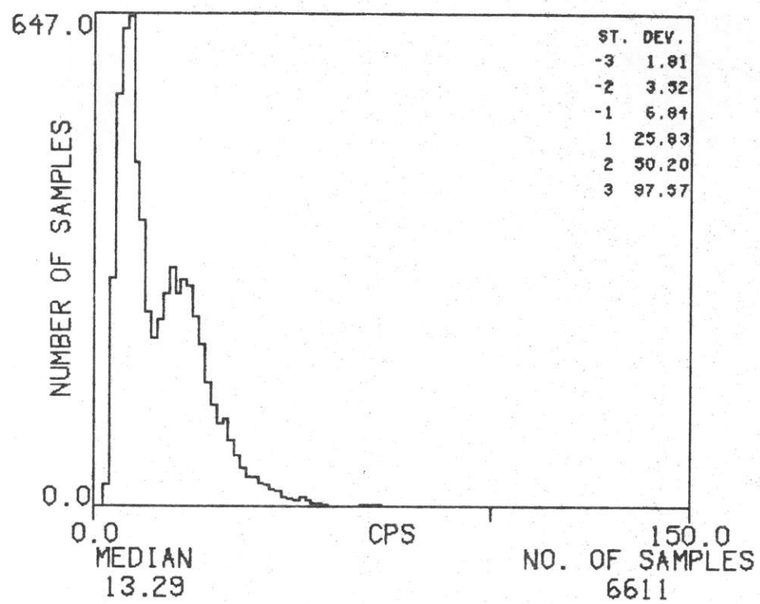
HISTOGRAMS : Q

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

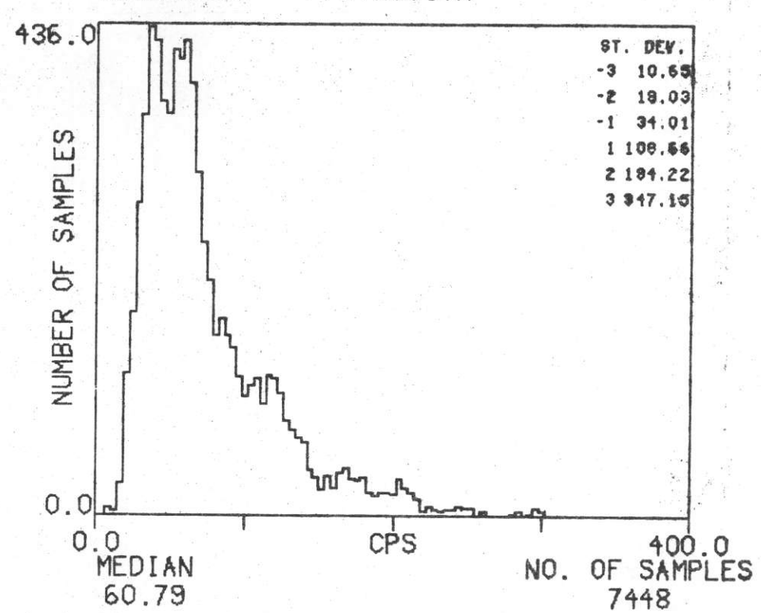
LOGNORMAL THORIUM



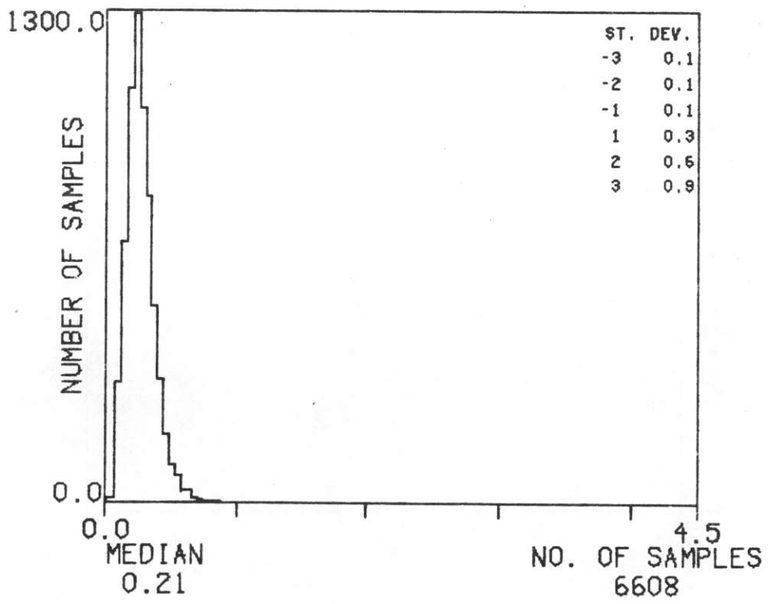
LOGNORMAL URANIUM



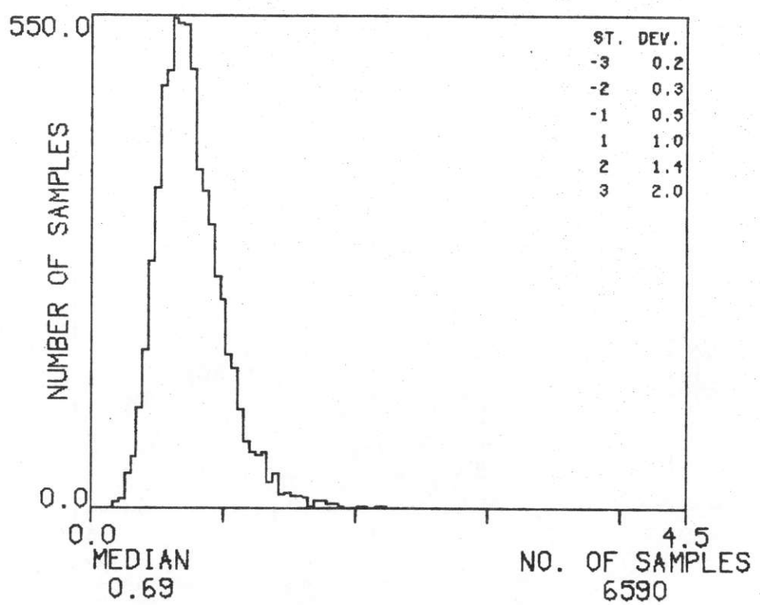
LOGNORMAL POTASSIUM



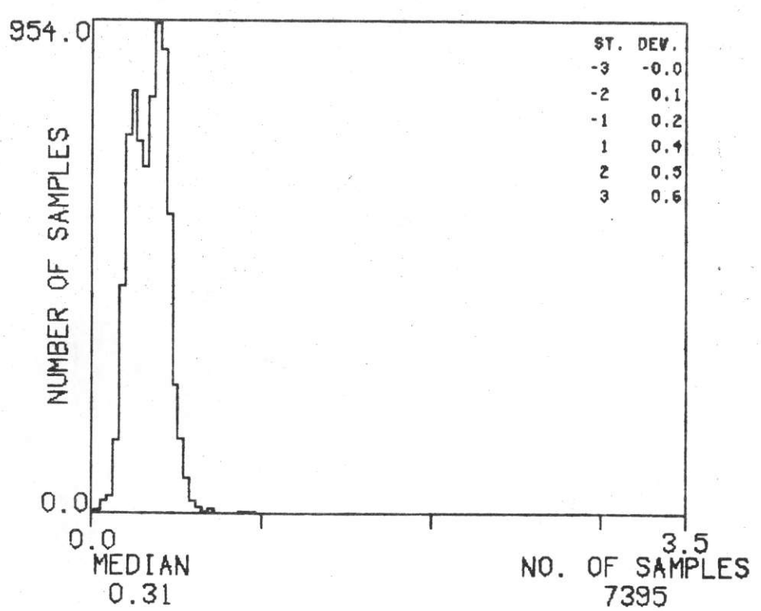
LOGNORMAL U/K



LOGNORMAL U/TH



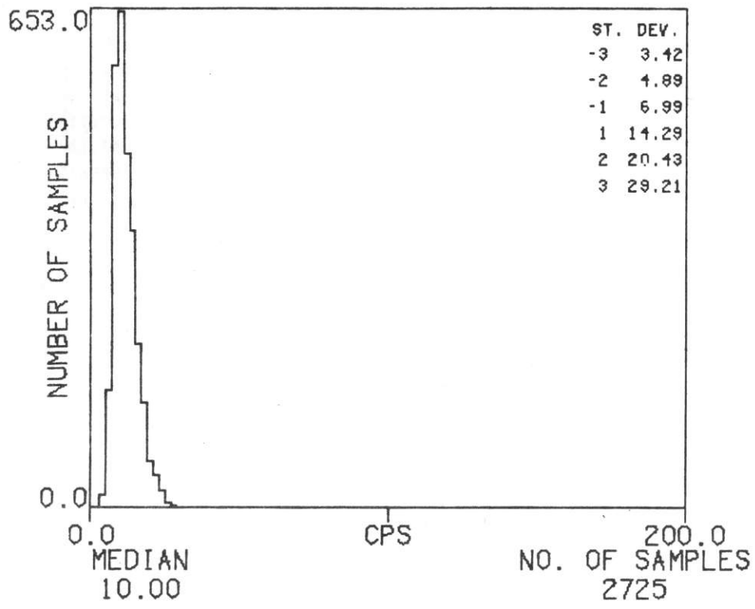
NORMAL TH/K



HISTOGRAMS : Q-1

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

LOGNORMAL THORIUM



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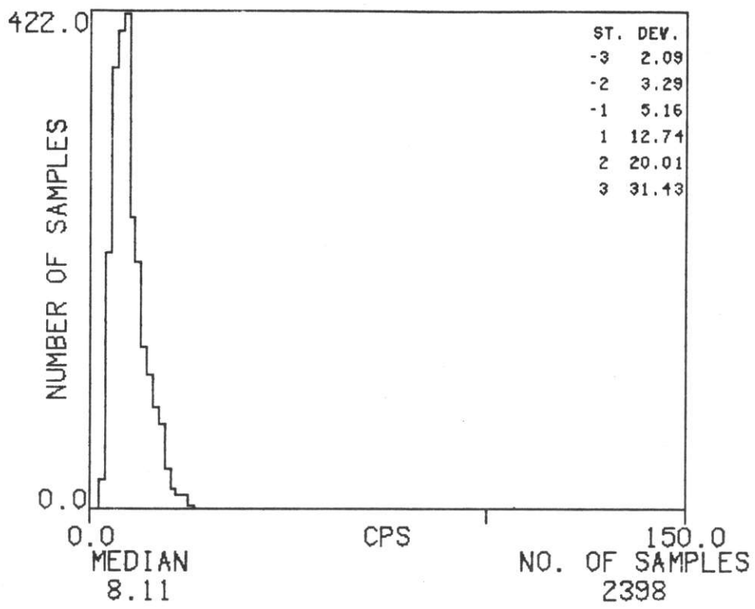
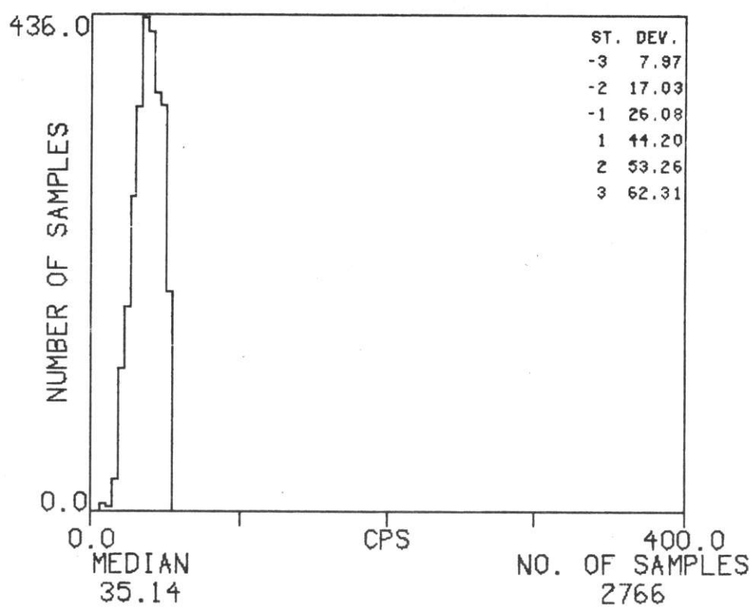
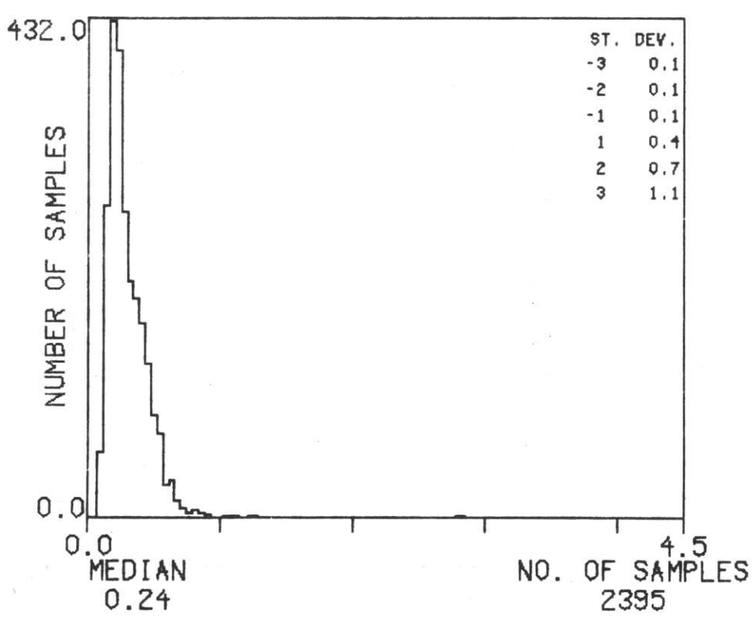


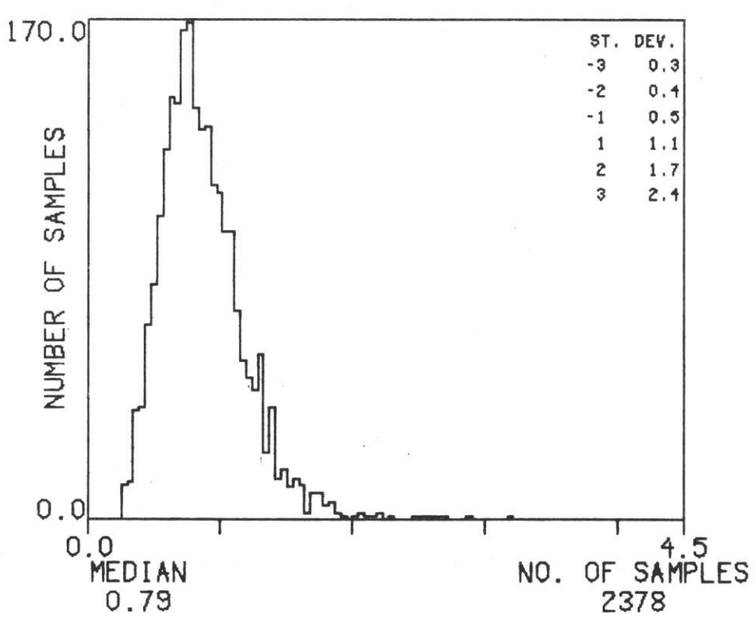
NORMAL POTASSIUM



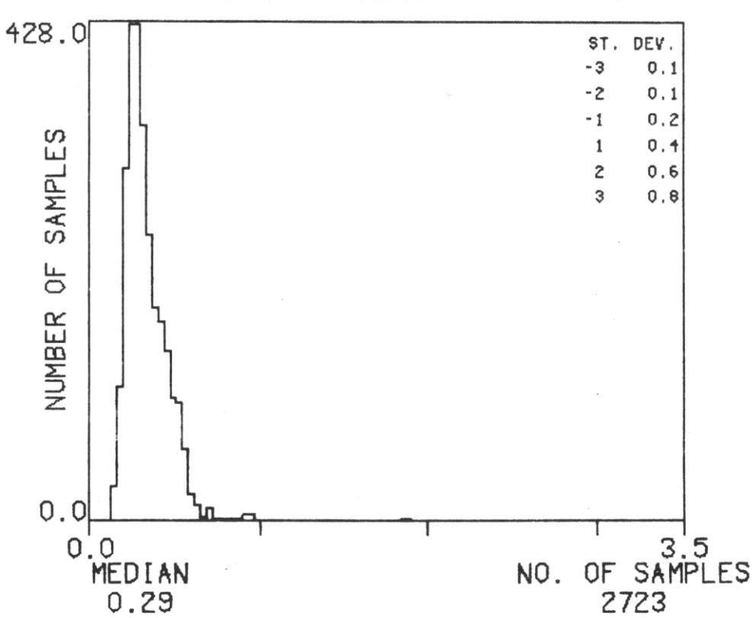
LOGNORMAL U/K



LOGNORMAL U/TH

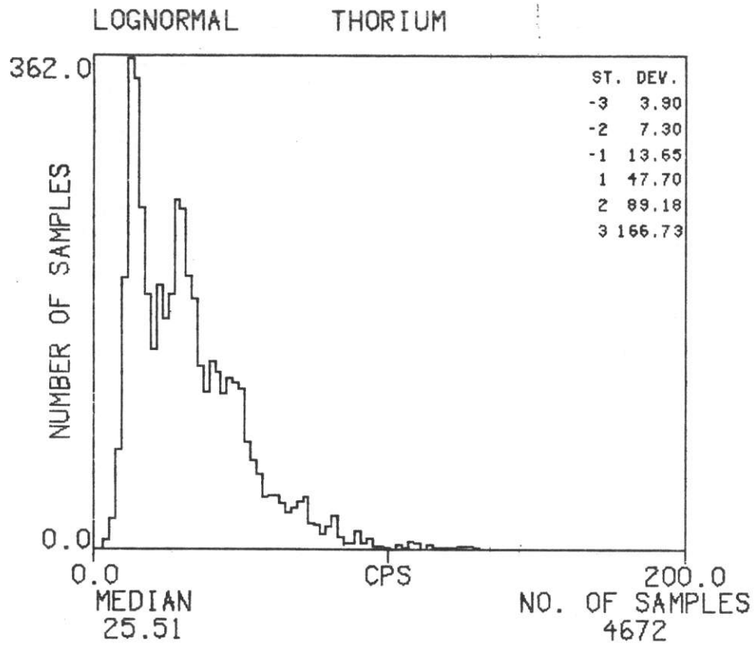


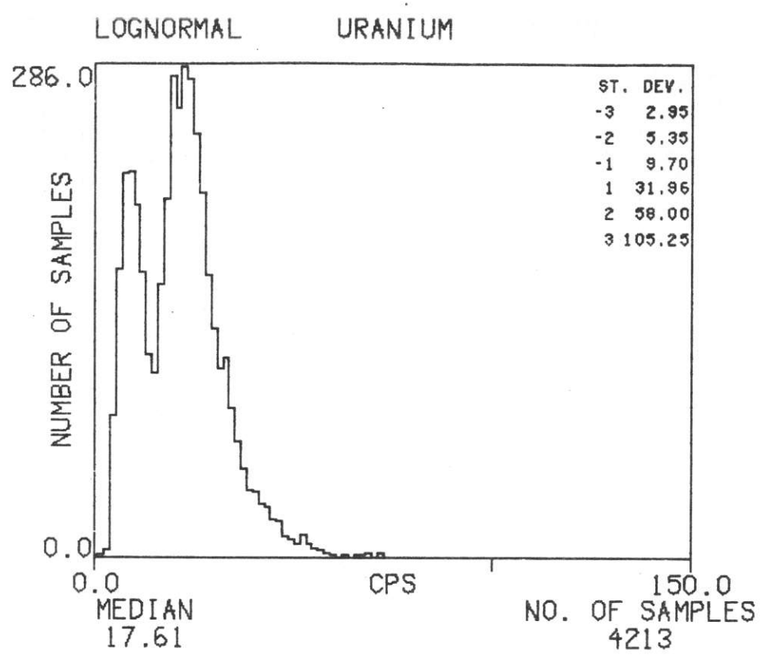
LOGNORMAL TH/K

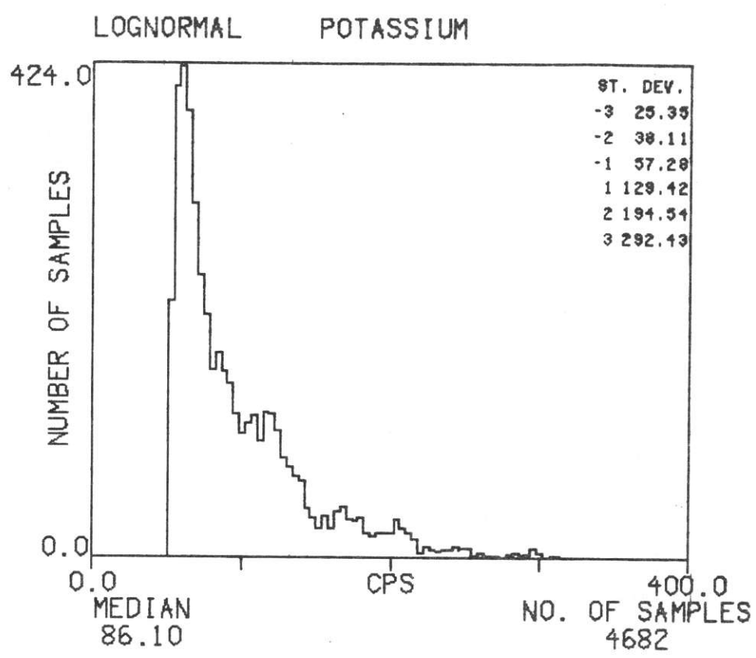


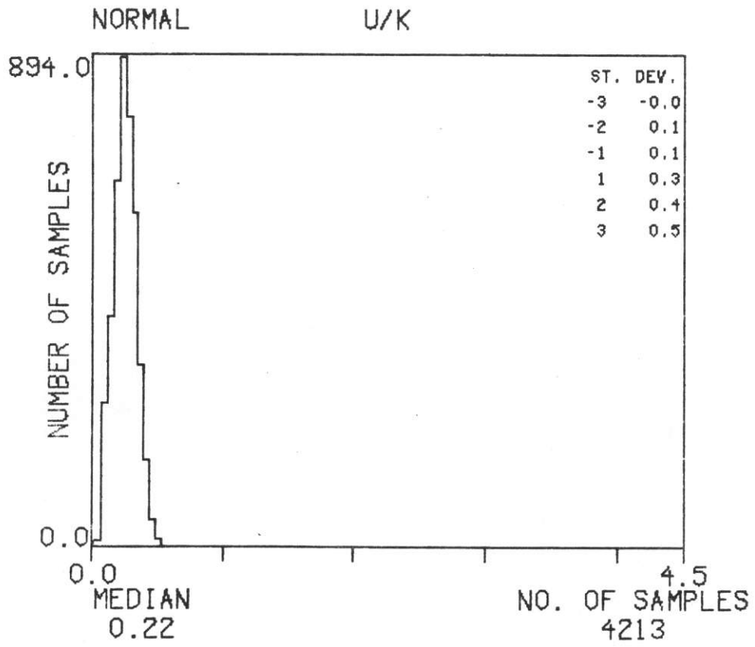
HISTOGRAMS : Q-2

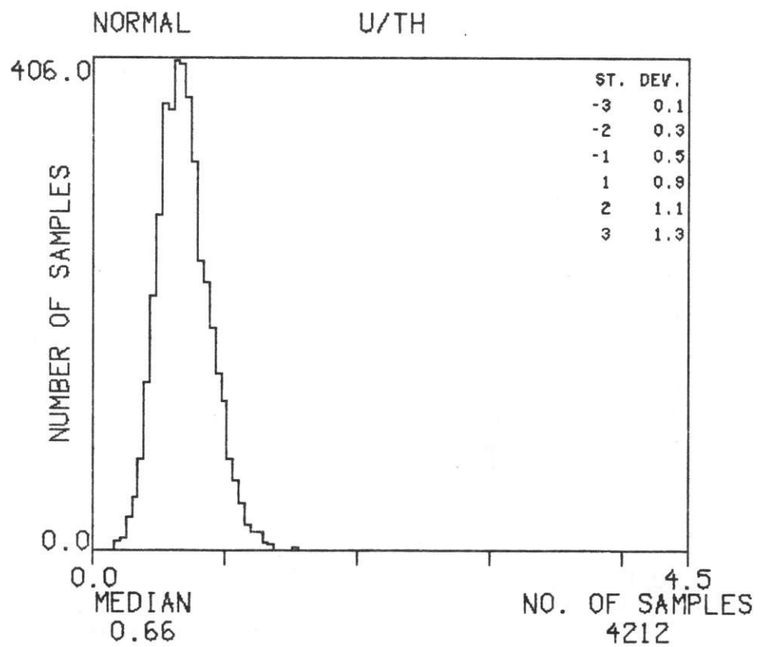
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

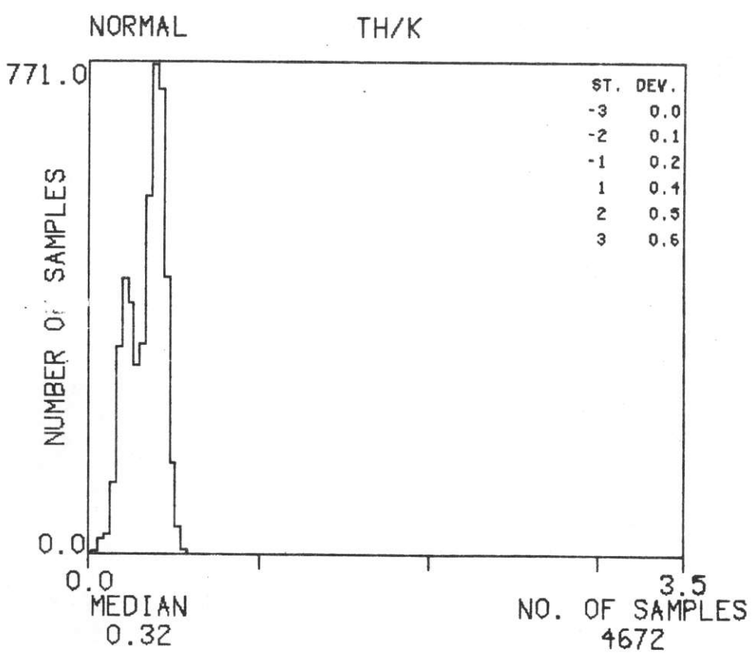








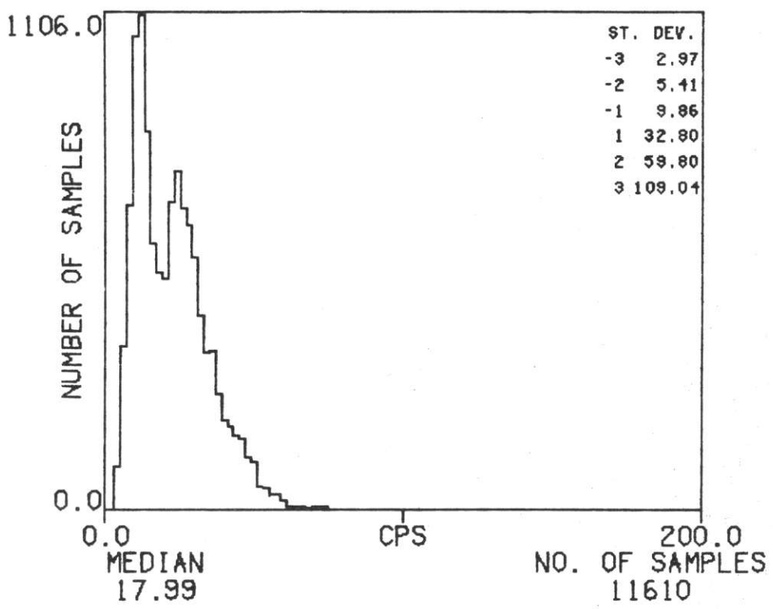




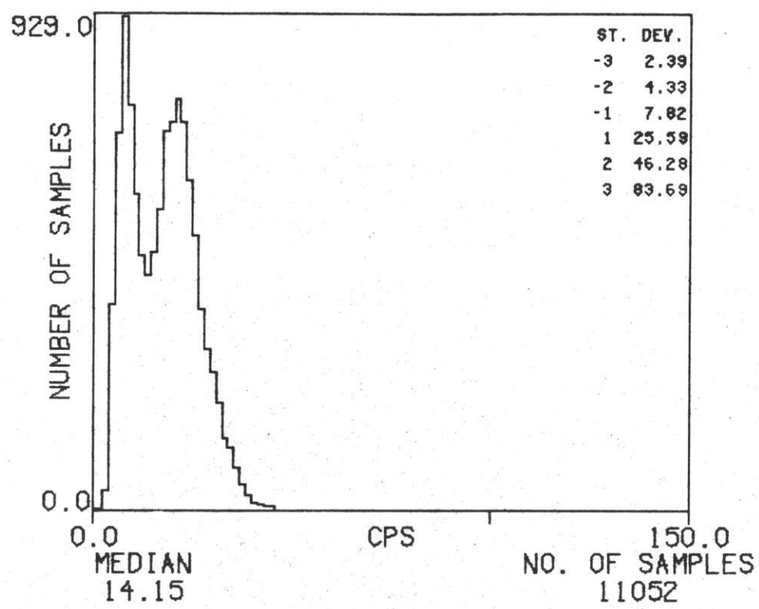
HISTOGRAMS : Q'

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

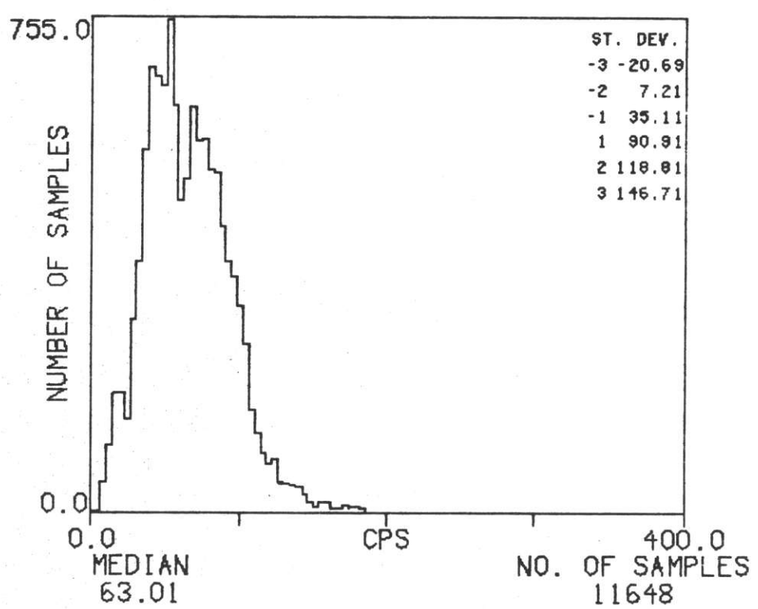
LOGNORMAL THORIUM



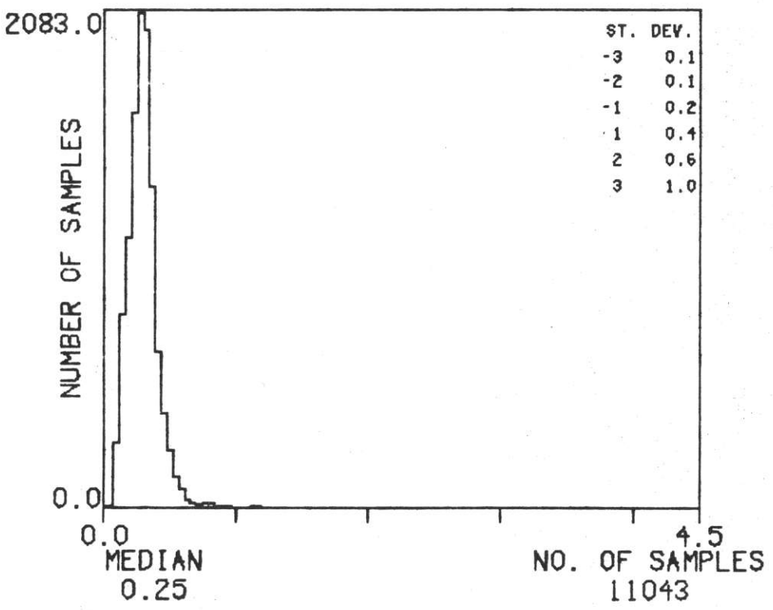
LOGNORMAL URANIUM



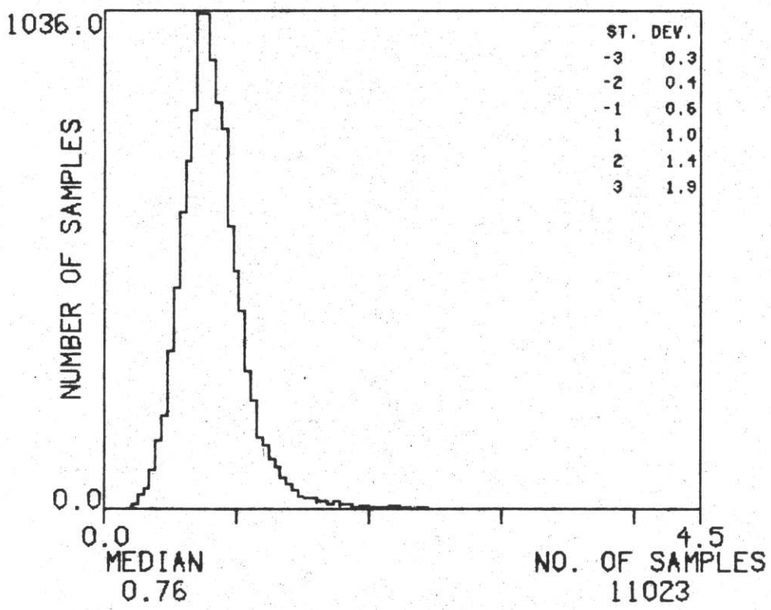
NORMAL POTASSIUM



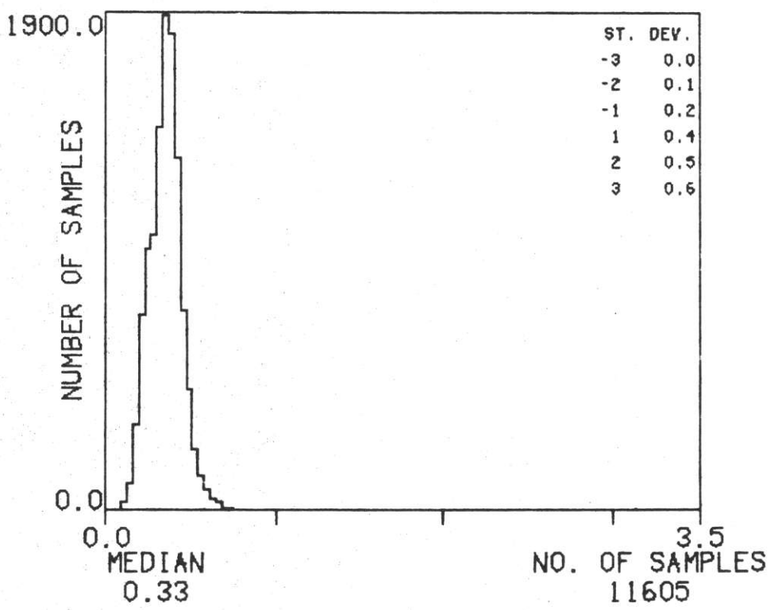
LOGNORMAL U/K



LOGNORMAL U/TH



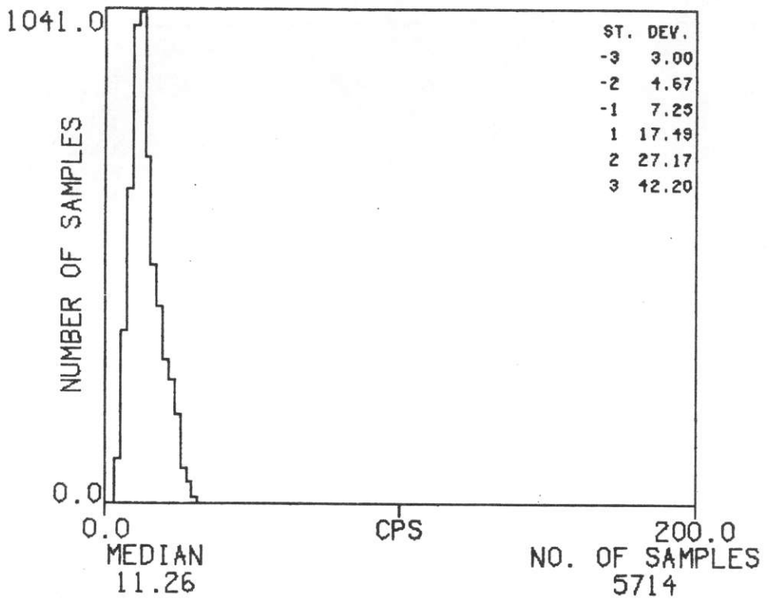
NORMAL TH/K



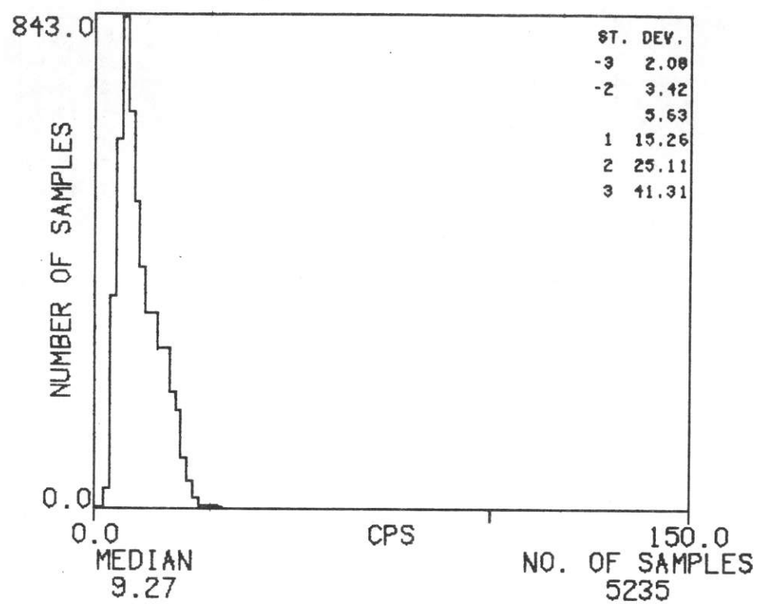
HISTOGRAMS : Q'-1

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

LOGNORMAL THORIUM



LOGNORMAL URANIUM



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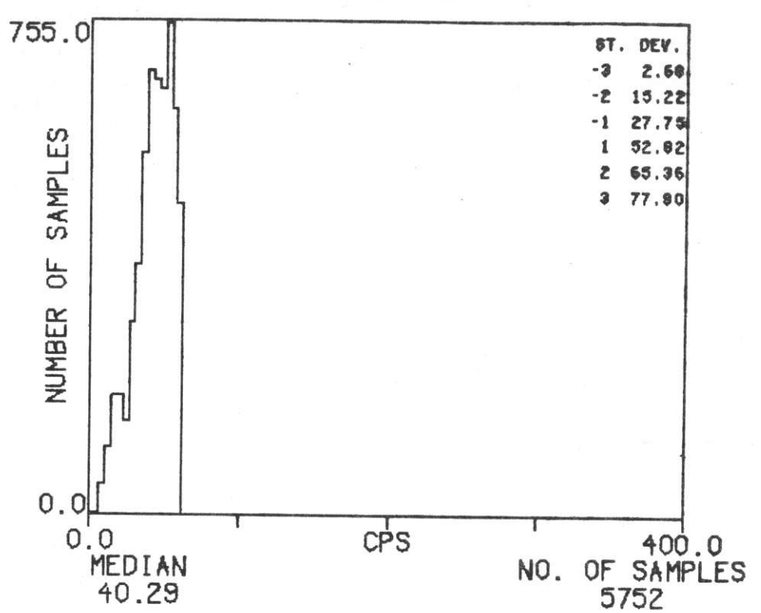
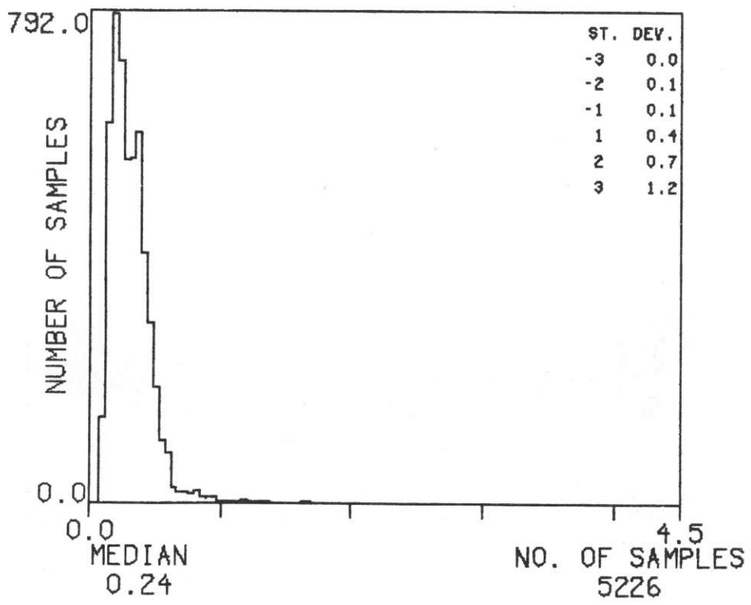


LOGNORMAL U/K



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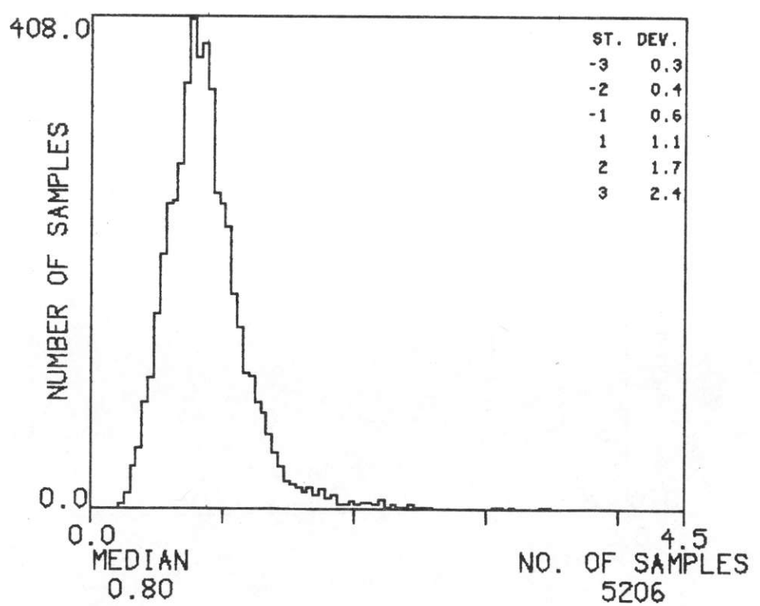
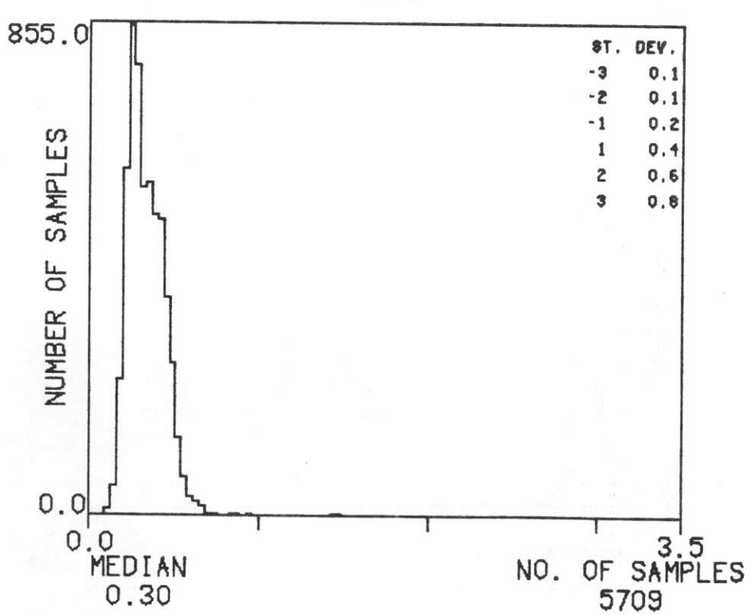
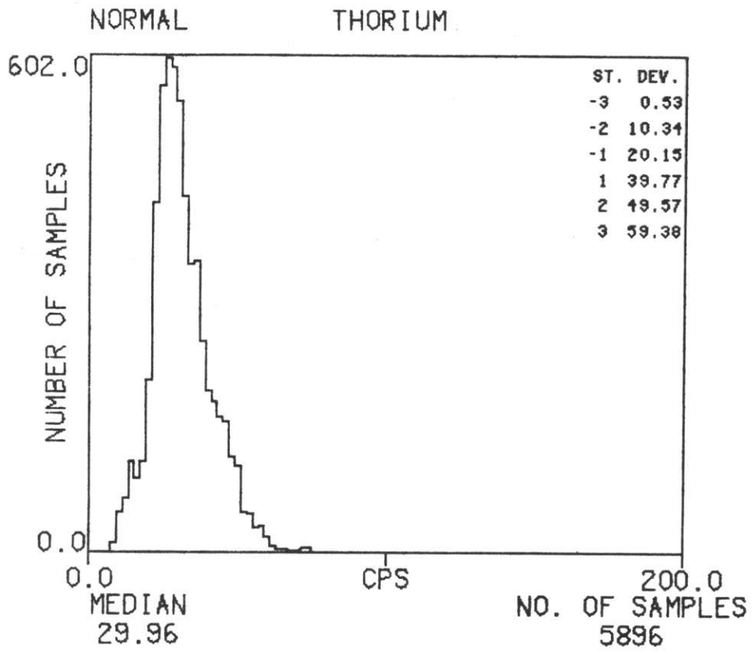


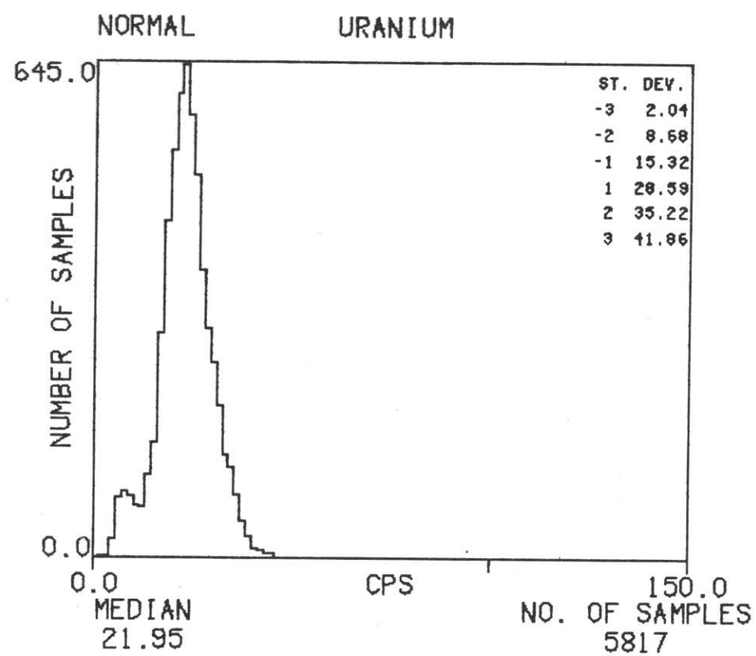
LOGNORMAL TH/K

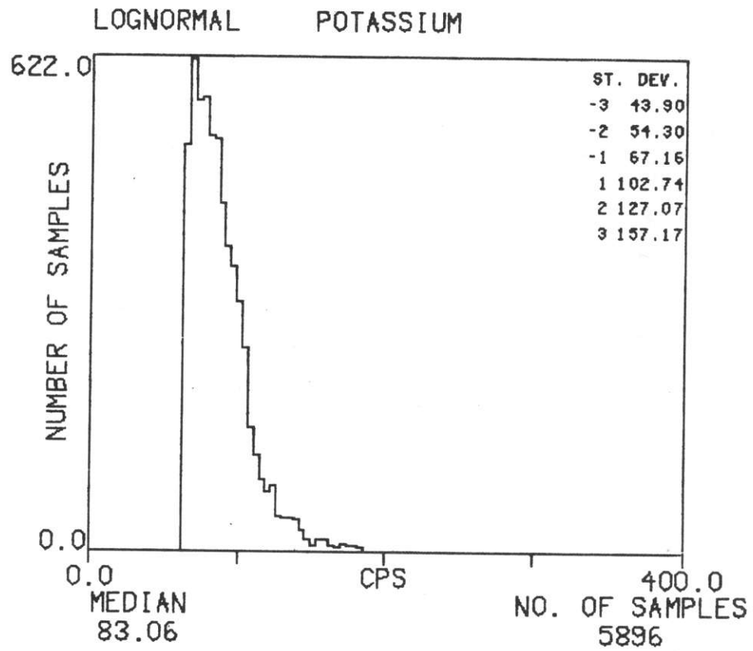


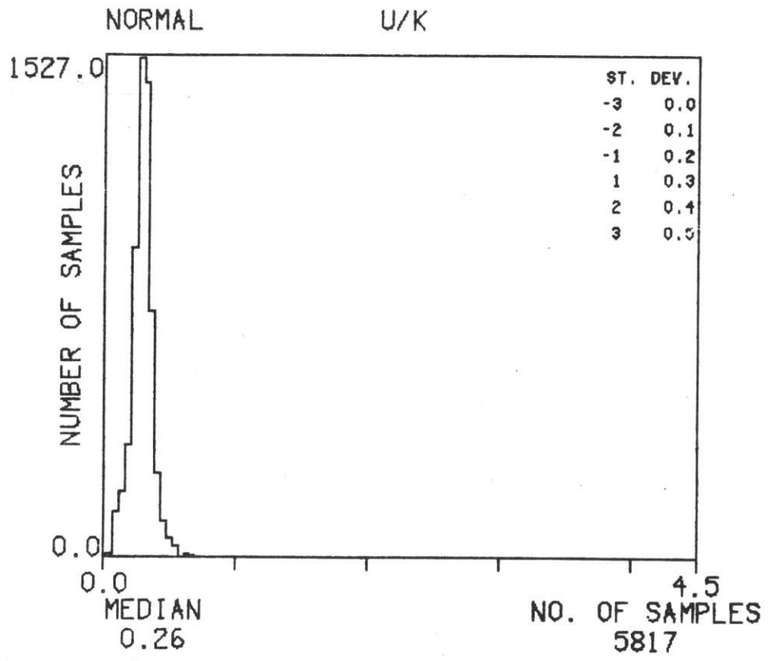
HISTOGRAMS : Q'-2

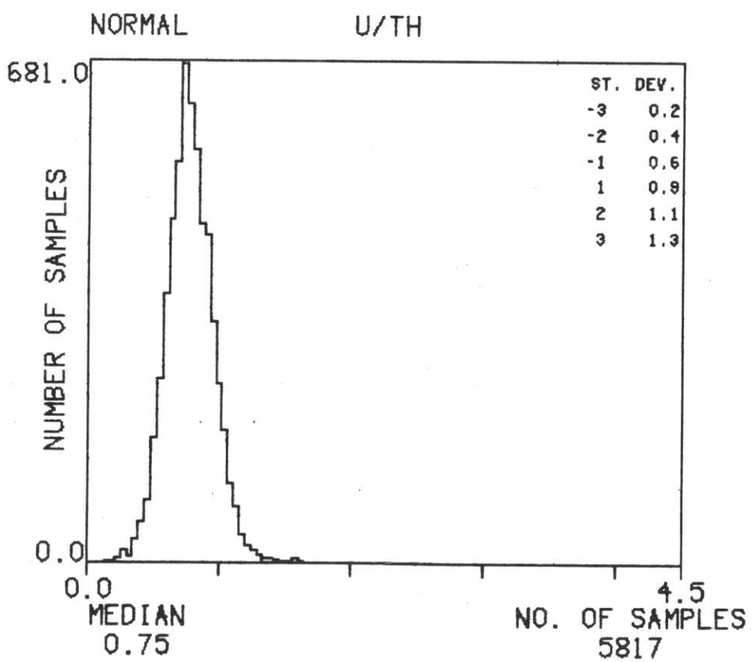
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

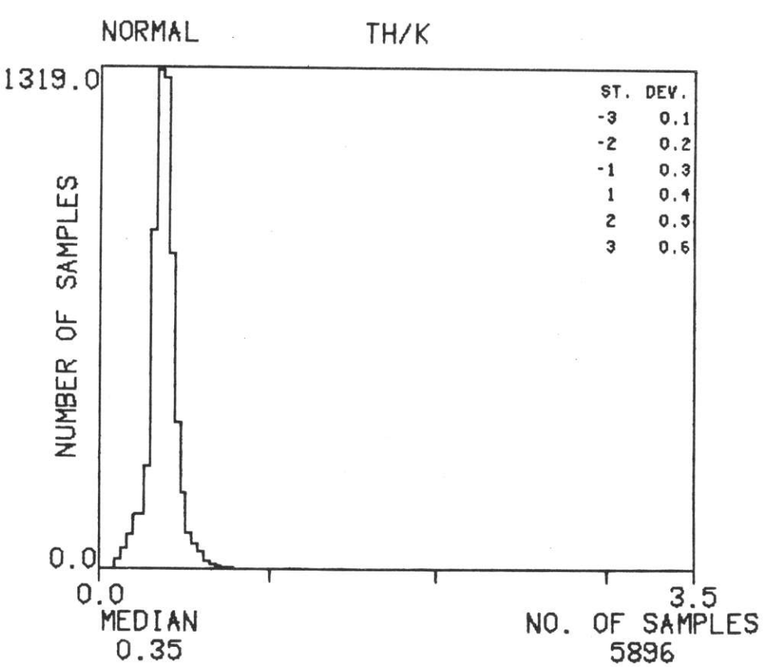






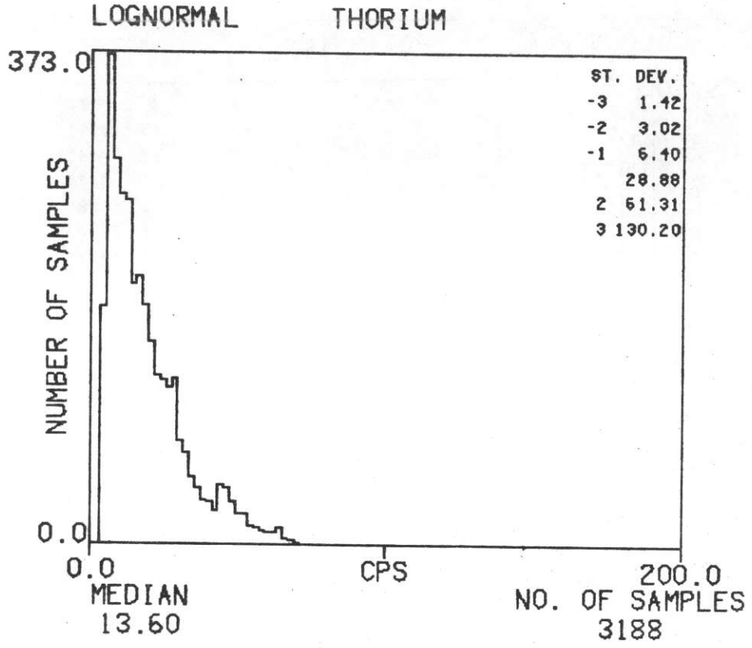


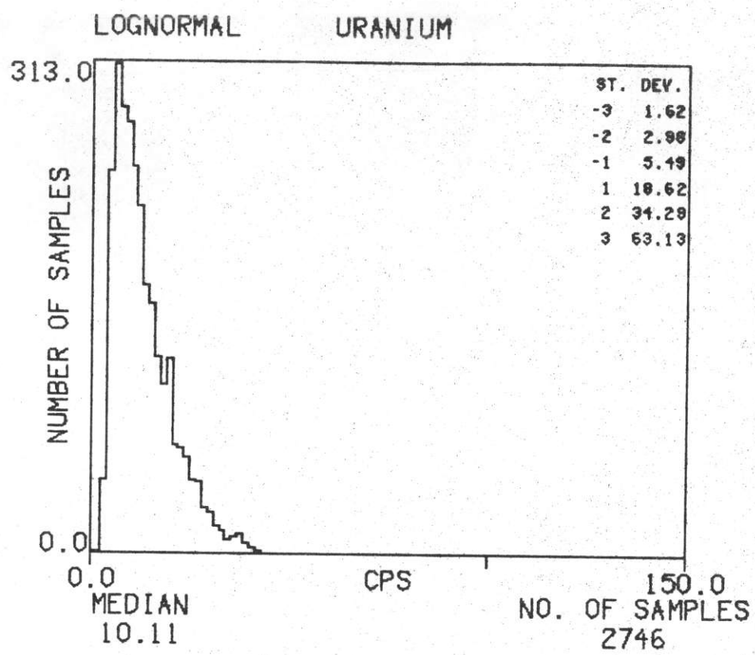


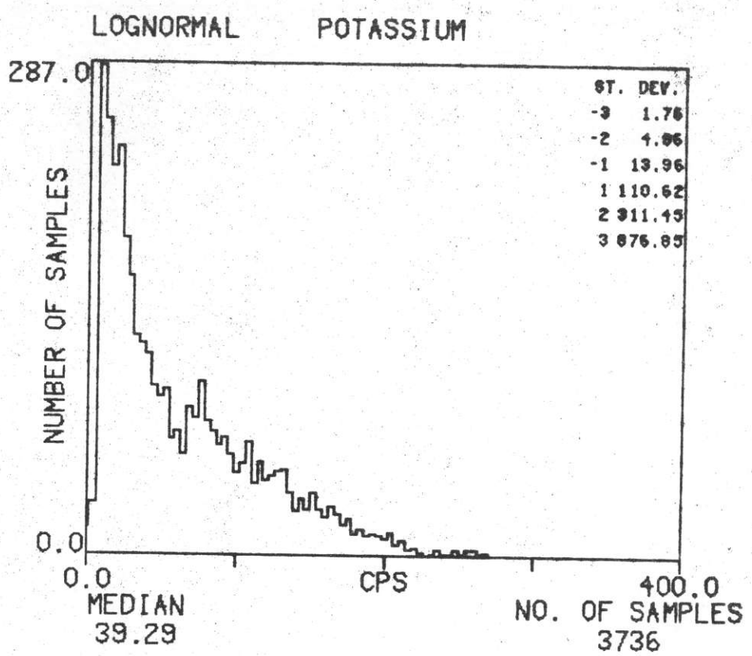


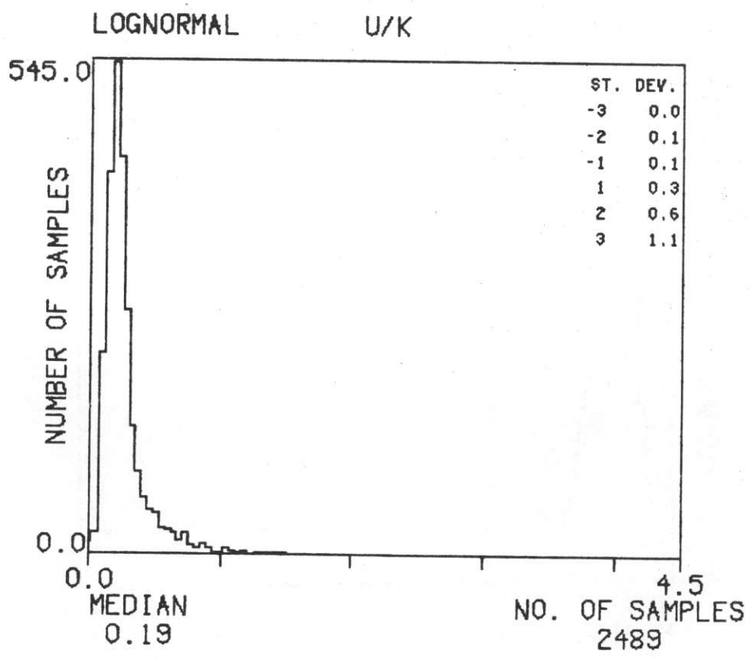
HISTOGRAMS : QG

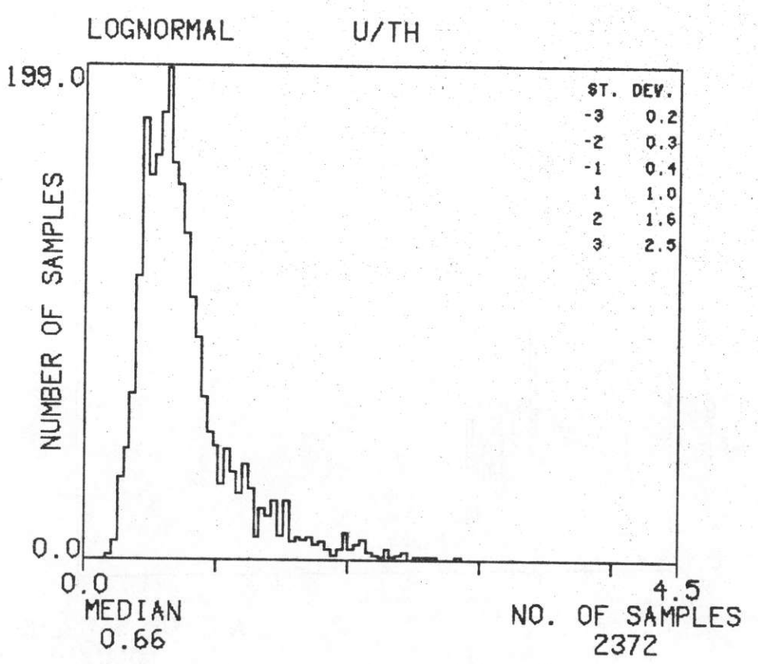
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

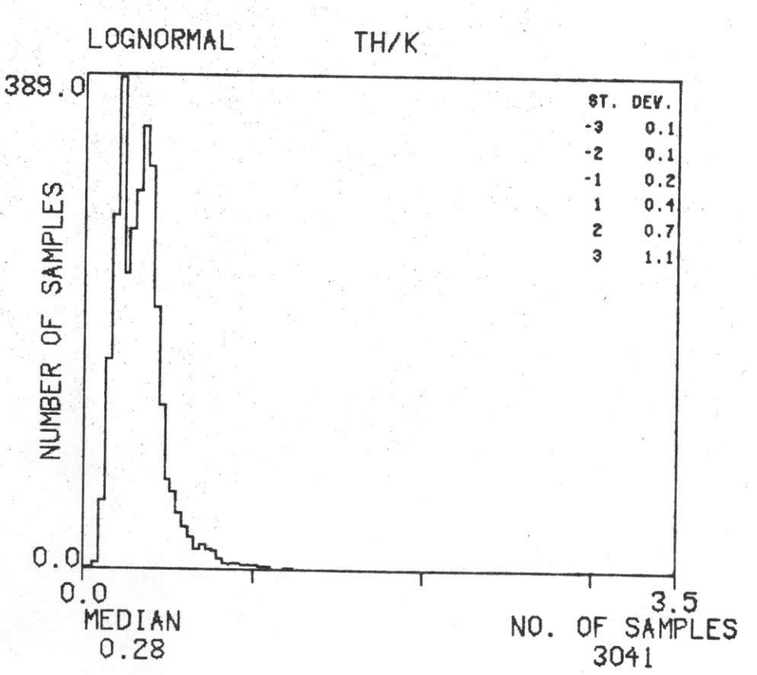








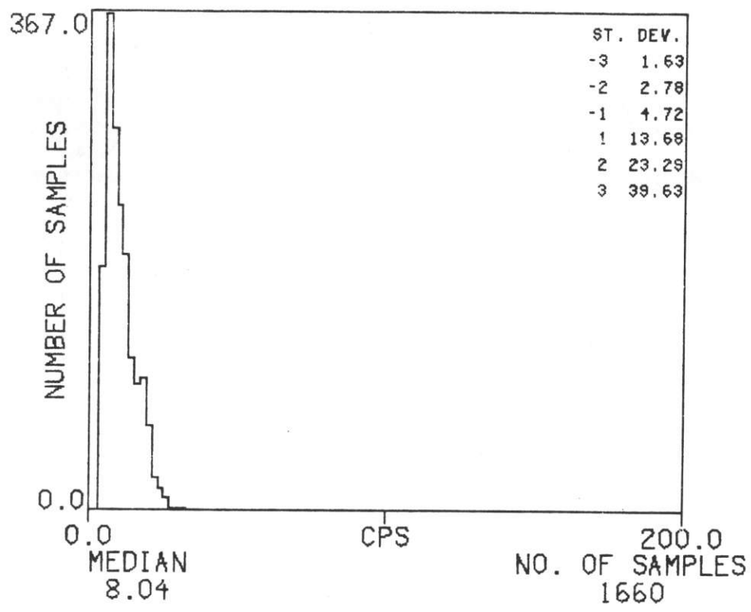




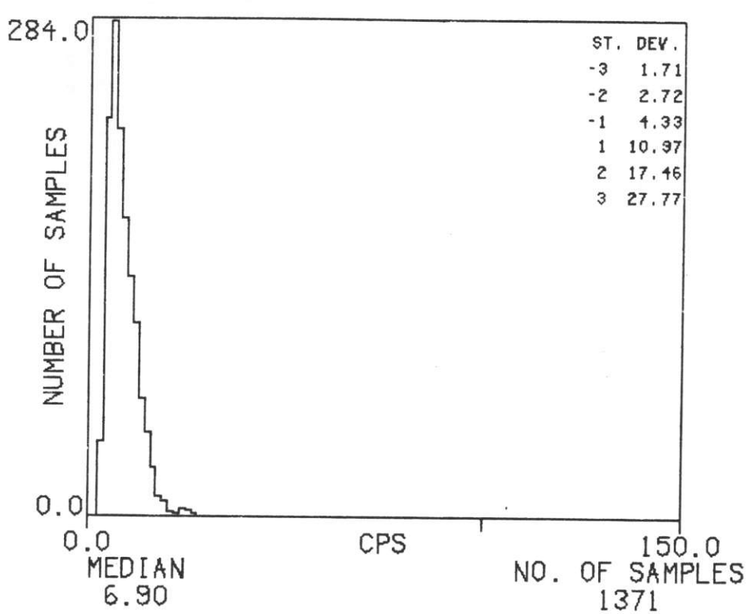
HISTOGRAMS : QG-1

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

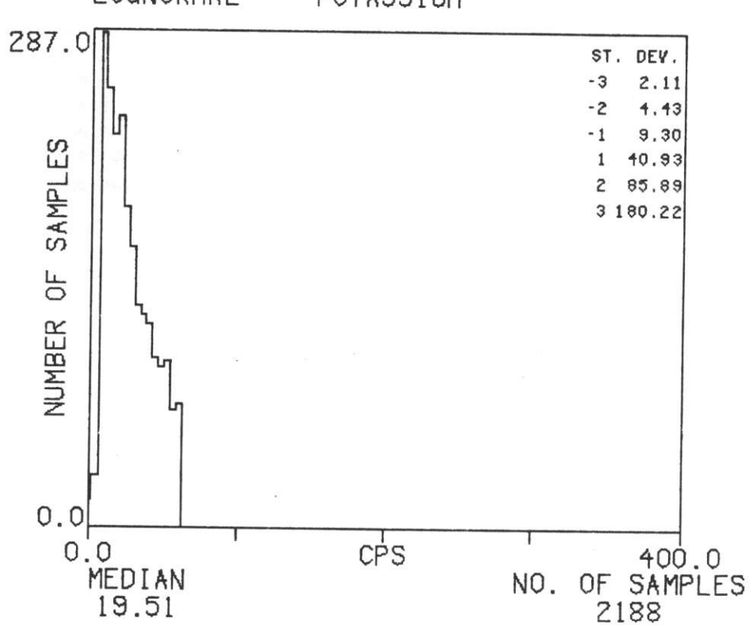
LOGNORMAL THORIUM



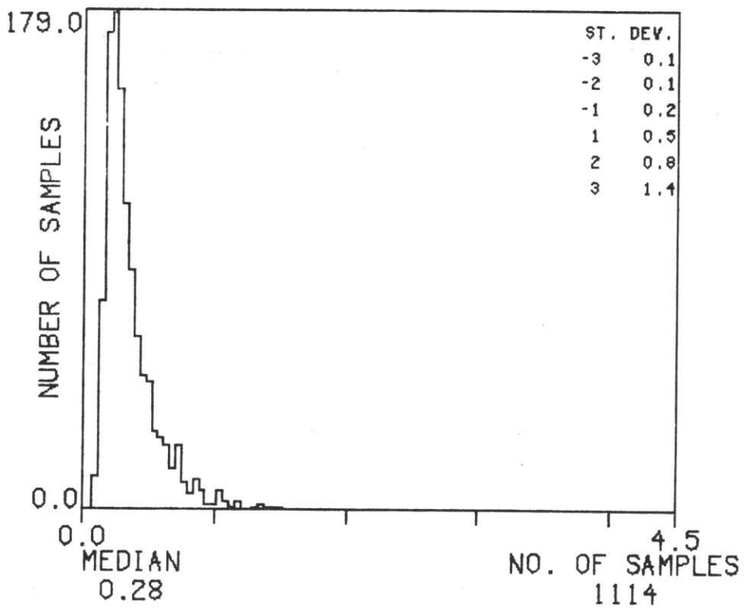
LOGNORMAL URANIUM



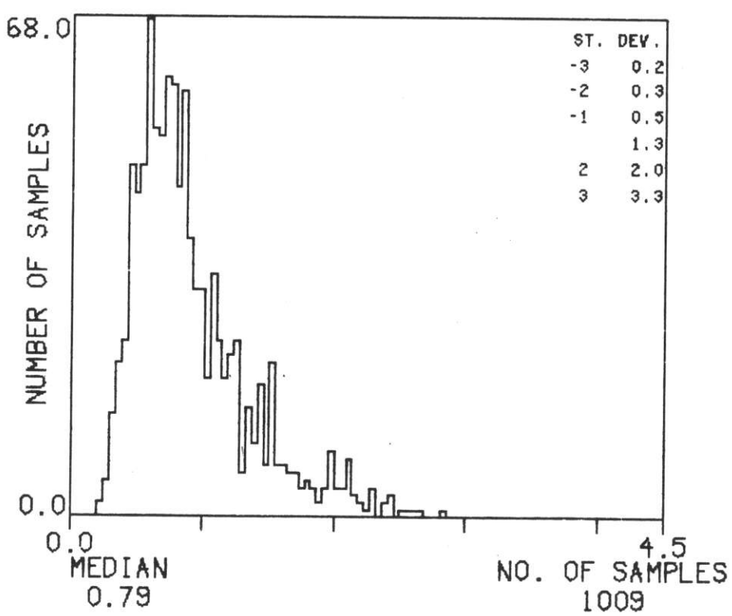
LOGNORMAL POTASSIUM



LOGNORMAL U/K



LOGNORMAL U/TH



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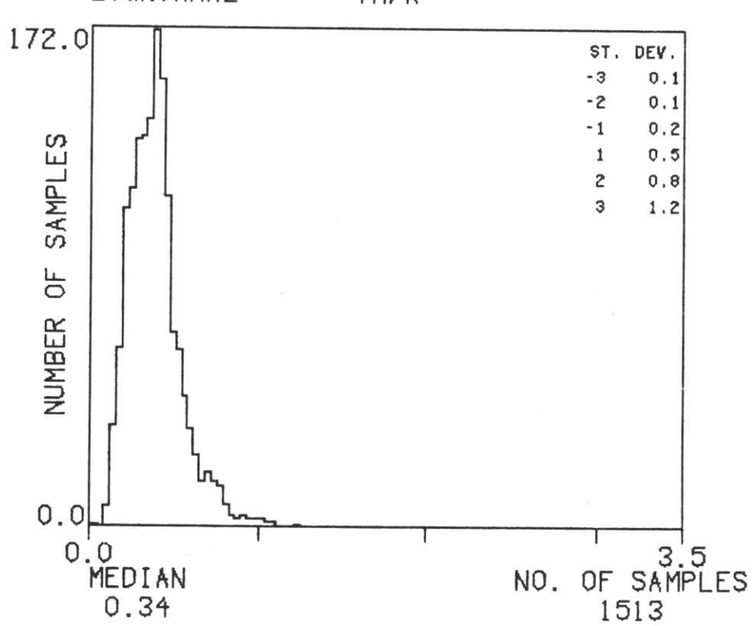
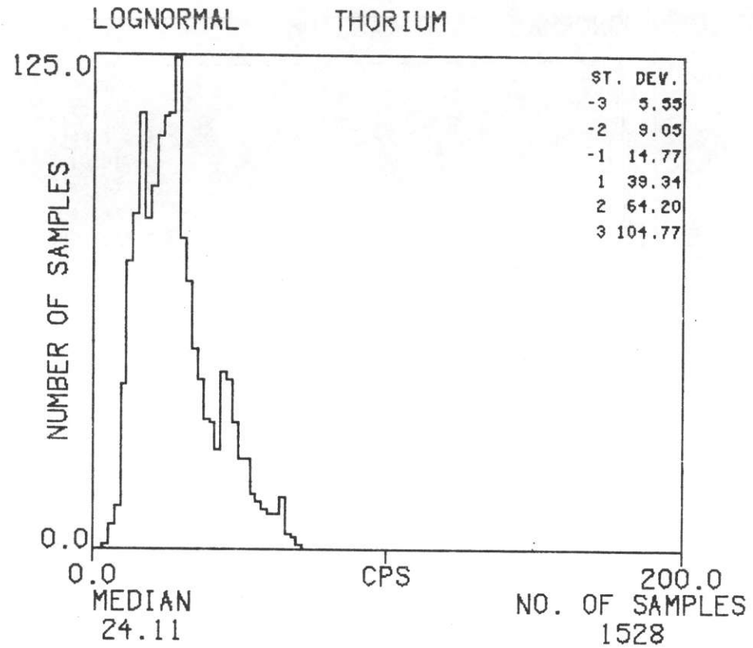
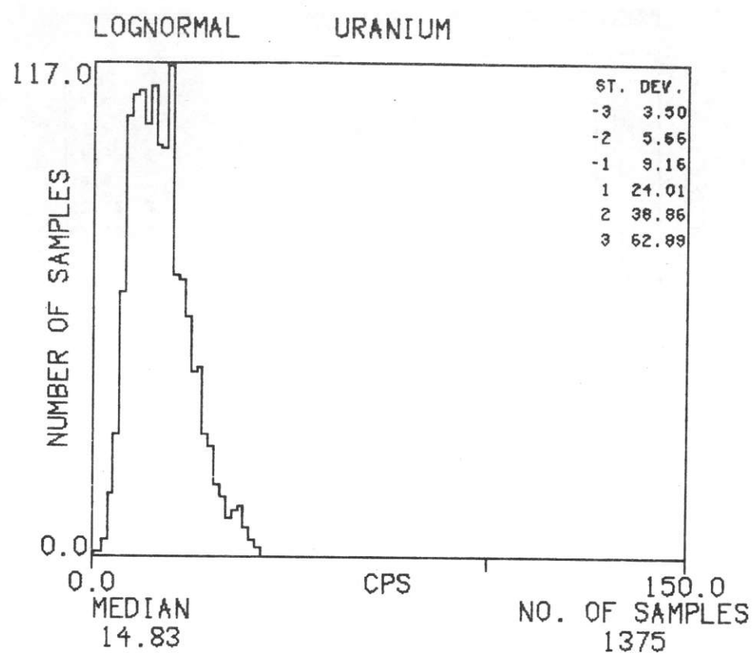
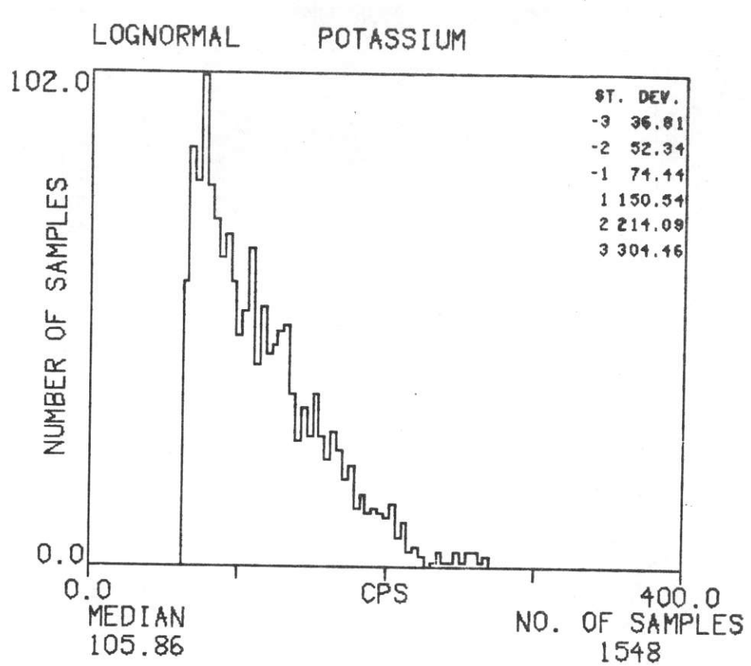


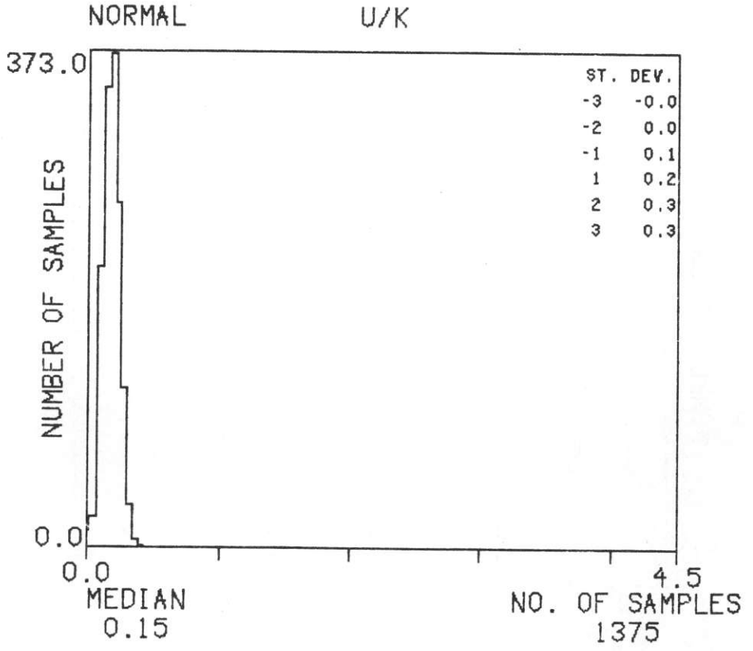
HISTOGRAMS : QG-2

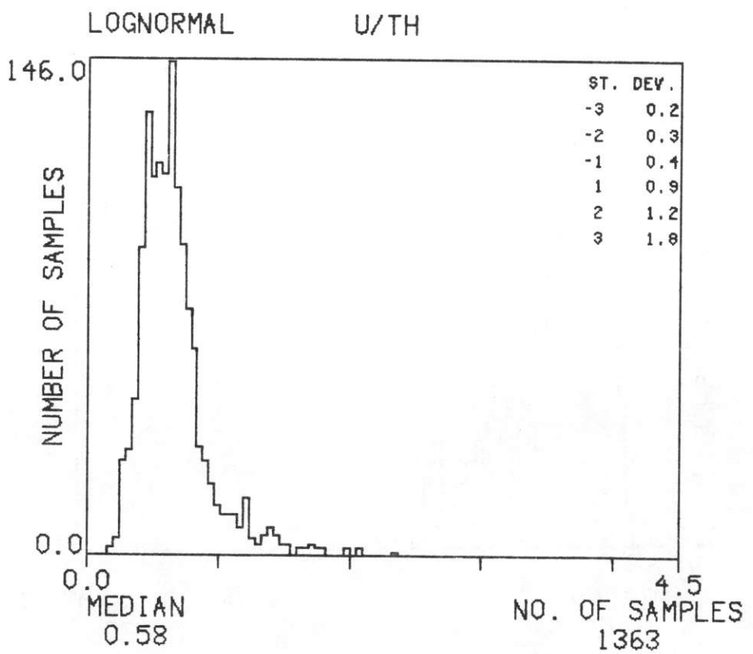
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

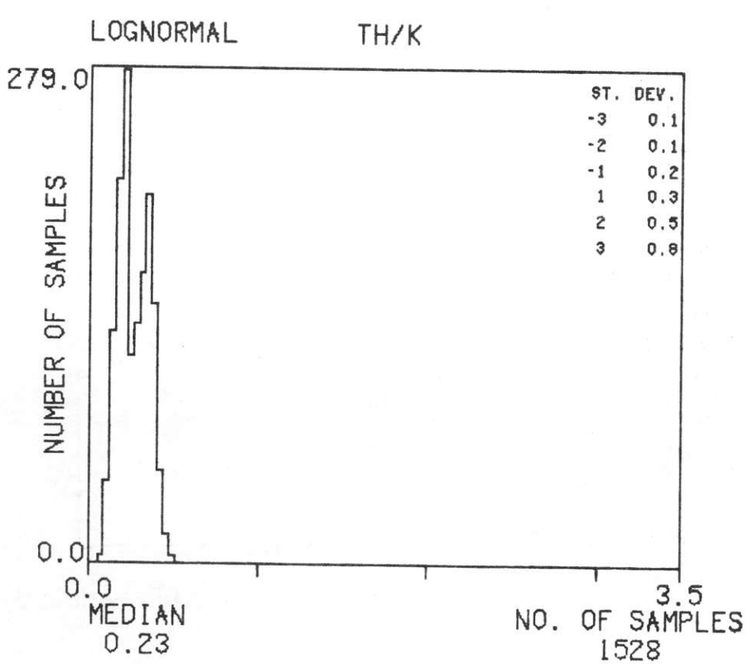












HISTOGRAMS : QG'

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

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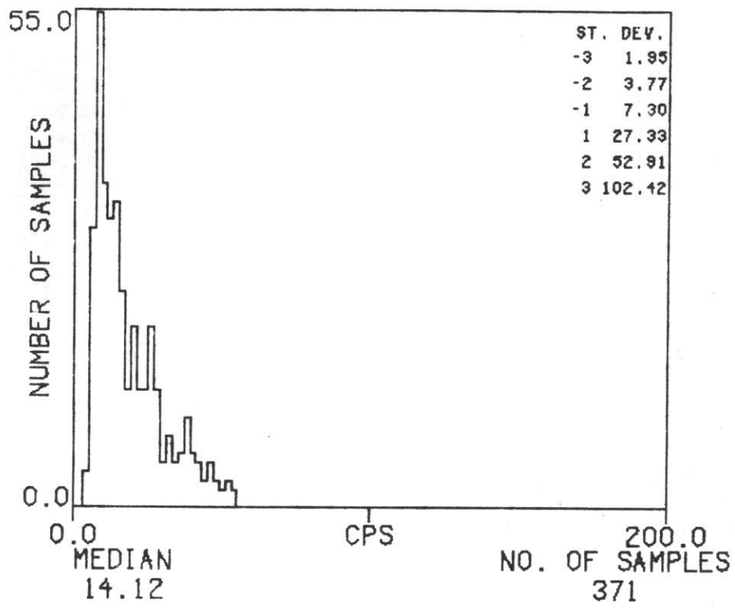
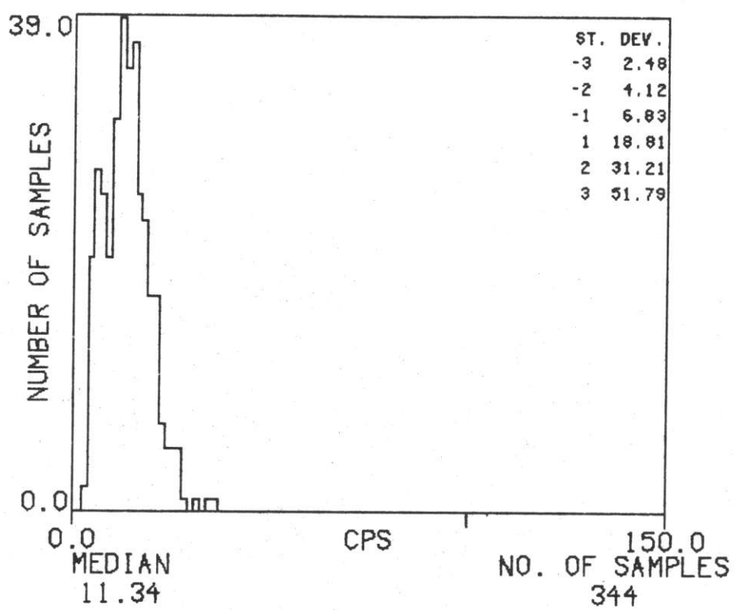
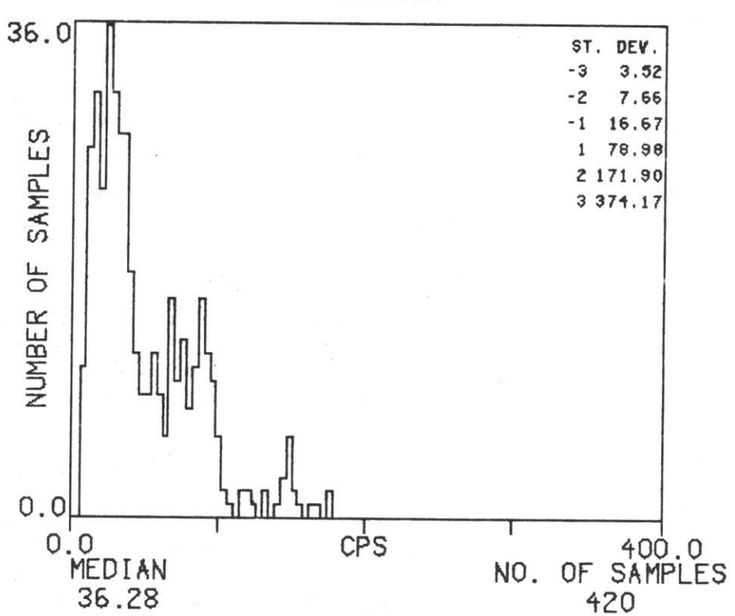


LOGNORMAL URANIUM



LOGNORMAL POTASSIUM



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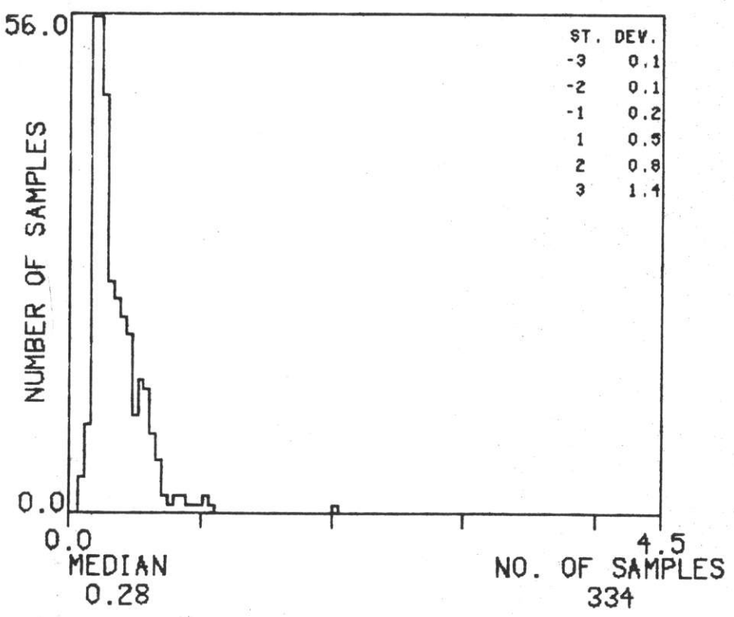

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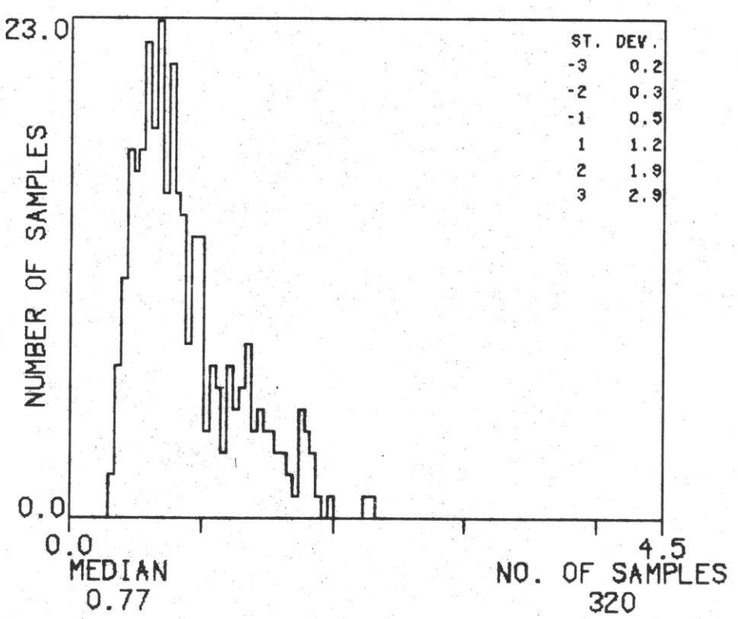

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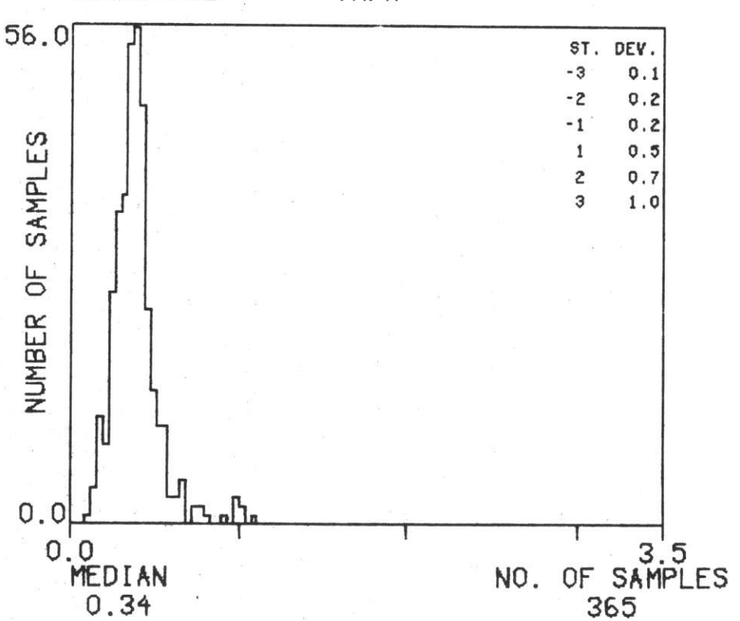
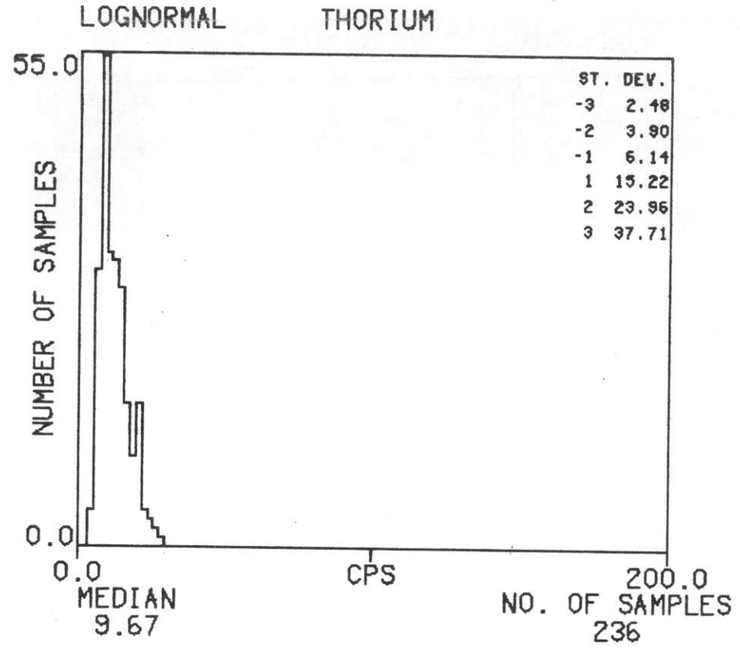
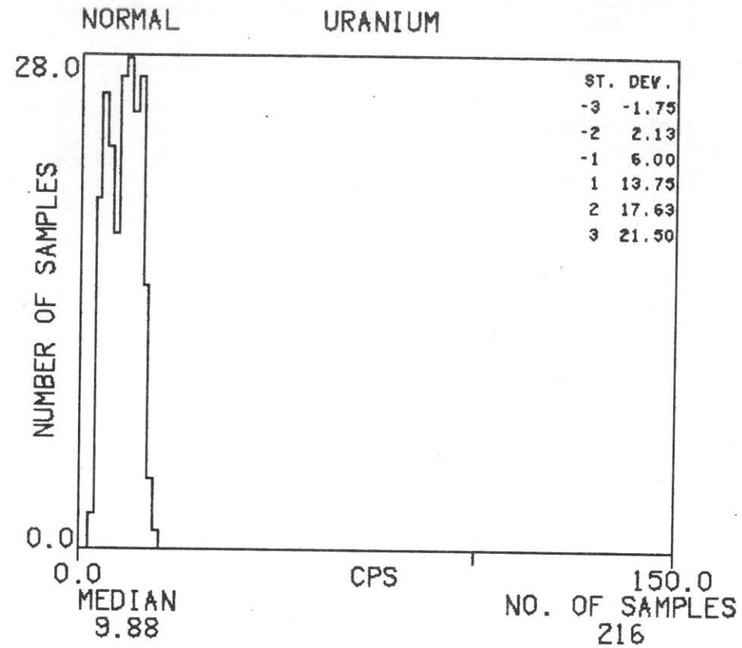
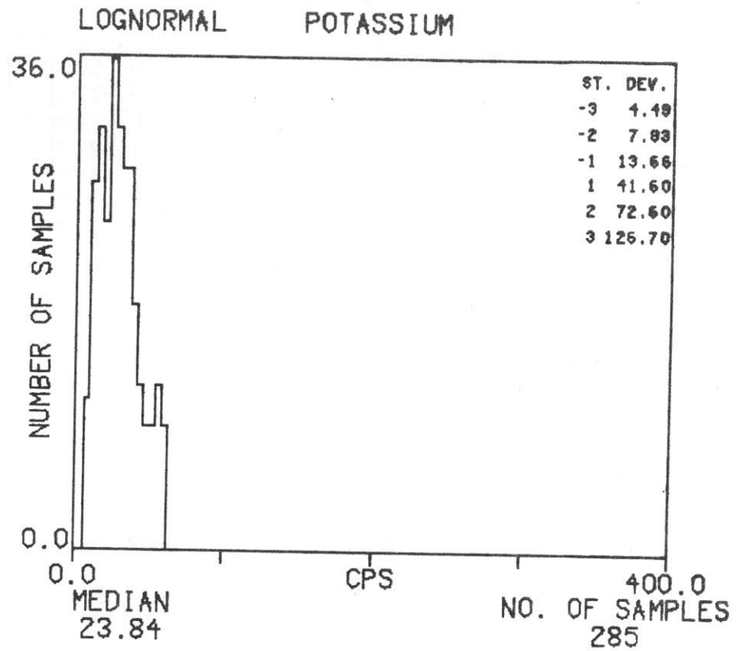


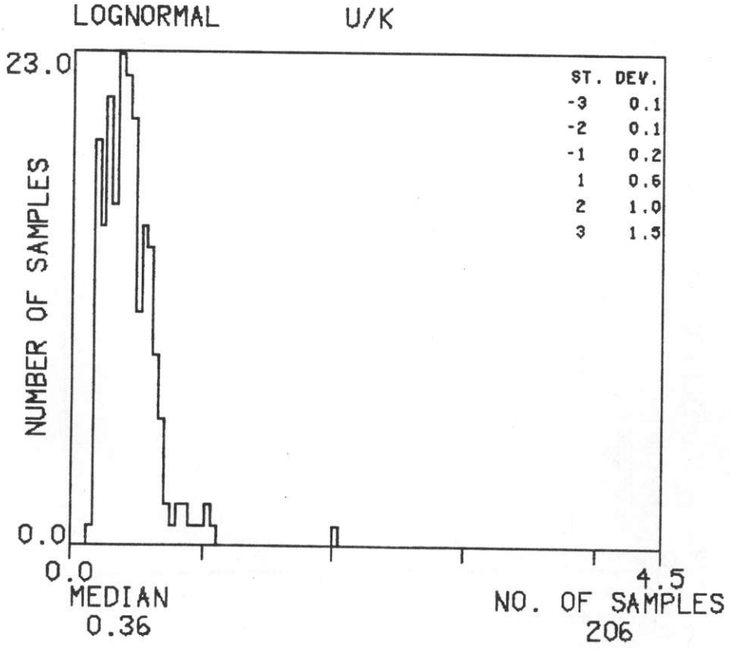
HISTOGRAMS : QG'-1

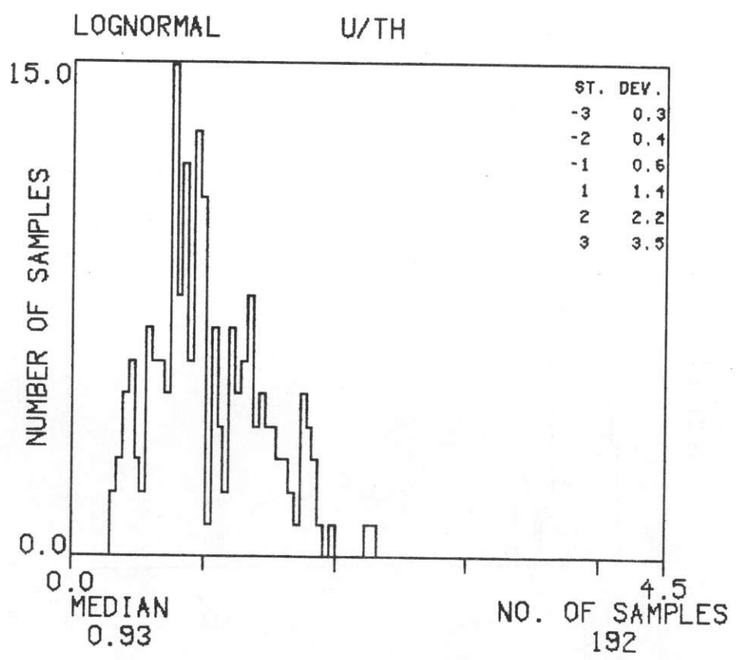
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM, 1977

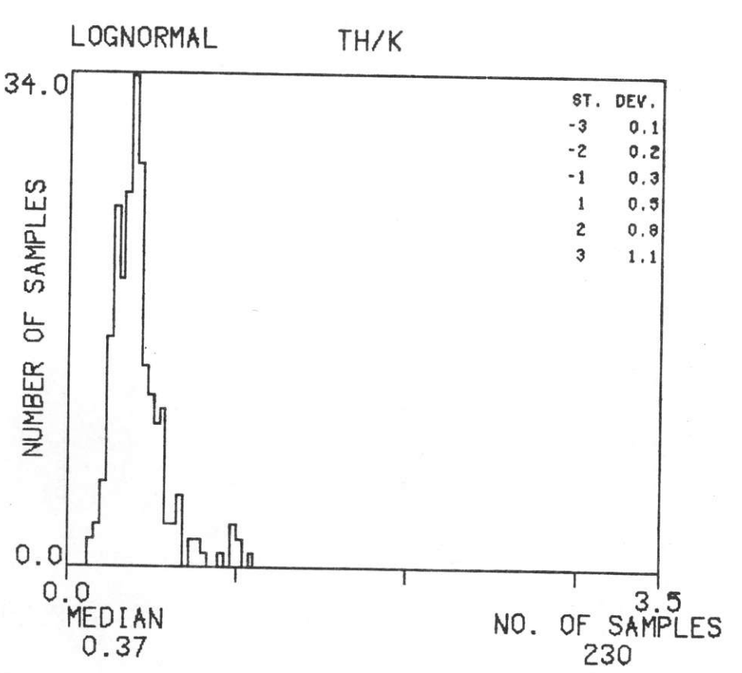












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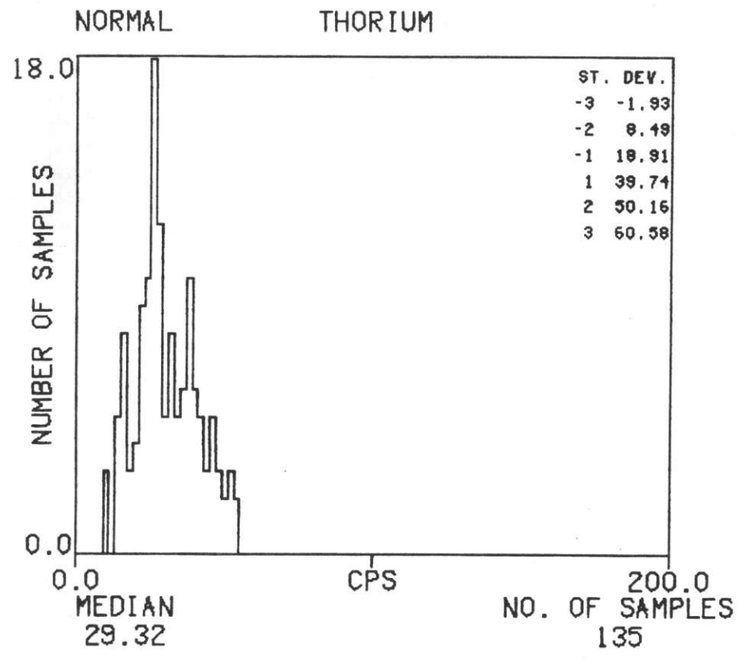
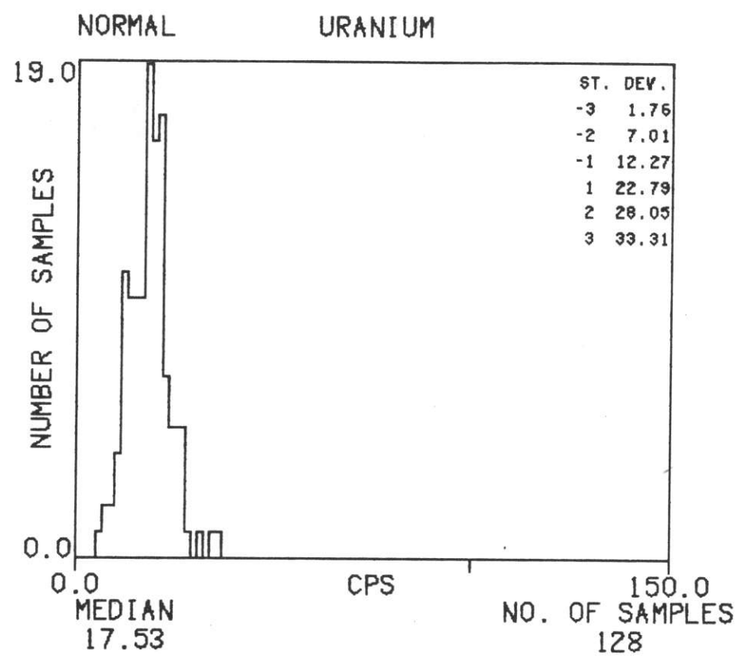
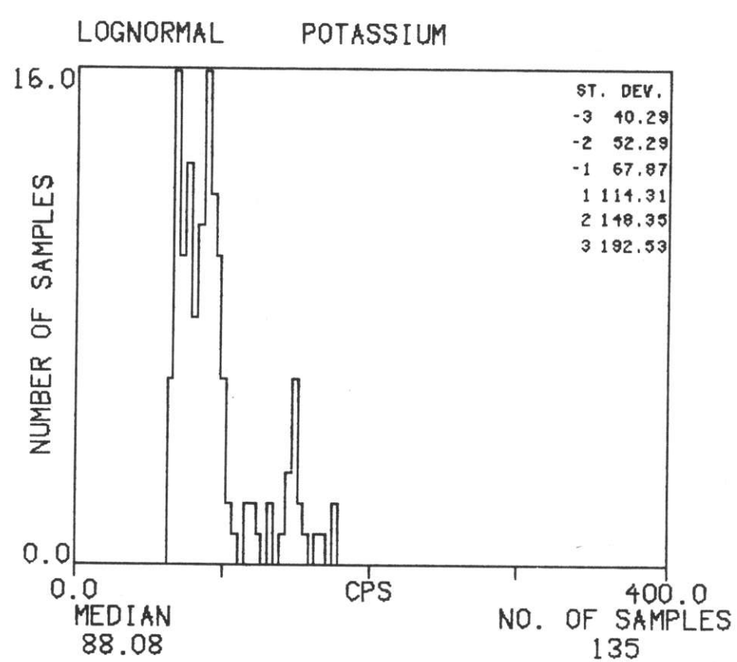
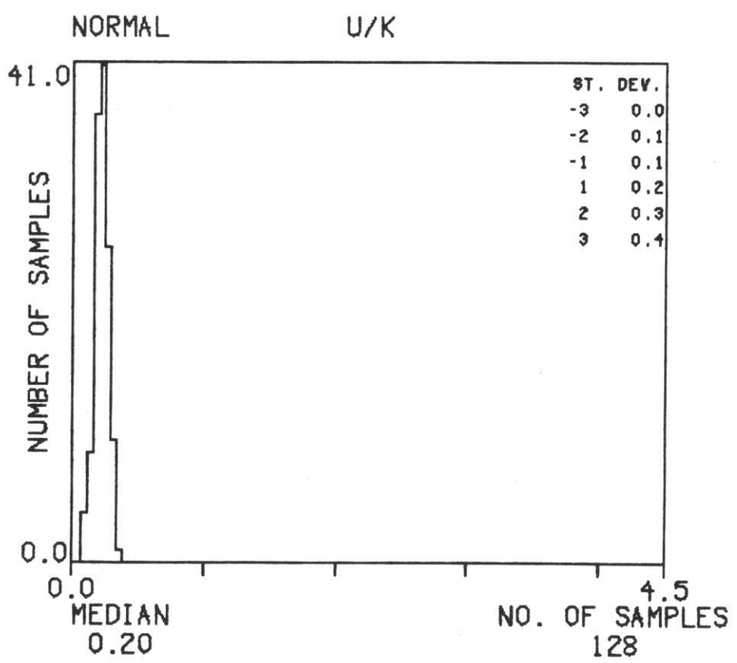
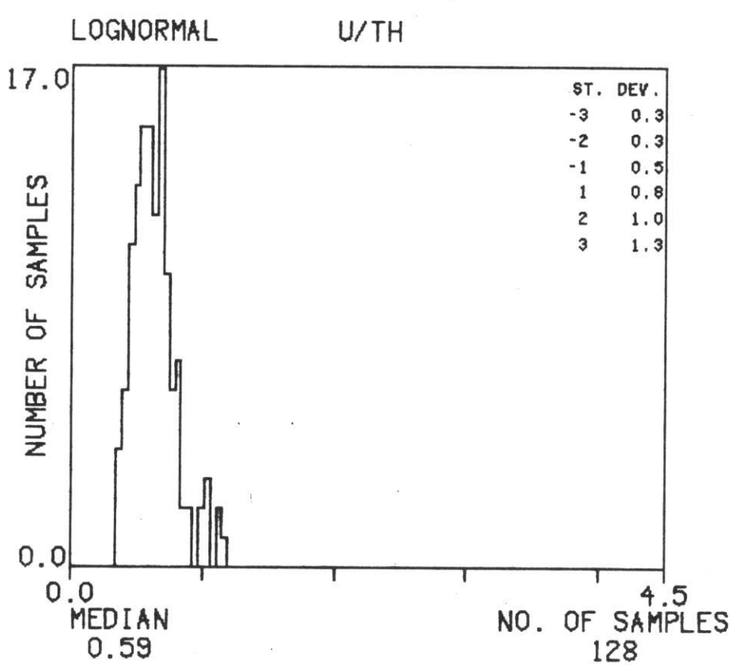
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

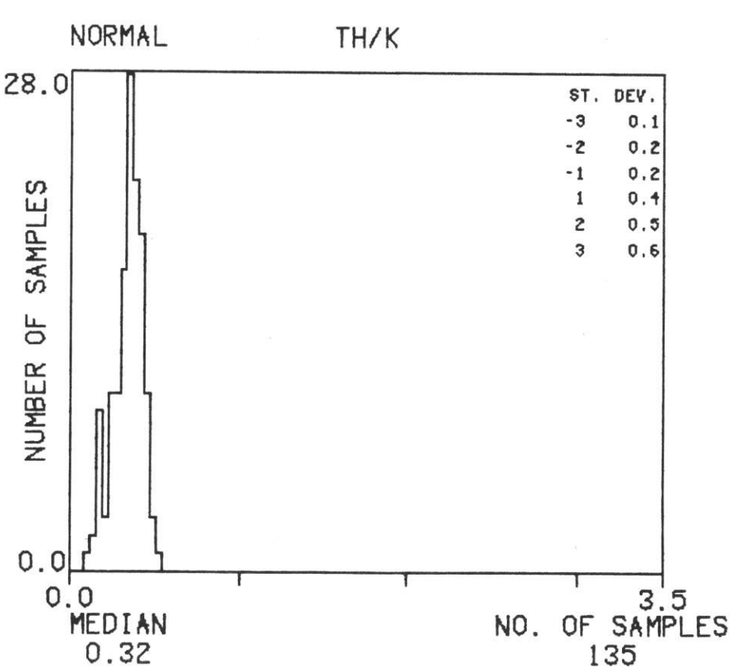












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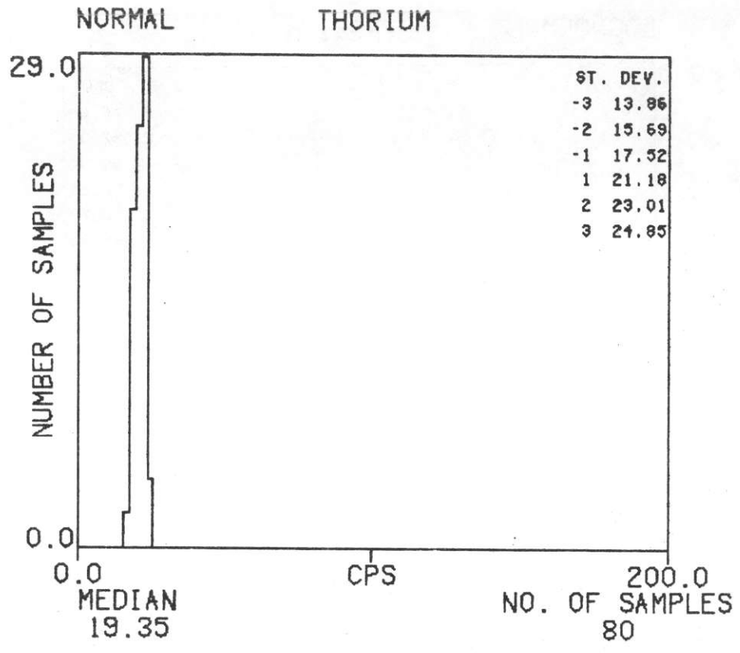

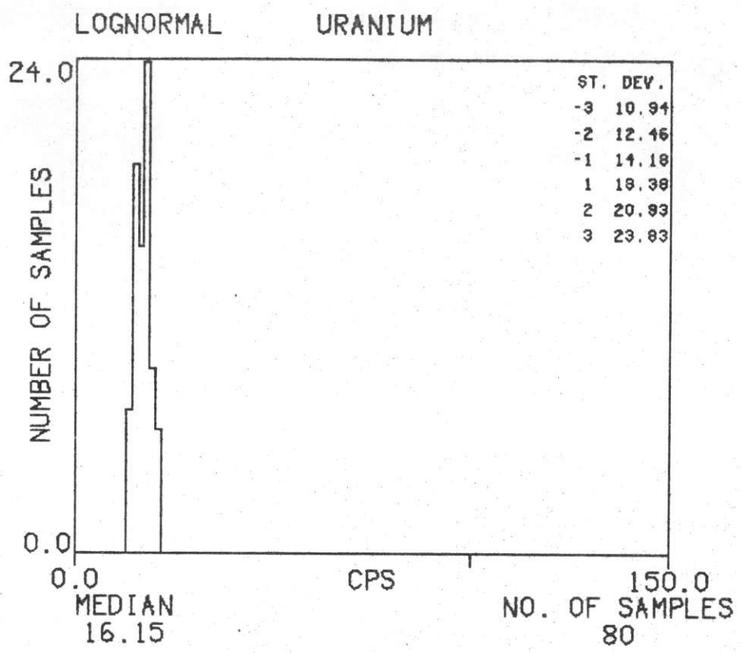

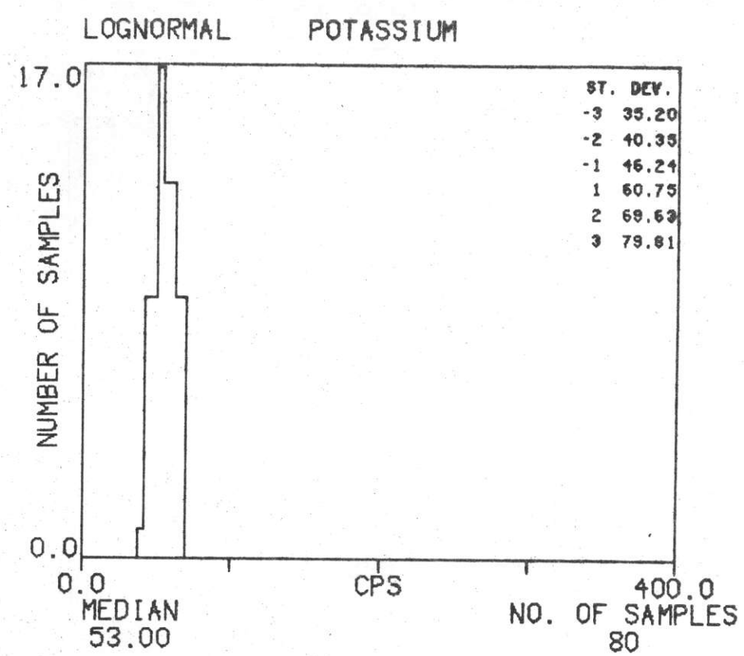

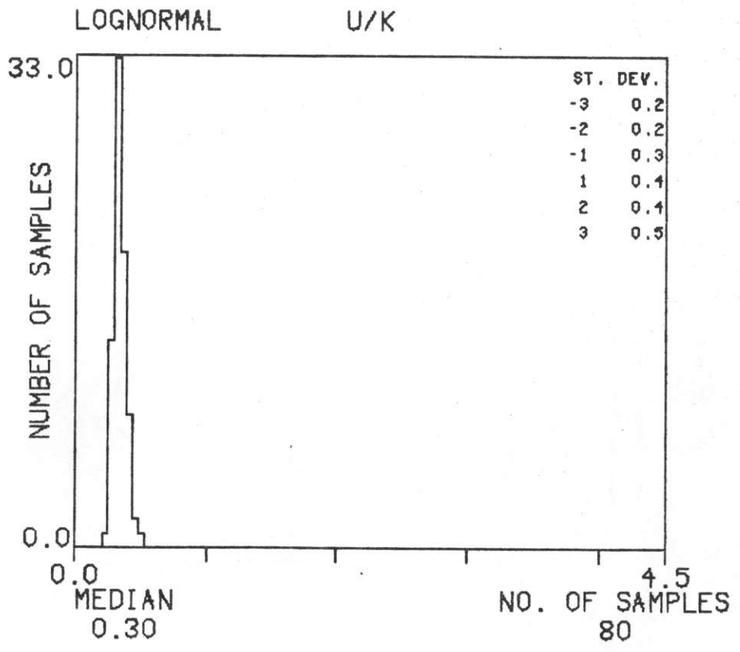

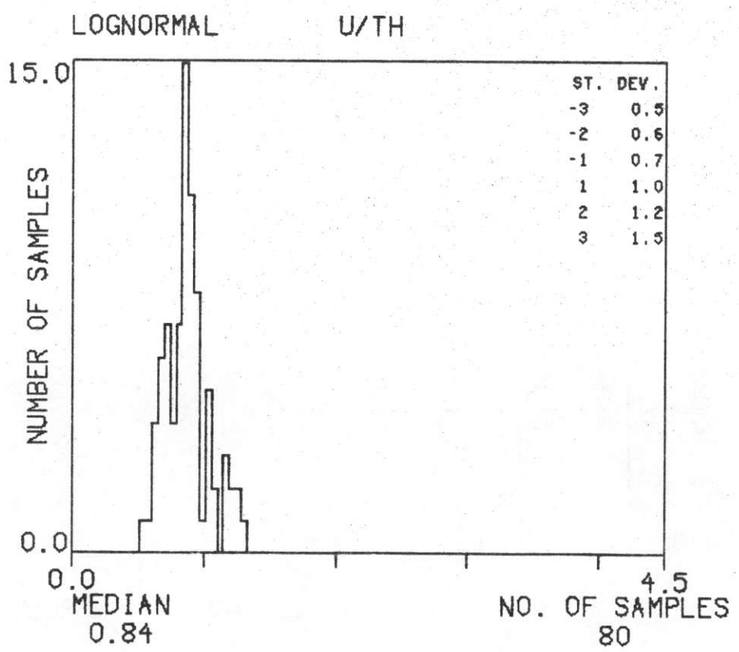

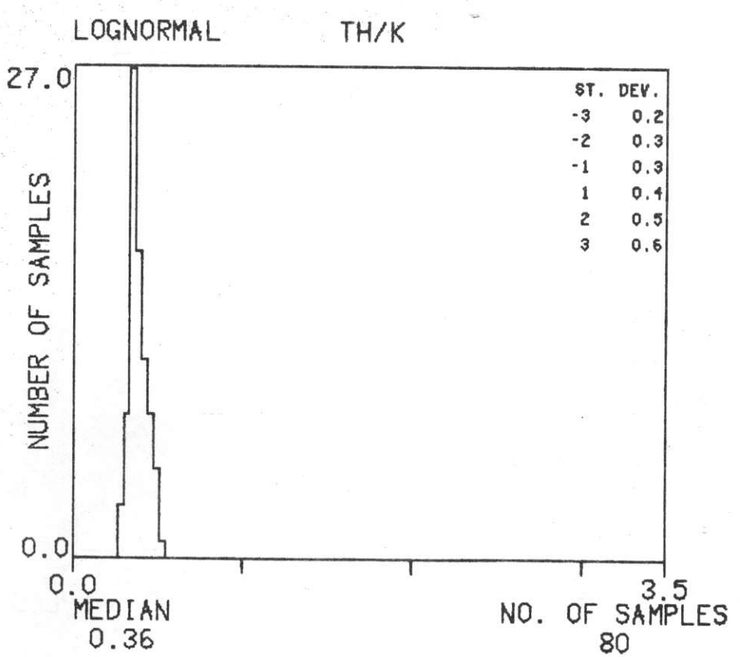

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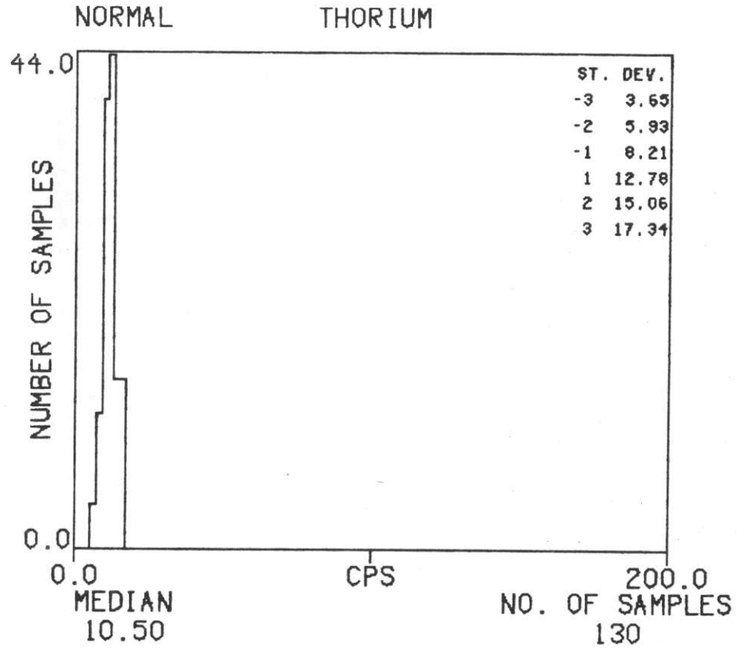
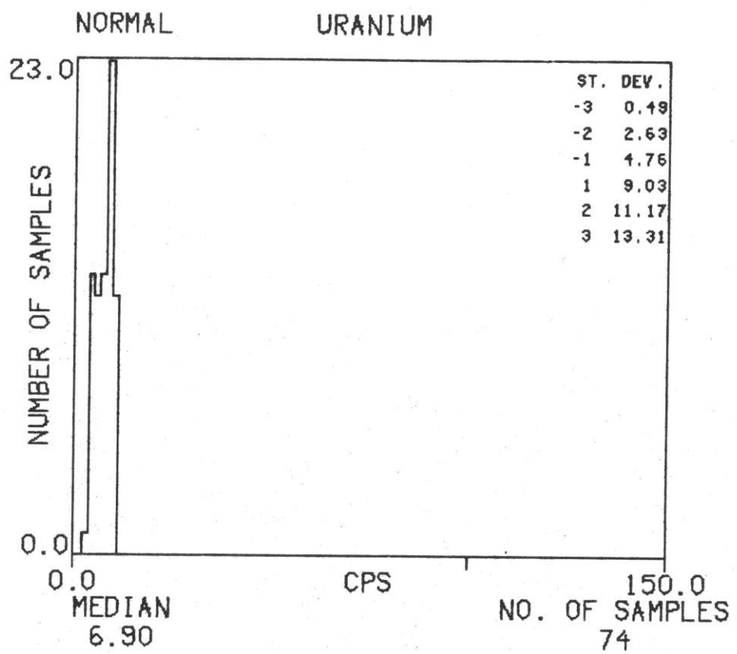
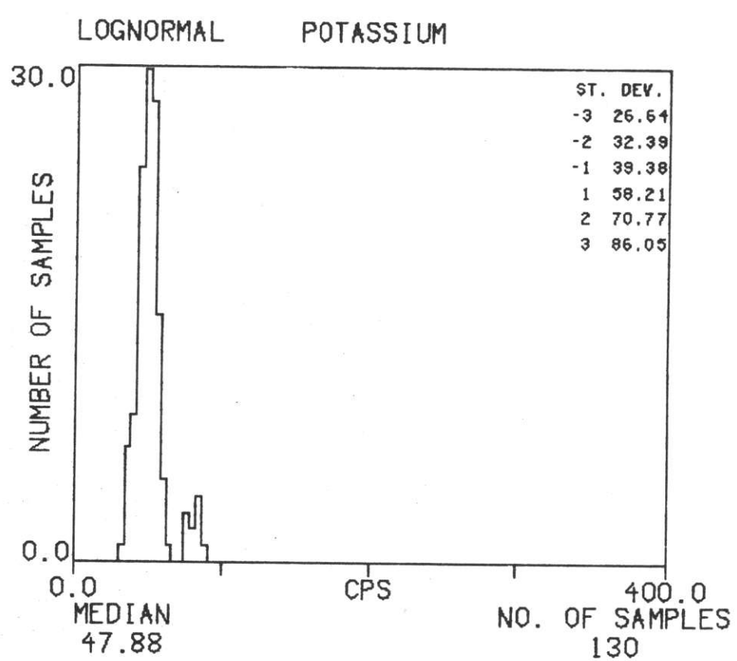
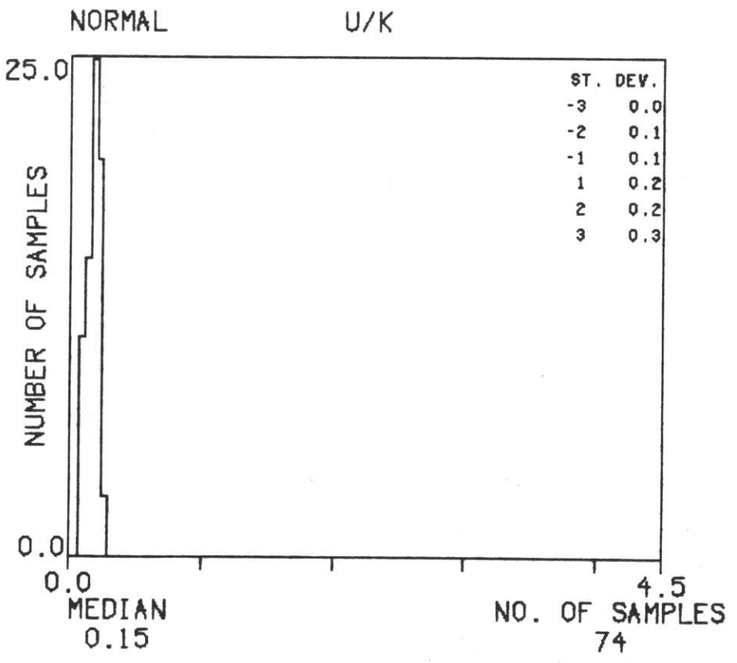
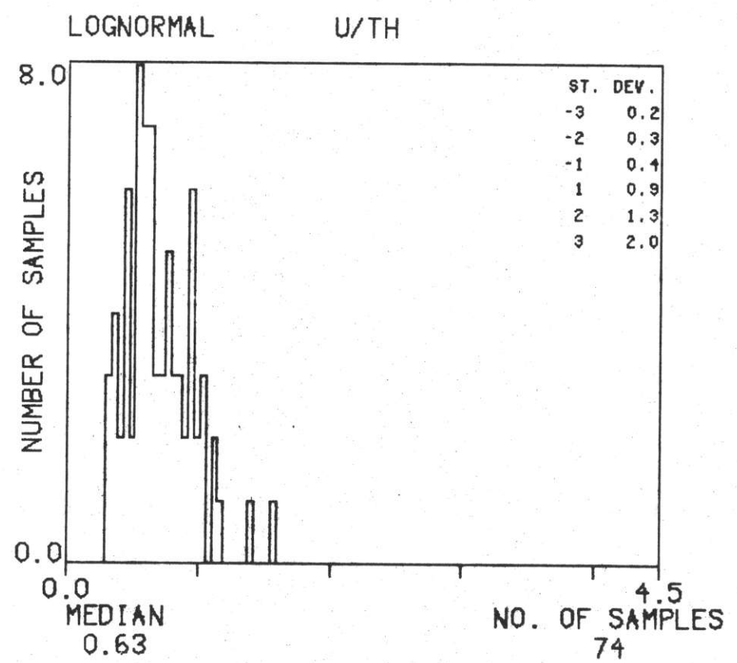
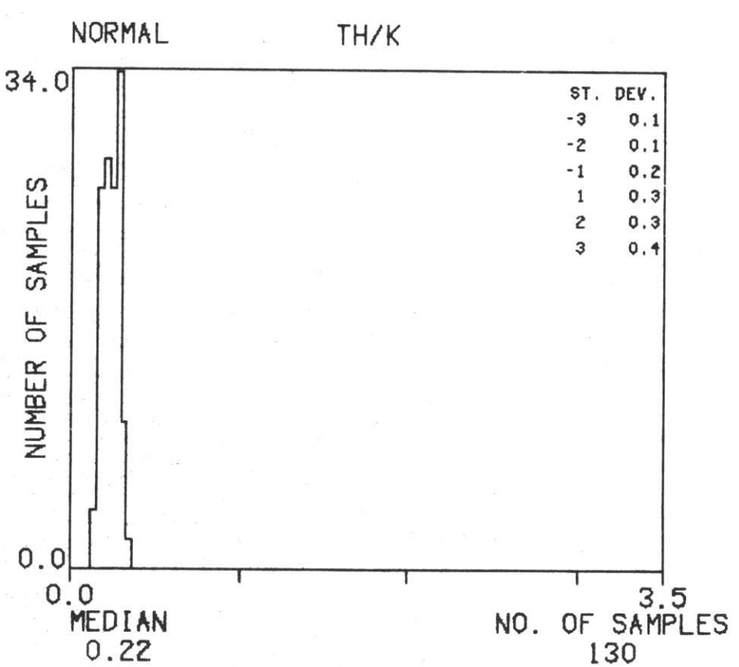






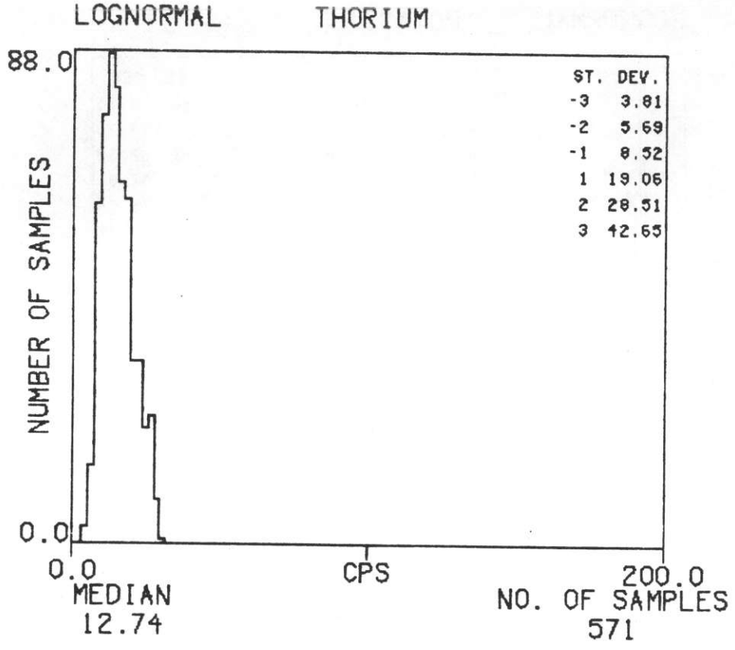


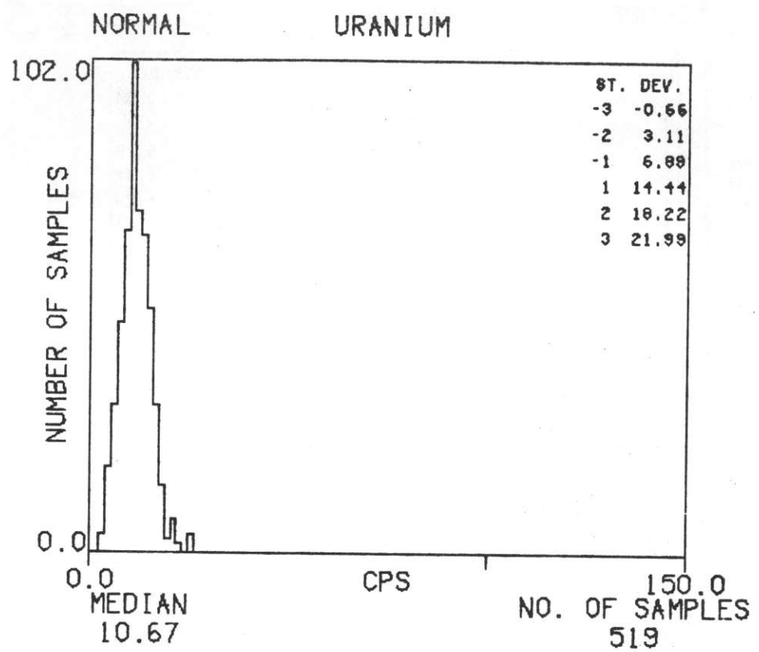


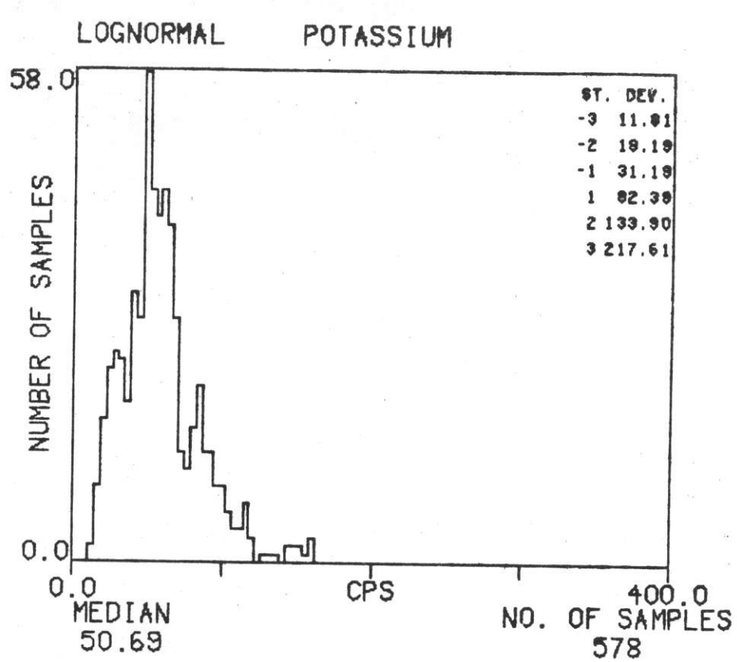


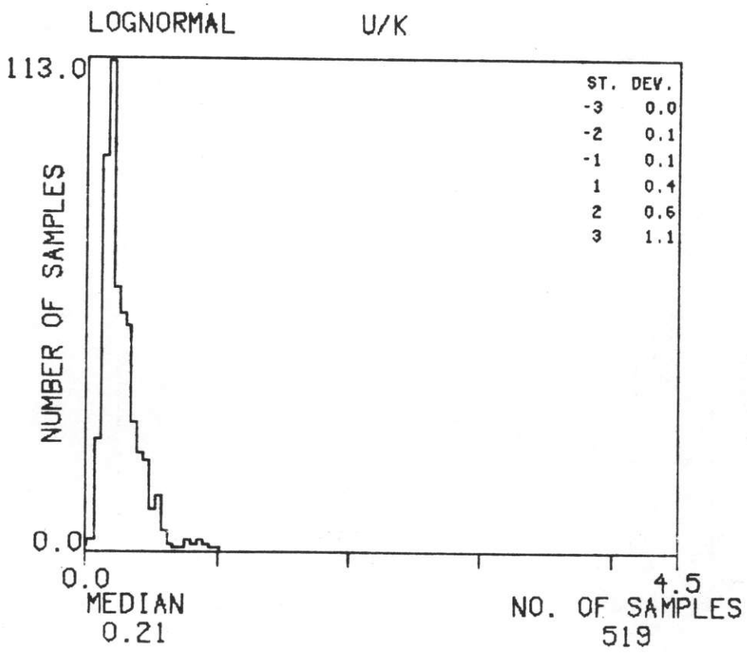
HISTOGRAMS : TKC

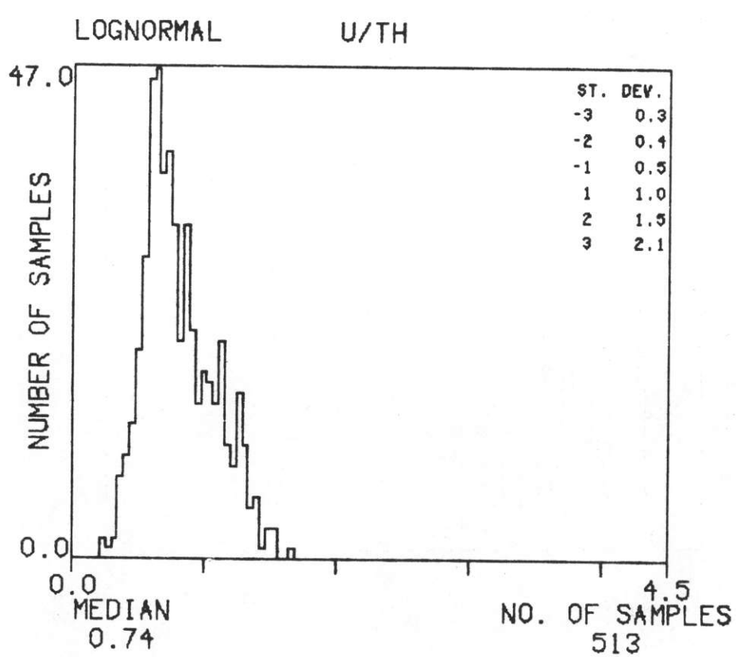
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

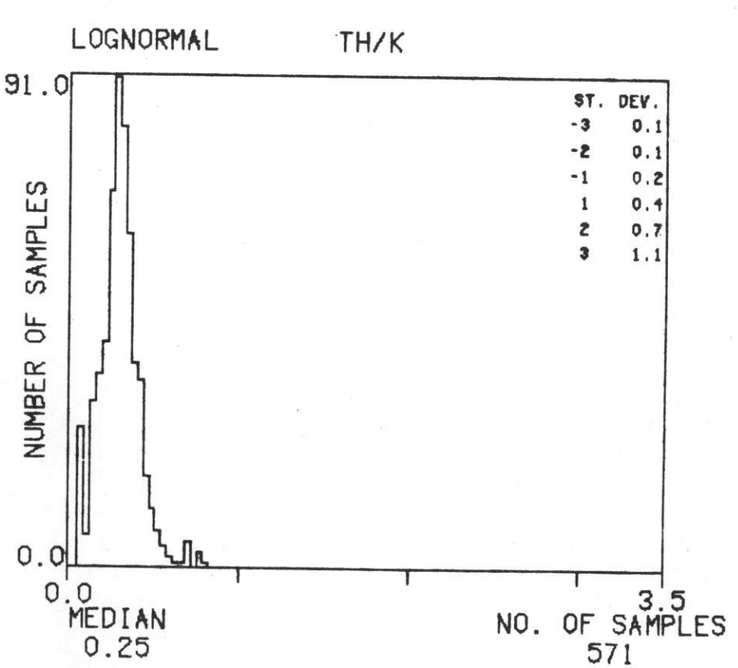








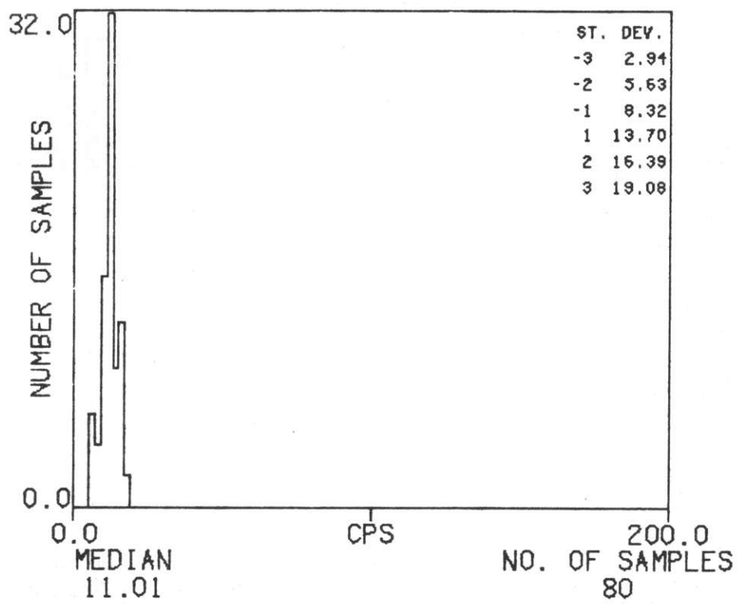




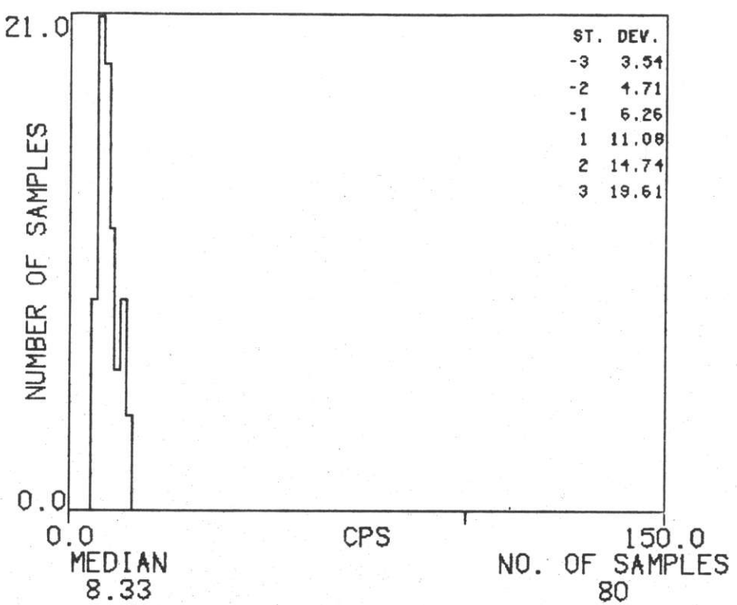
HISTOGRAMS : TKC '

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

NORMAL THORIUM



LOGNORMAL URANIUM



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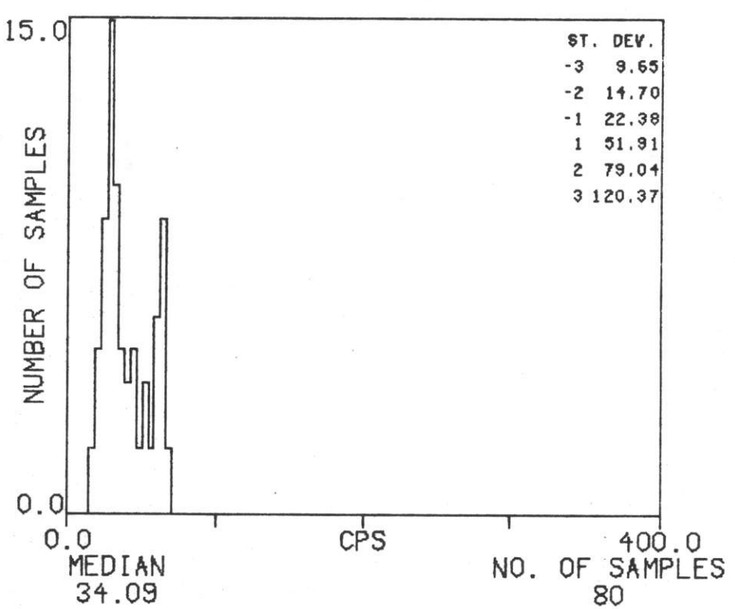
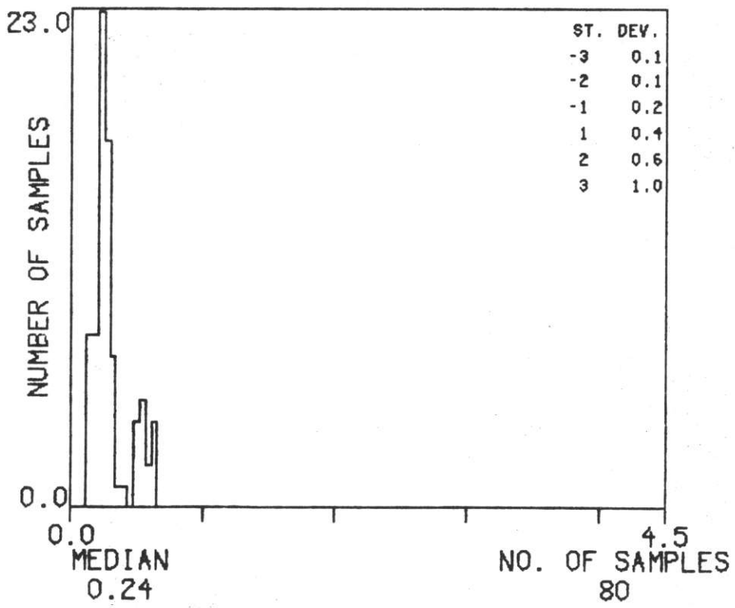


LOGNORMAL U/K



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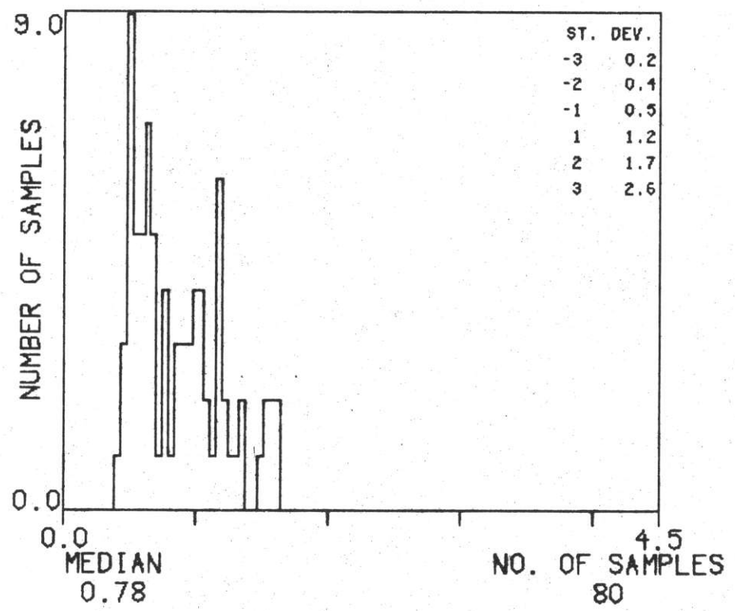

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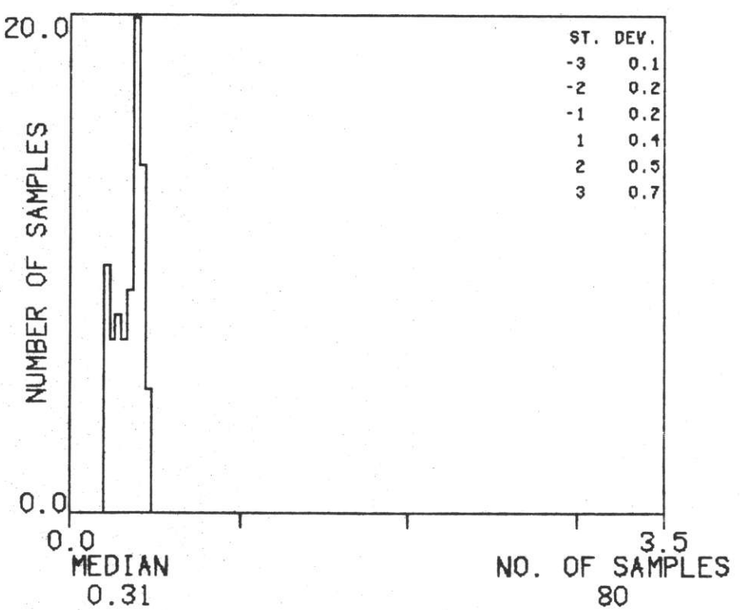
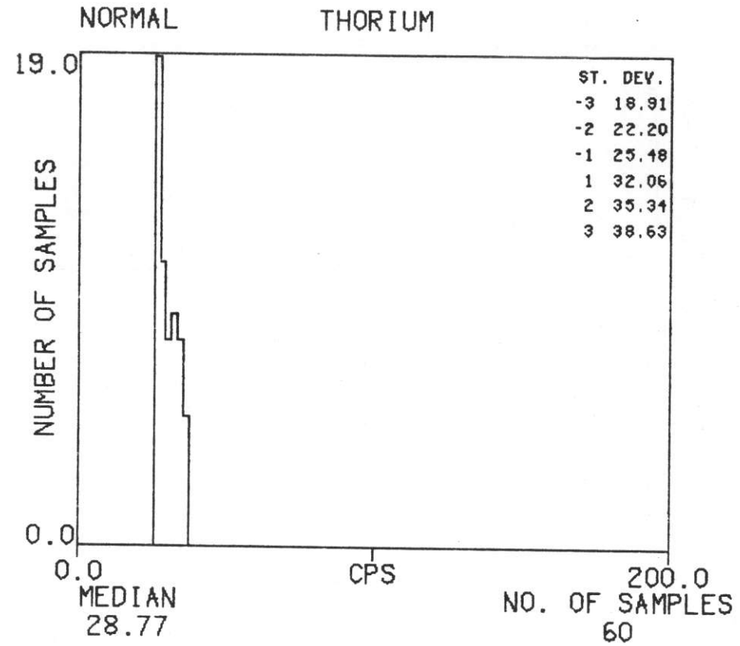
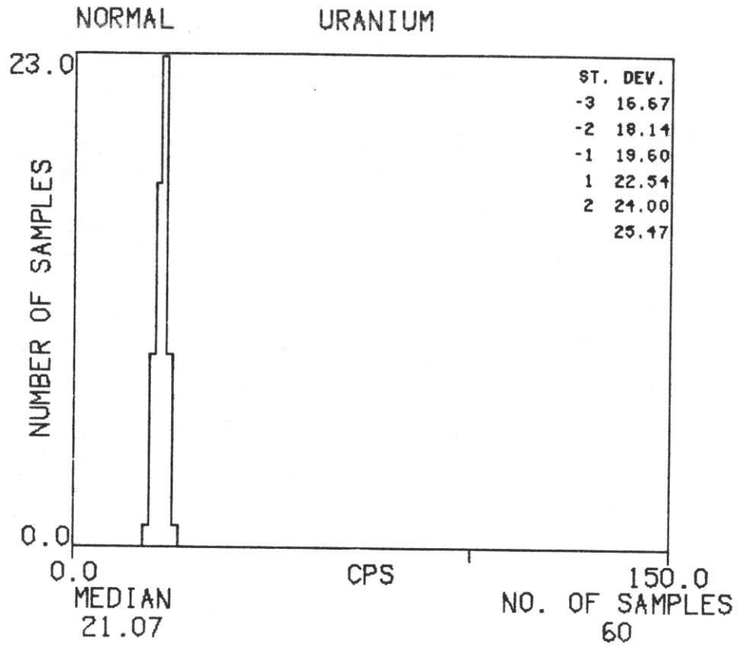
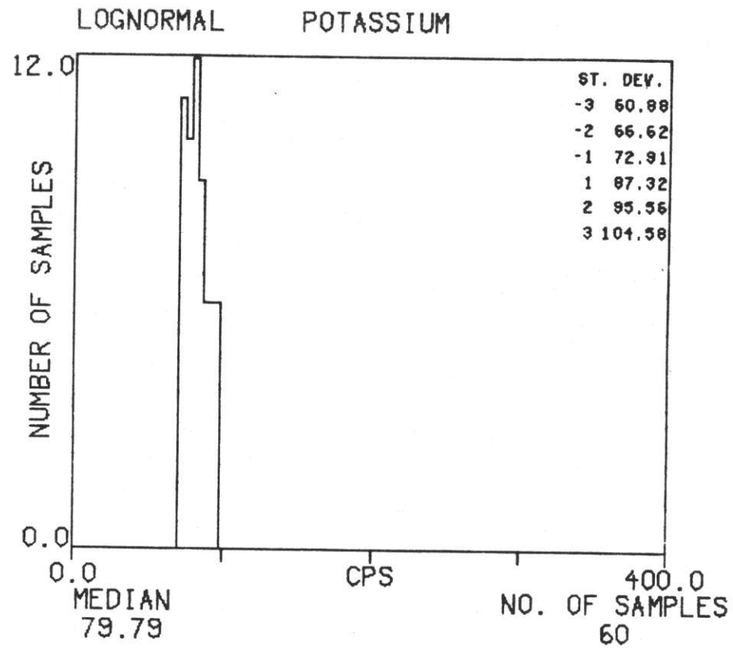


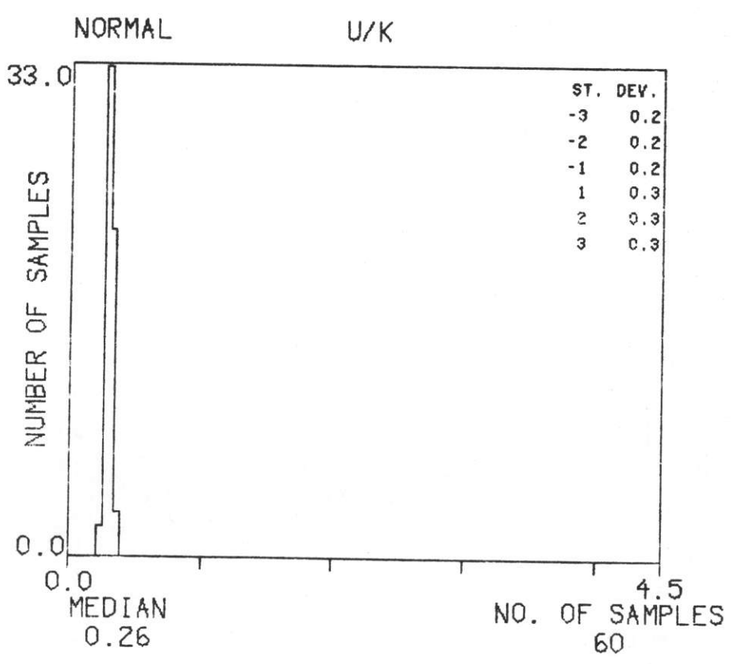
HISTOGRAMS : TMZU

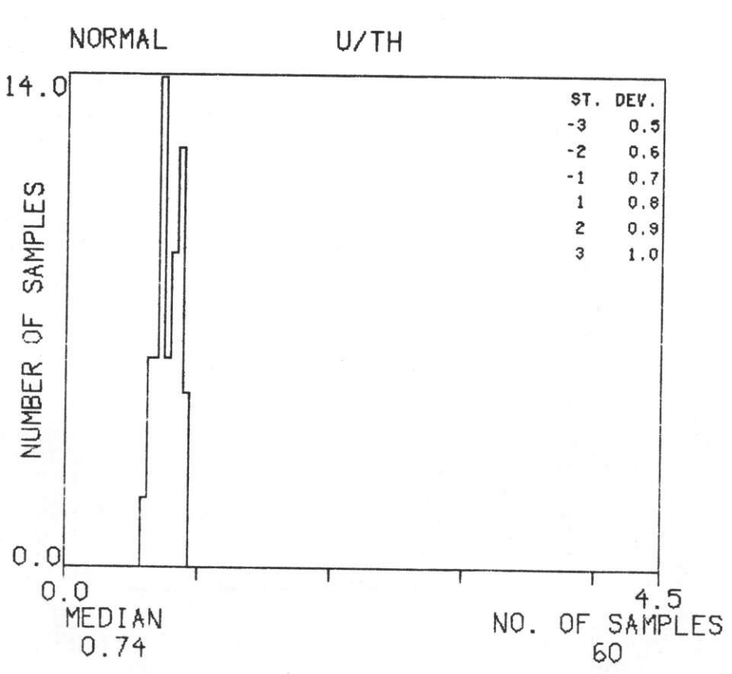
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

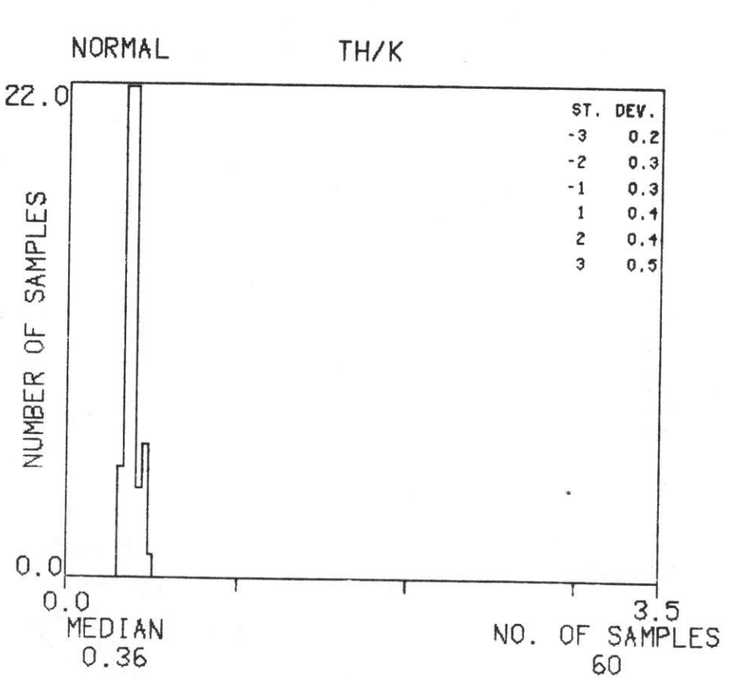






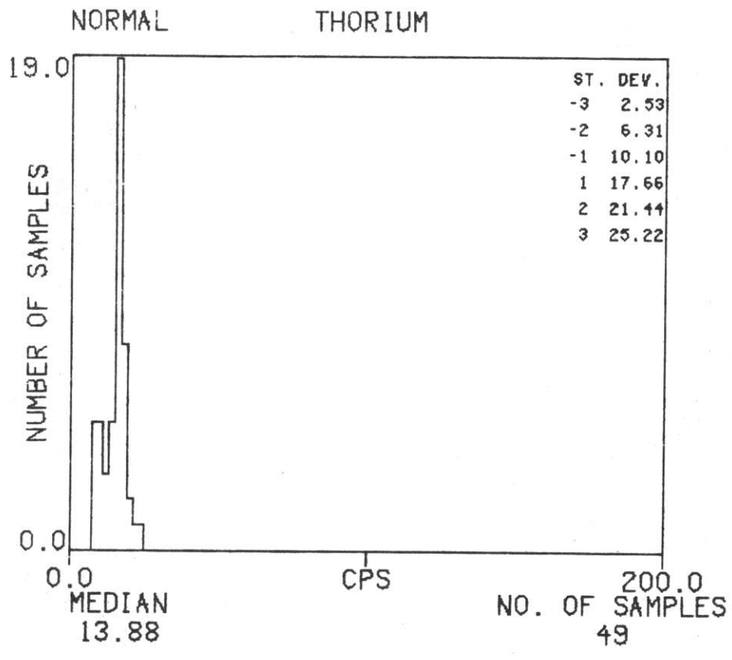


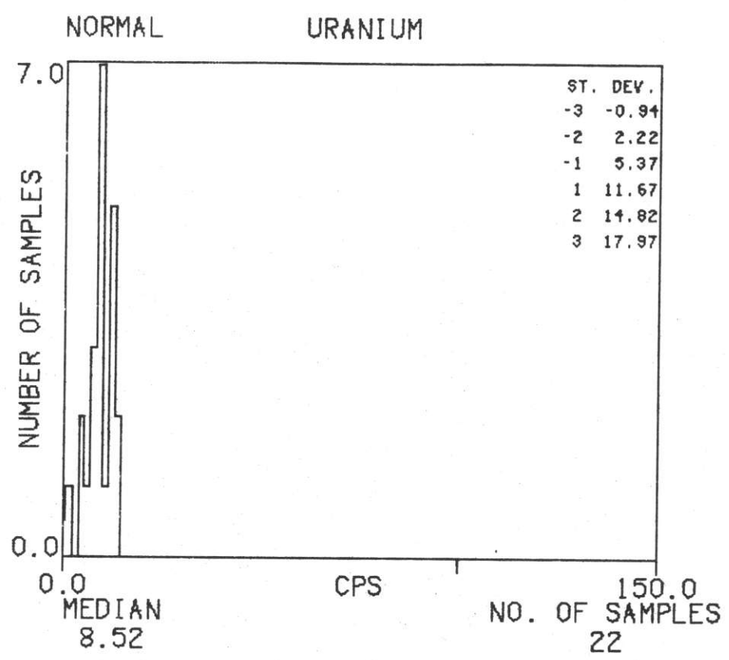


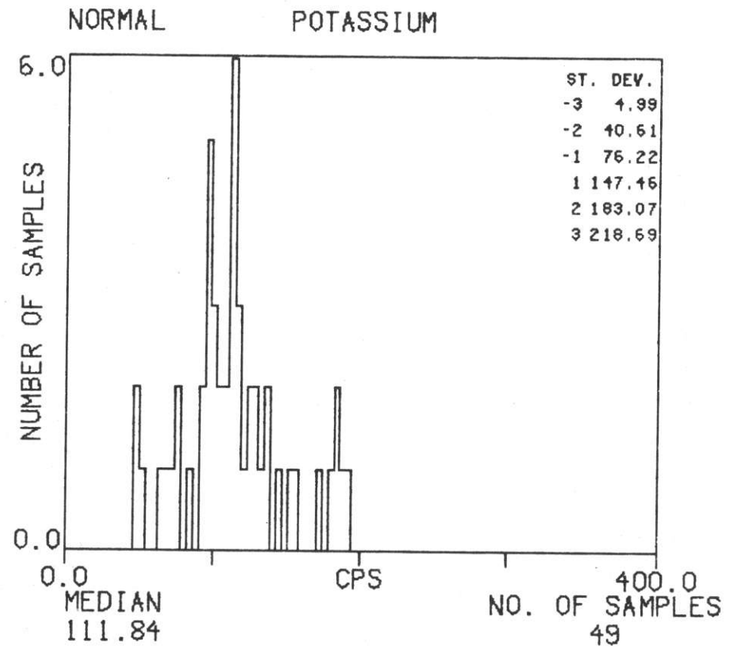


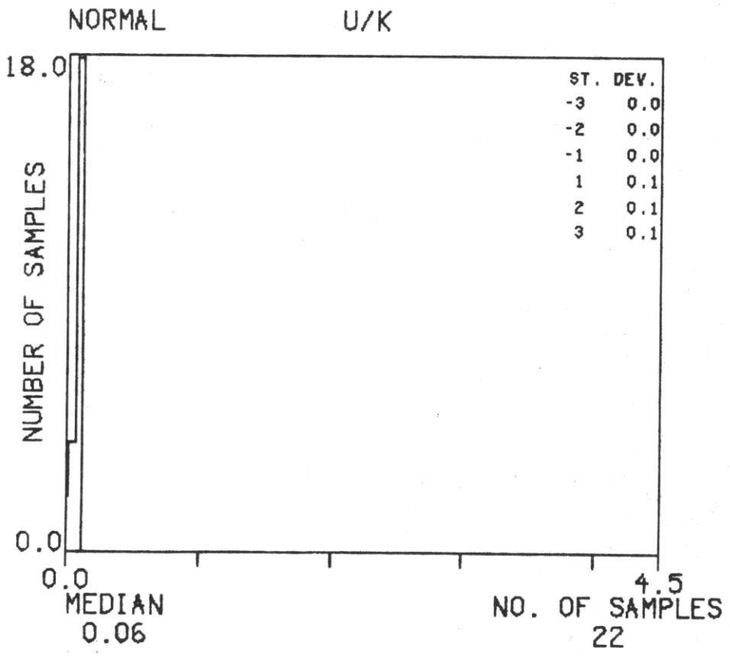
HISTOGRAMS : TG

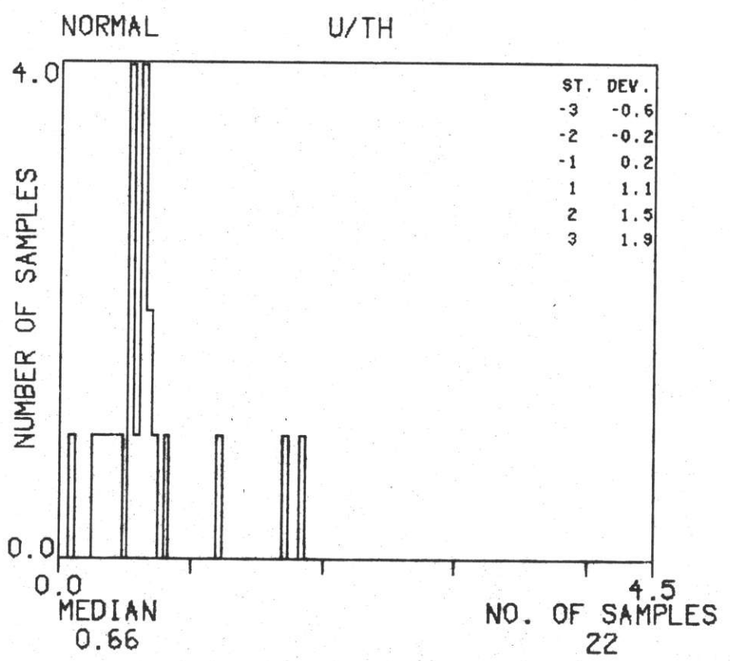
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

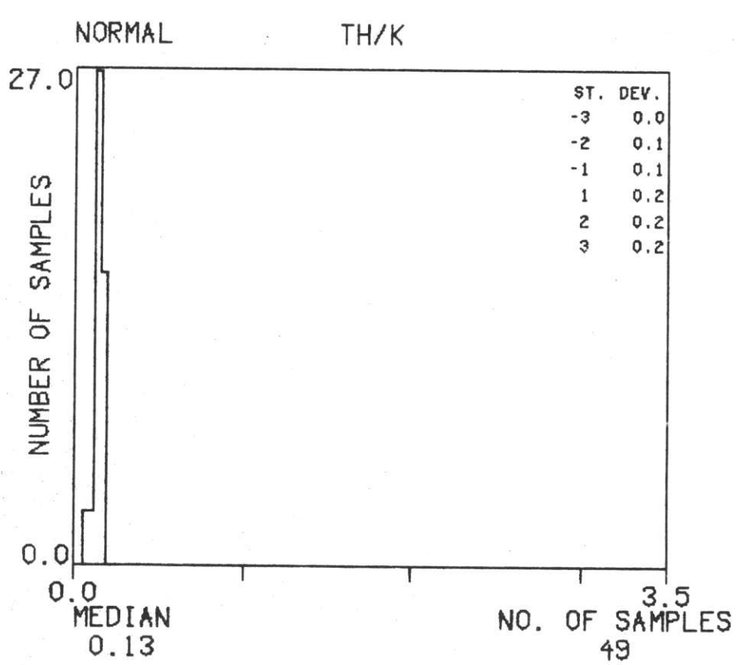






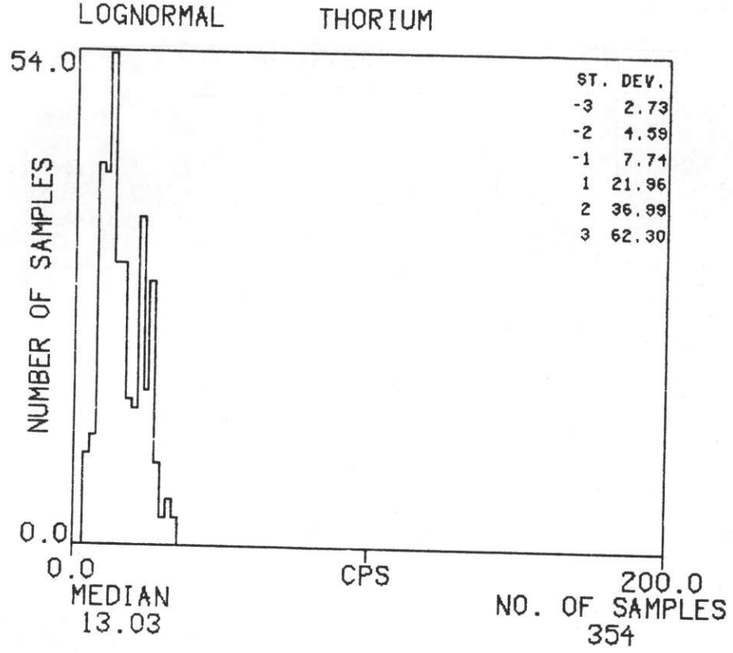


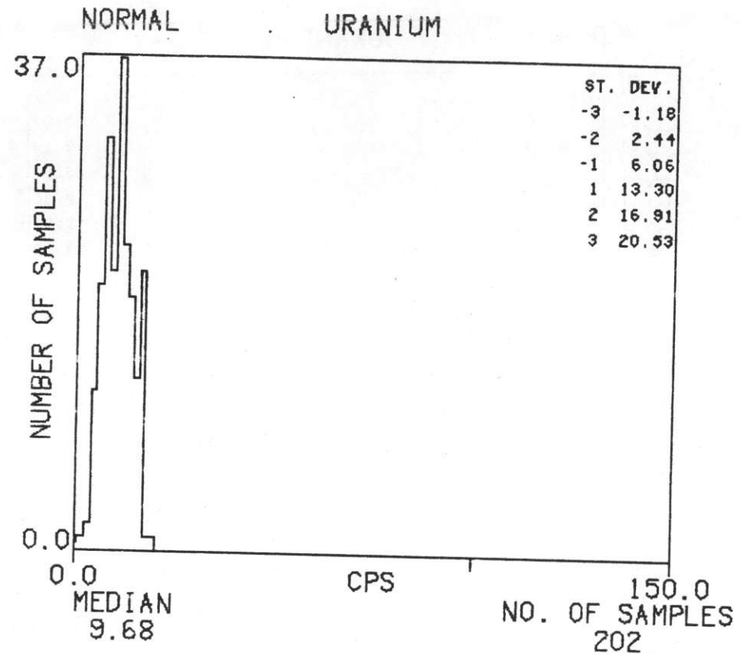


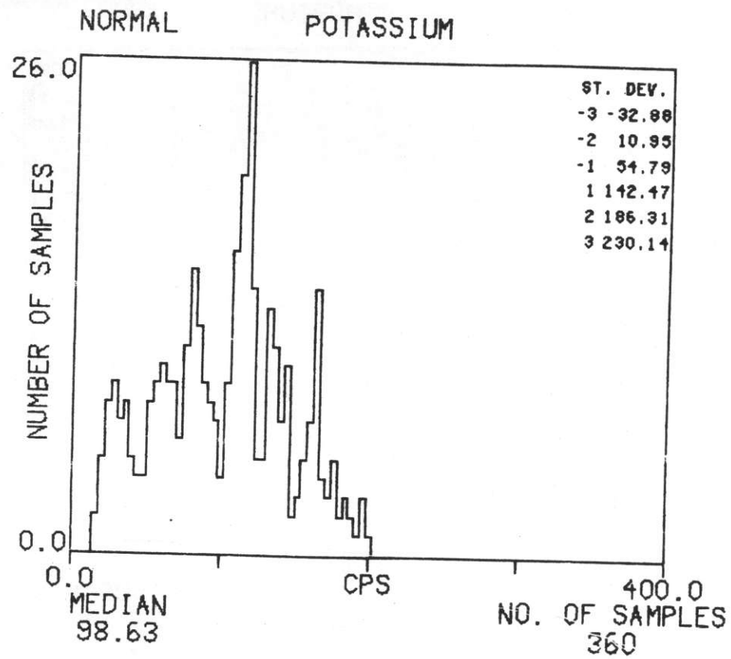


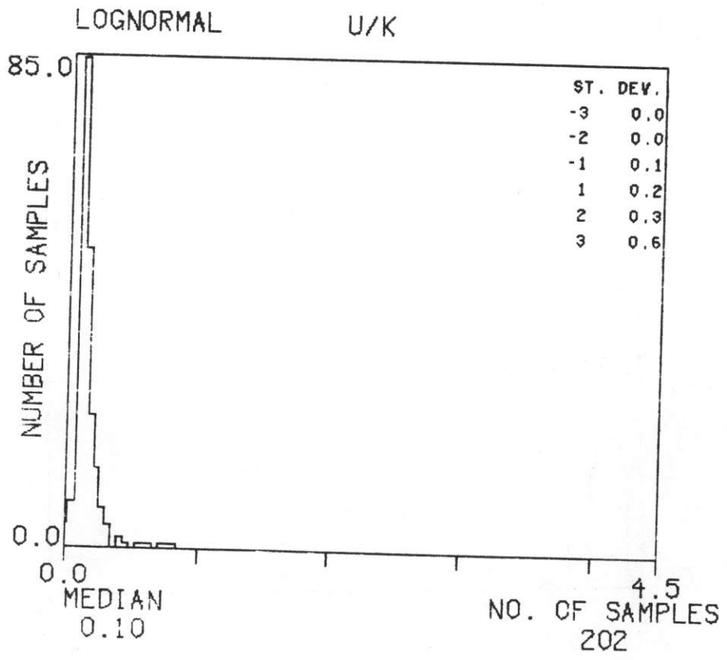
HISTOGRAMS : TKG

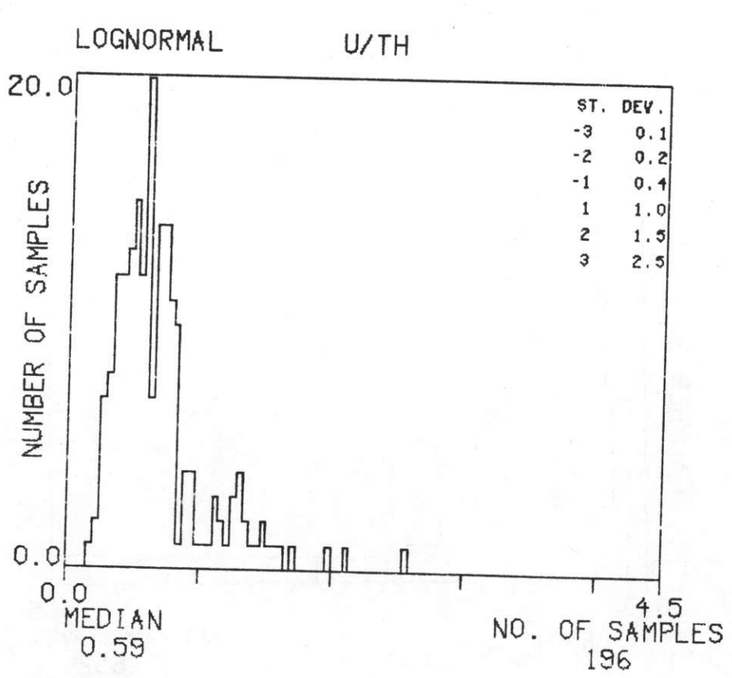
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

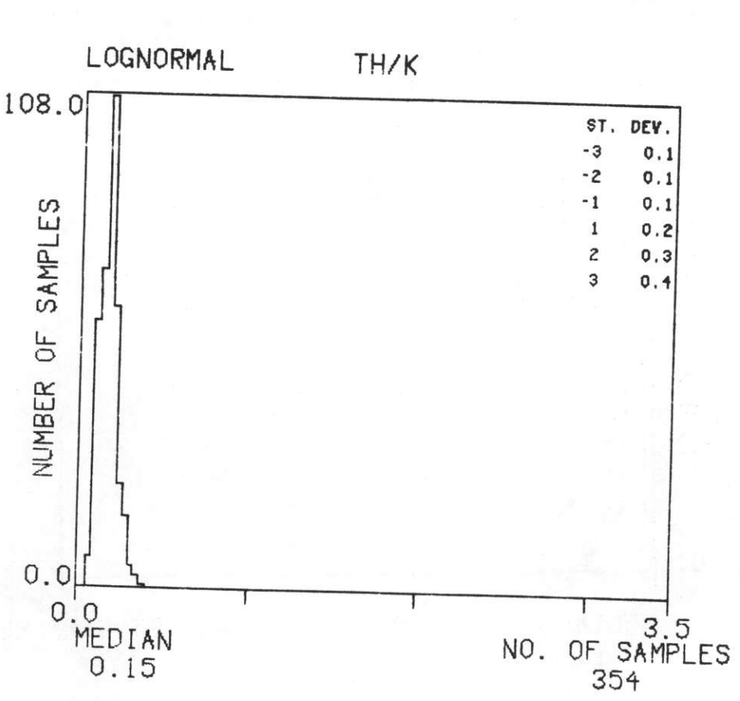






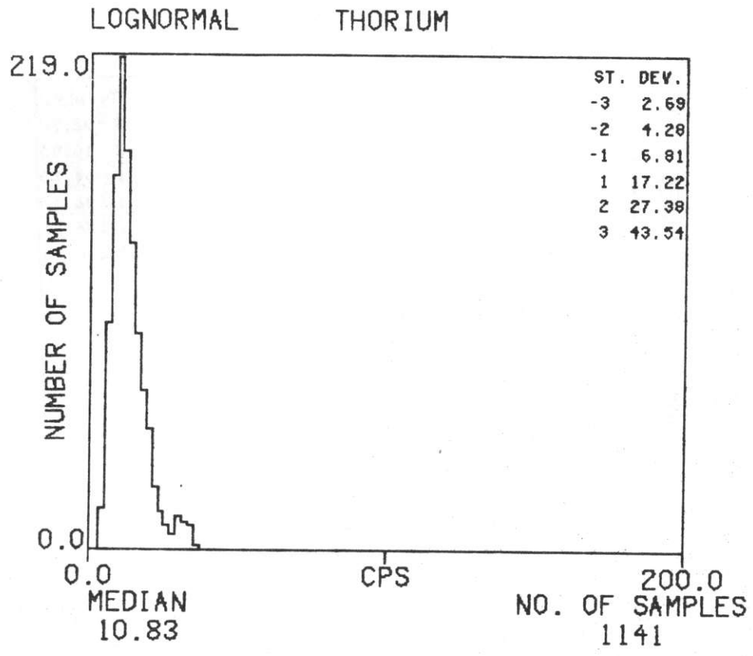


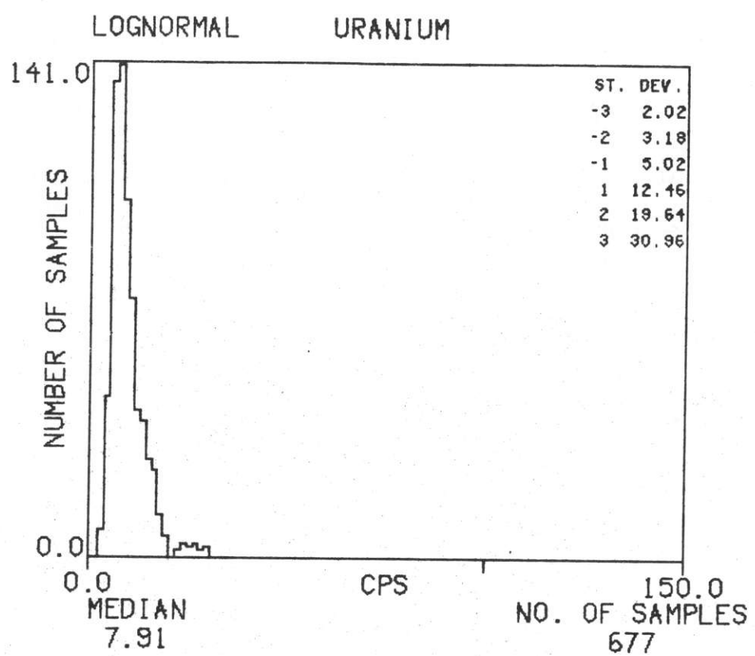


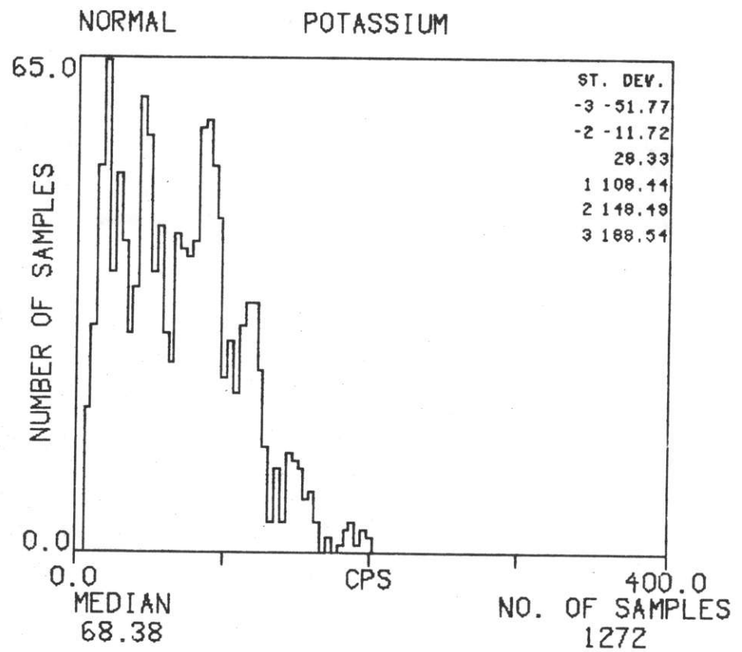


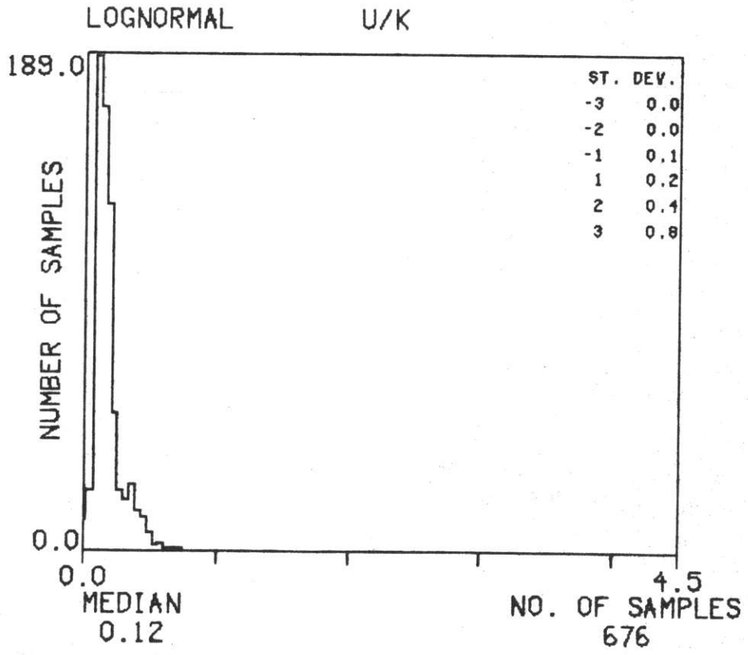
HISTOGRAMS : UMZ

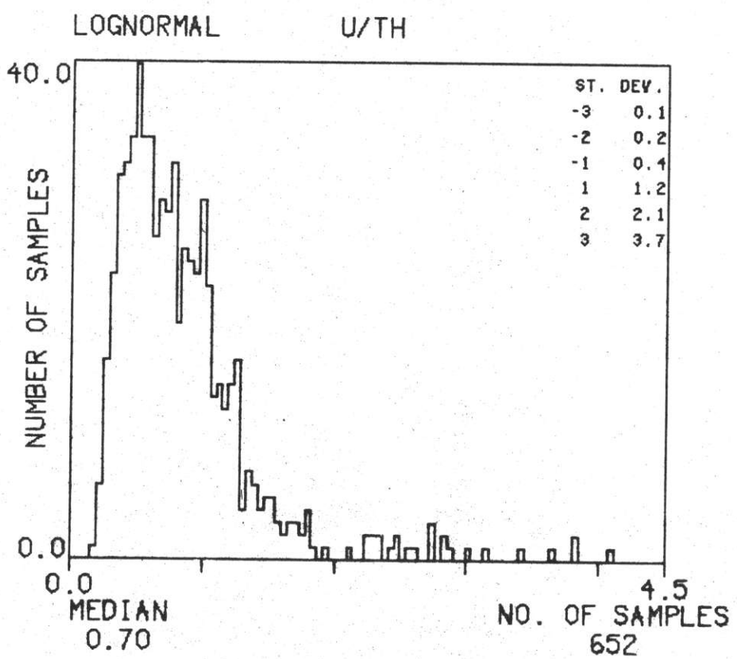
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

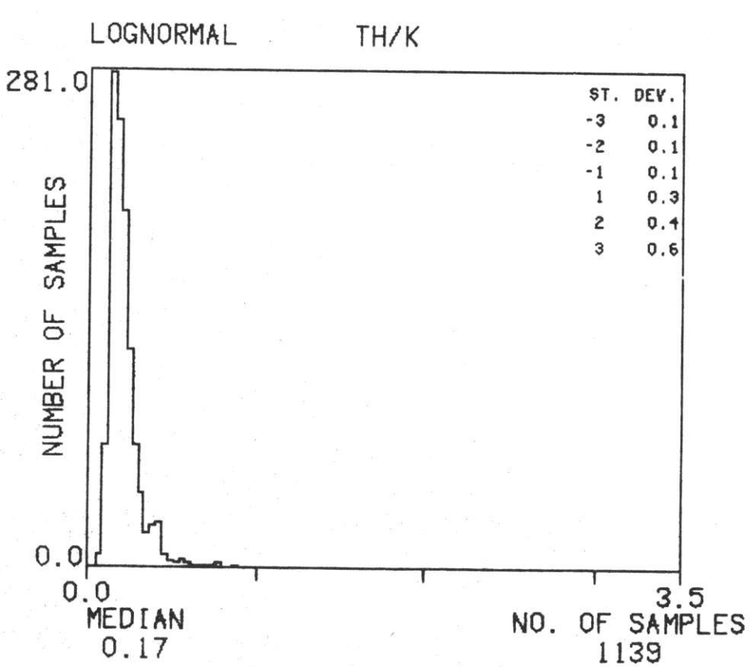






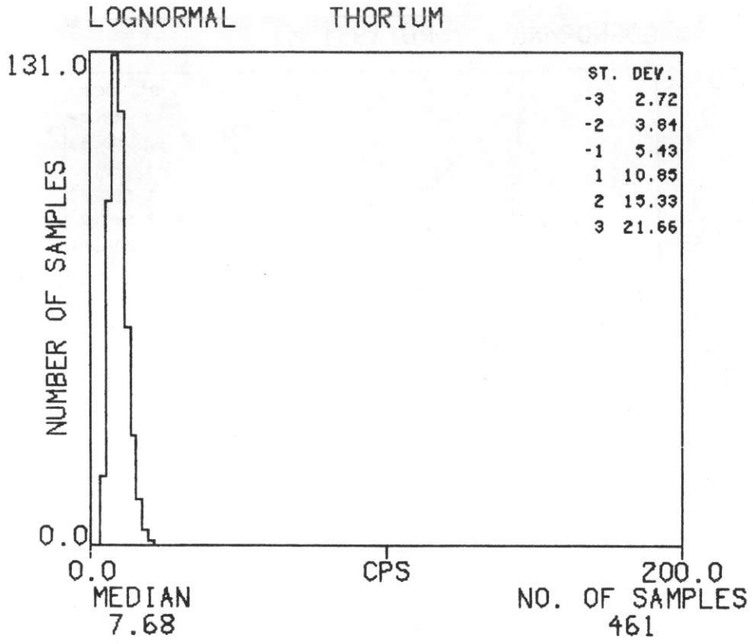


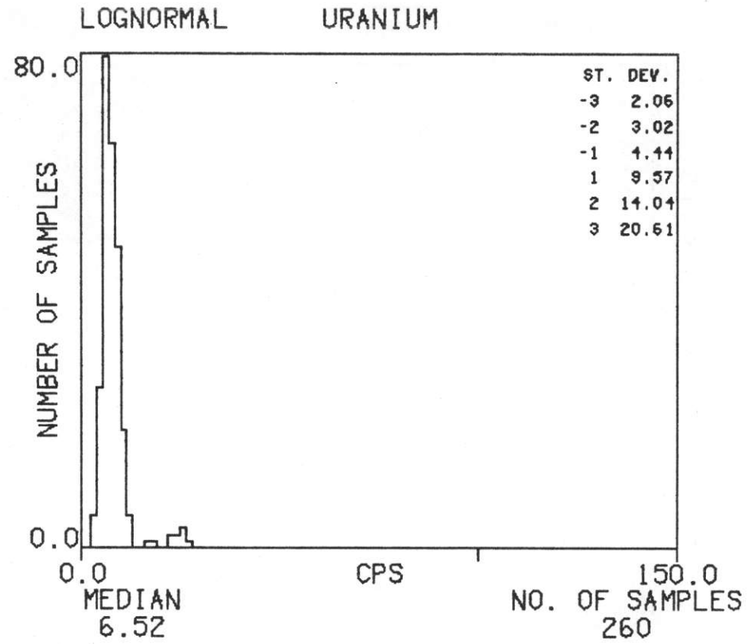


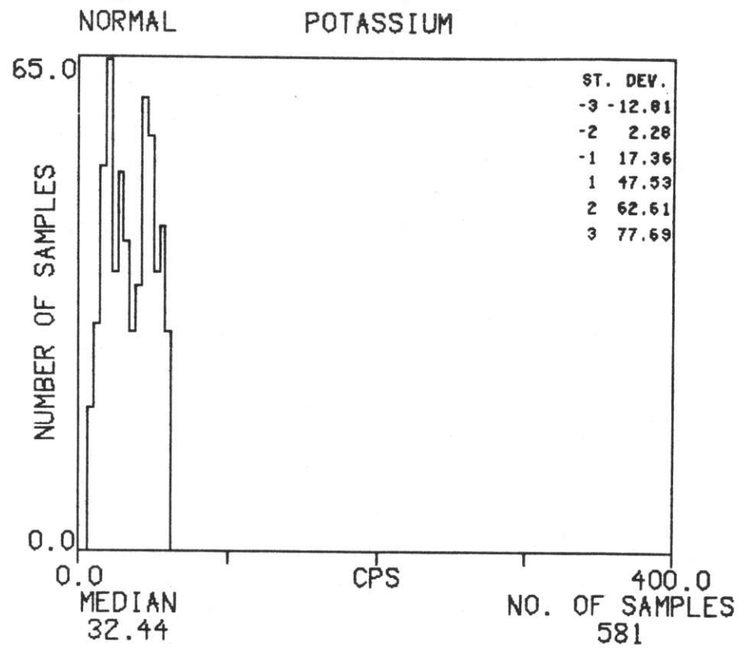


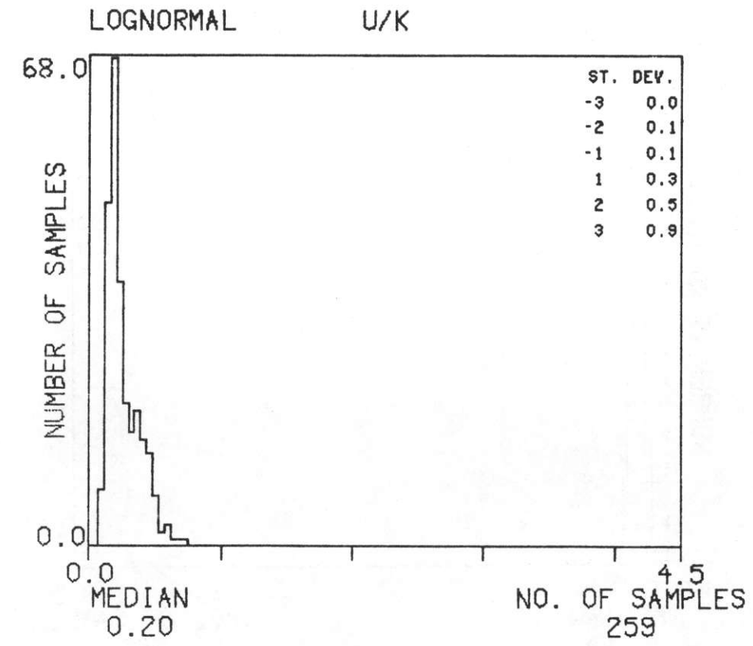
HISTOGRAMS : UMZ-1

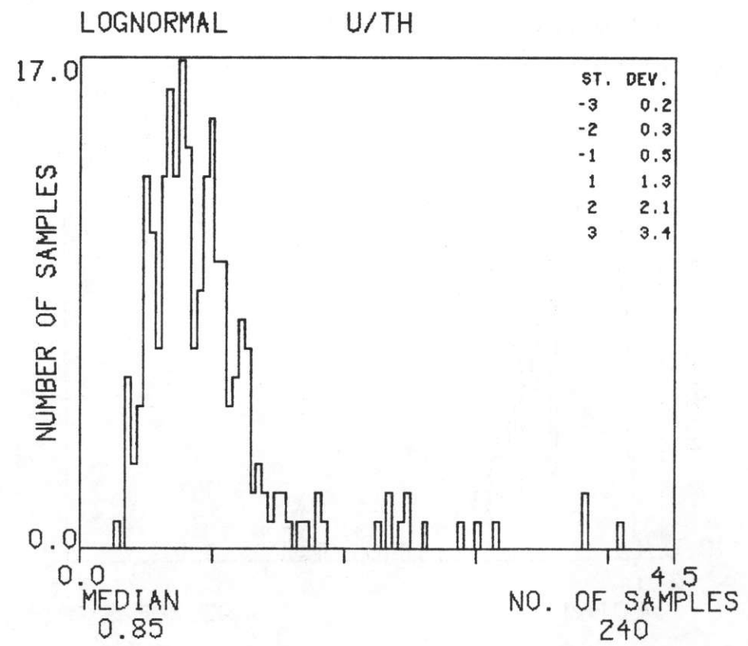
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

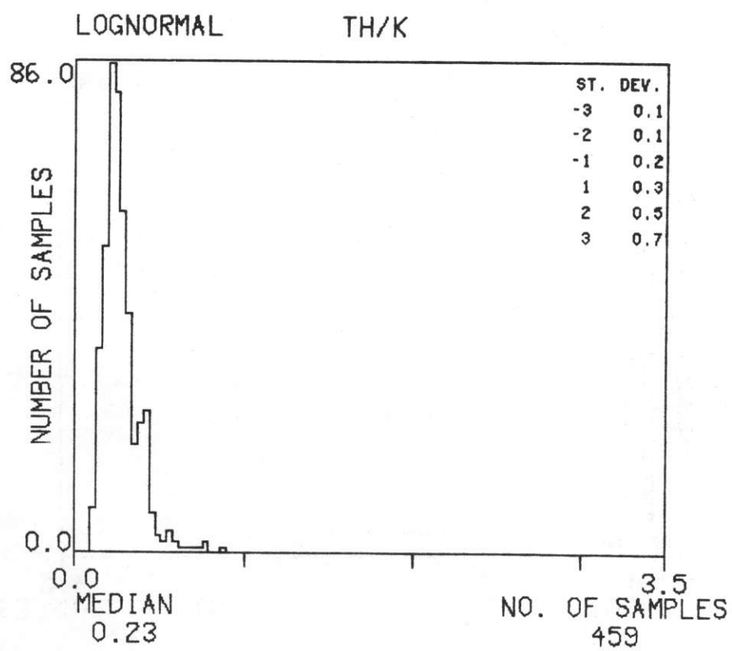








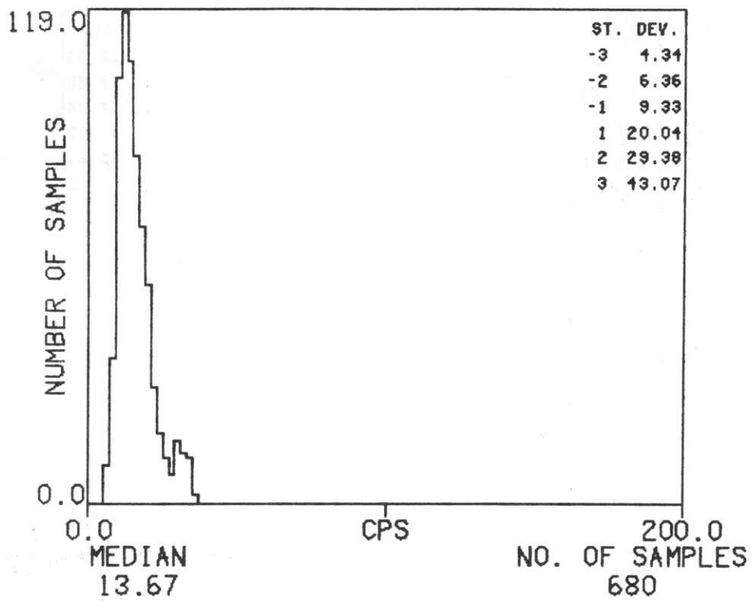




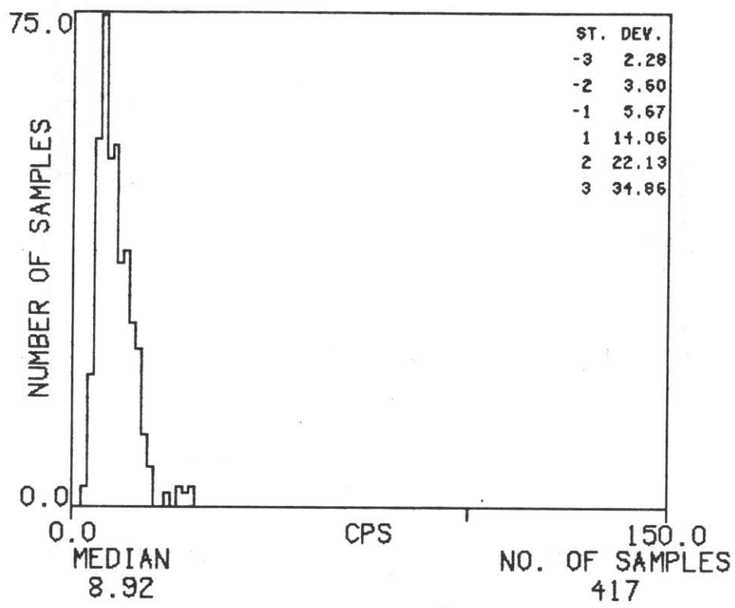
HISTOGRAMS : UMZ-2

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

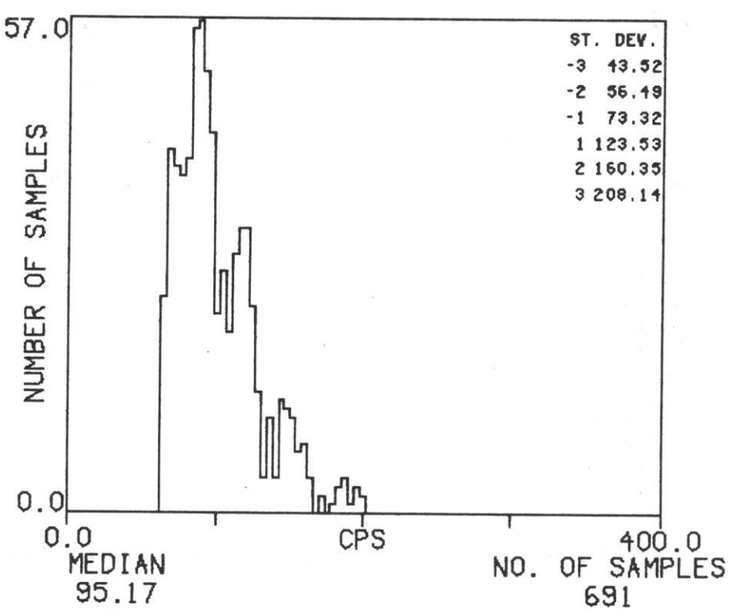
LOGNORMAL THORIUM



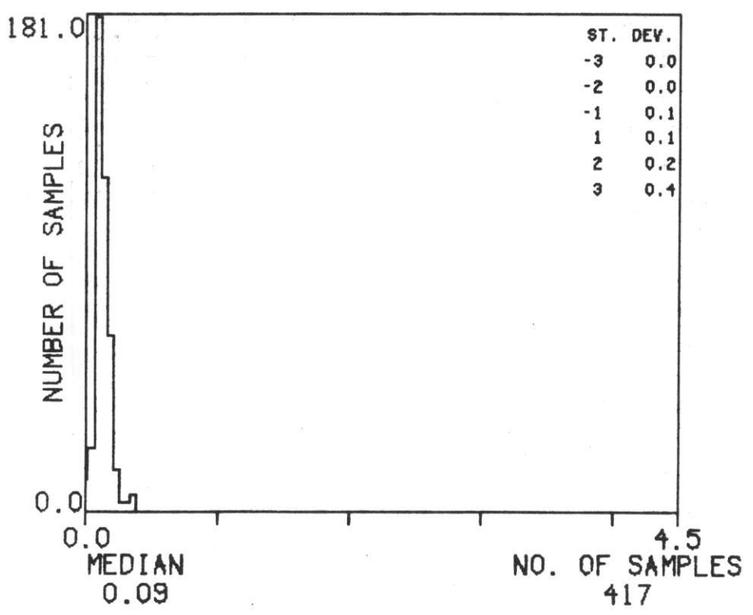
LOGNORMAL URANIUM



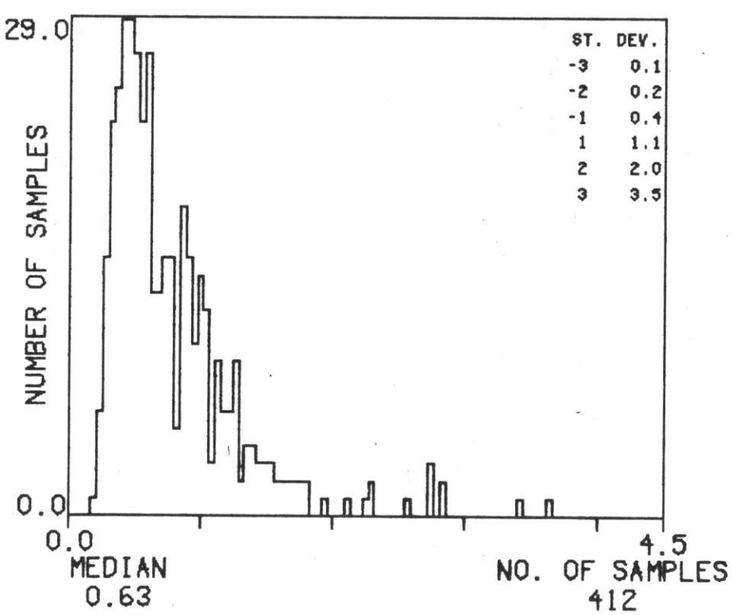
LOGNORMAL POTASSIUM



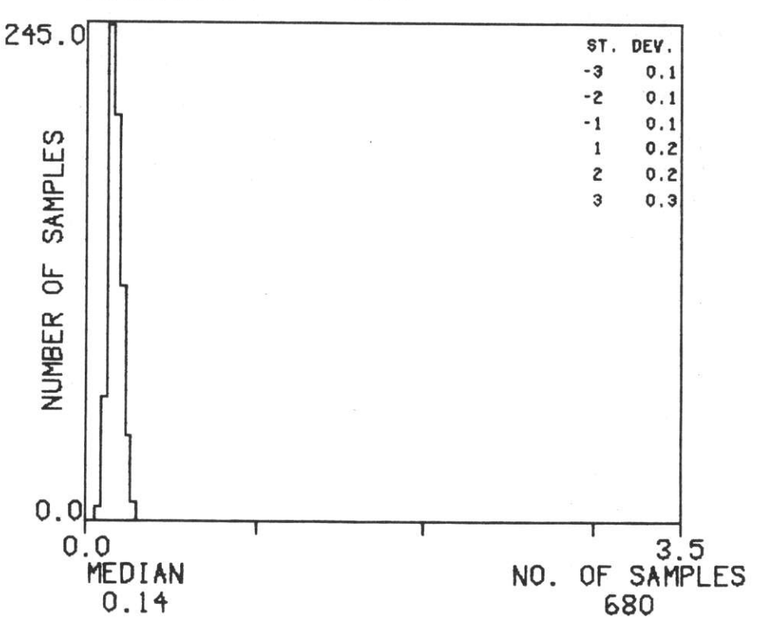
LOGNORMAL U/K



LOGNORMAL U/TH

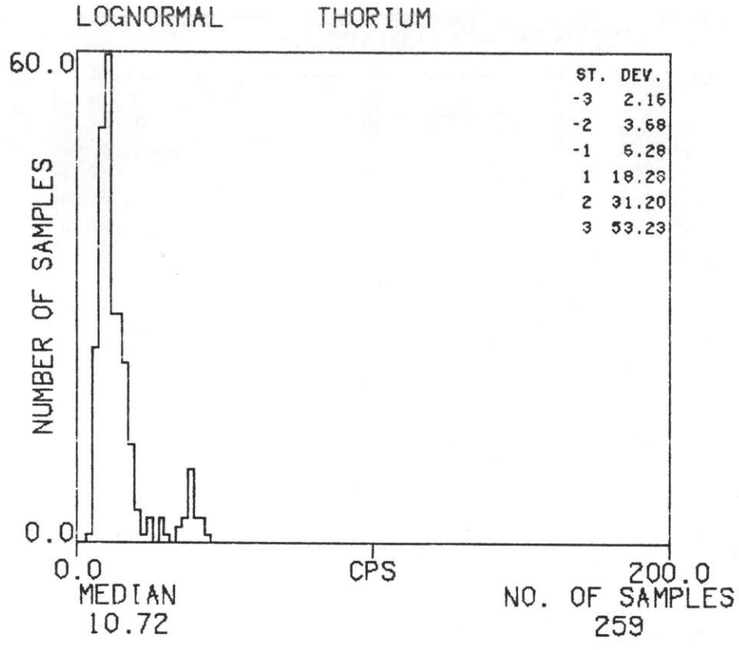


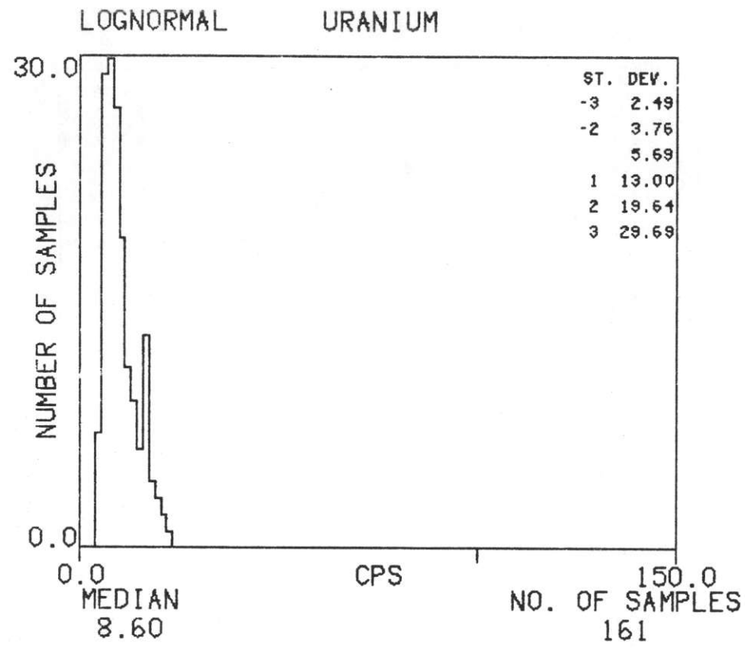
LOGNORMAL TH/K

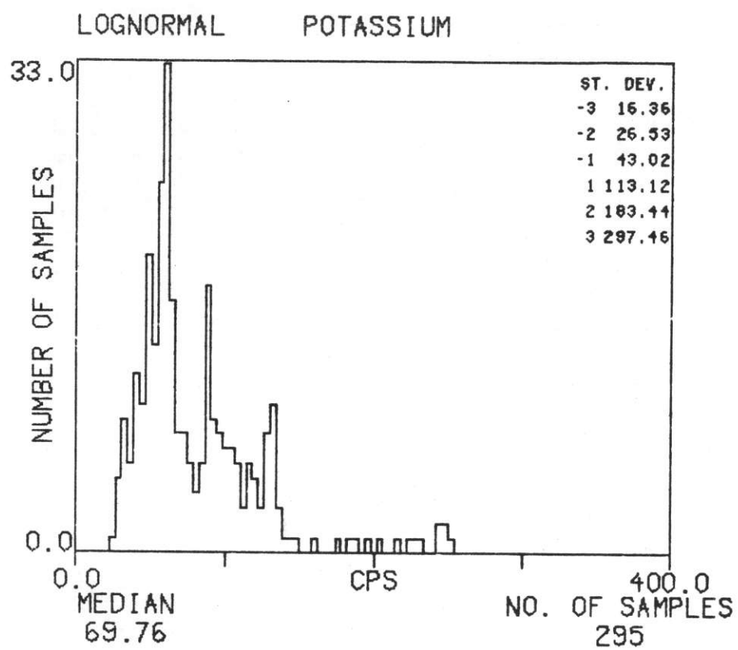


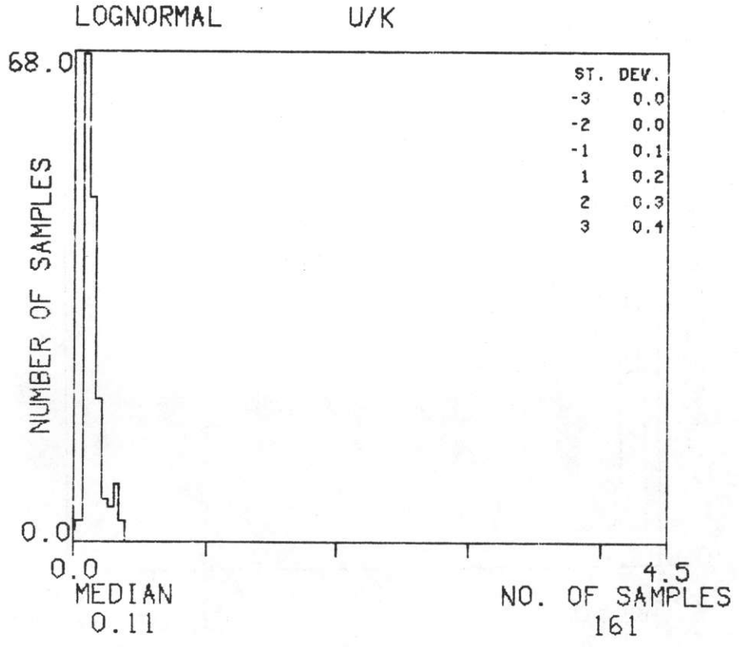
HISTOGRAMS : MZPZ

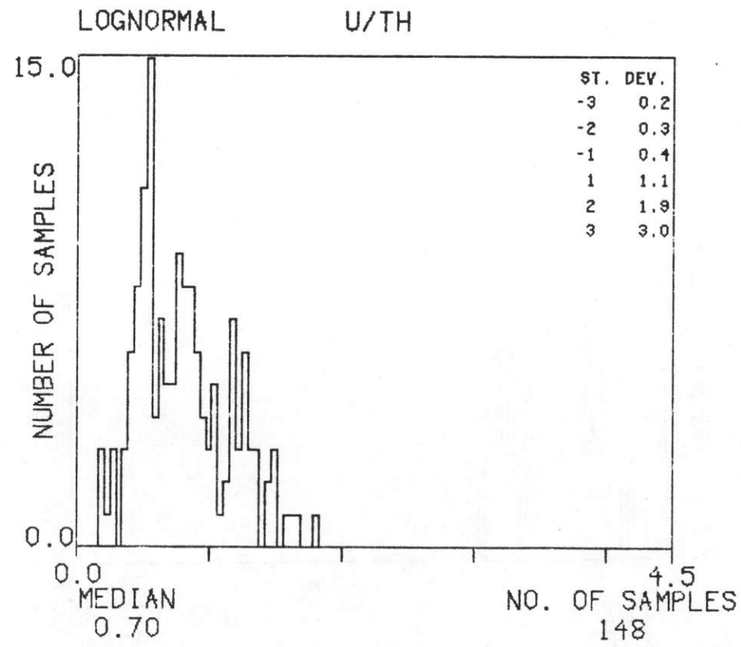
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

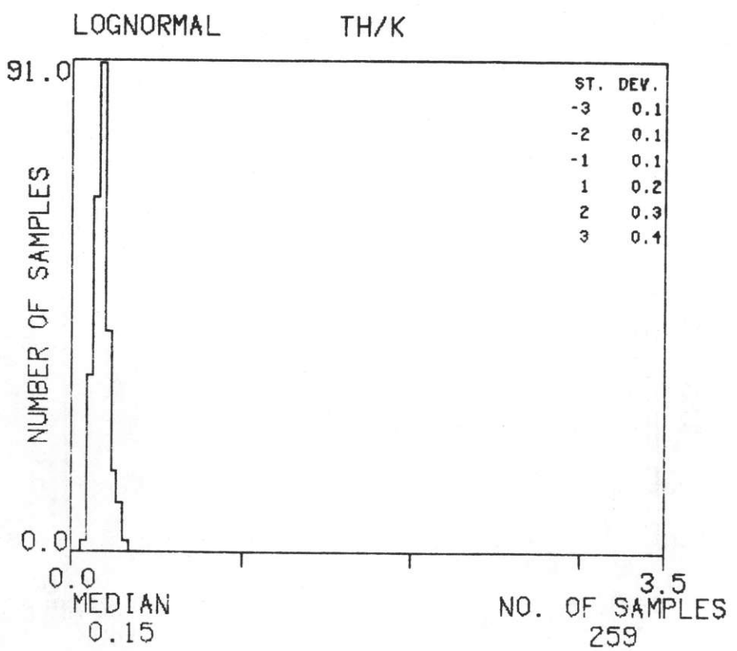






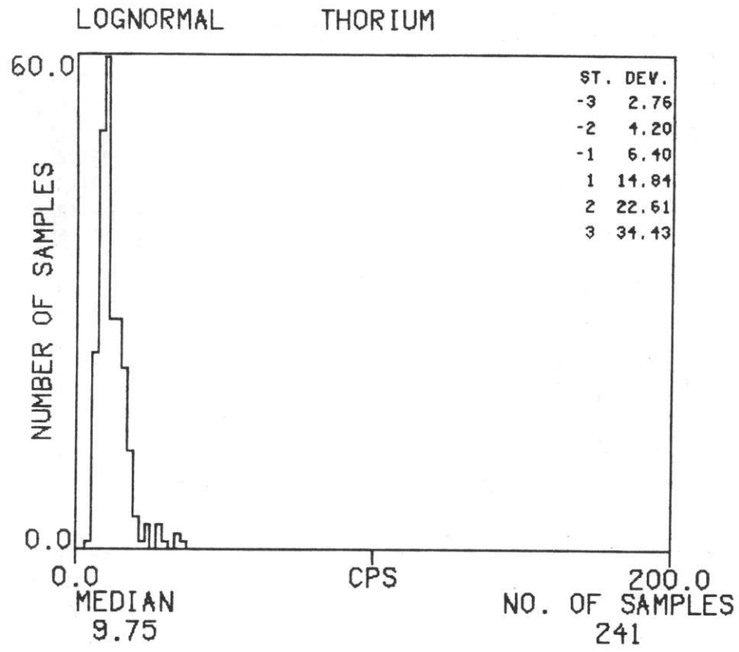


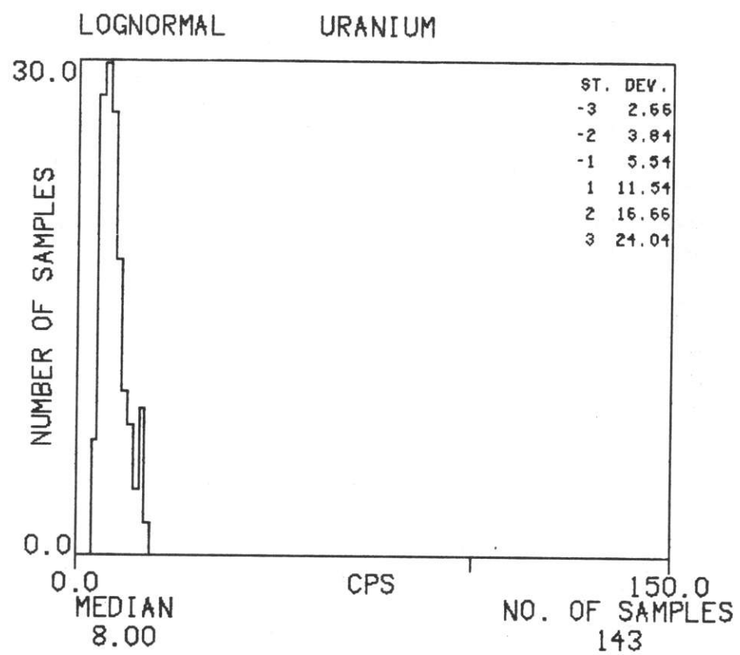


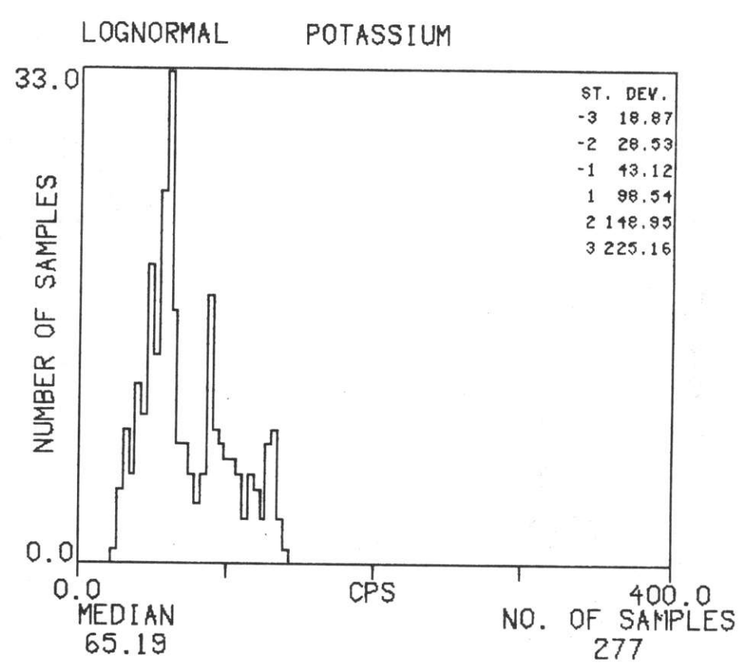


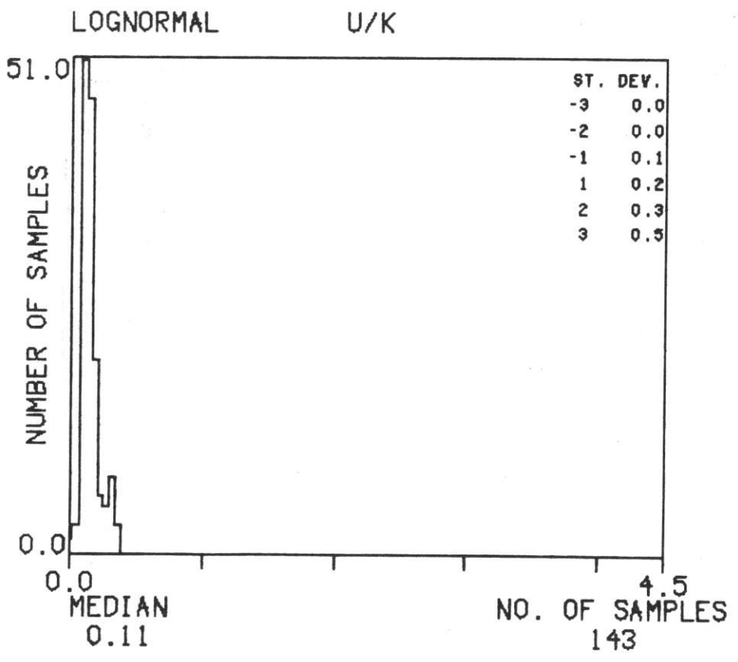
HISTOGRAMS : MZPZ-1

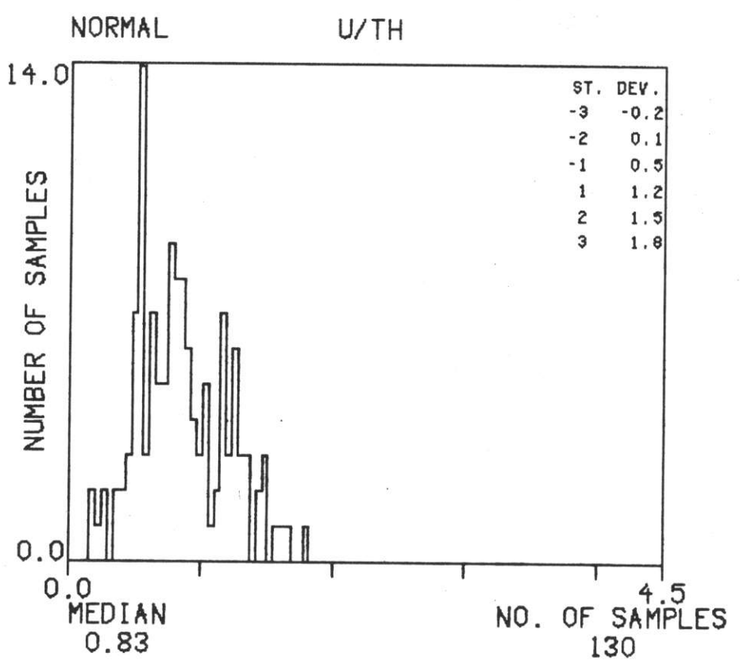
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

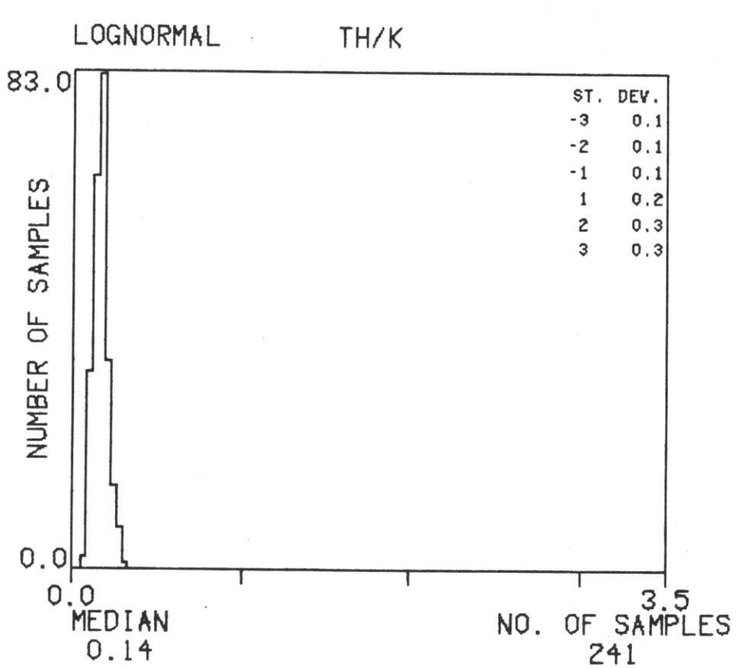








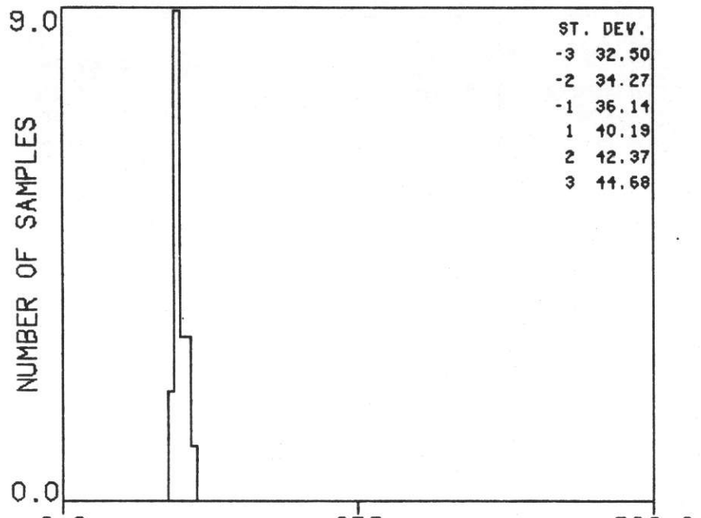




HISTOGRAMS : MZPZ-2

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

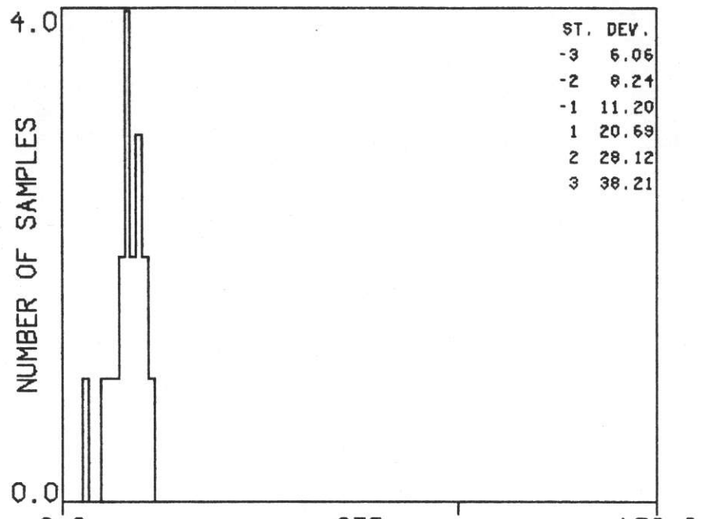
LOGNORMAL THORIUM



MEDIAN 38.11

NO. OF SAMPLES 18

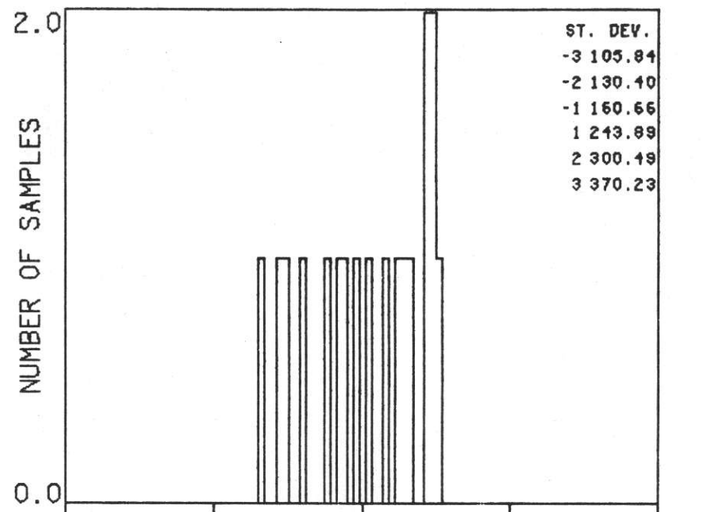
LOGNORMAL URANIUM



MEDIAN 15.22

NO. OF SAMPLES 18

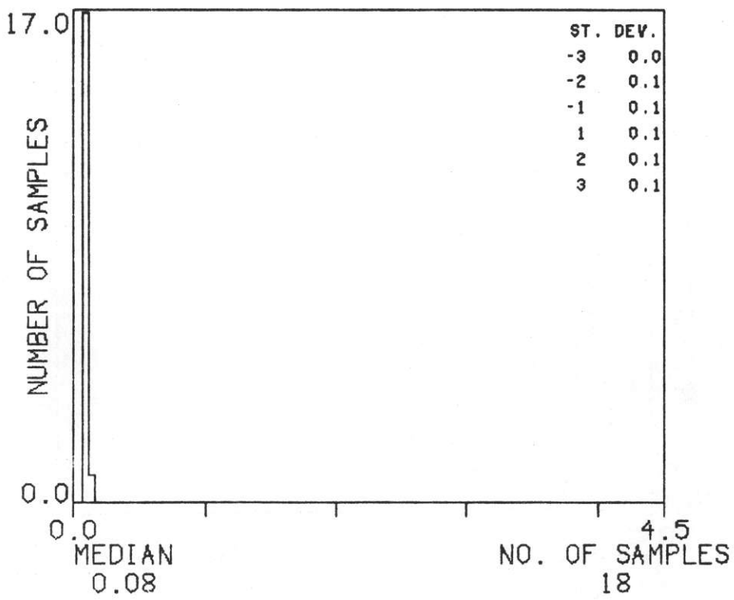
LOGNORMAL POTASSIUM



MEDIAN 197.95

NO. OF SAMPLES 18

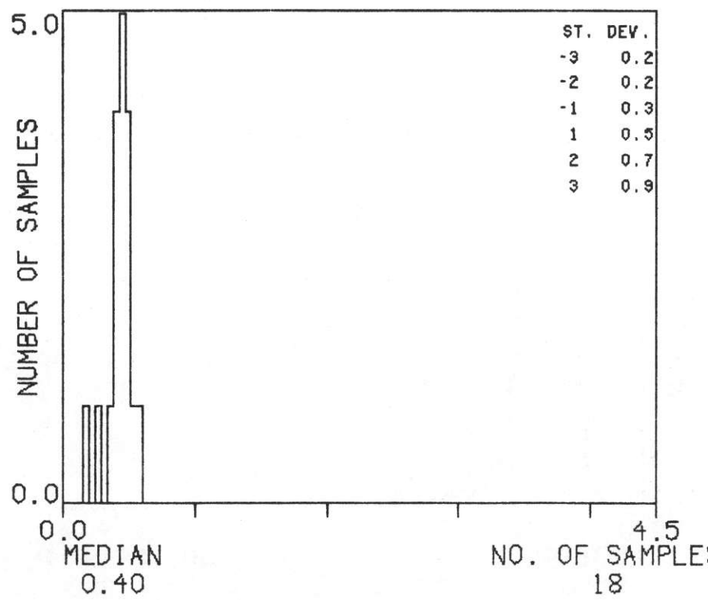
LOGNORMAL U/K



MEDIAN 0.08

NO. OF SAMPLES 18

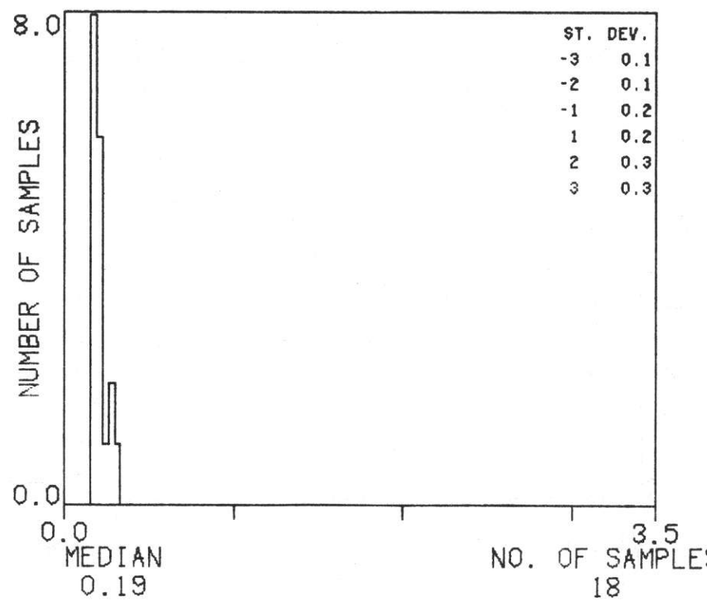
LOGNORMAL U/TH



MEDIAN 0.40

NO. OF SAMPLES 18

LOGNORMAL TH/K

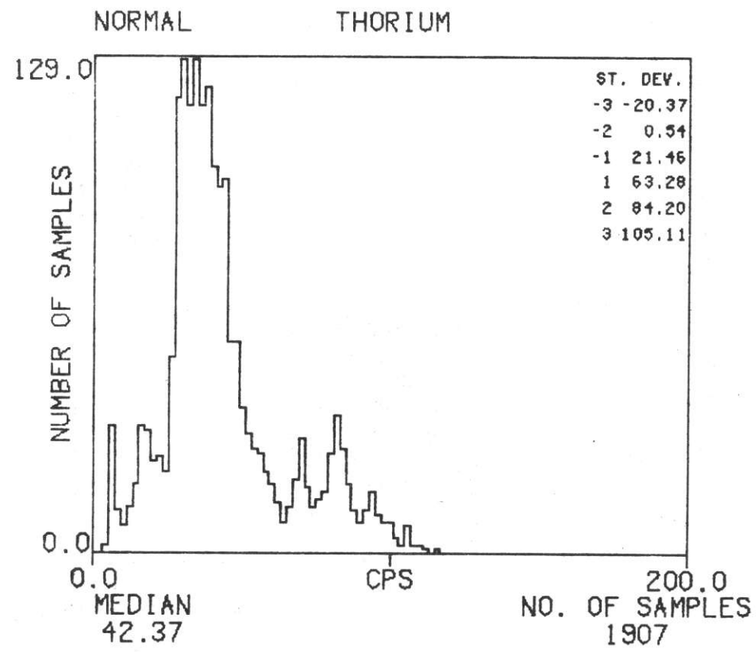


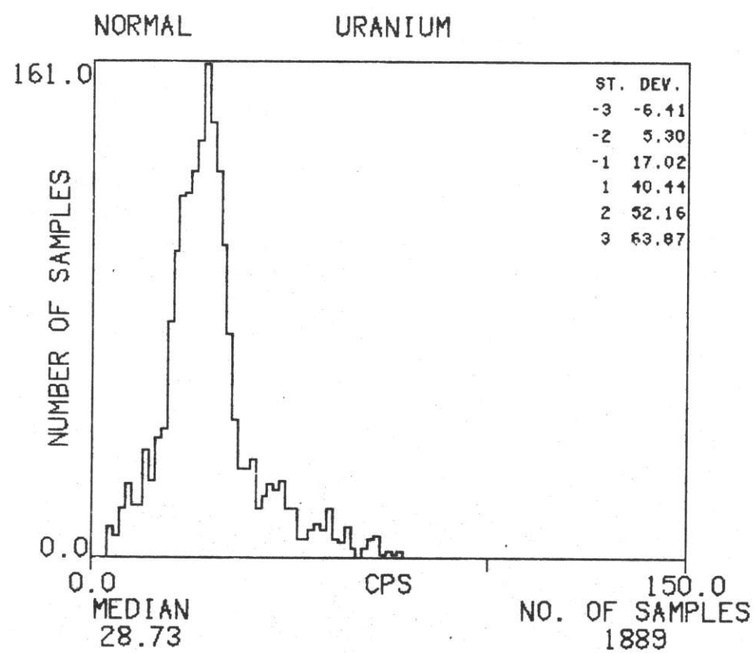
MEDIAN 0.19

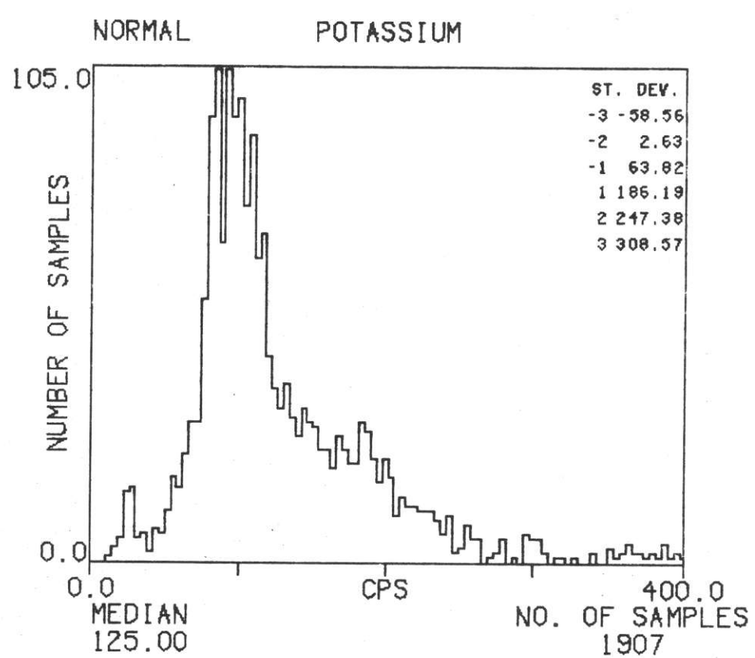
NO. OF SAMPLES 18

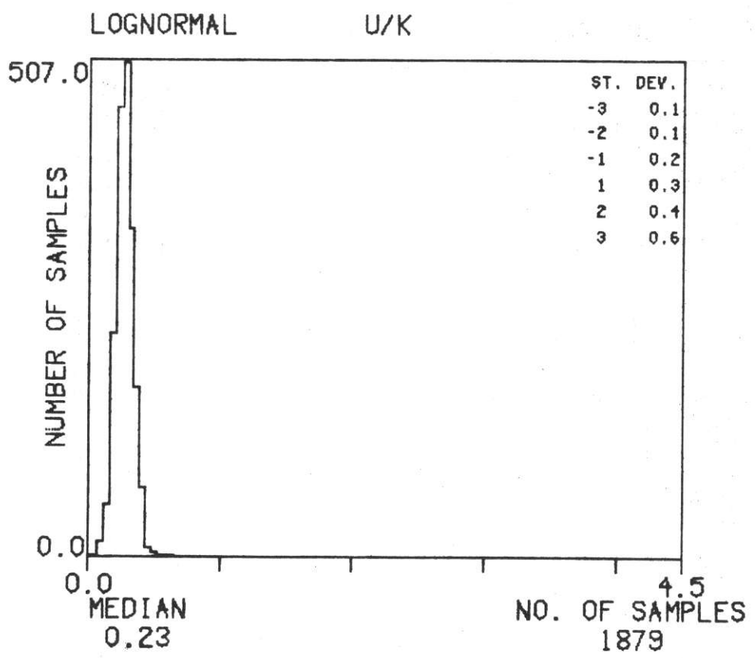
HISTOGRAMS : MZG

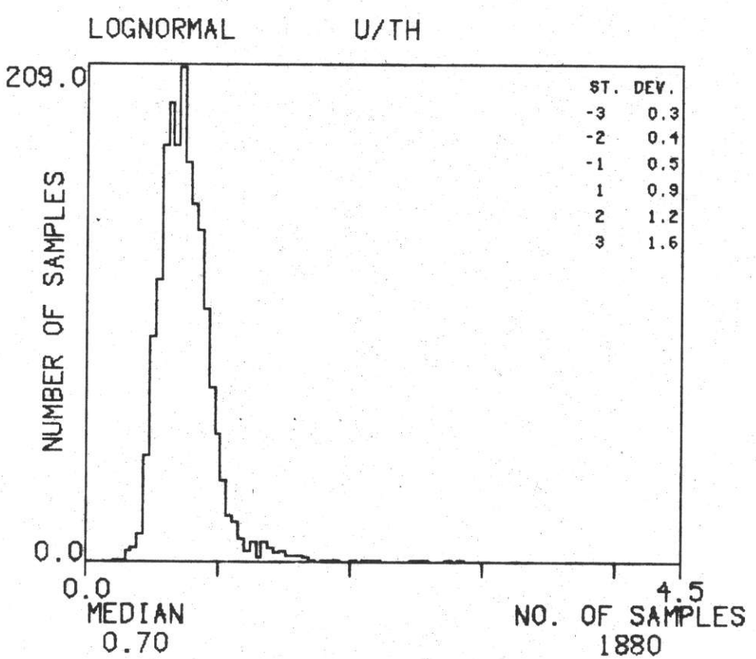
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

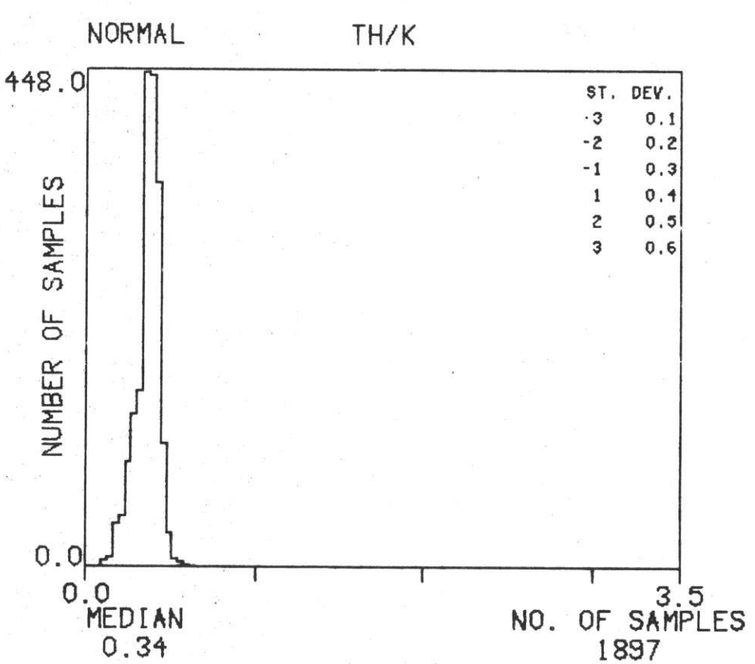






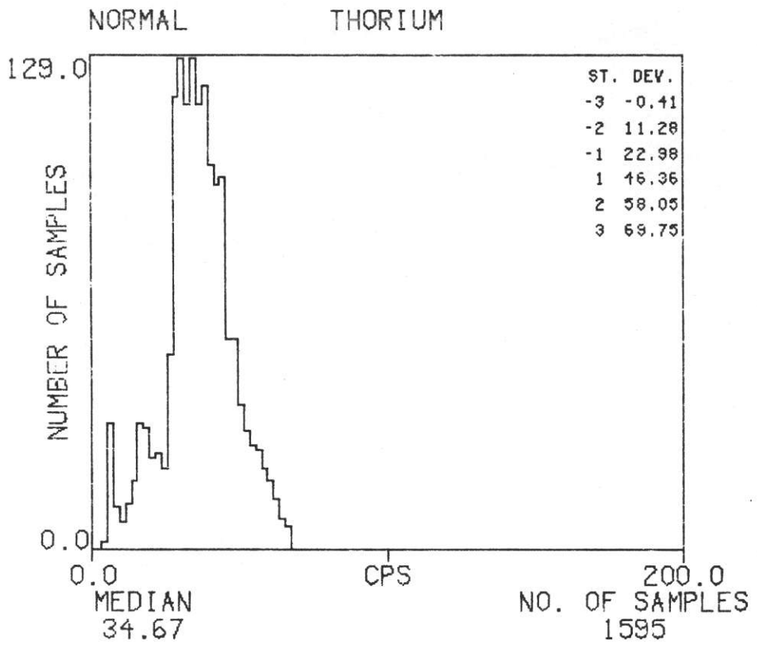


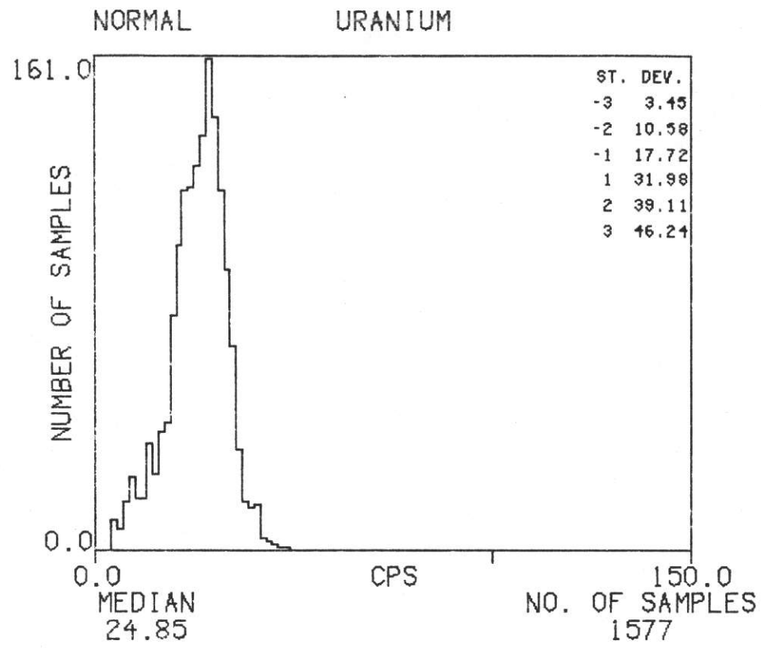


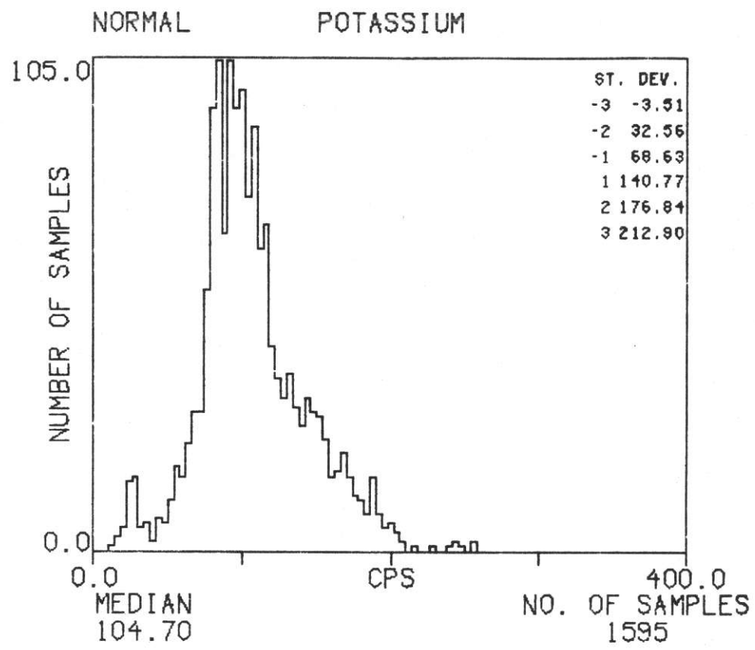


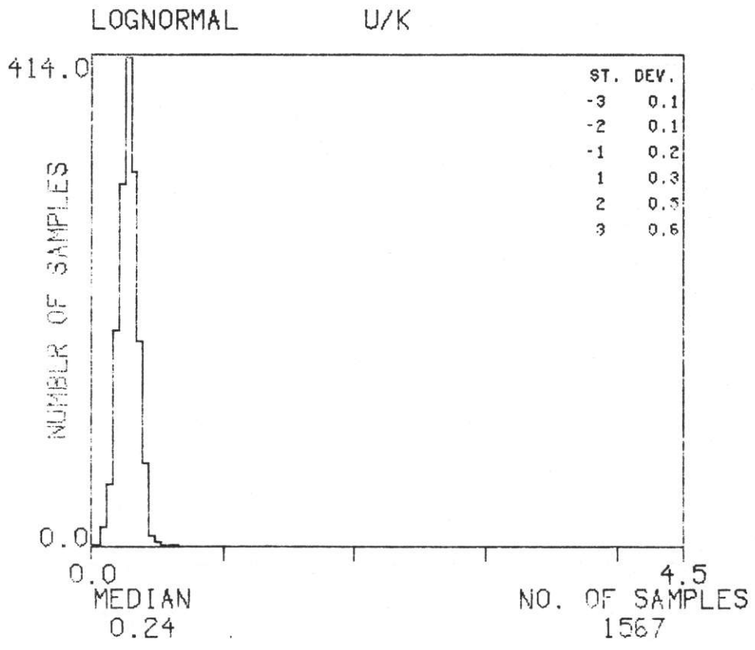
HISTOGRAMS : MZG-1

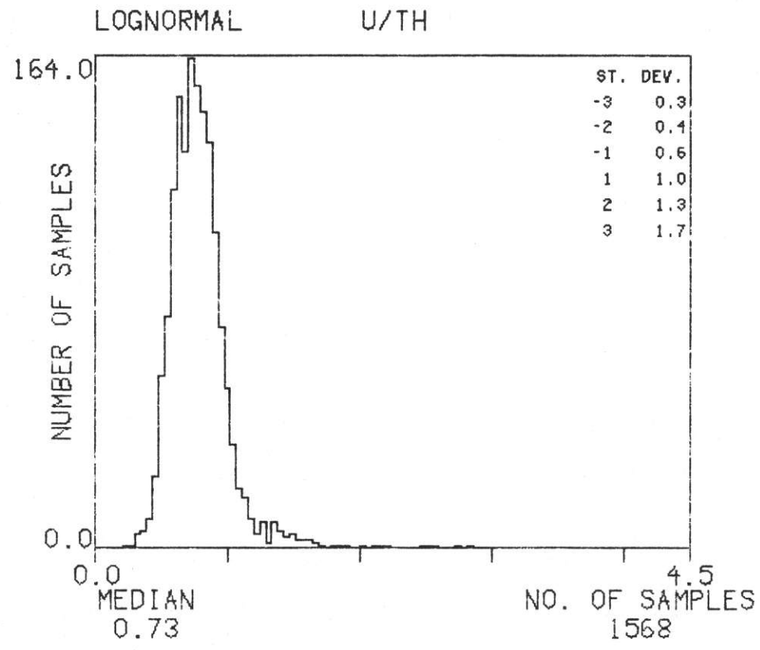
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

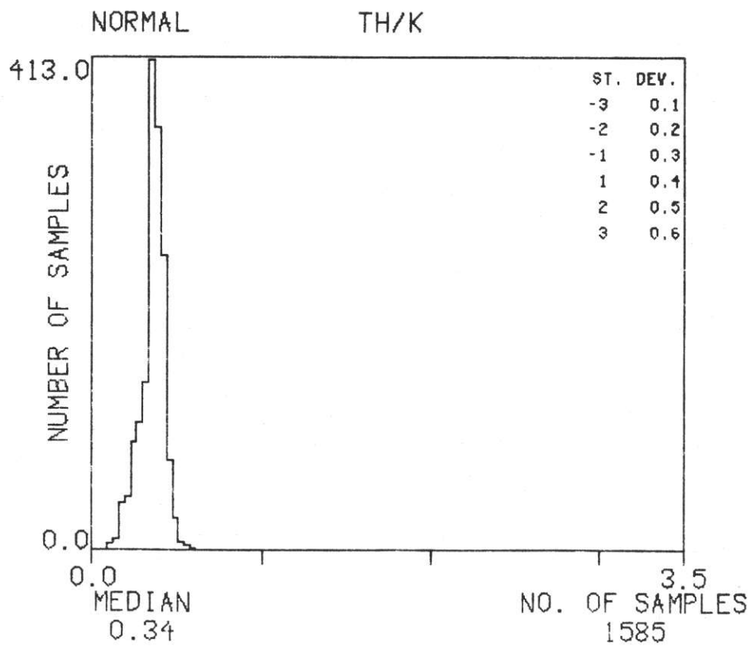












HISTOGRAMS : MZG-2

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

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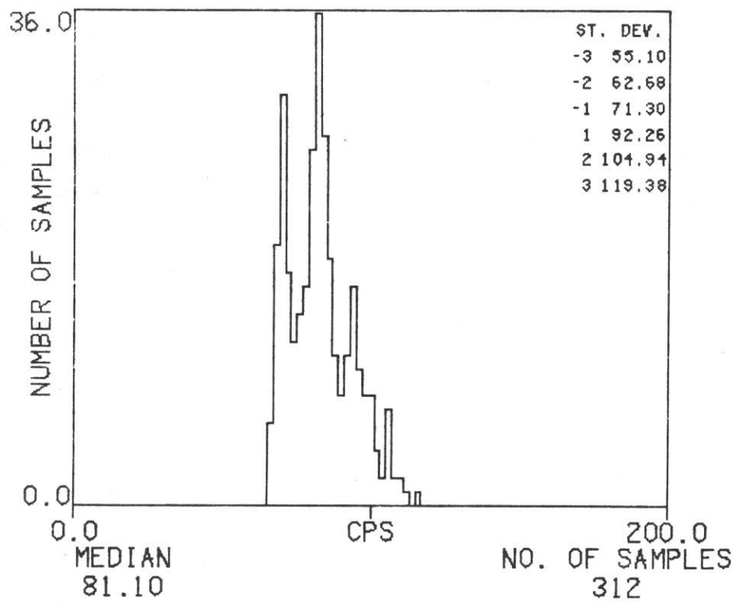
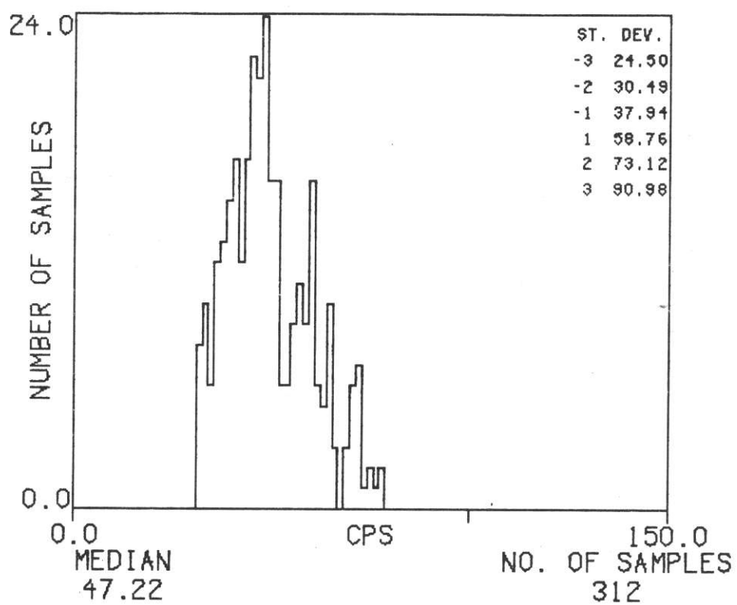
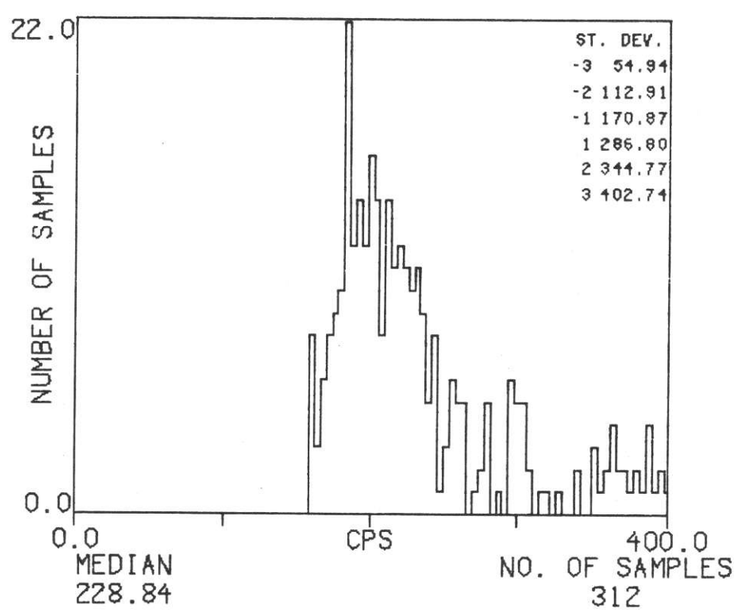


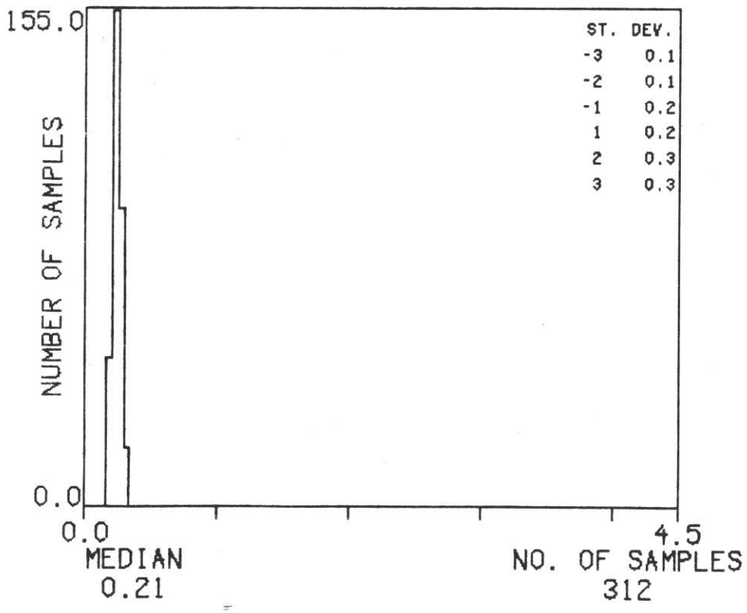
LOGNORMAL URANIUM



NORMAL POTASSIUM



NORMAL U/K



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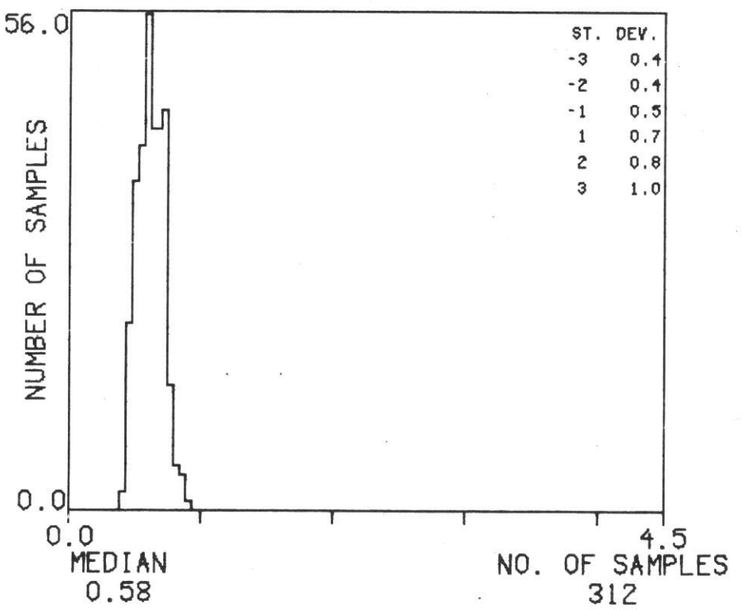

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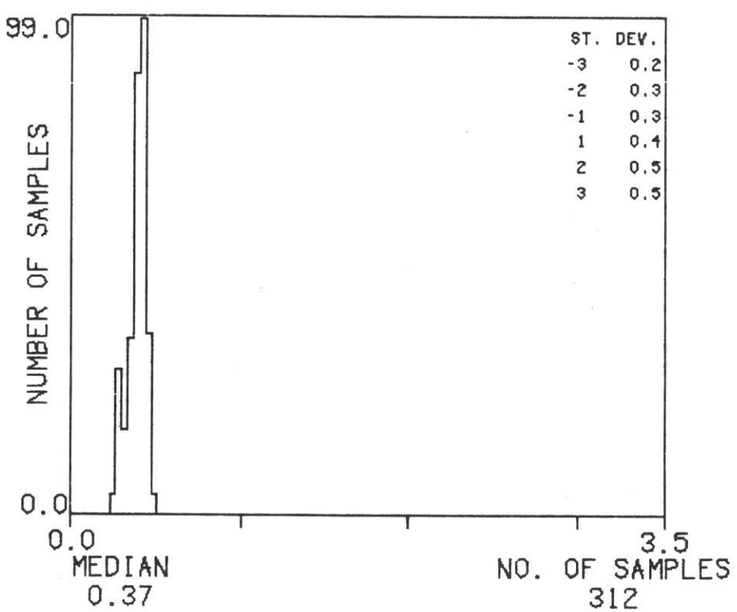
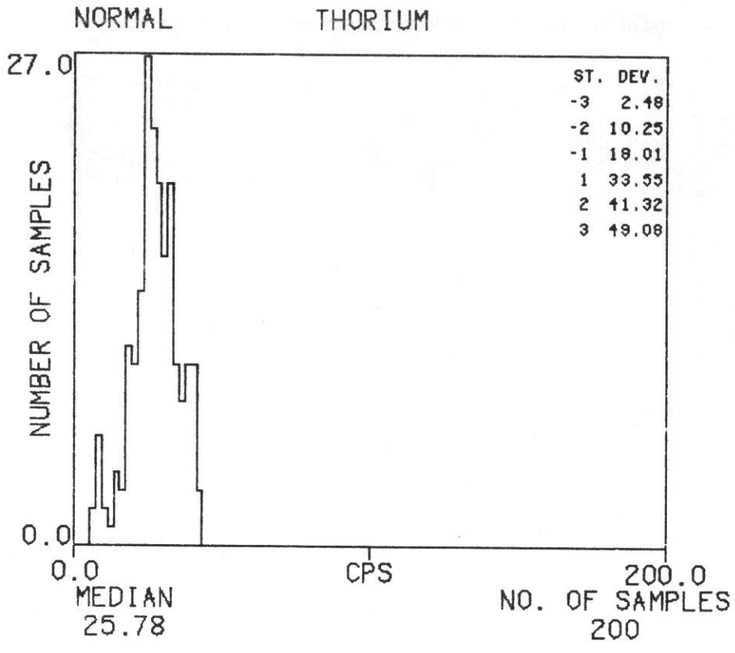
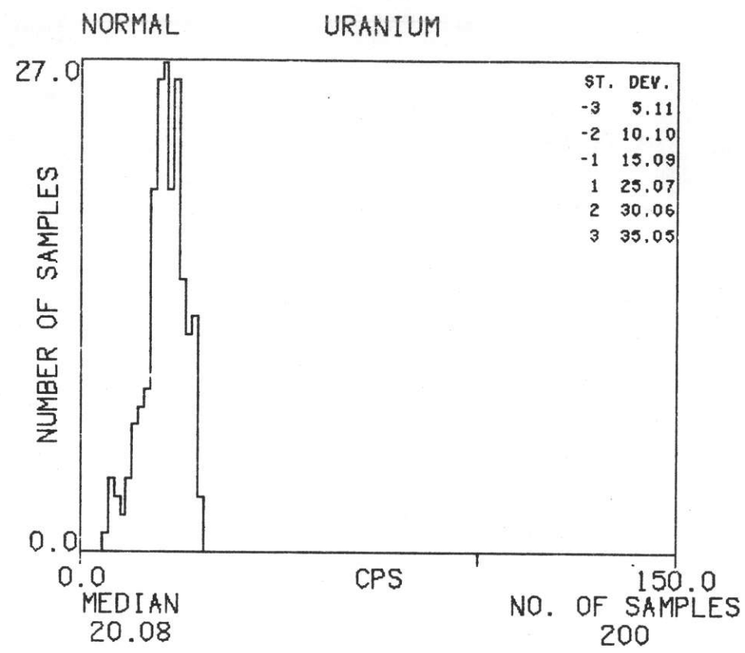
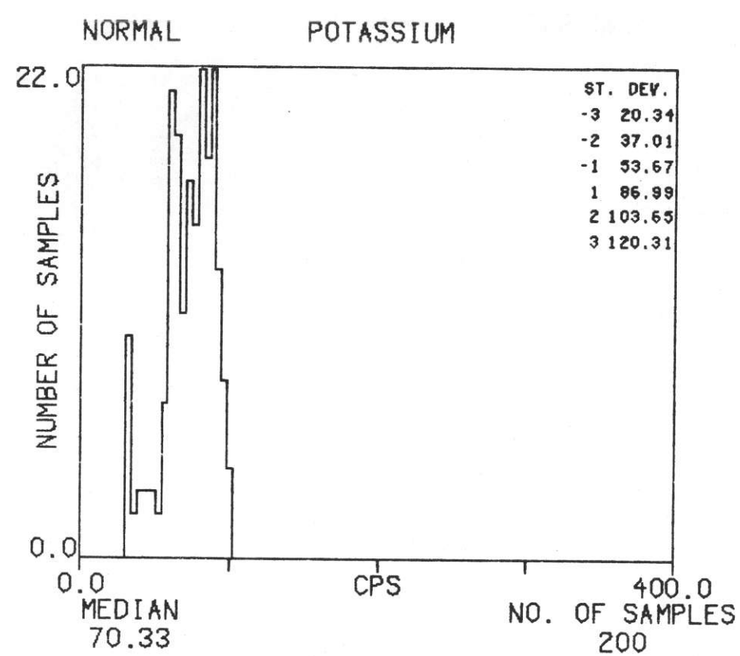


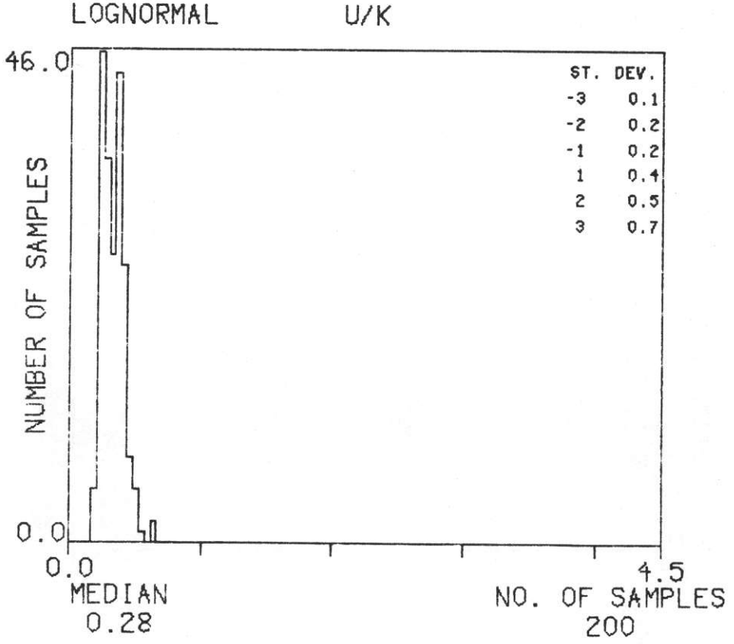
HISTOGRAMS : MZG'

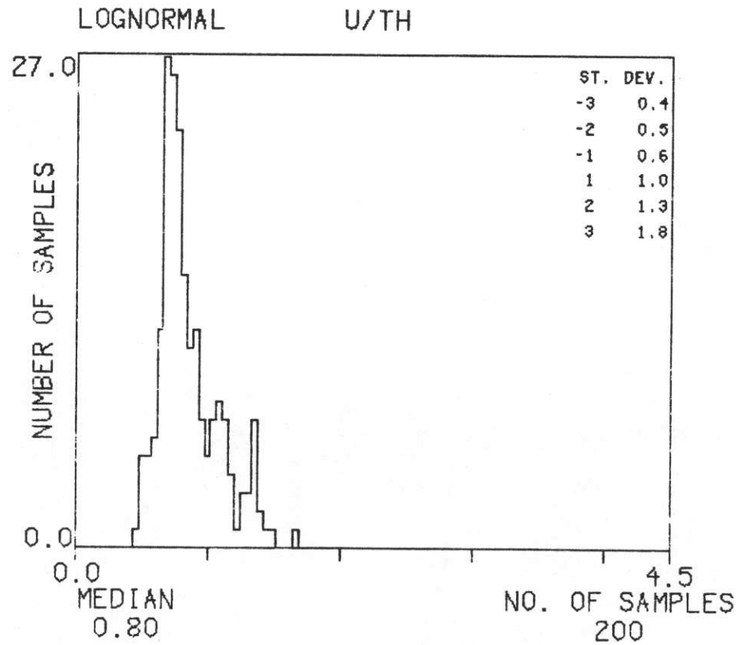
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

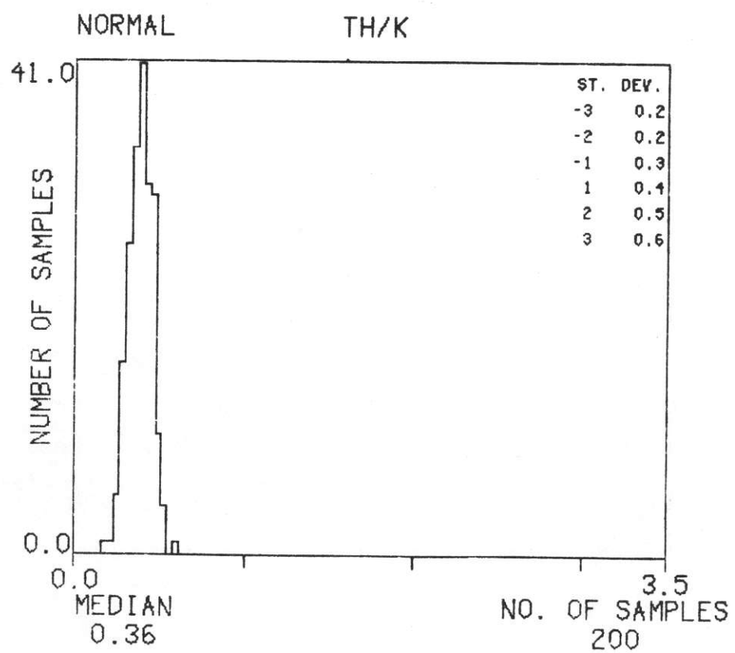












HISTOGRAMS : MZI

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

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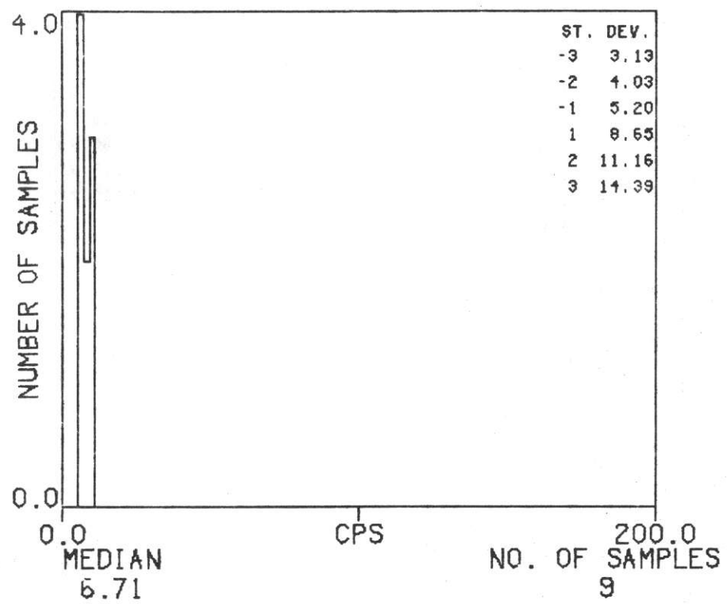
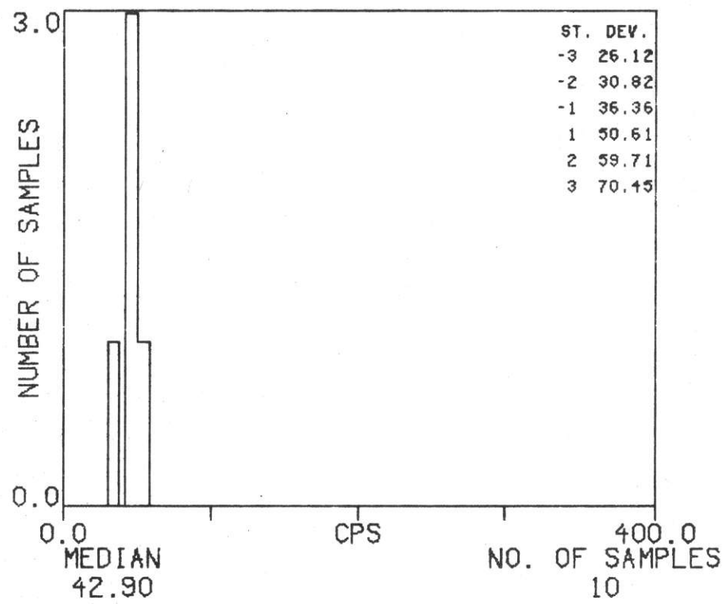


URANIUM

NO SAMPLES

LOGNORMAL POTASSIUM



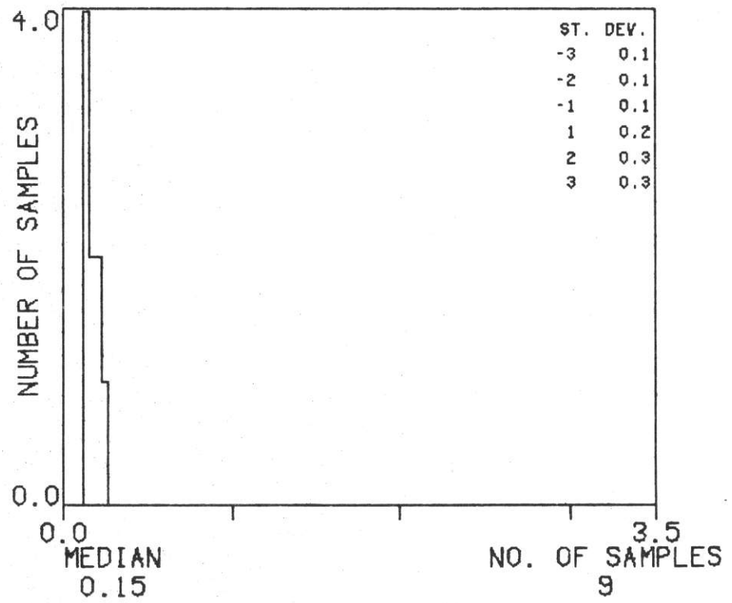
U/K

NO SAMPLES

U/TH

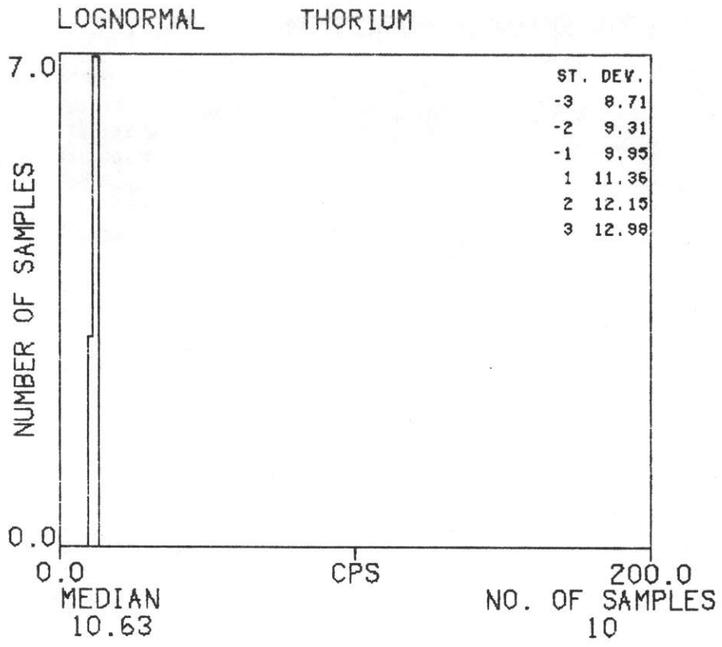
NO SAMPLES

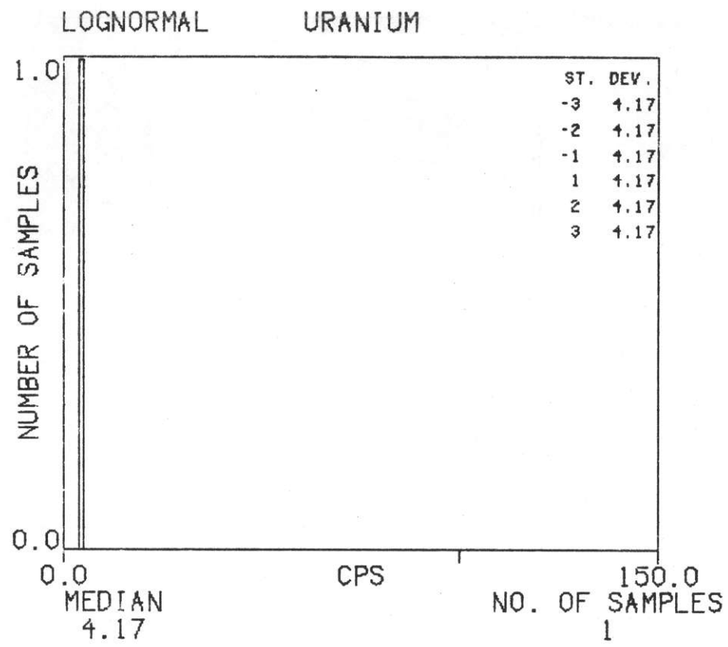
LOGNORMAL TH/K

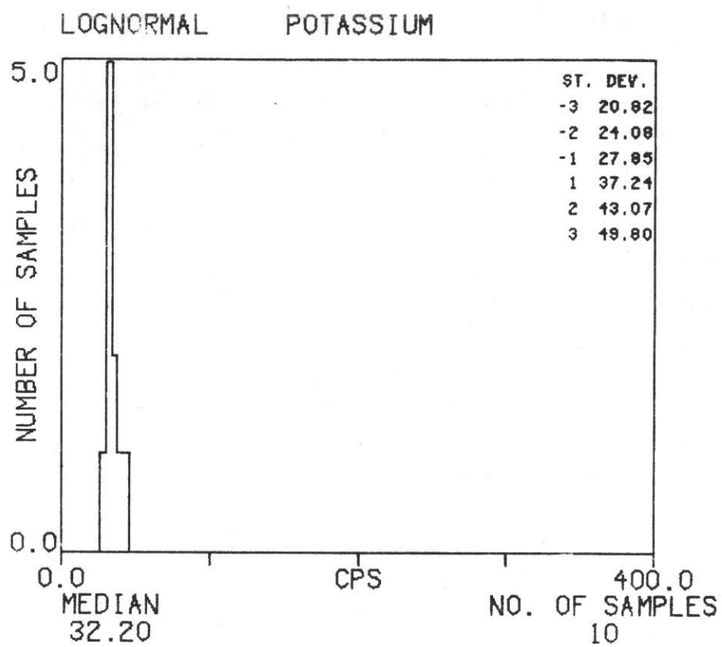


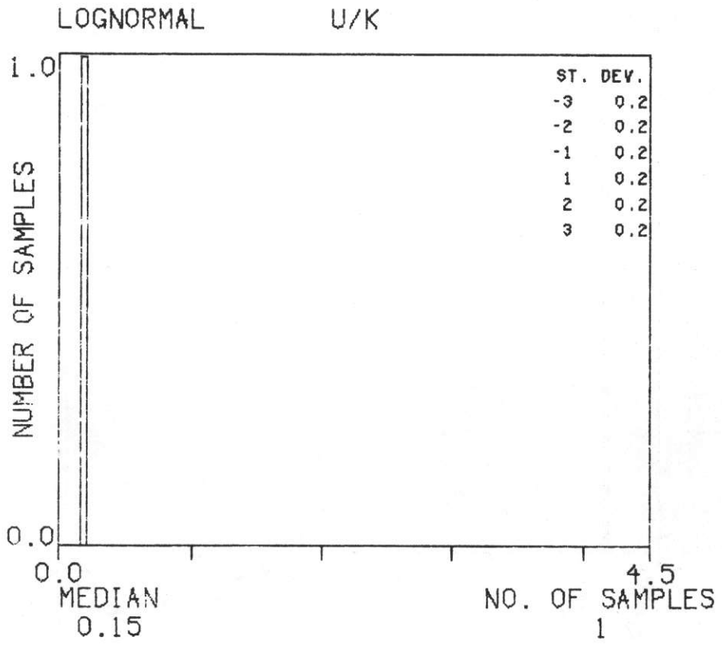
HISTOGRAMS : MZI'

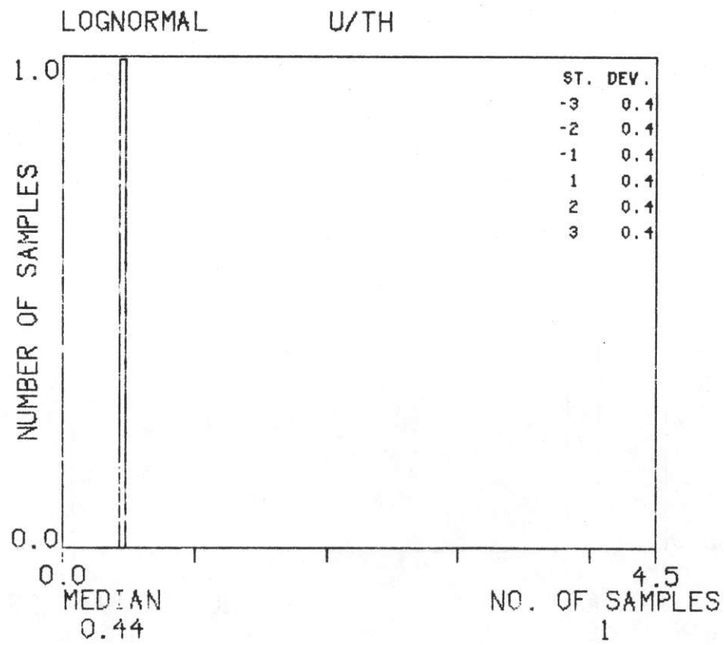
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

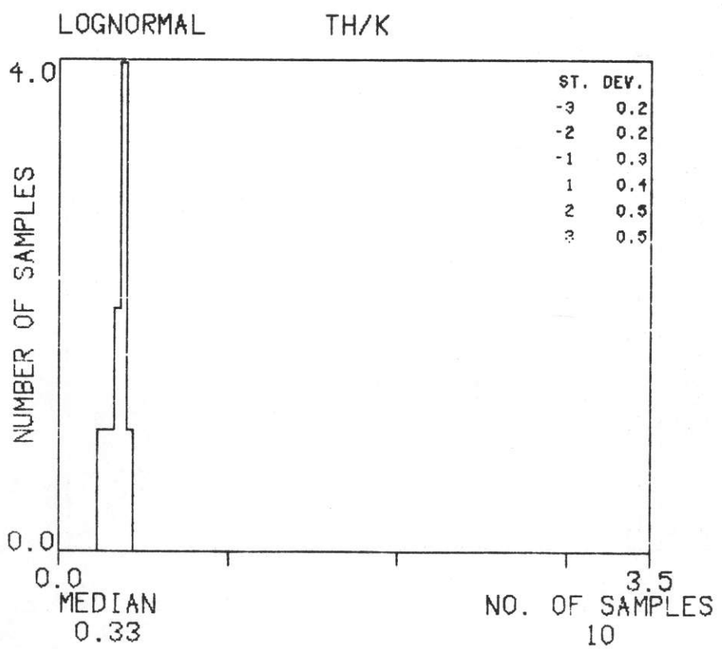












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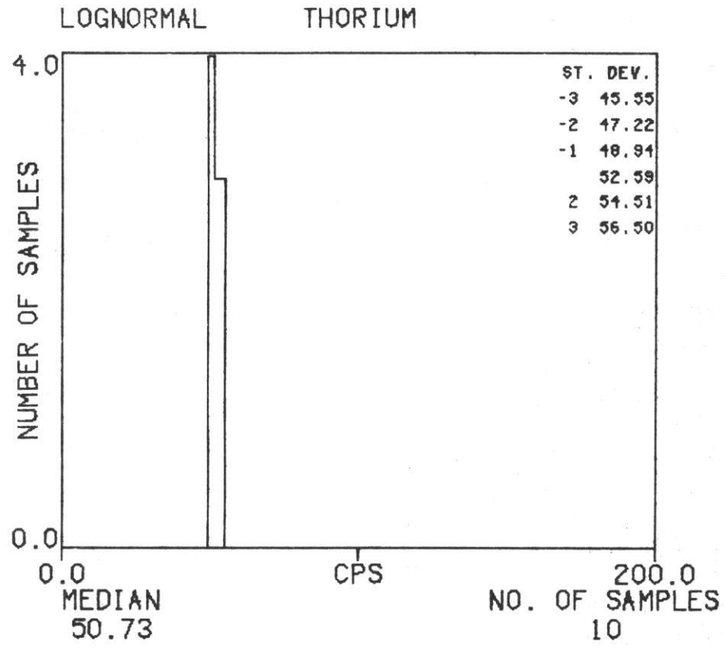
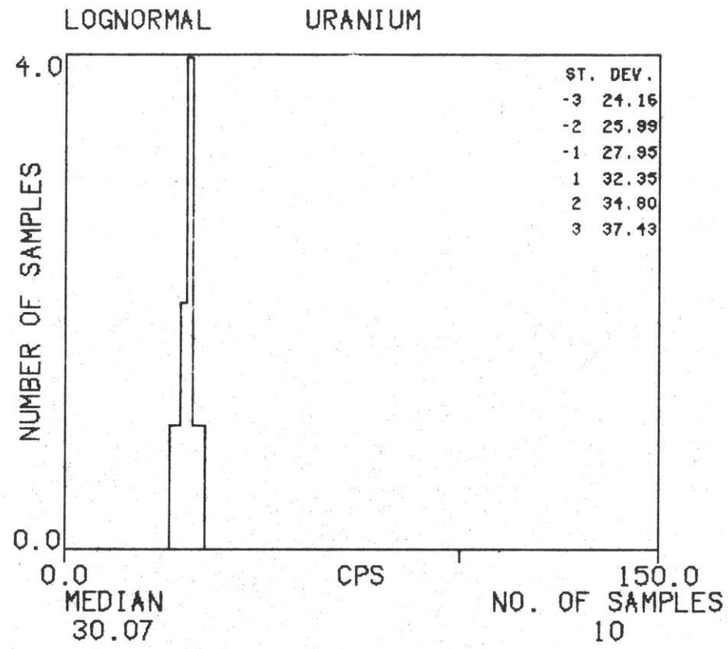
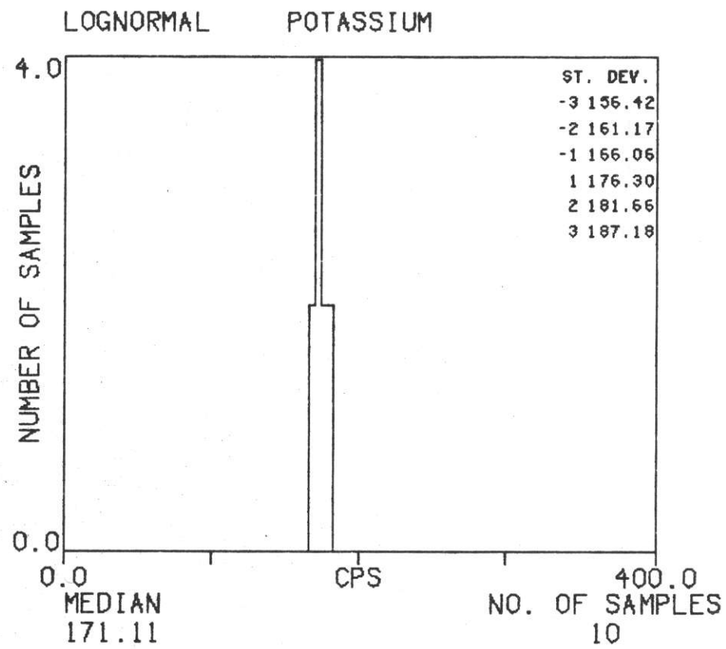
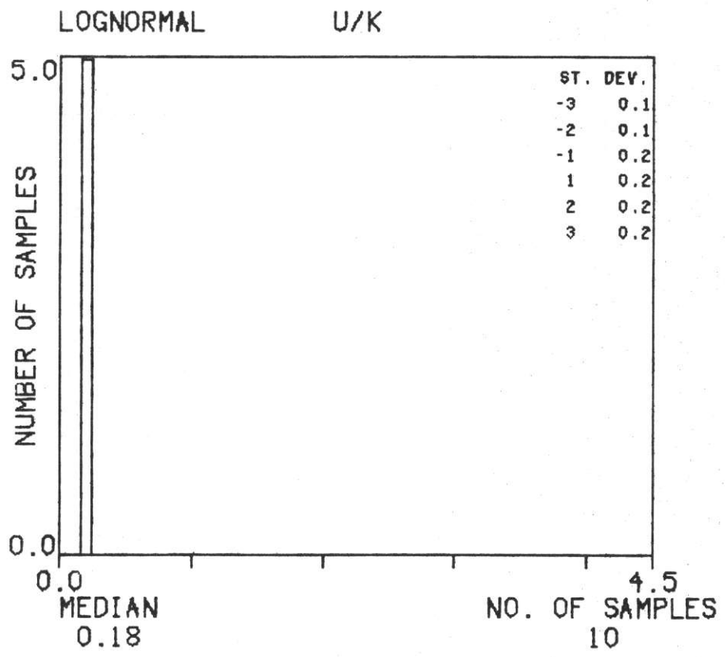
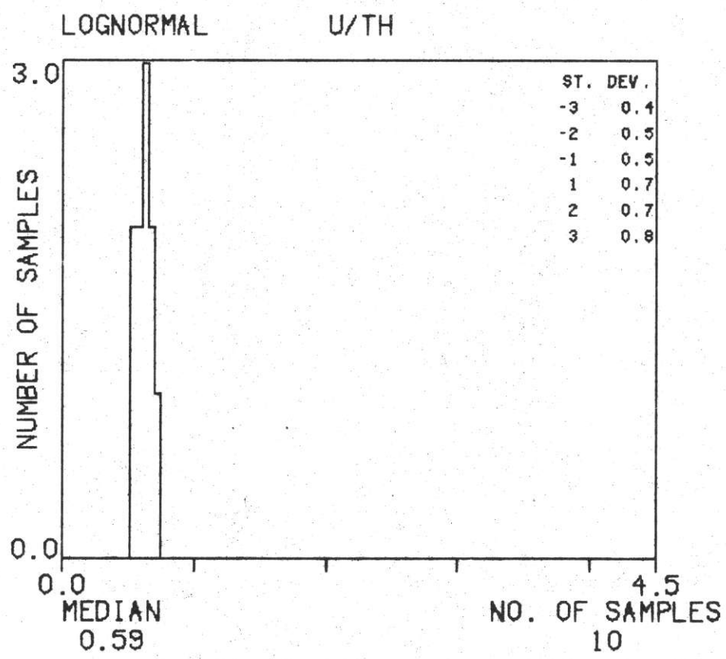
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

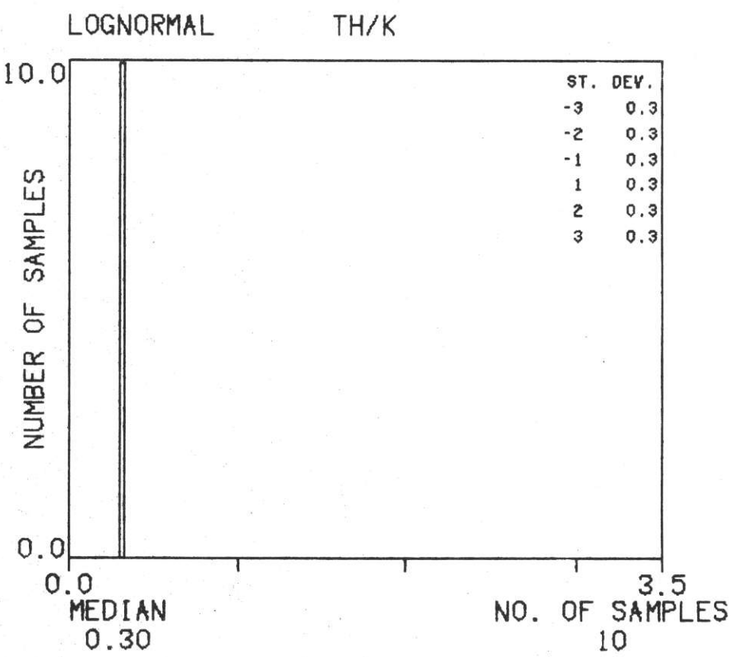






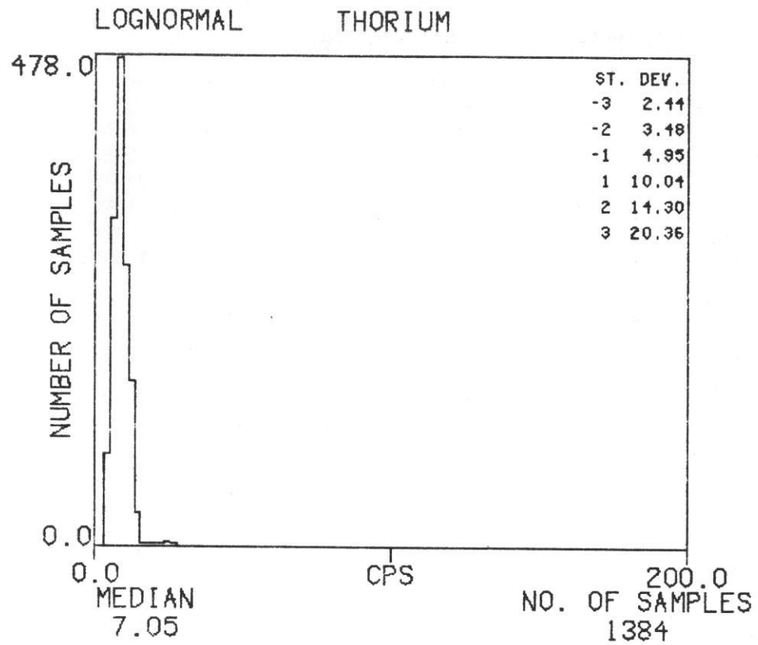


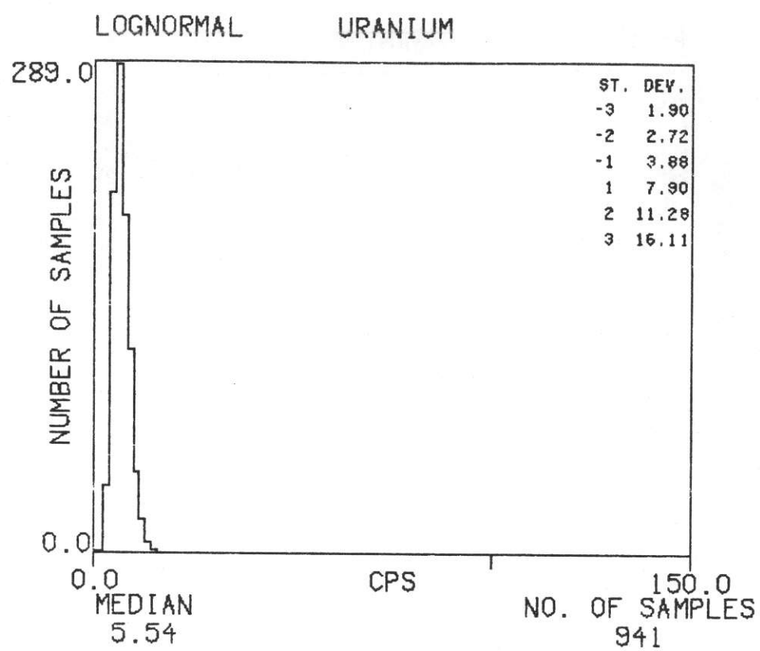


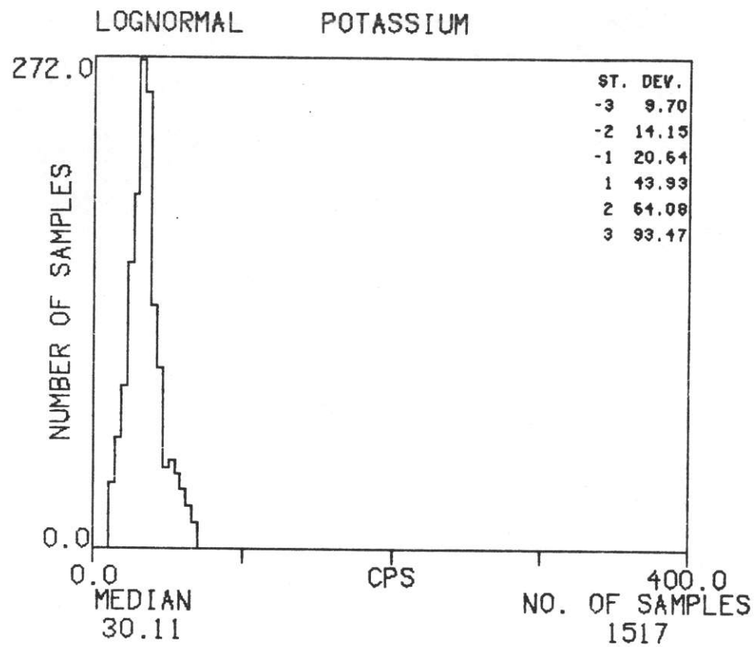


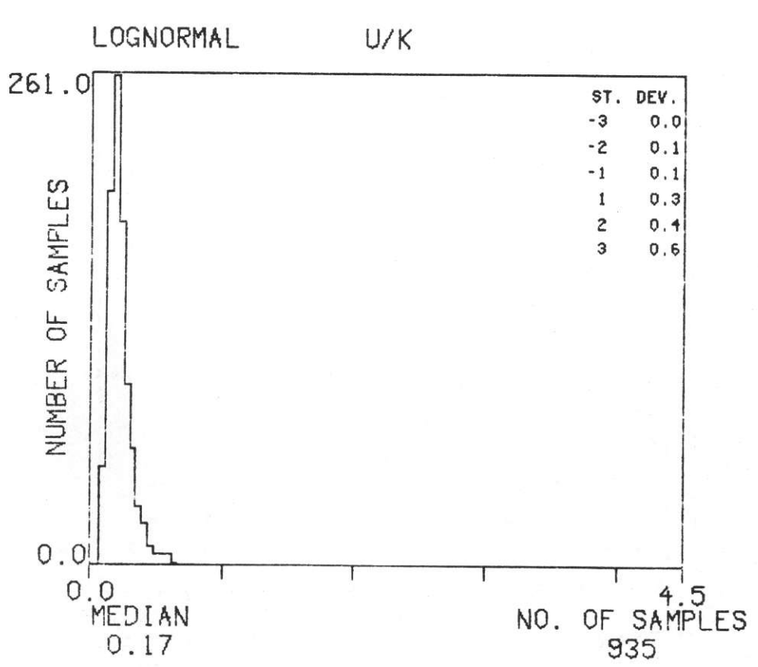
HISTOGRAMS : TRV

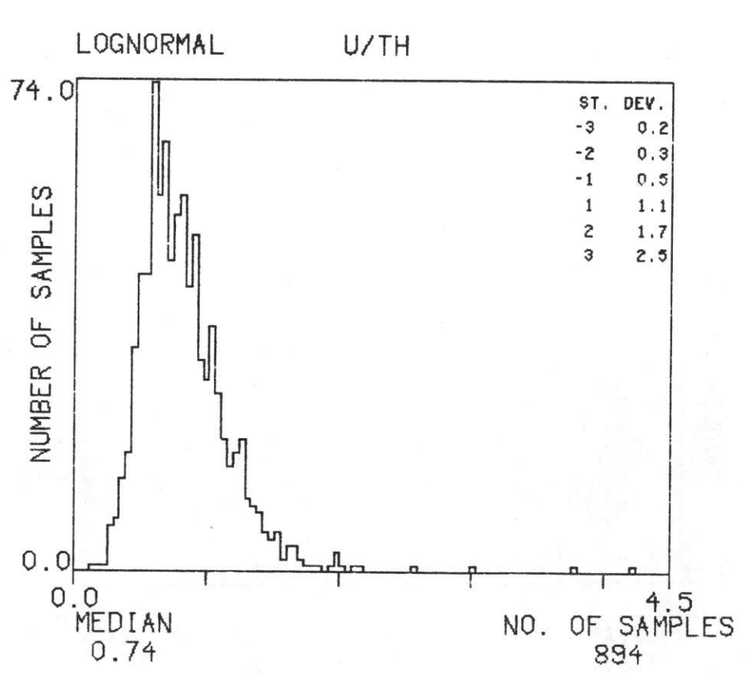
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

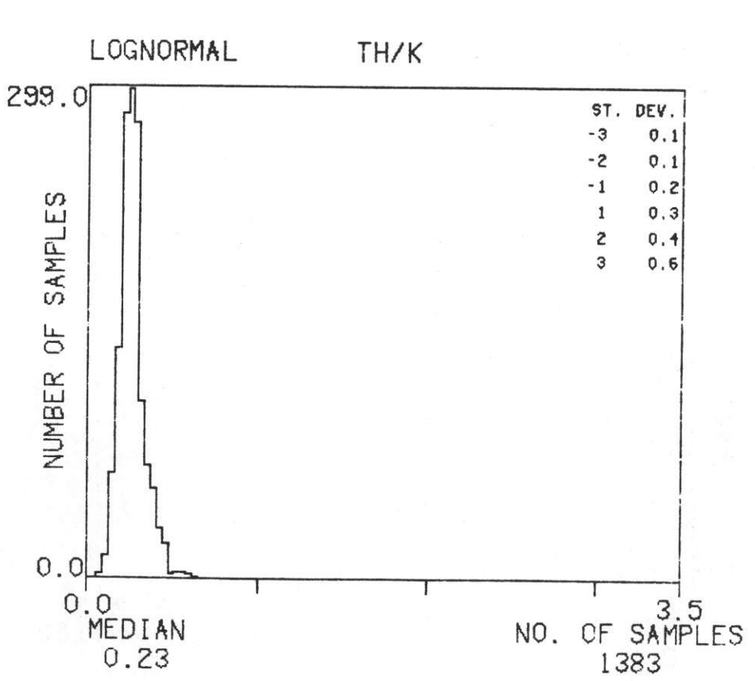






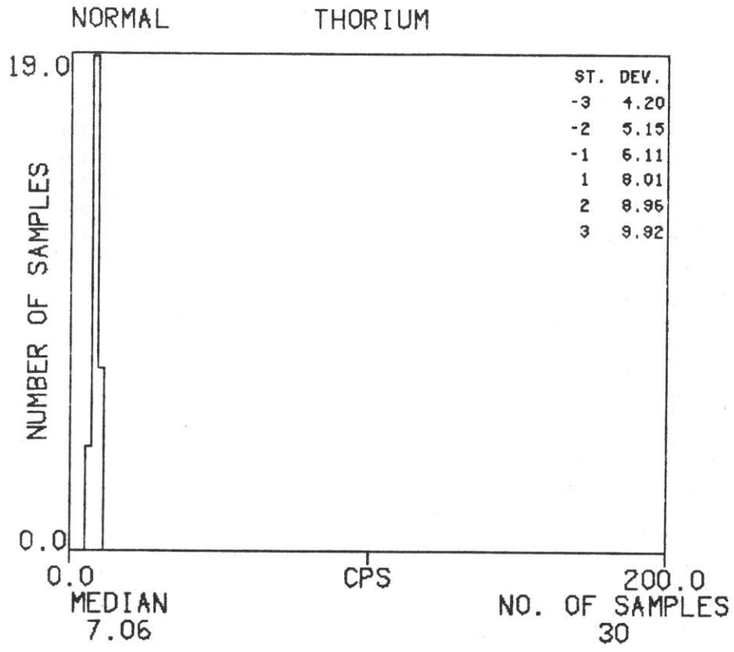


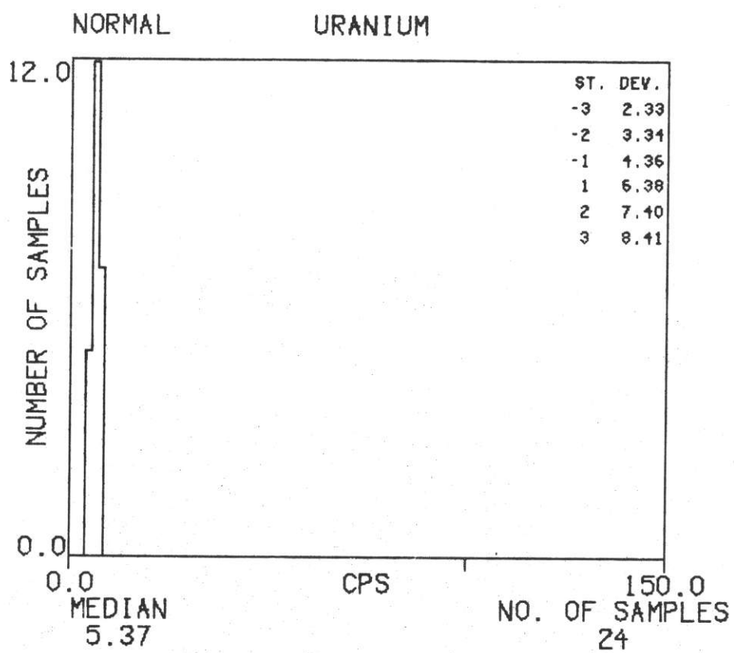


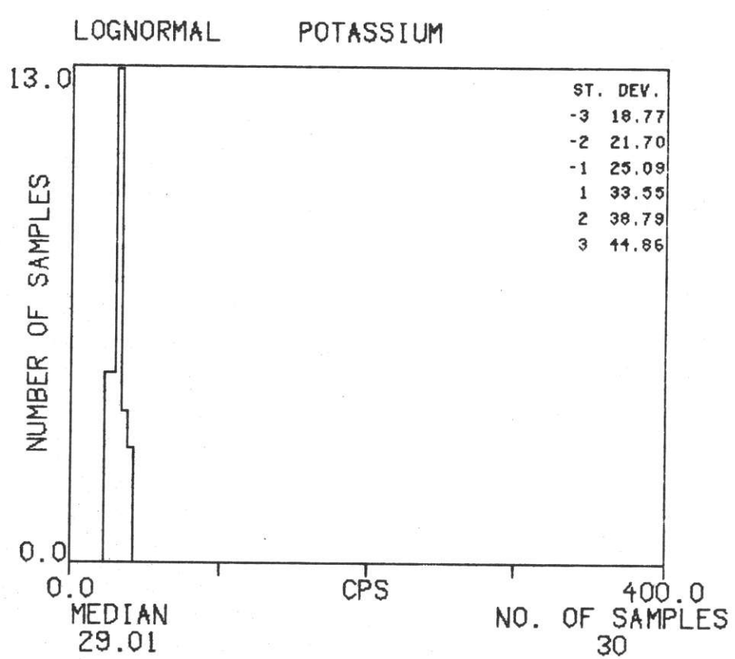


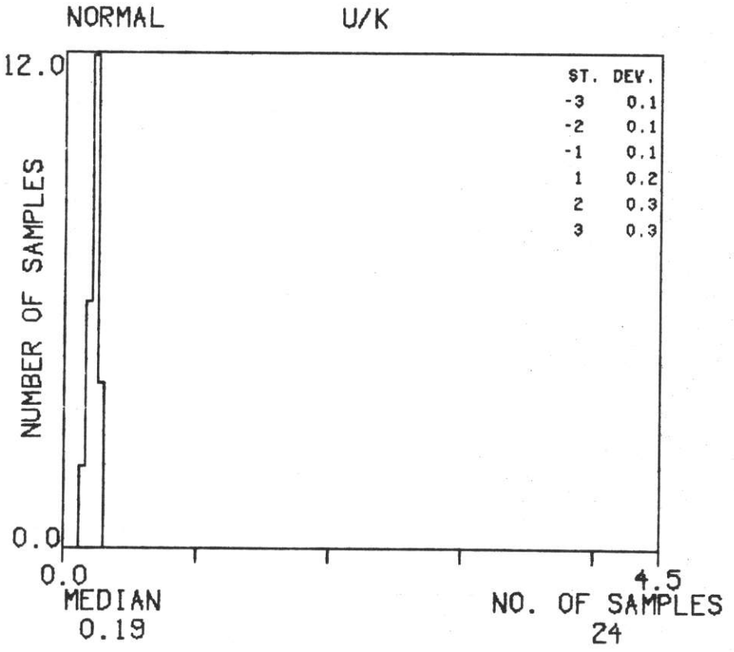
HISTOGRAMS : TRV'

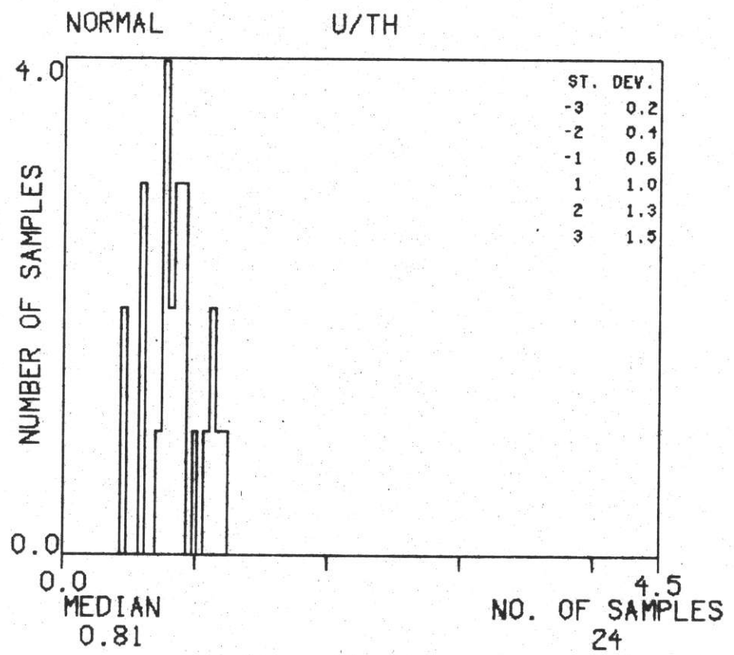
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

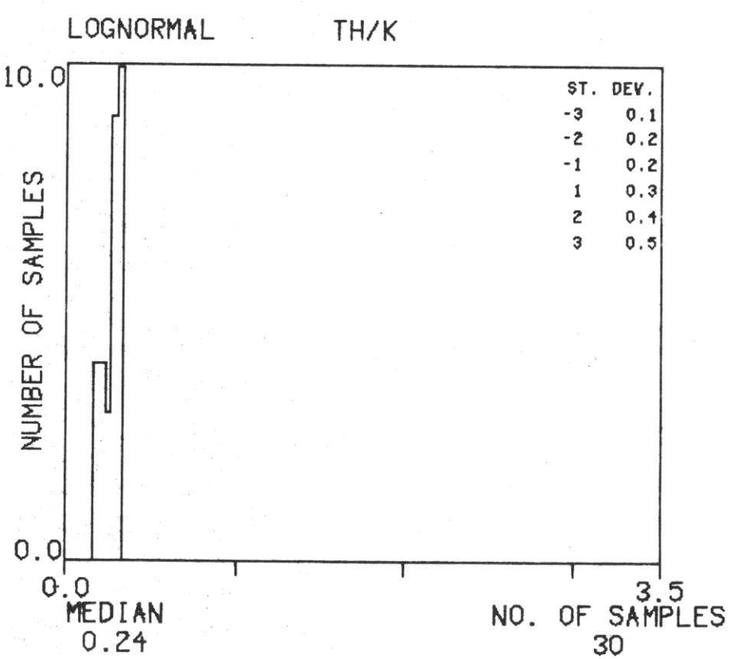








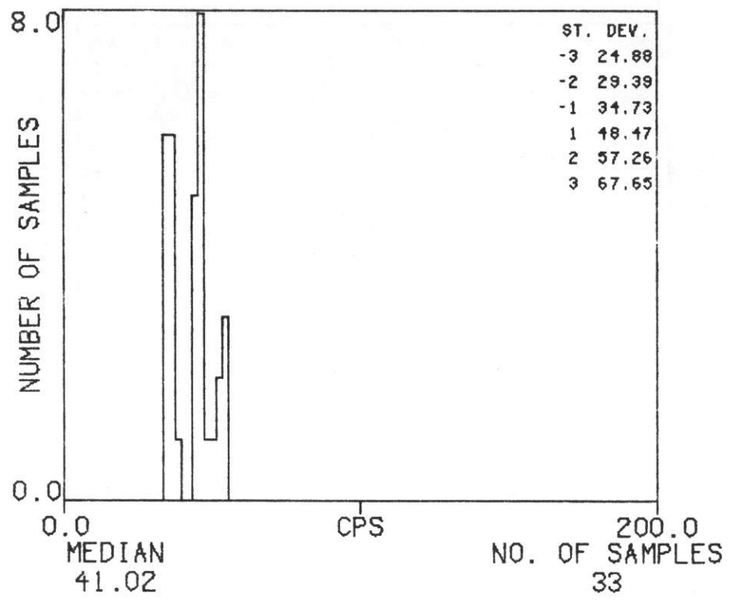




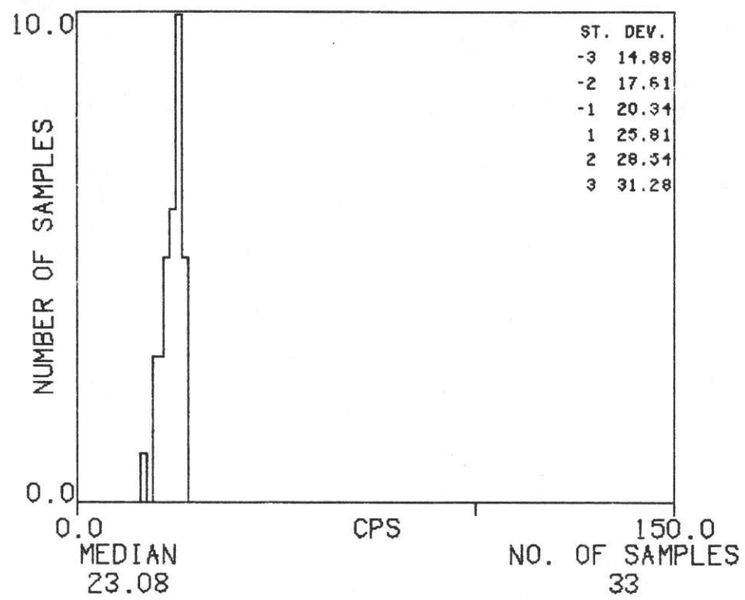
HISTOGRAMS : MZV

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

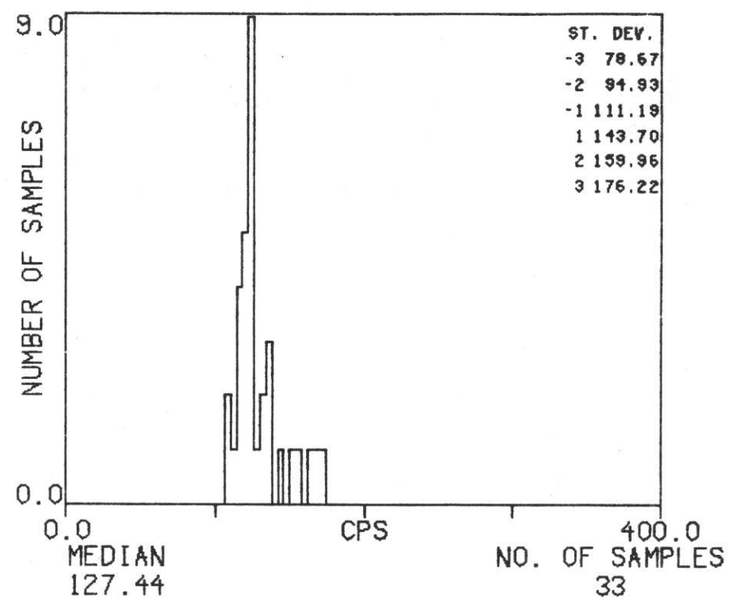
LOGNORMAL THORIUM



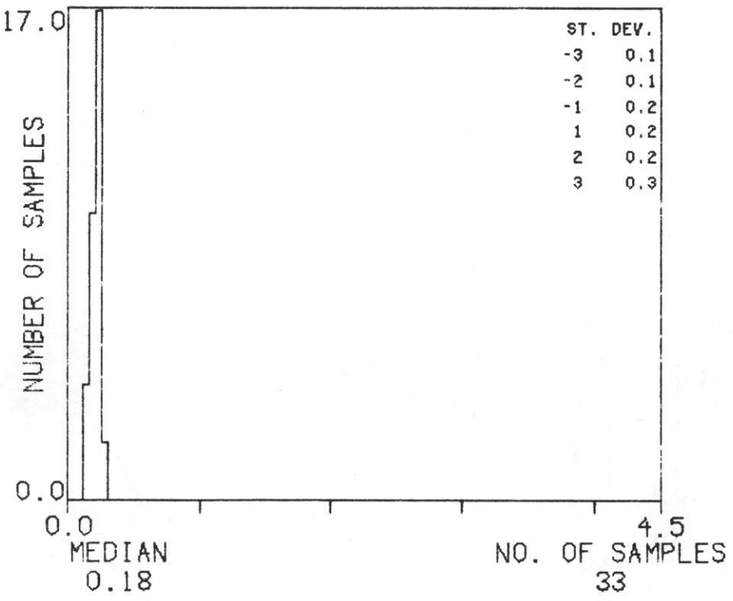
NORMAL URANIUM



NORMAL POTASSIUM



NORMAL U/K



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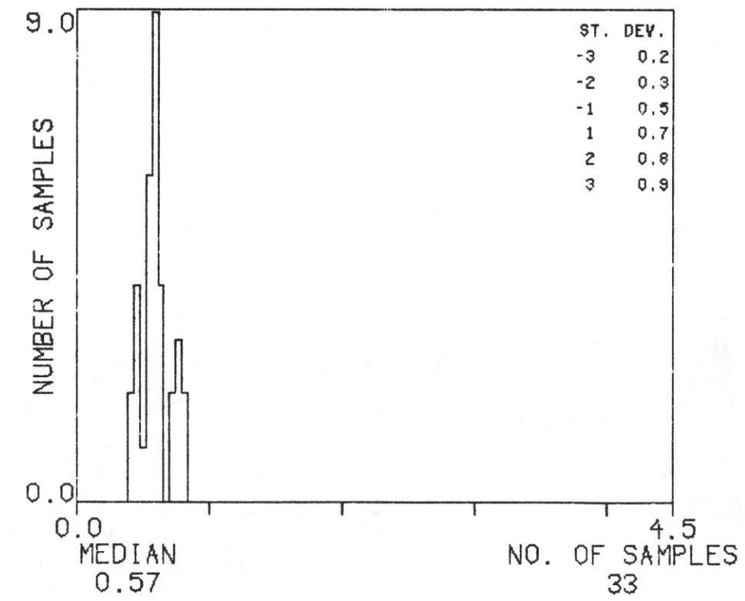
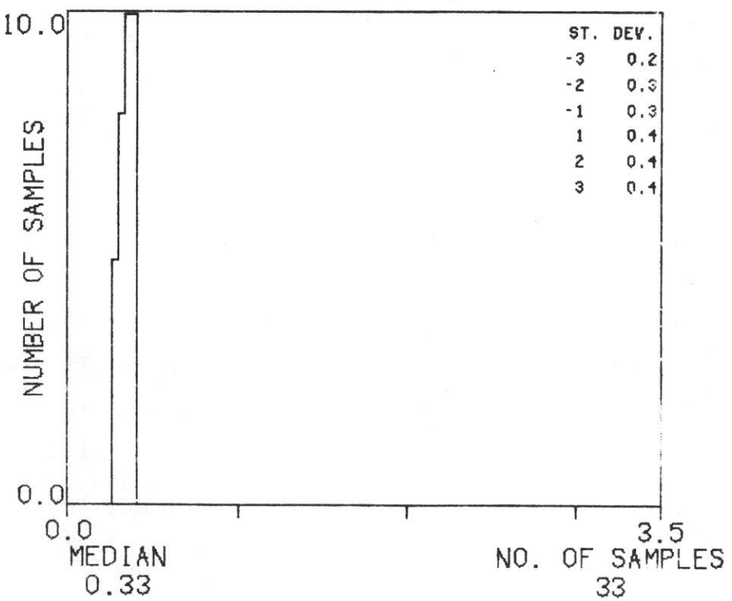


NORMAL TH/K



HISTOGRAMS : PL

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

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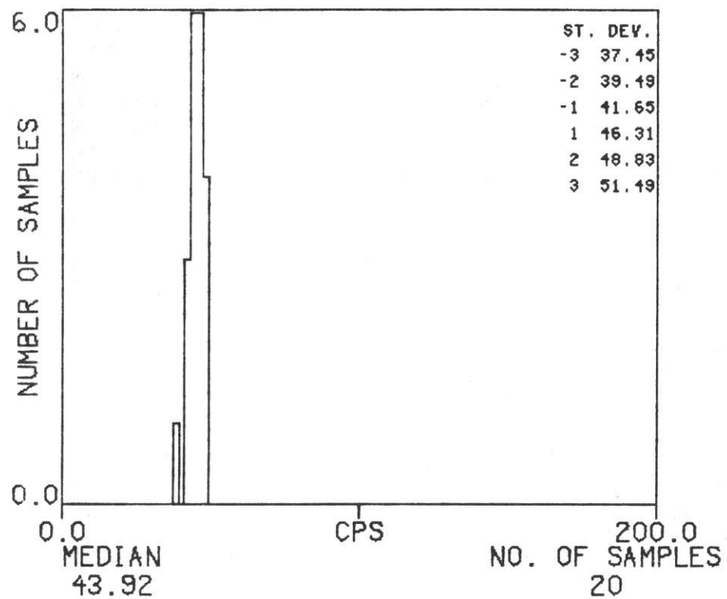

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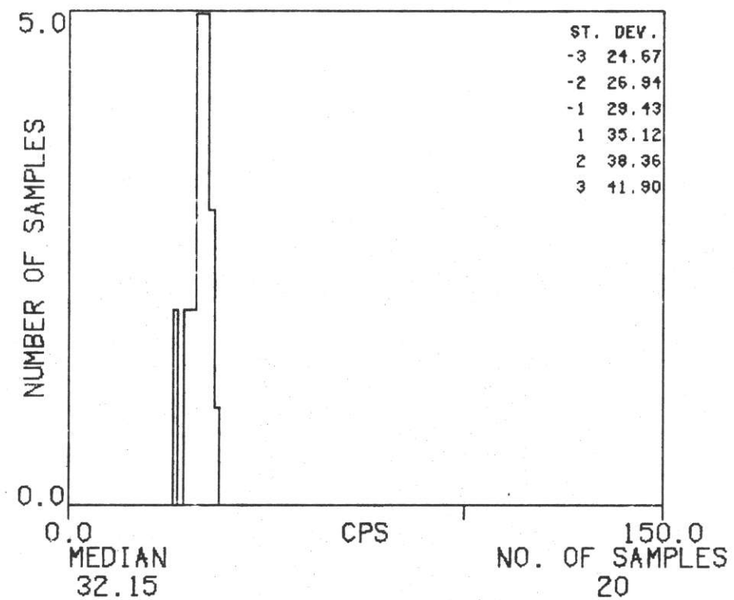

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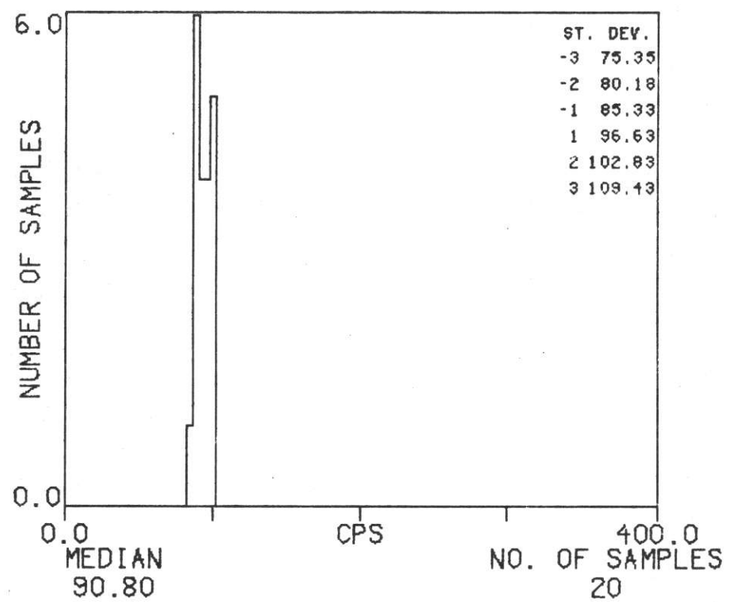

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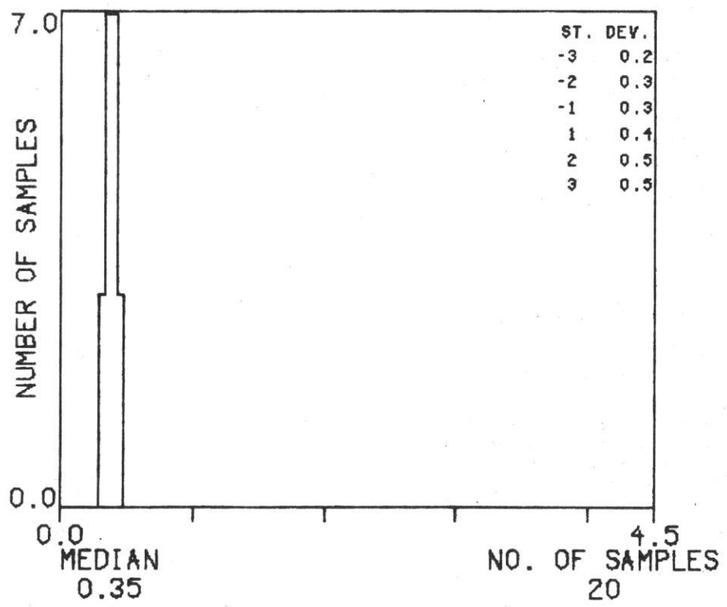

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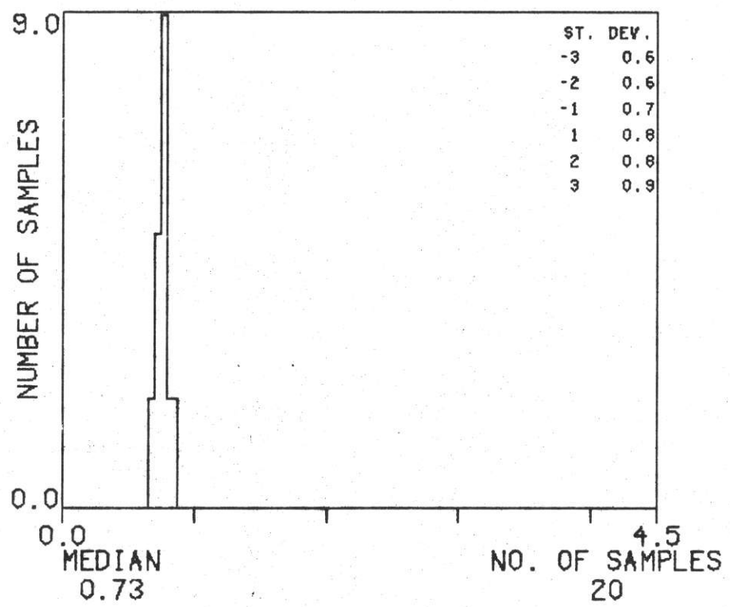
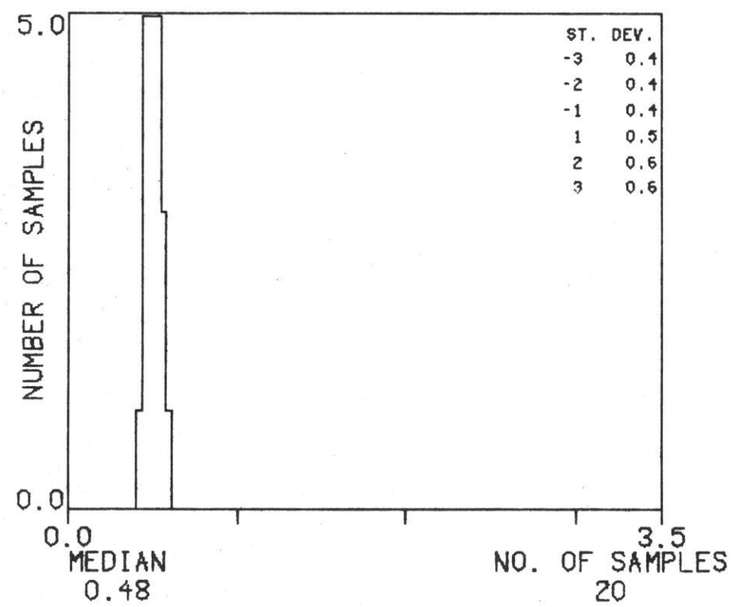


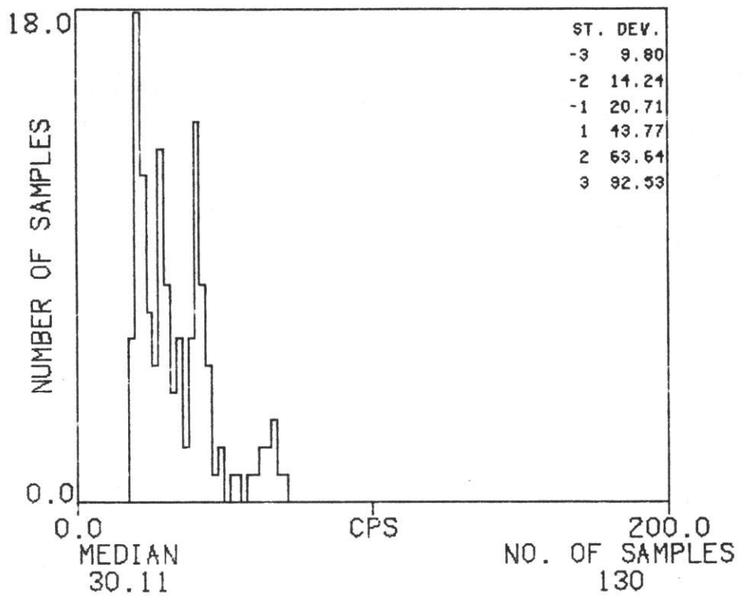
LOGNORMAL TH/K



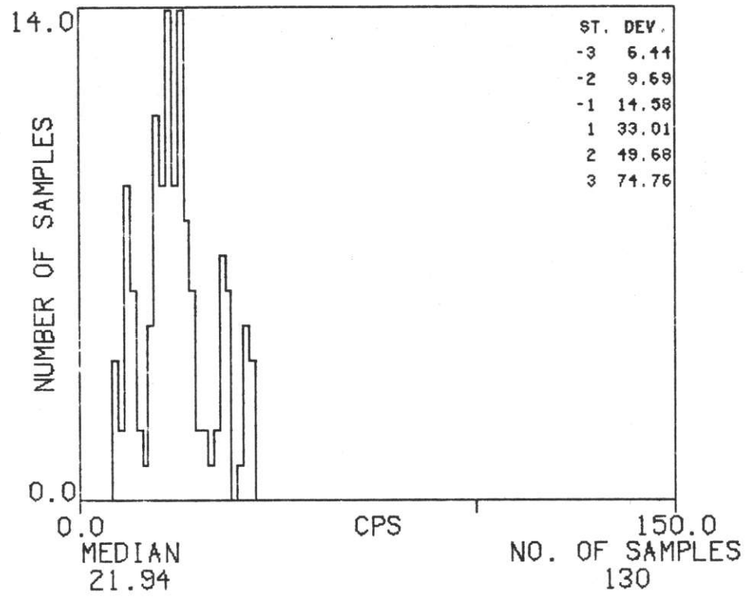
HISTOGRAMS : PS

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

LOGNORMAL THORIUM



LOGNORMAL URANIUM



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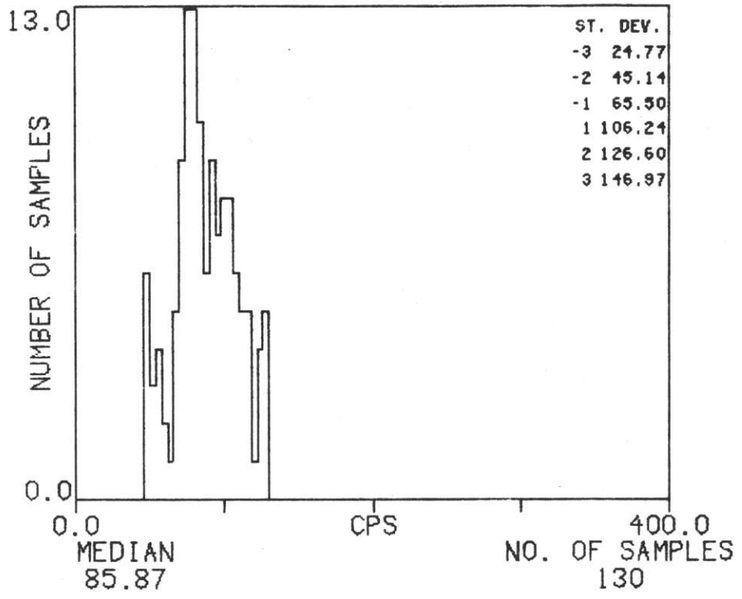
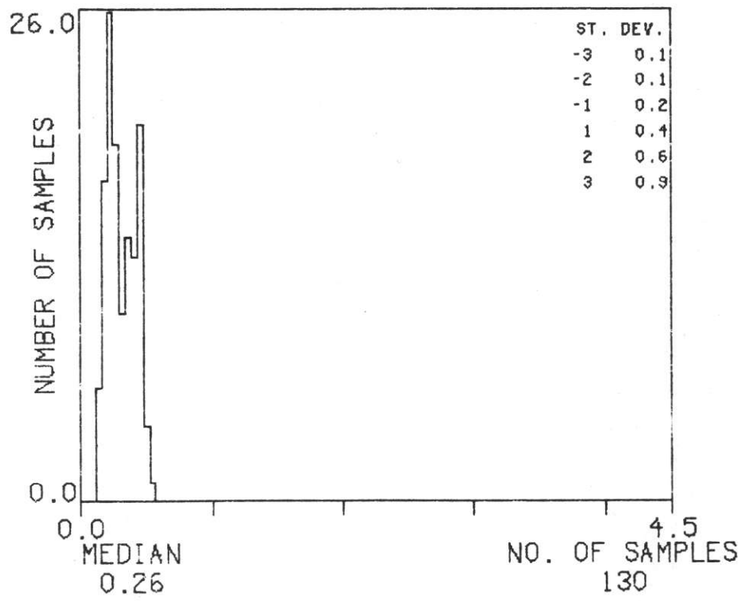
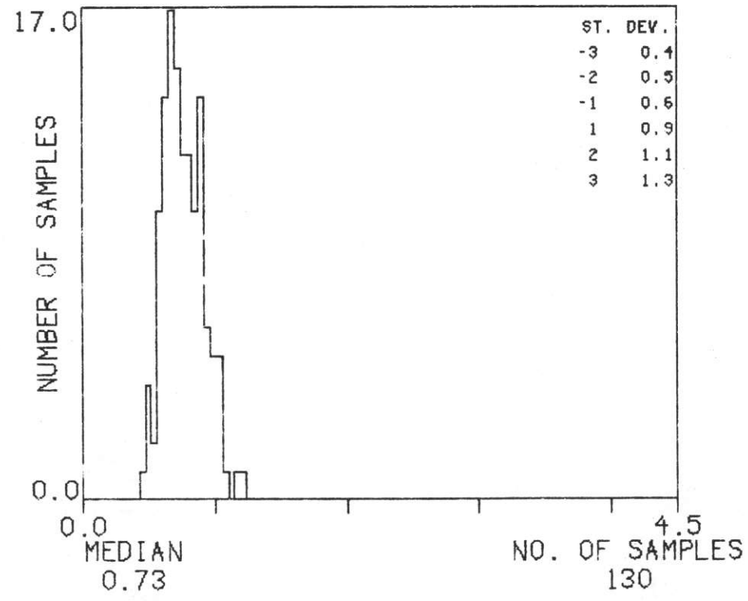


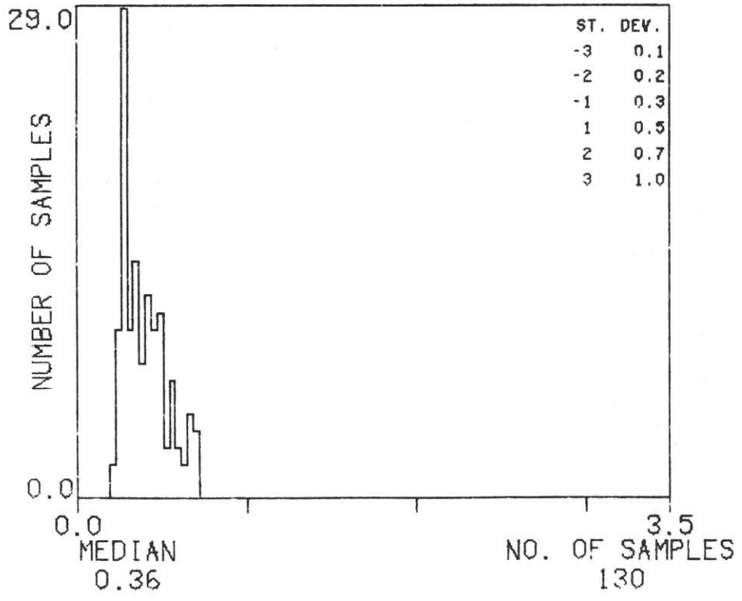
LOGNORMAL U/K



LOGNORMAL U/TH

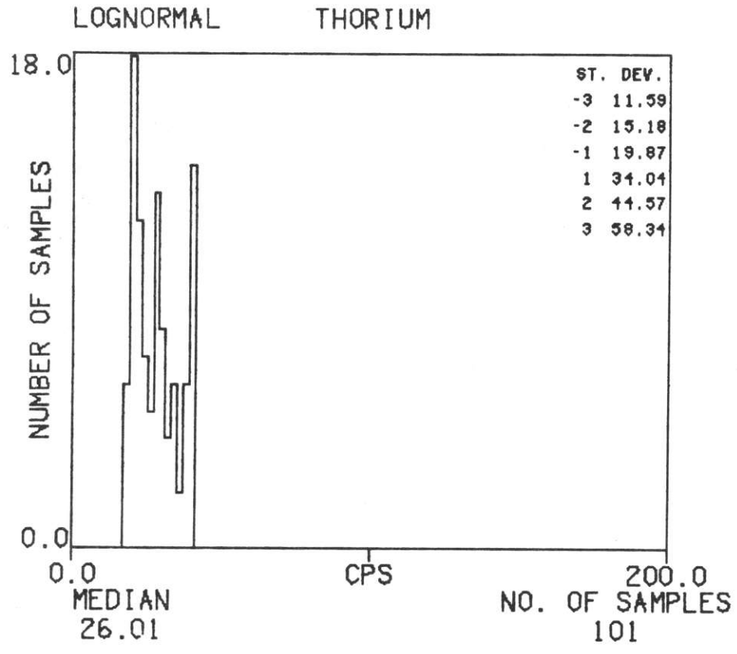


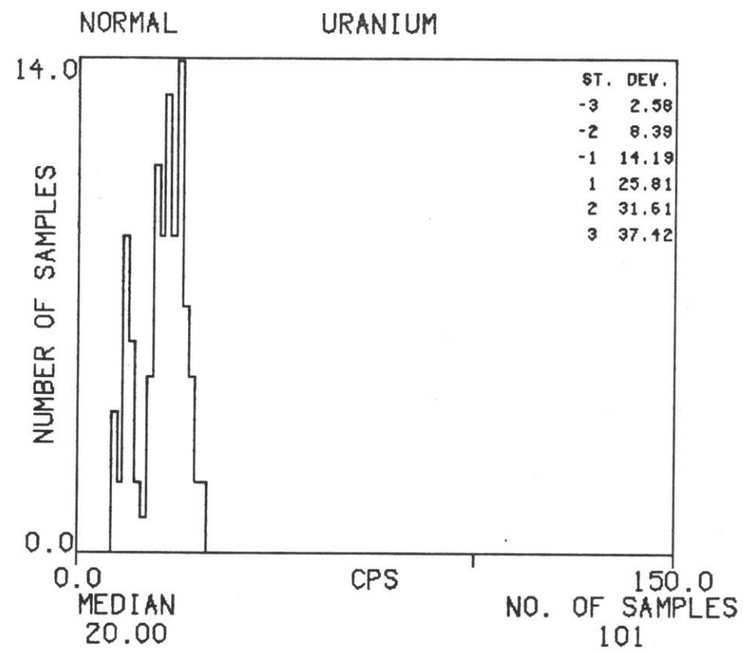
LOGNORMAL TH/K

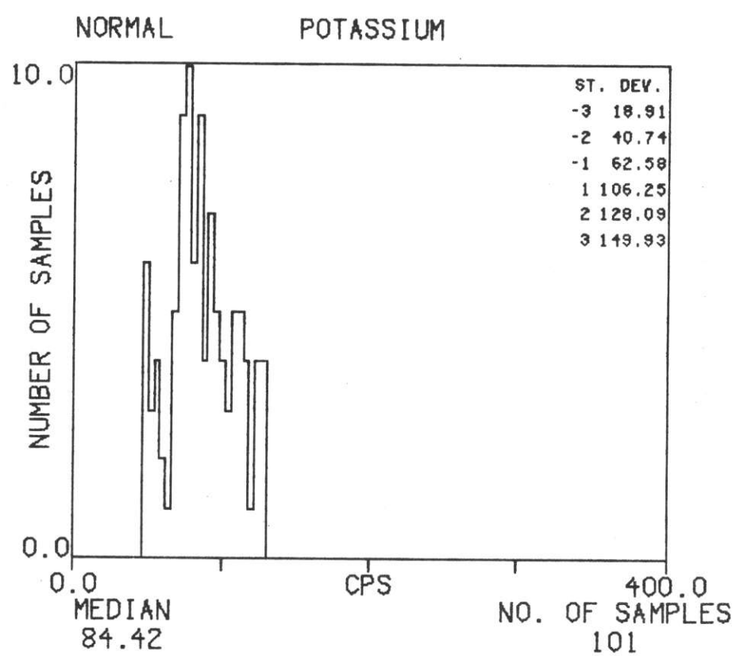


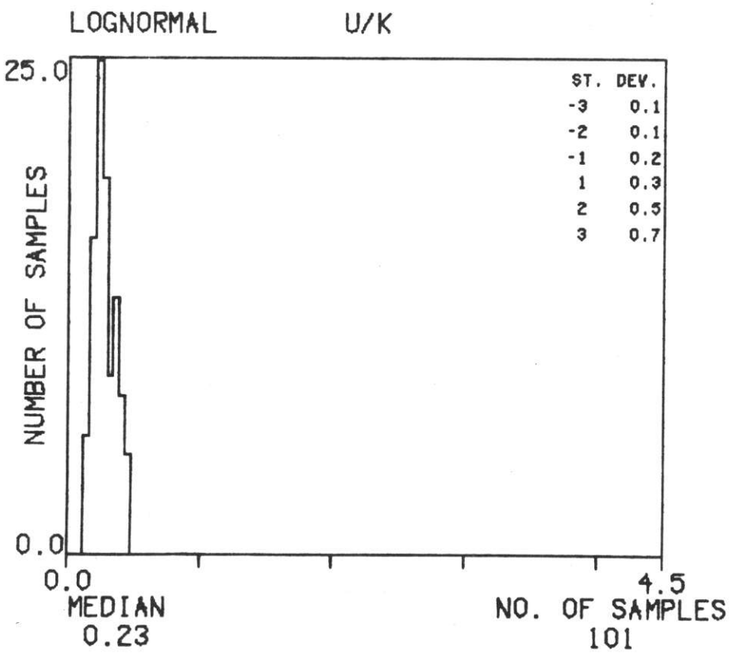
HISTOGRAMS : PS-1

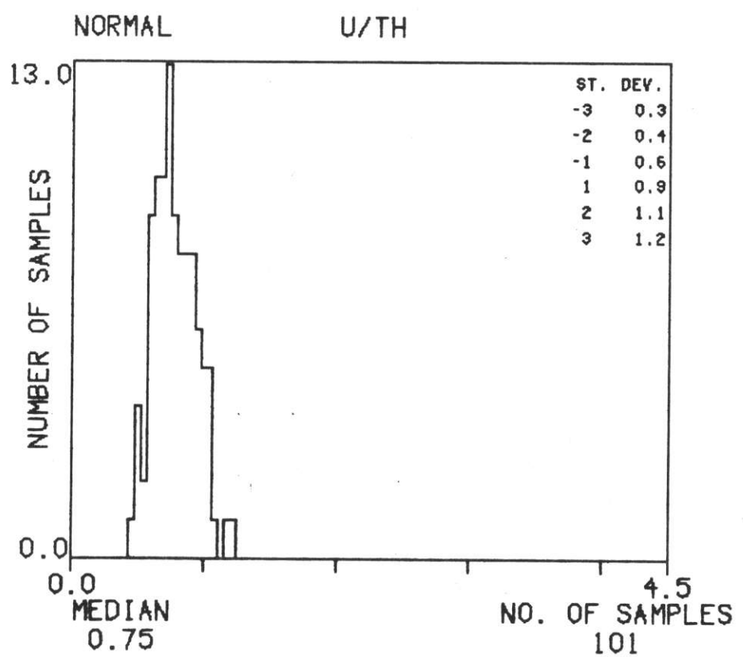
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

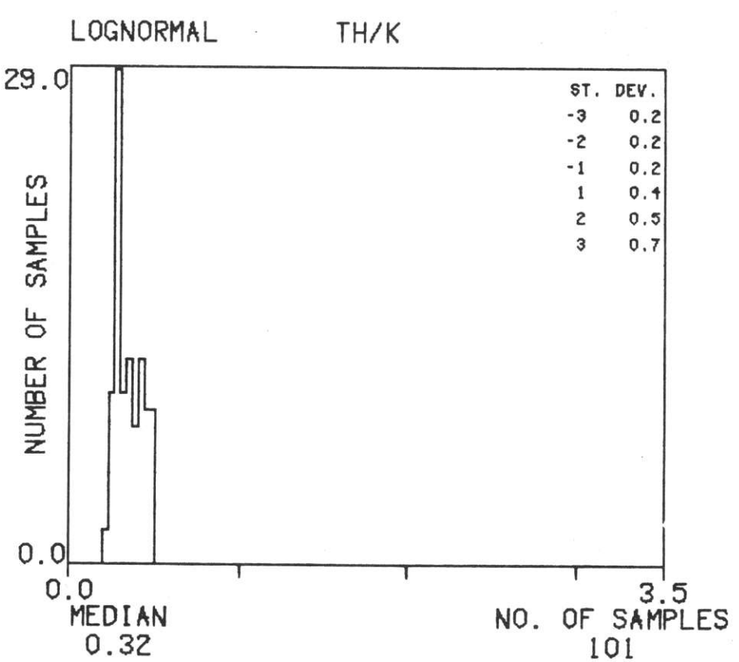












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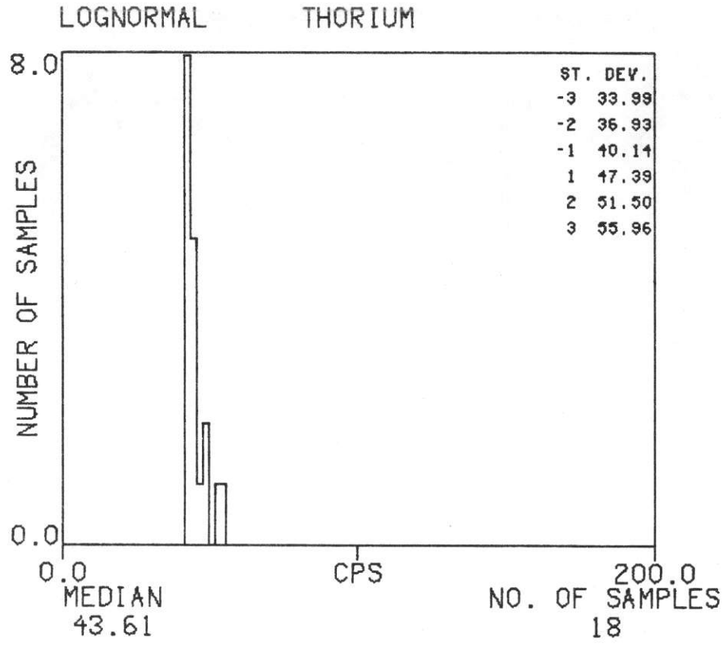
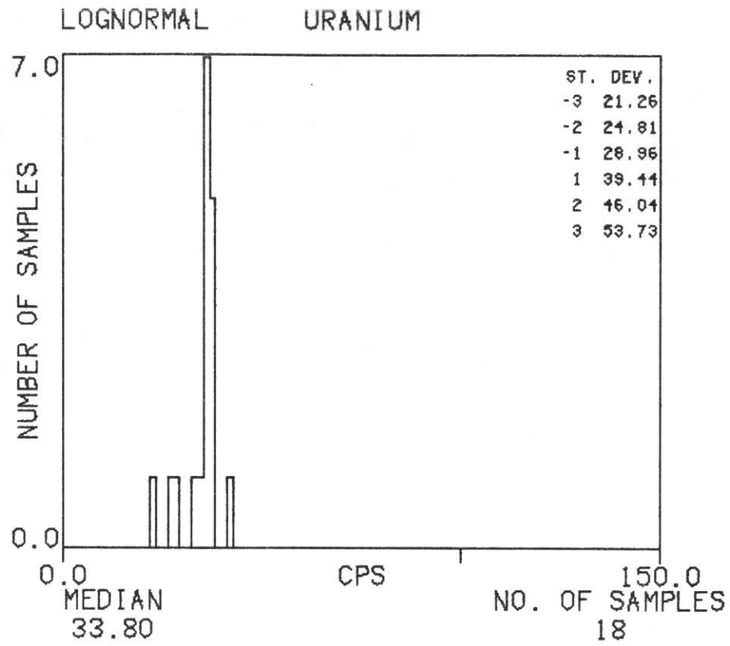
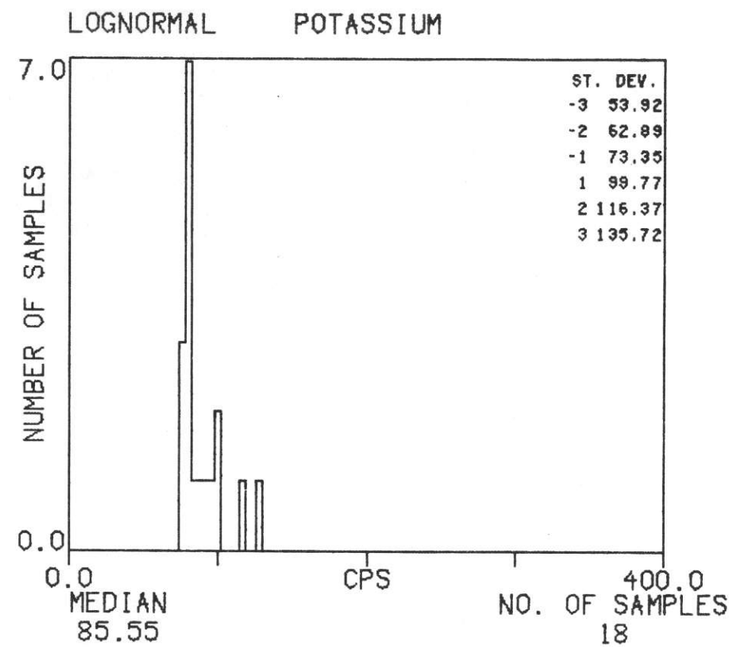
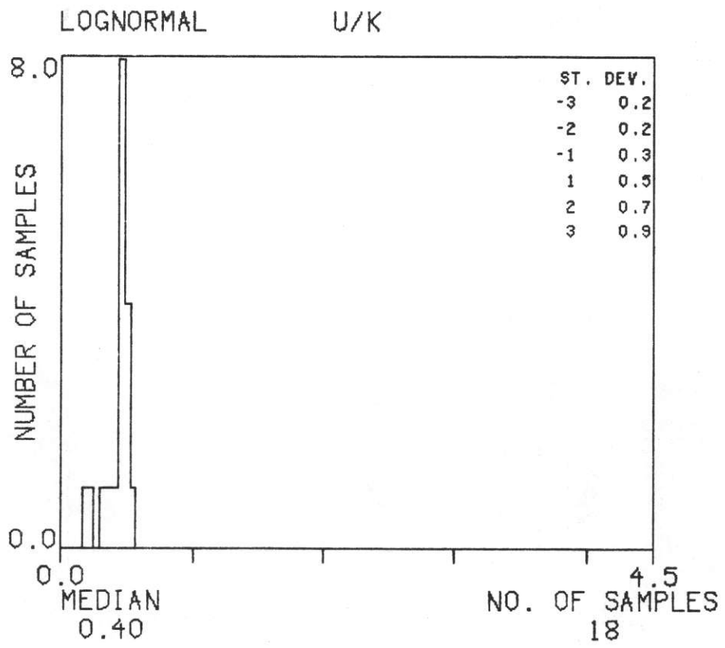
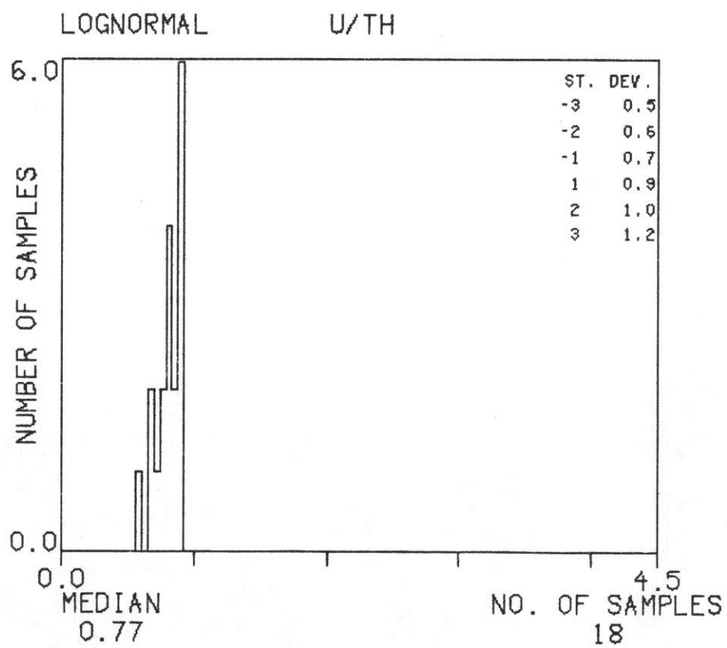
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

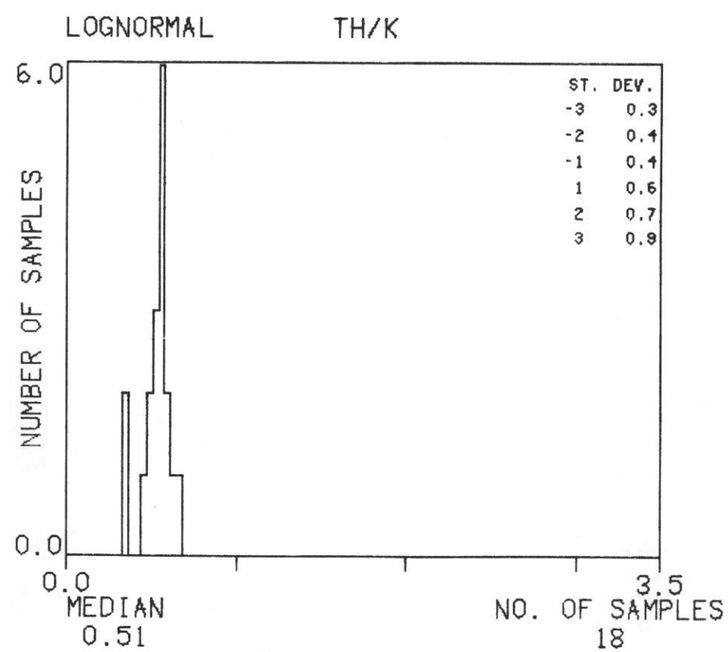








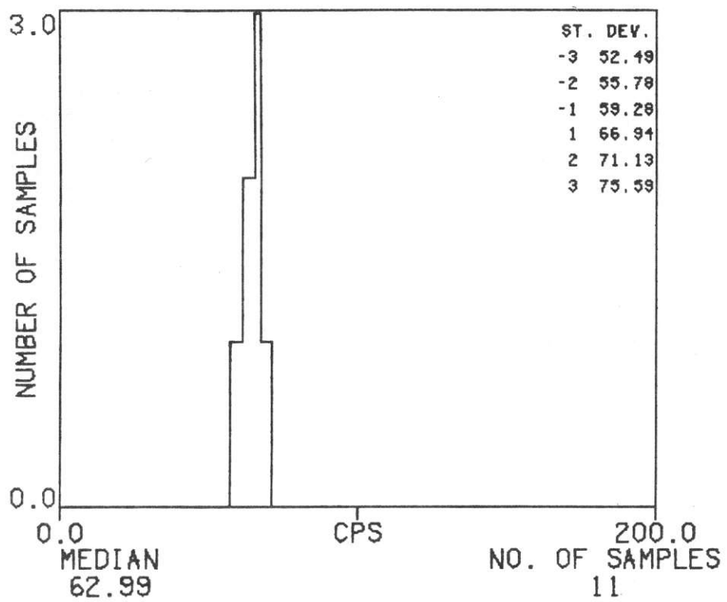




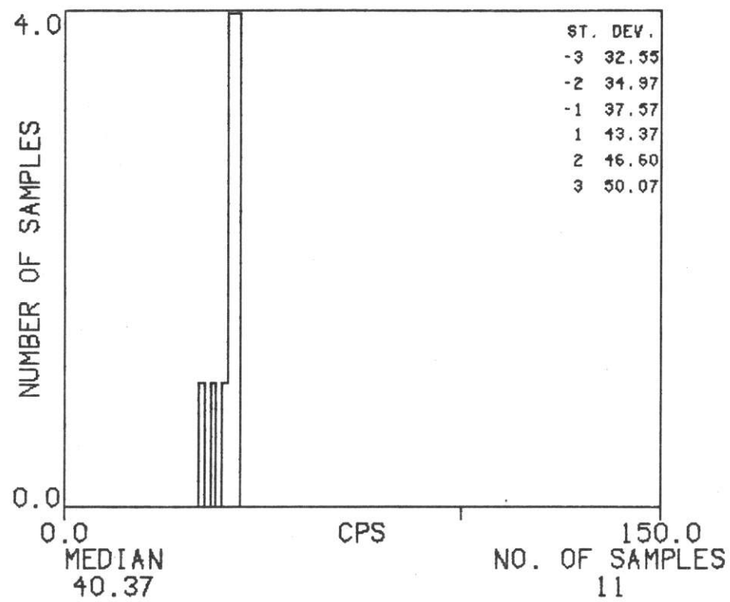
HISTOGRAMS : PS-3

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

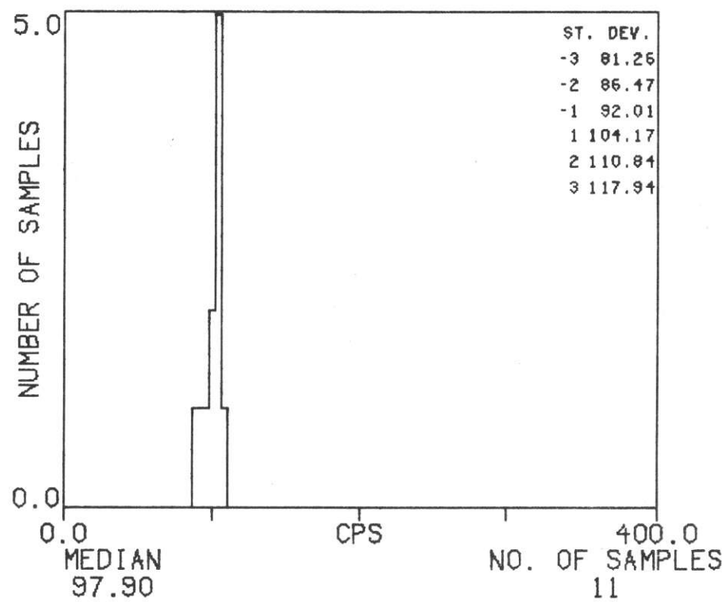
LOGNORMAL THORIUM



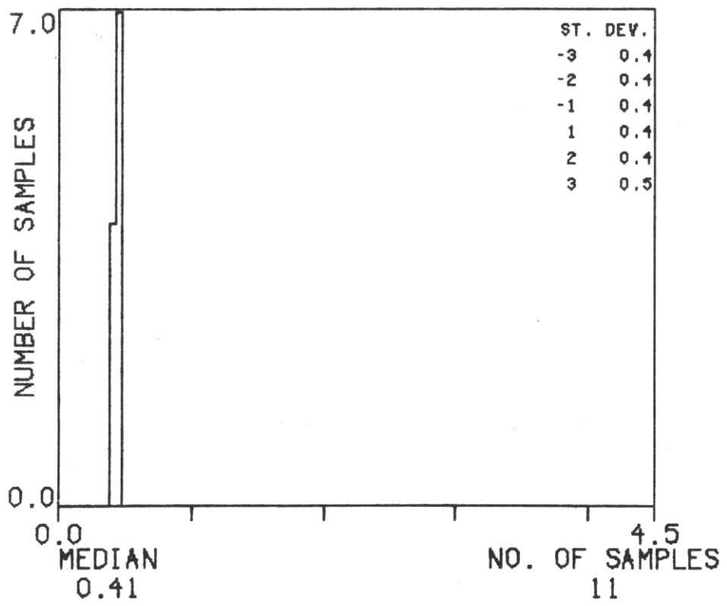
LOGNORMAL URANIUM



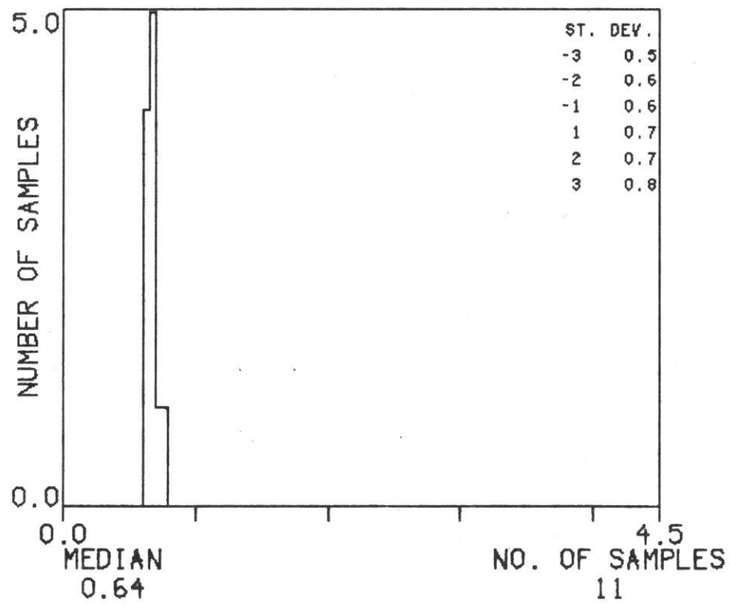
LOGNORMAL POTASSIUM



LOGNORMAL U/K



LOGNORMAL U/TH



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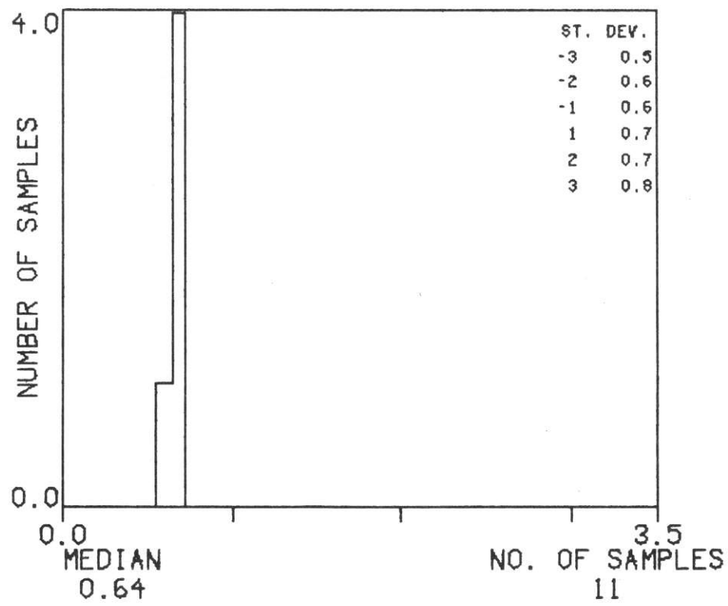
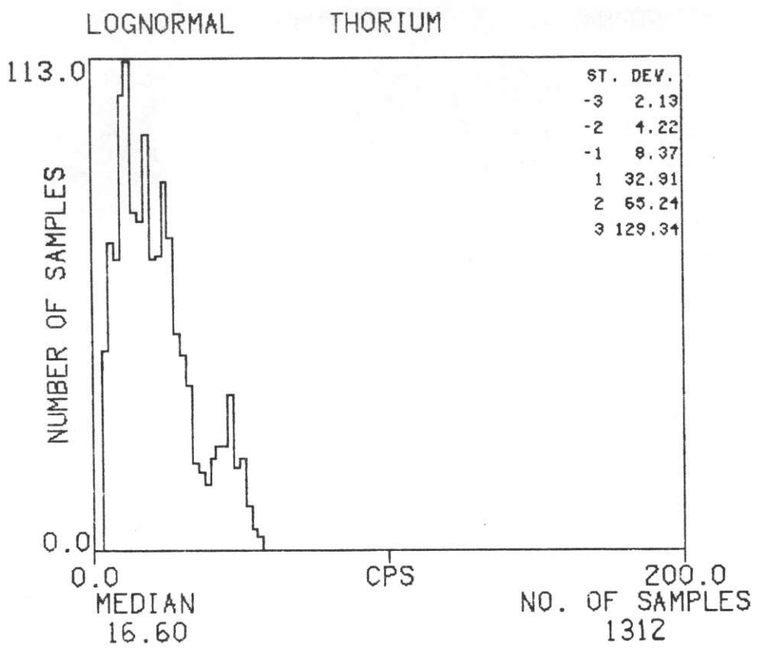
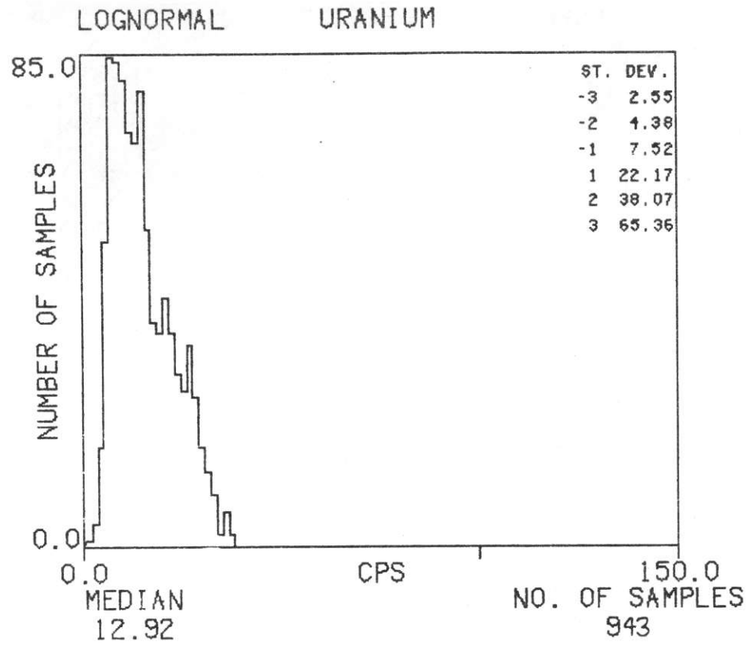
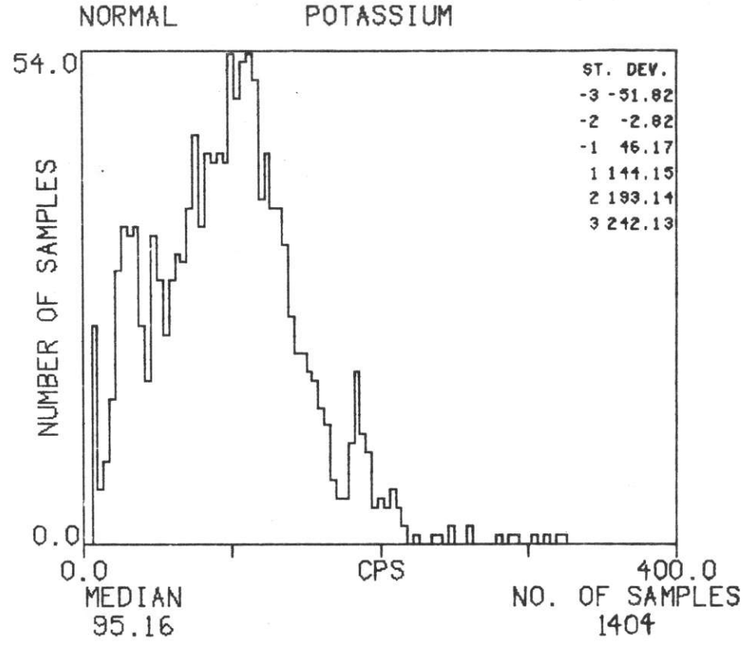


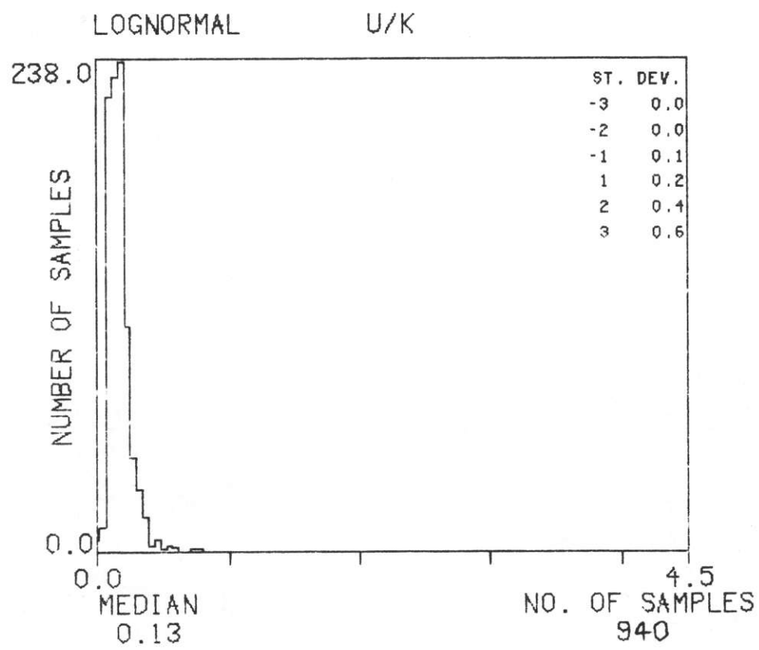
HISTOGRAMS : PZ

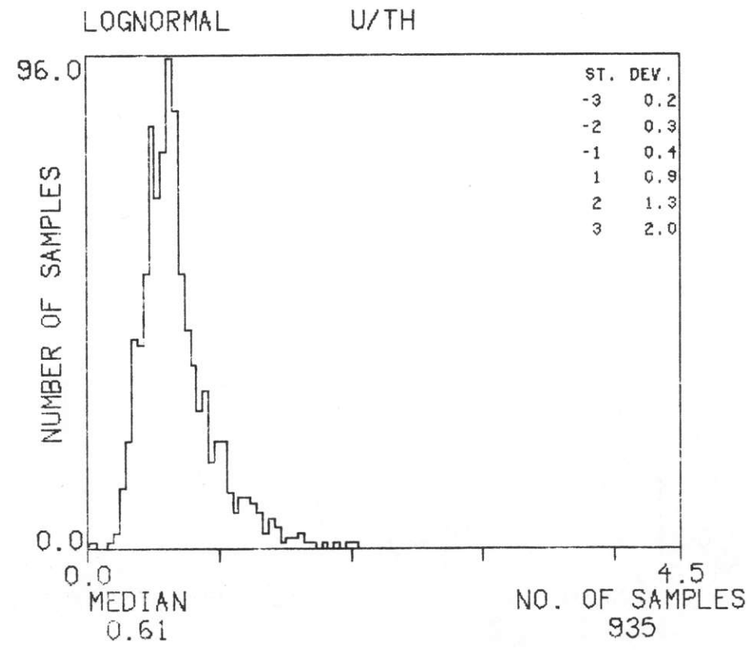
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

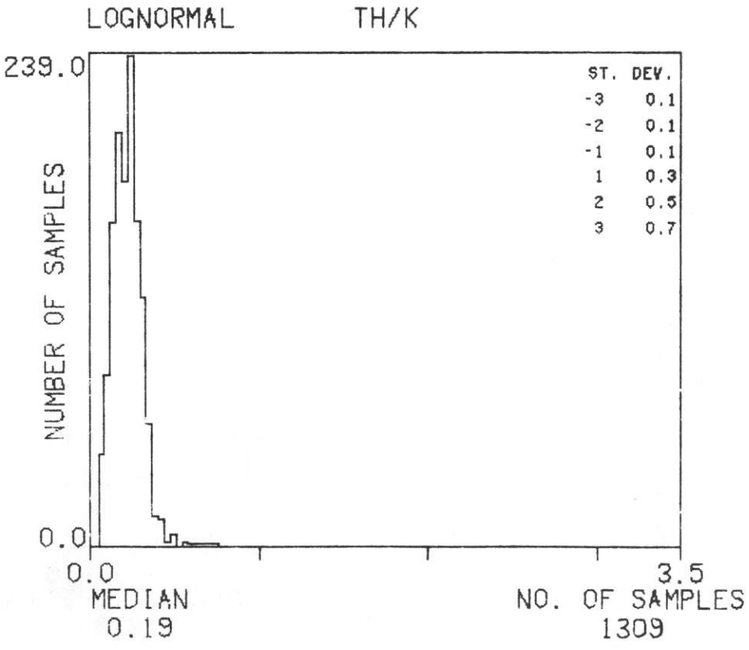






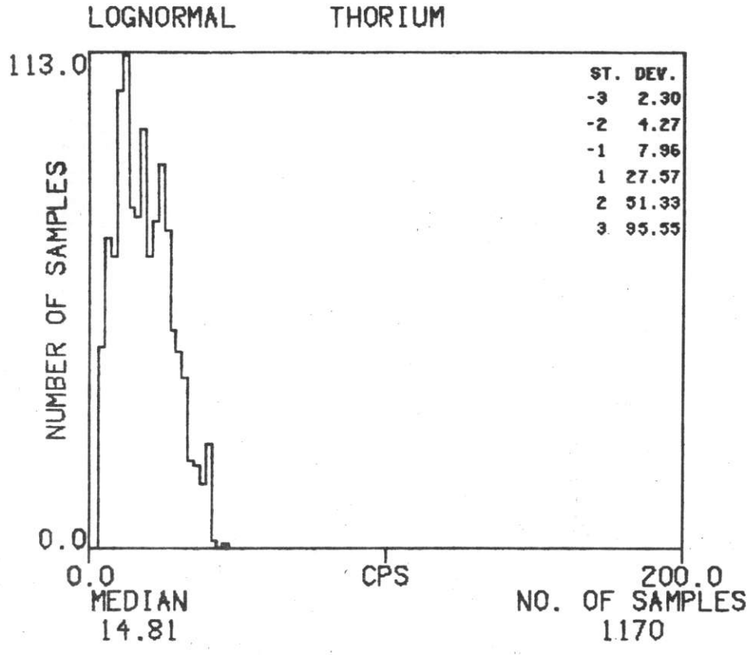


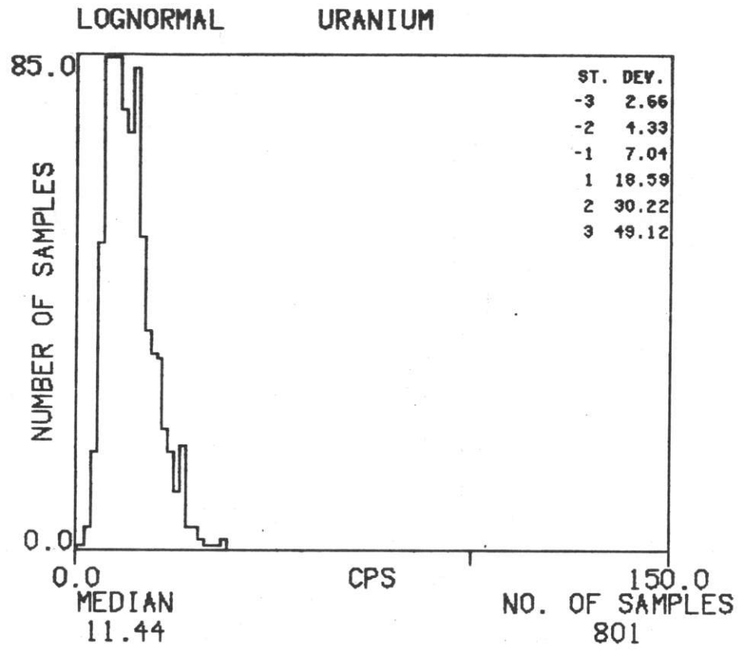


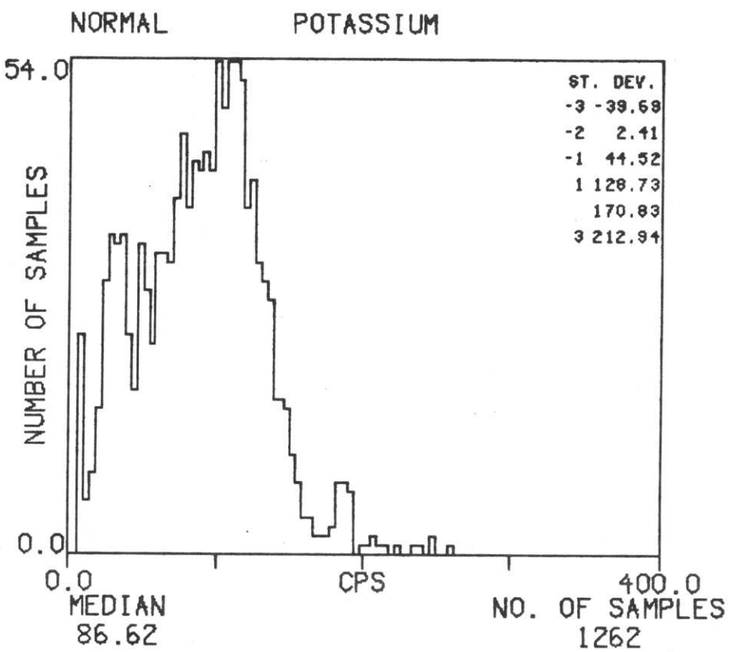


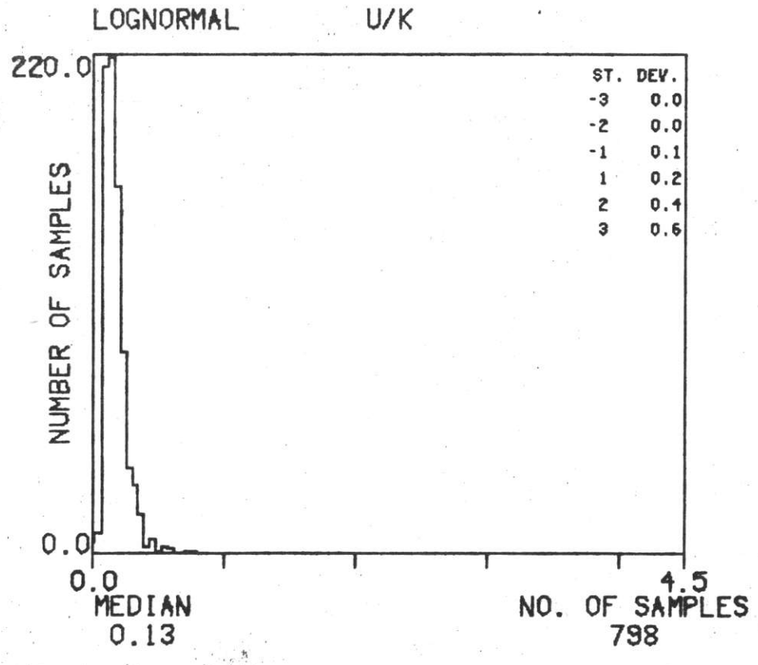
HISTOGRAMS : PZ-1

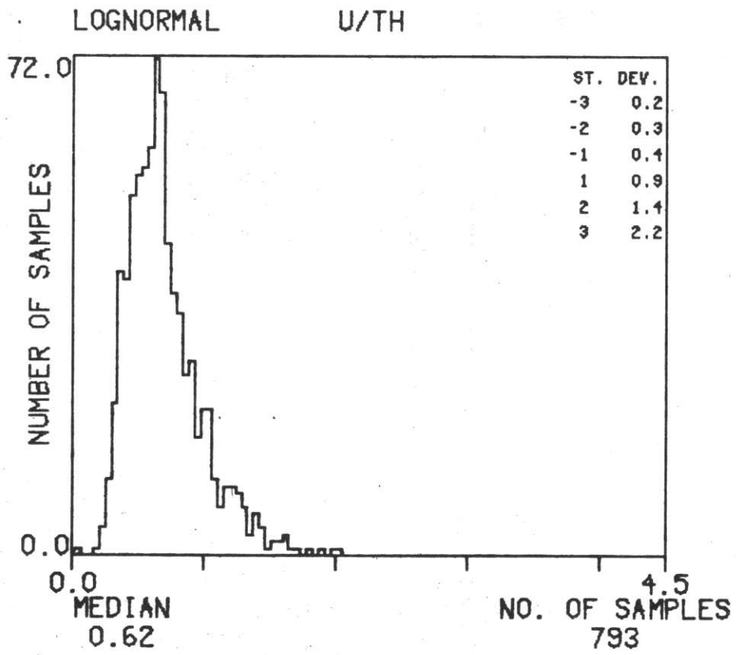
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

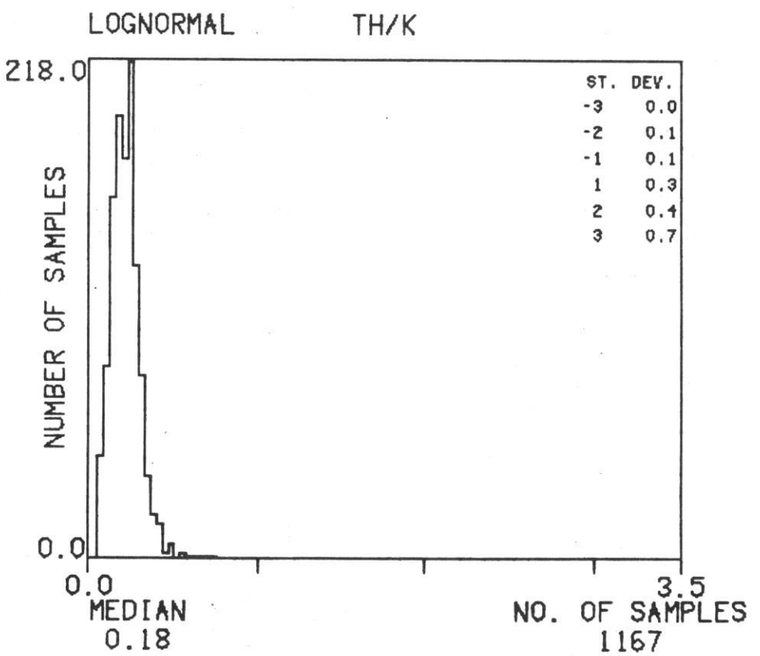






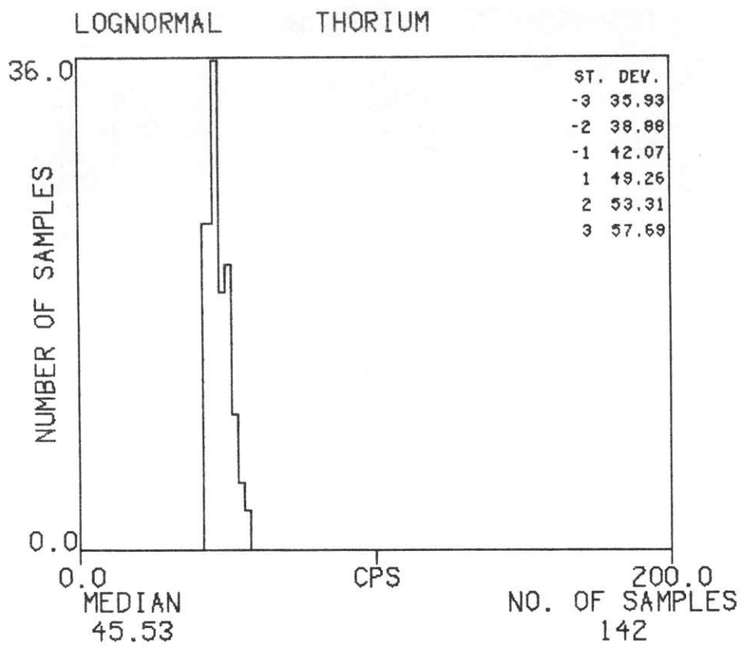


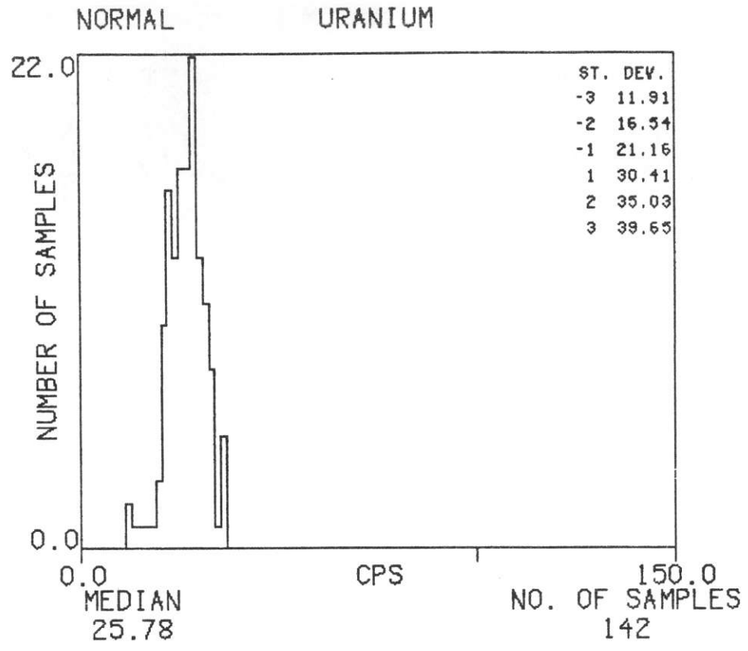


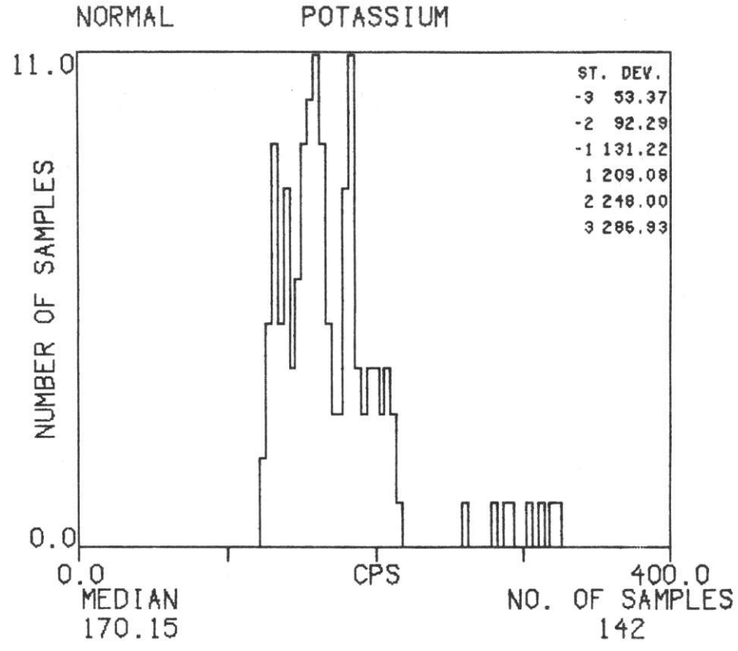


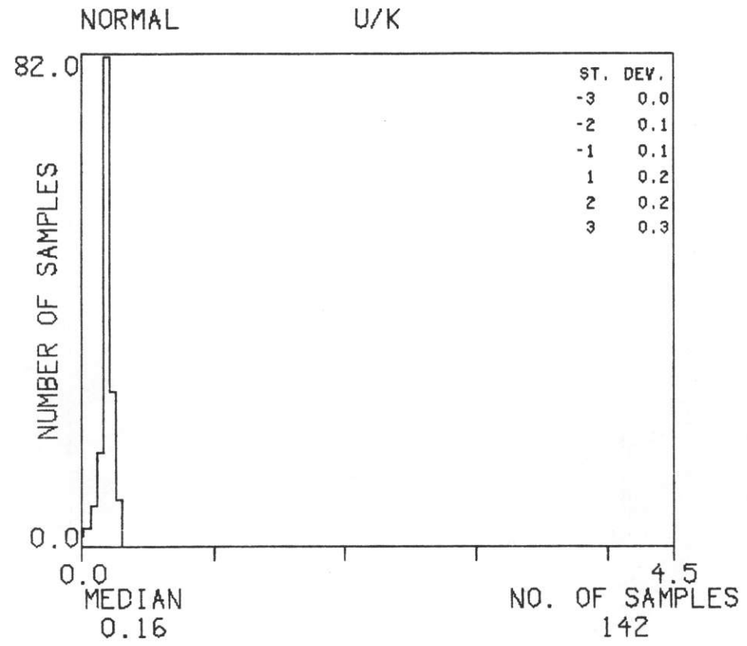
HISTOGRAMS : PZ-2

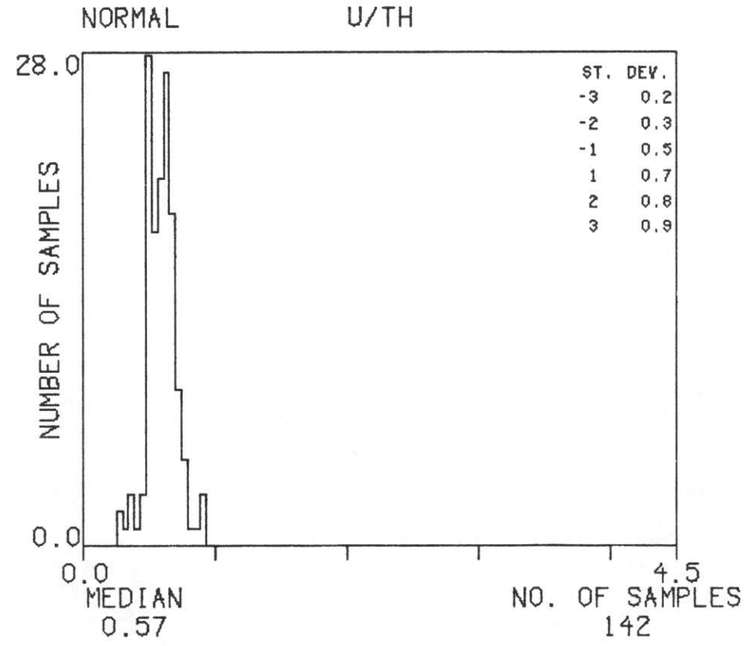
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

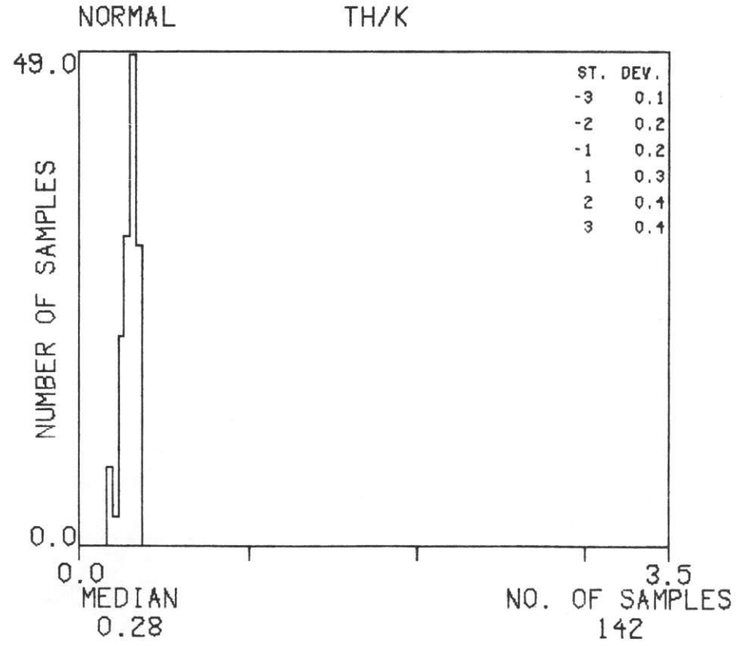








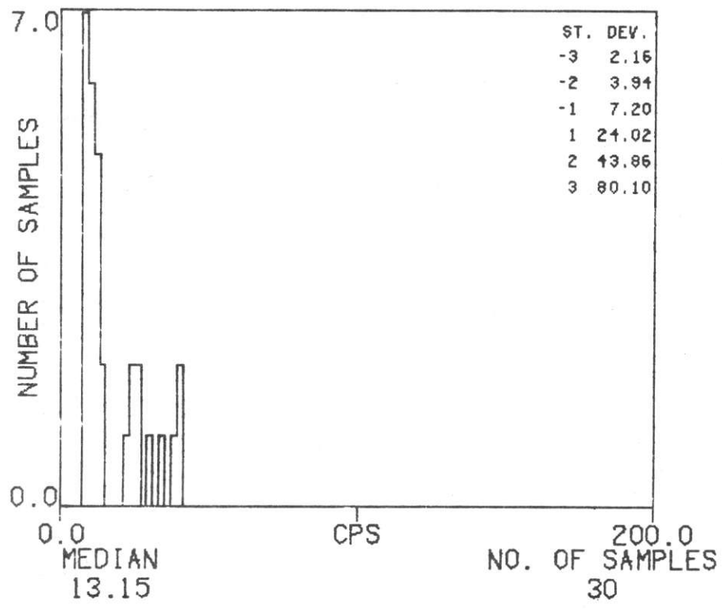




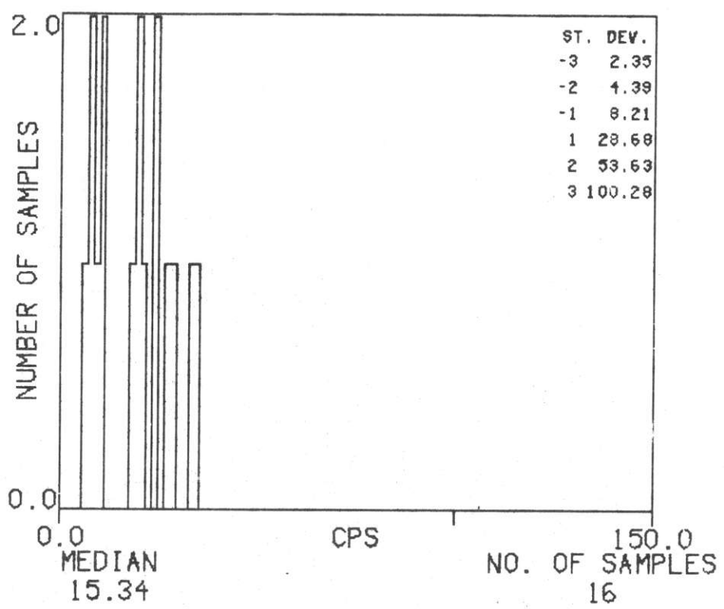
HISTOGRAMS : PZ'

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

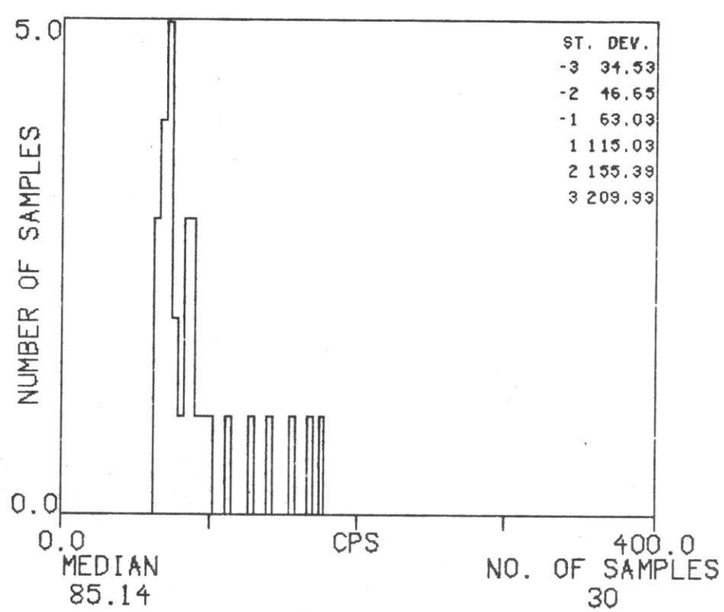
LOGNORMAL THORIUM



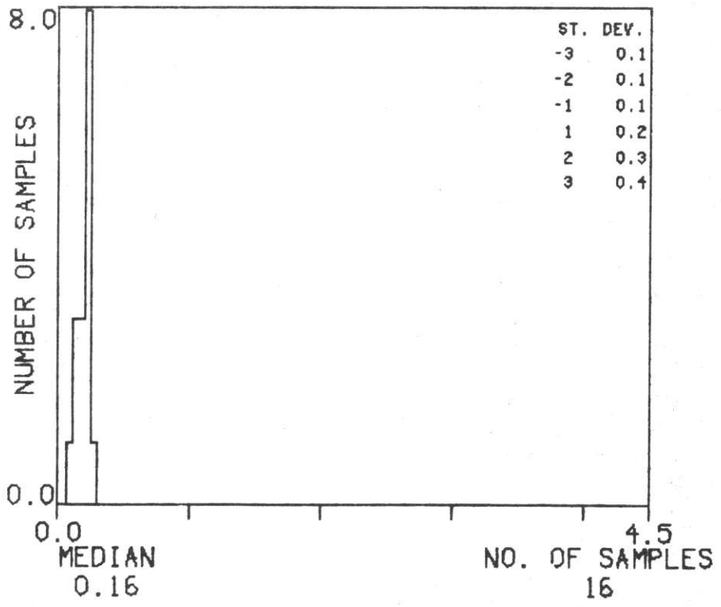
LOGNORMAL URANIUM



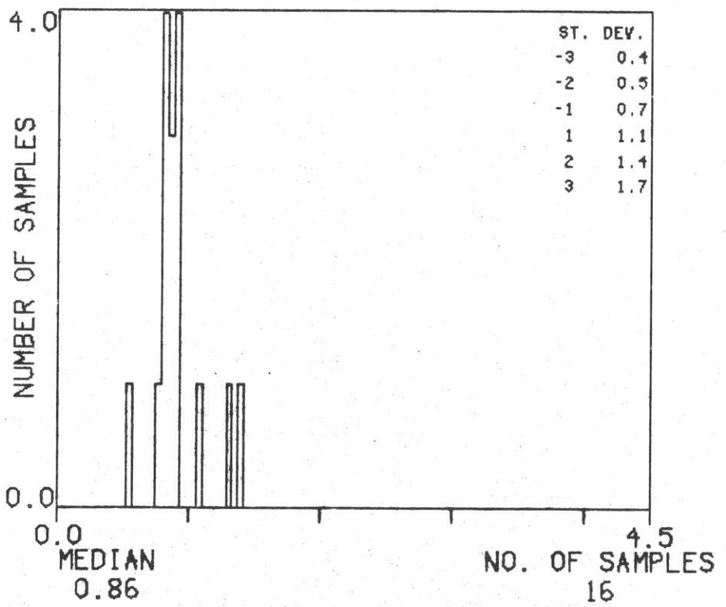
LOGNORMAL POTASSIUM



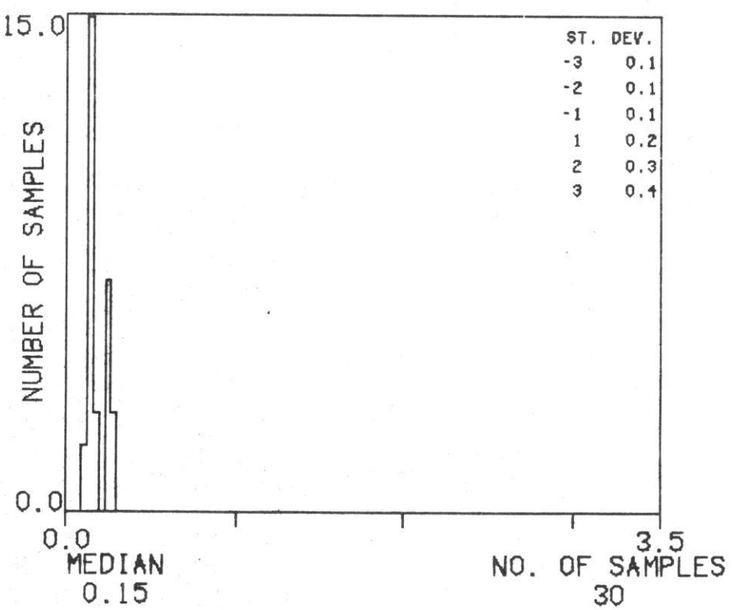
LOGNORMAL U/K



LOGNORMAL U/TH

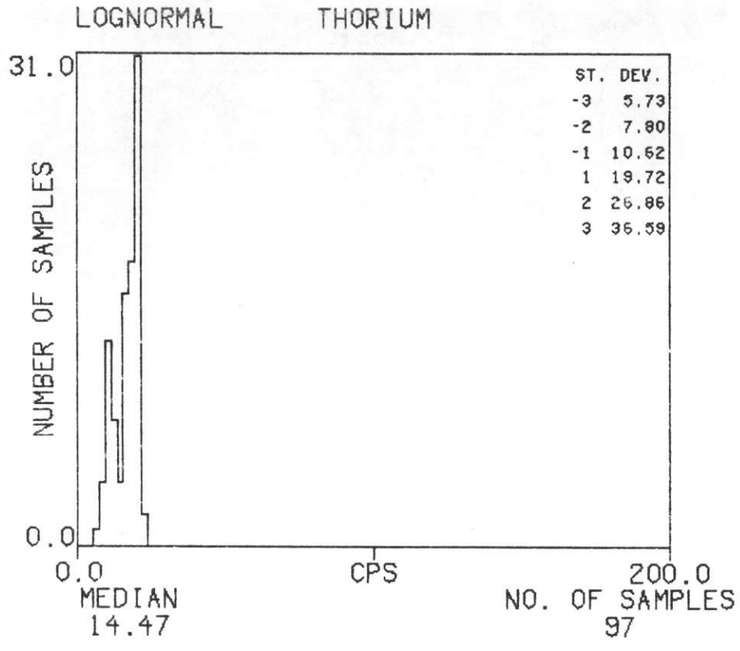


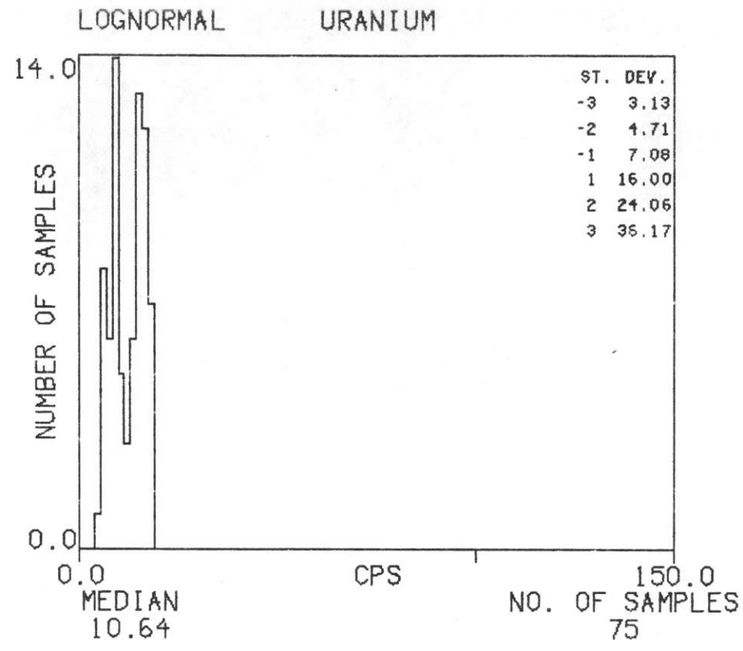
LOGNORMAL TH/K

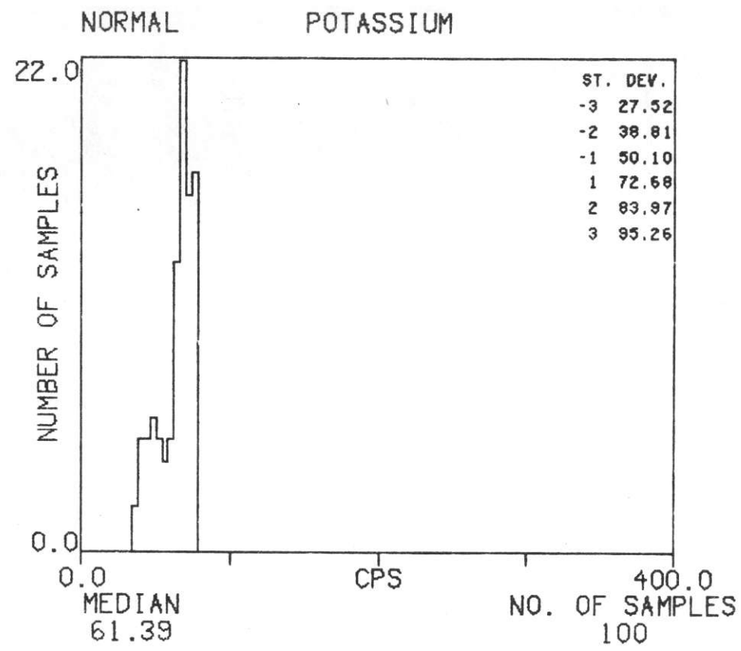


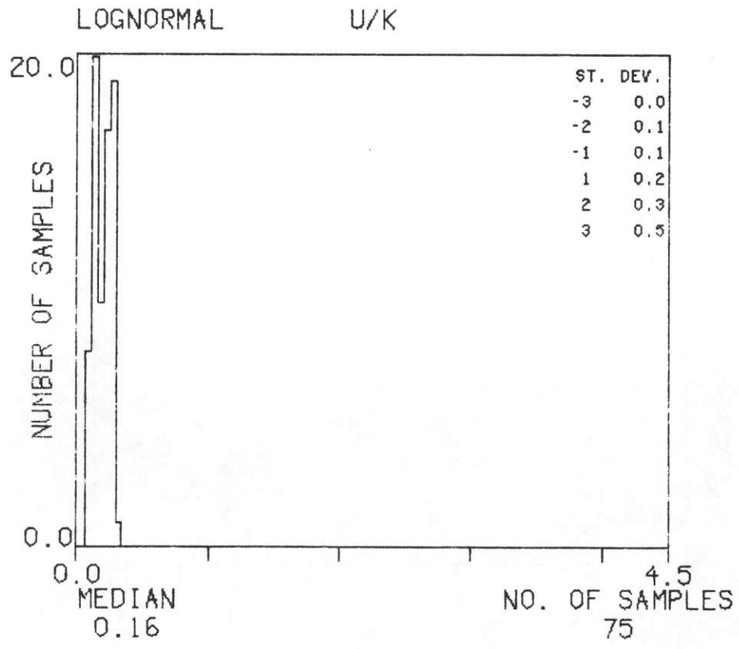
HISTOGRAMS : PZV

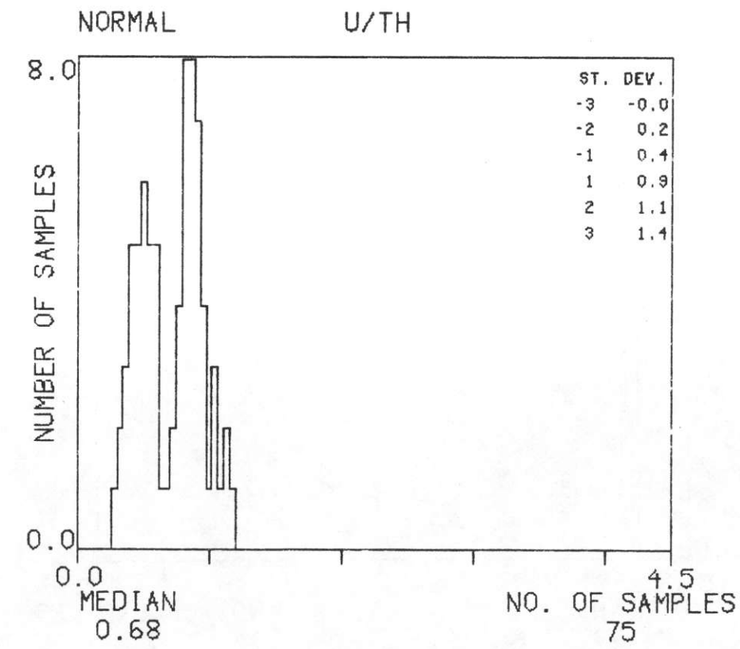
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

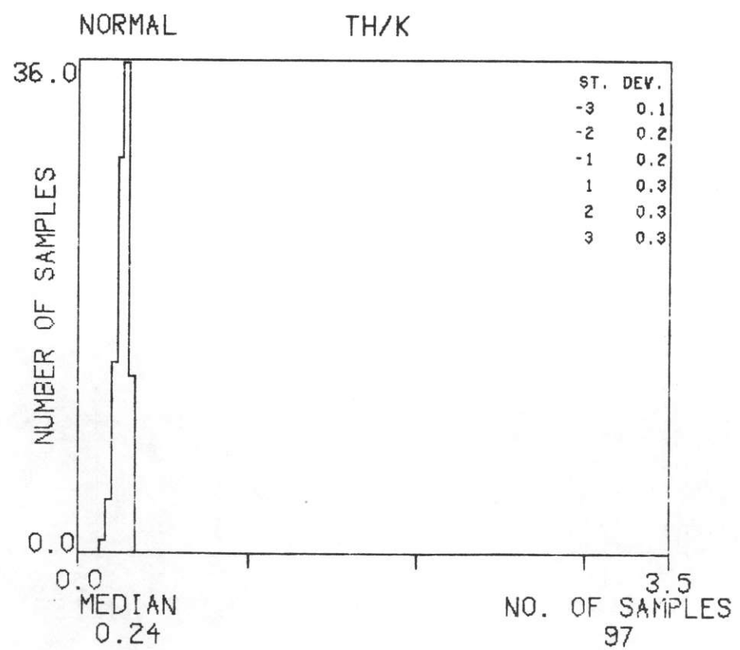






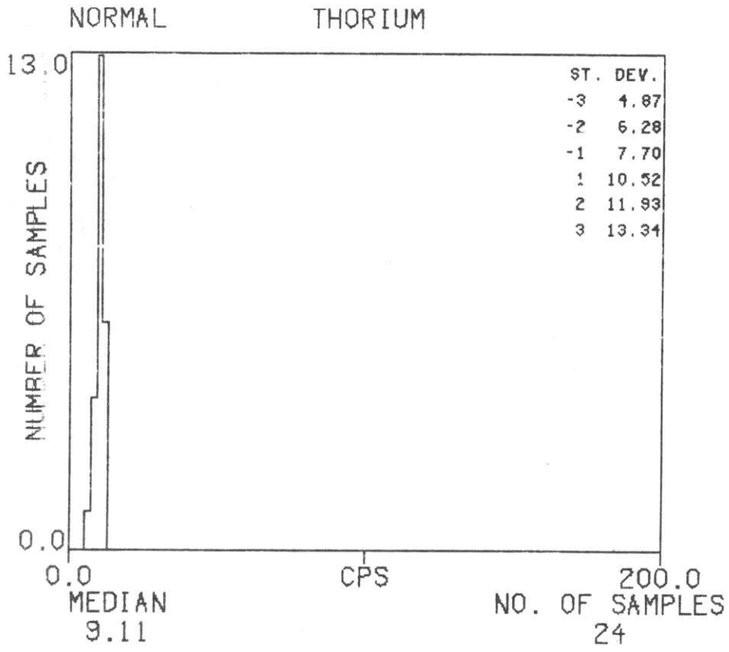


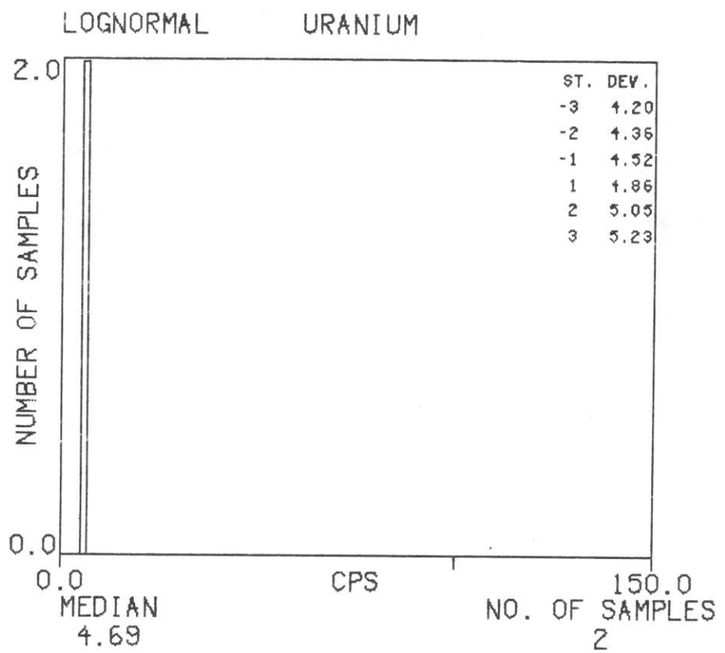


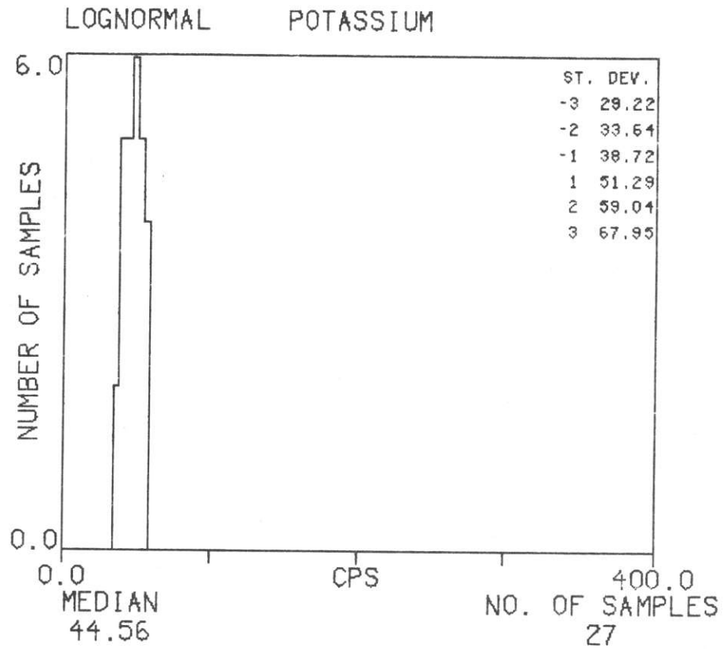


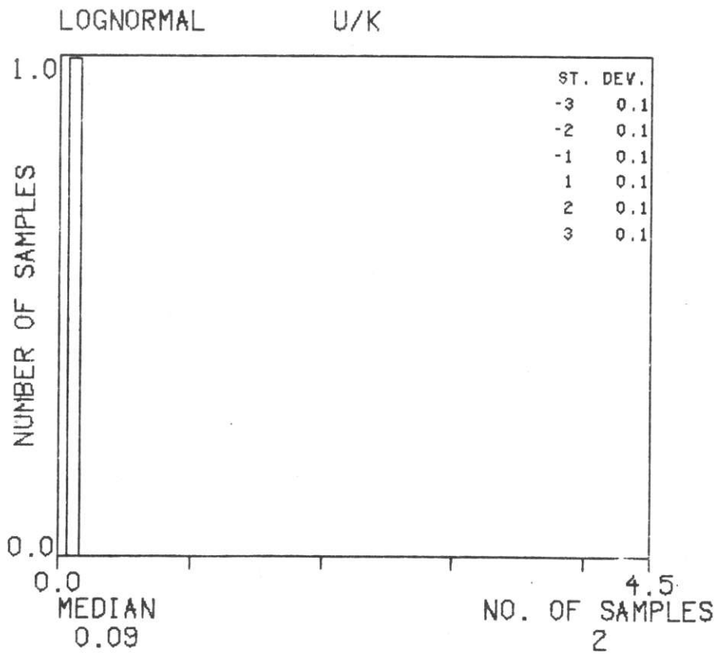
HISTOGRAMS : PZV-1

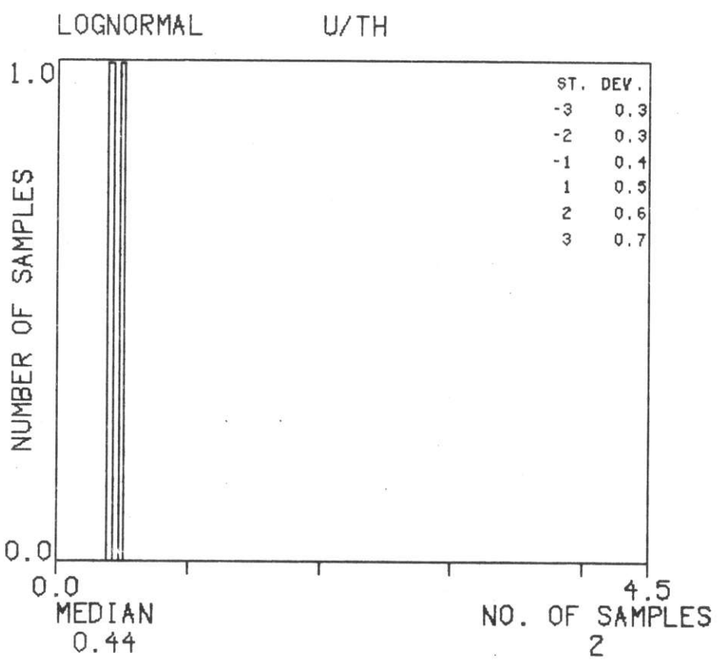
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

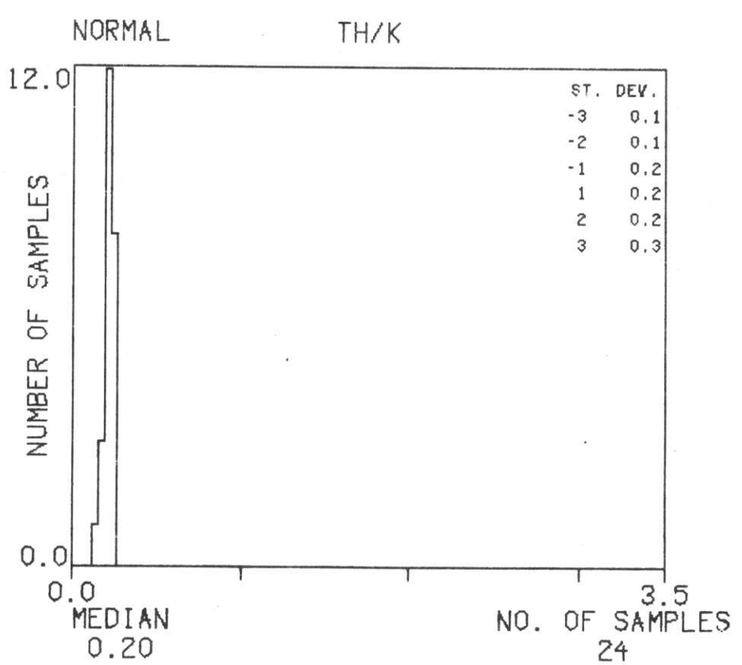








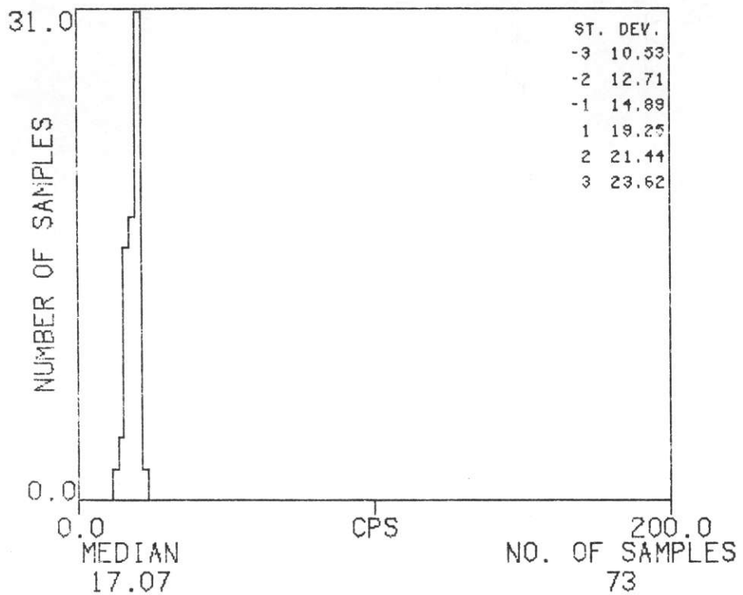




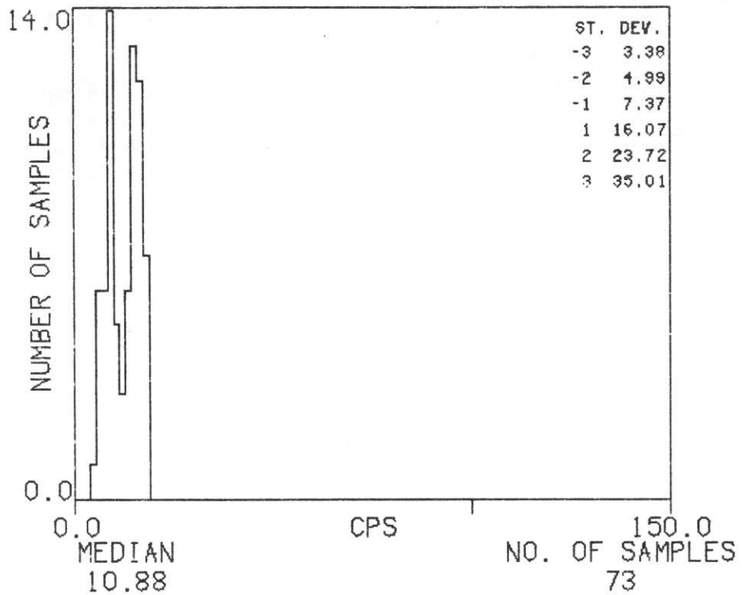
HISTOGRAMS : PZV-2

TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

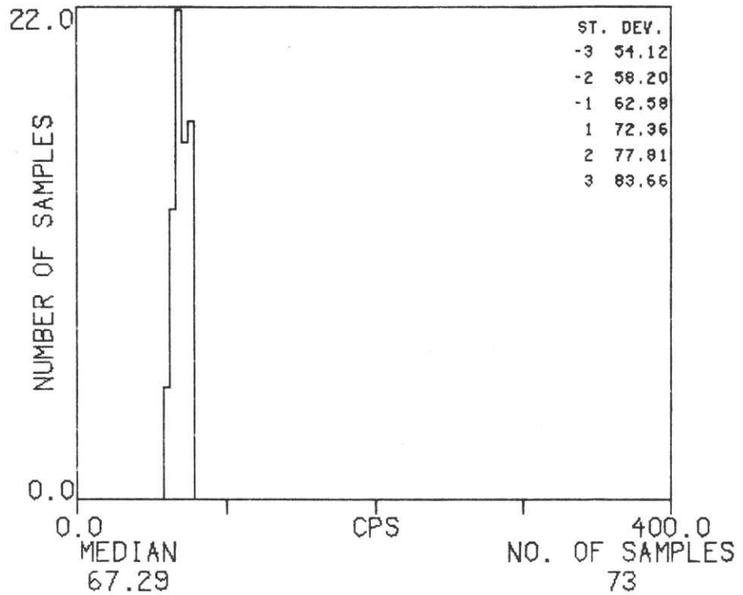
NORMAL THORIUM



LOGNORMAL URANIUM



LOGNORMAL POTASSIUM



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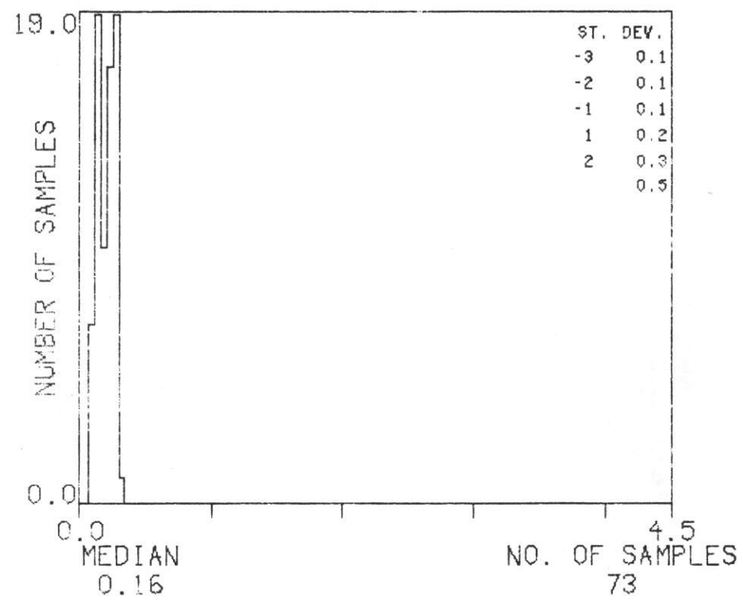

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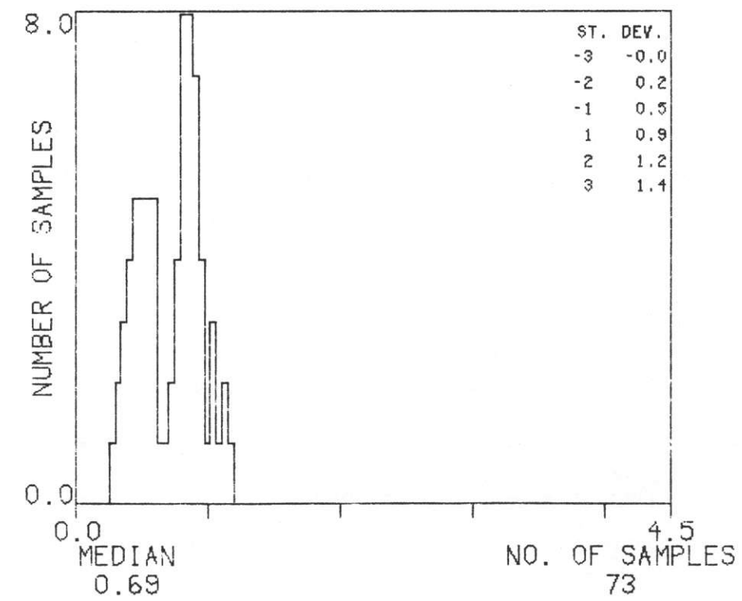

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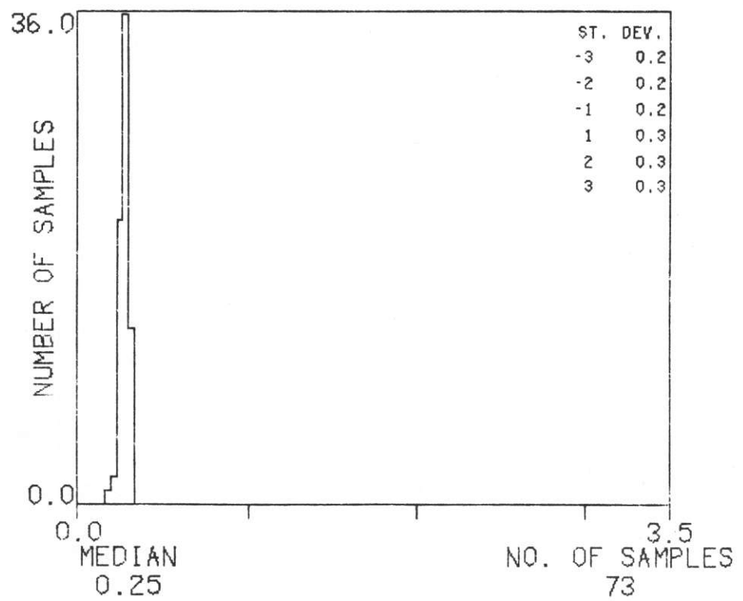
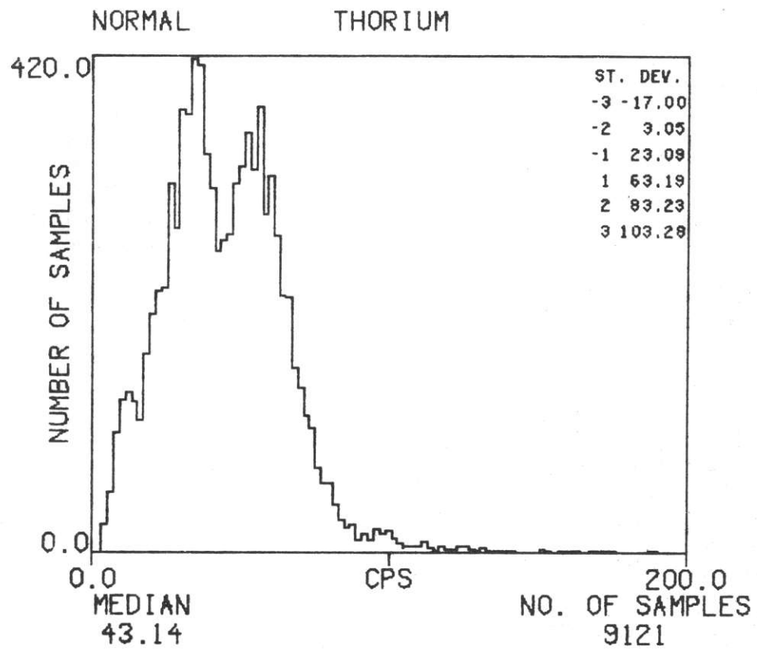
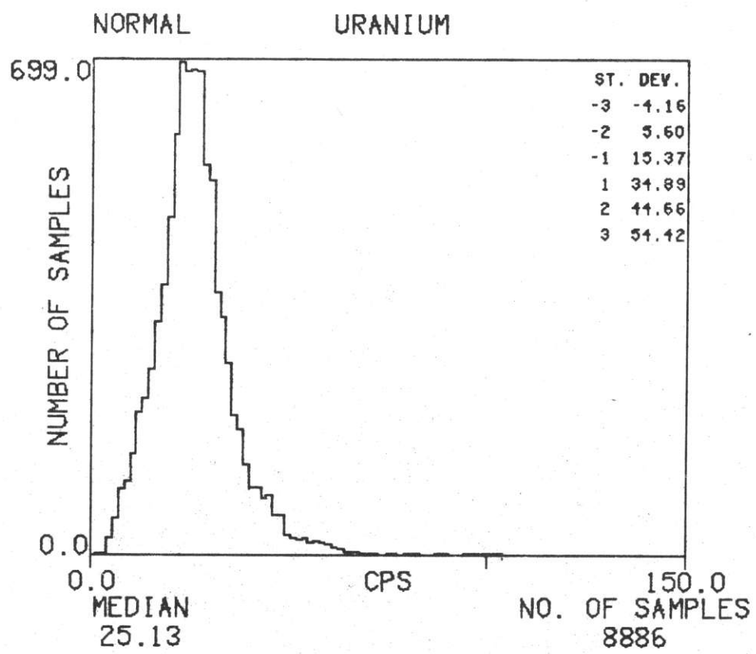
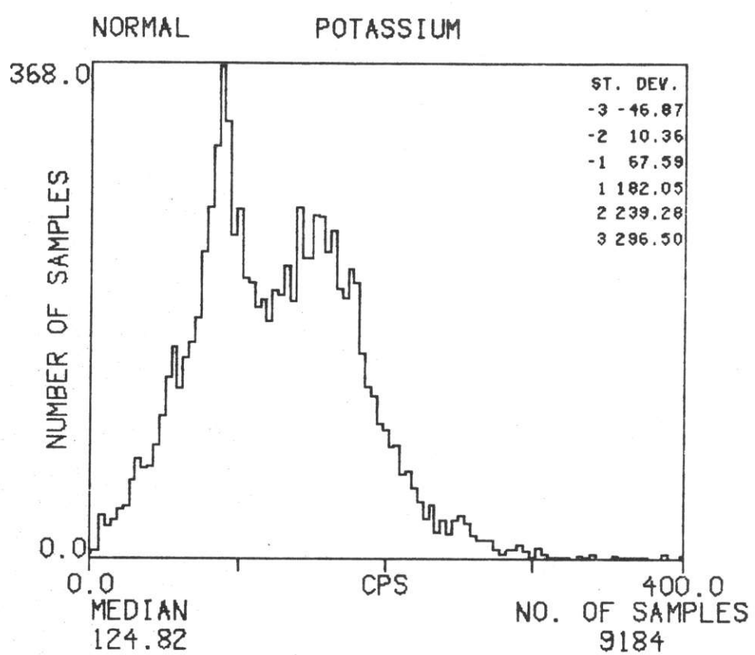


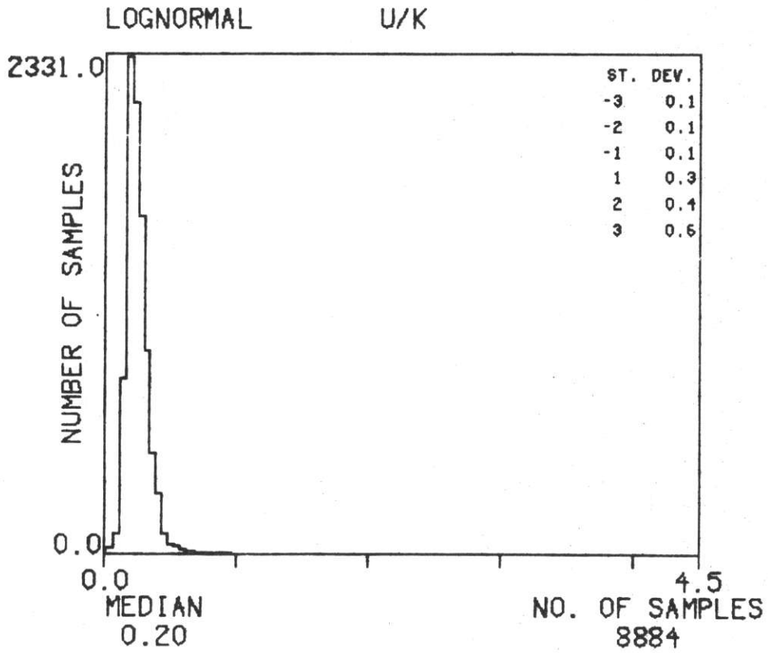
HISTOGRAMS : PZPC

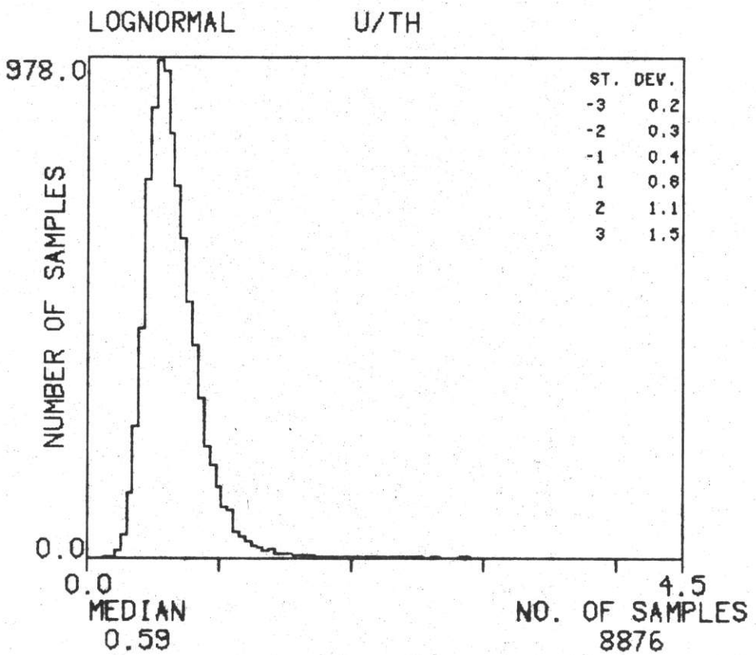
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

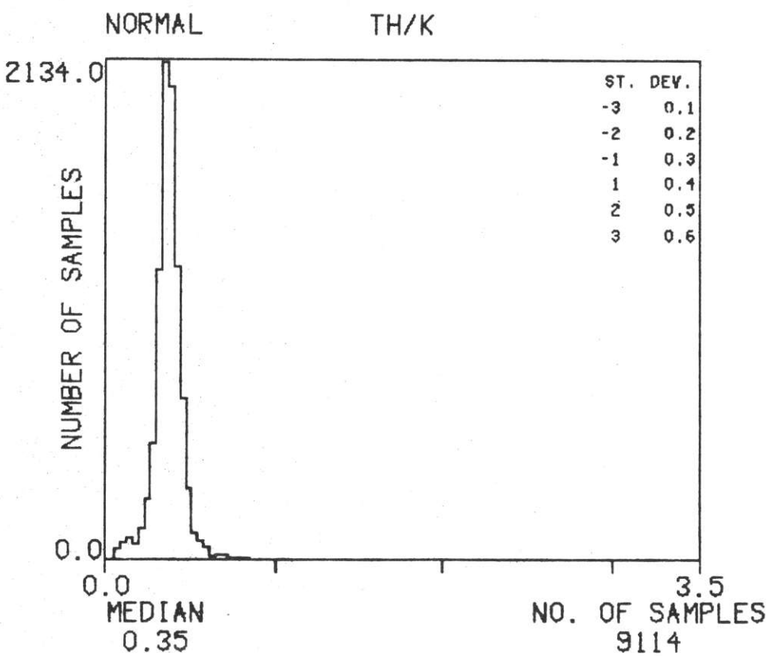












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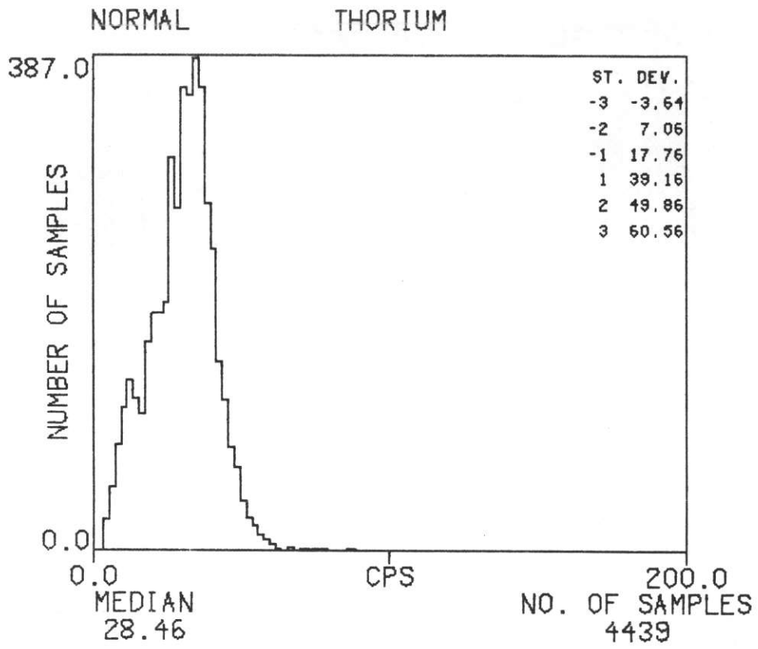
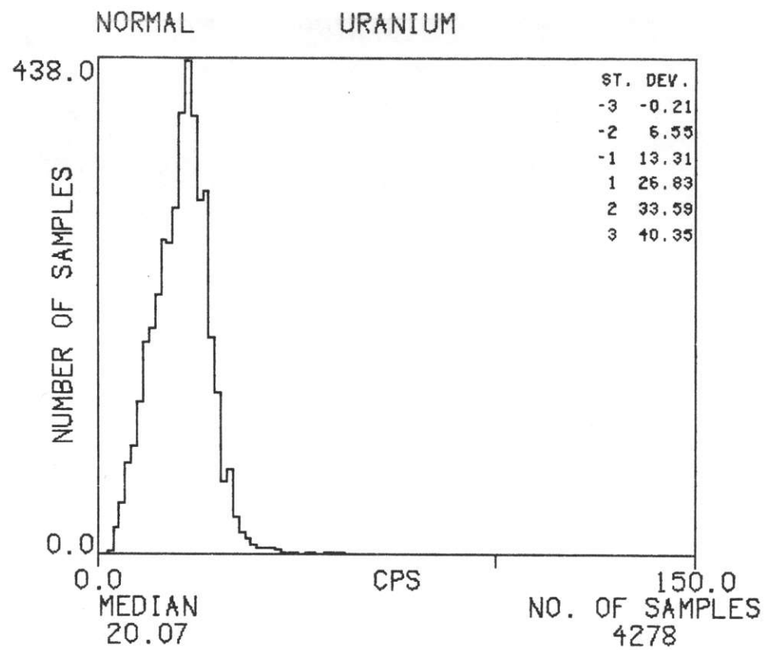
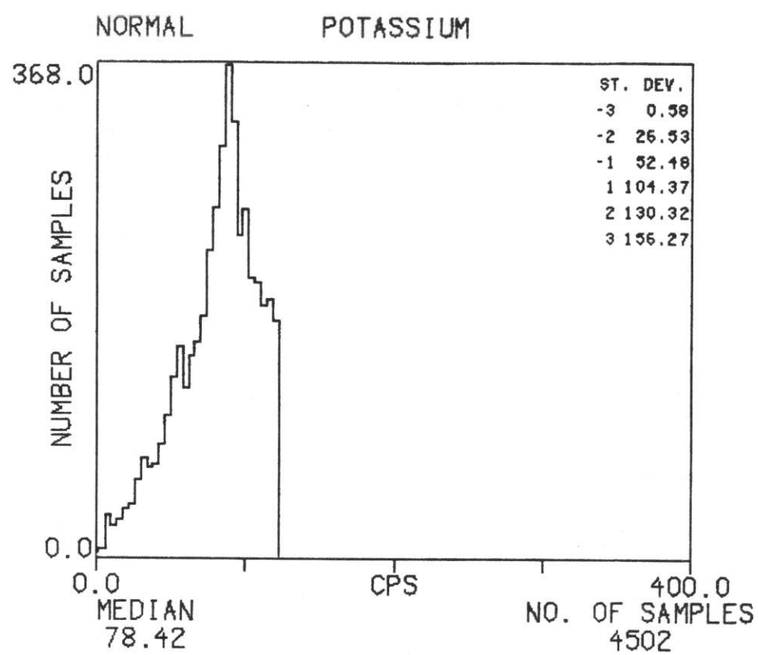
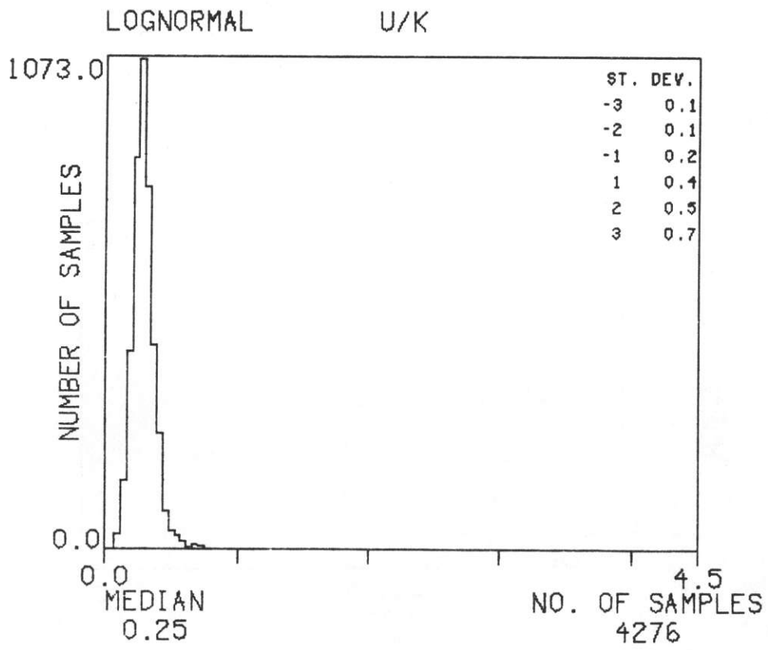
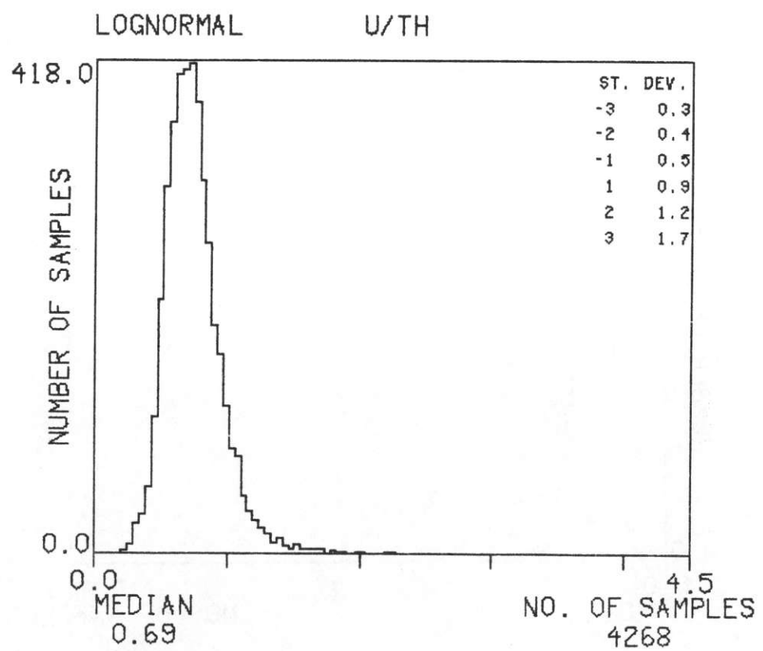
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

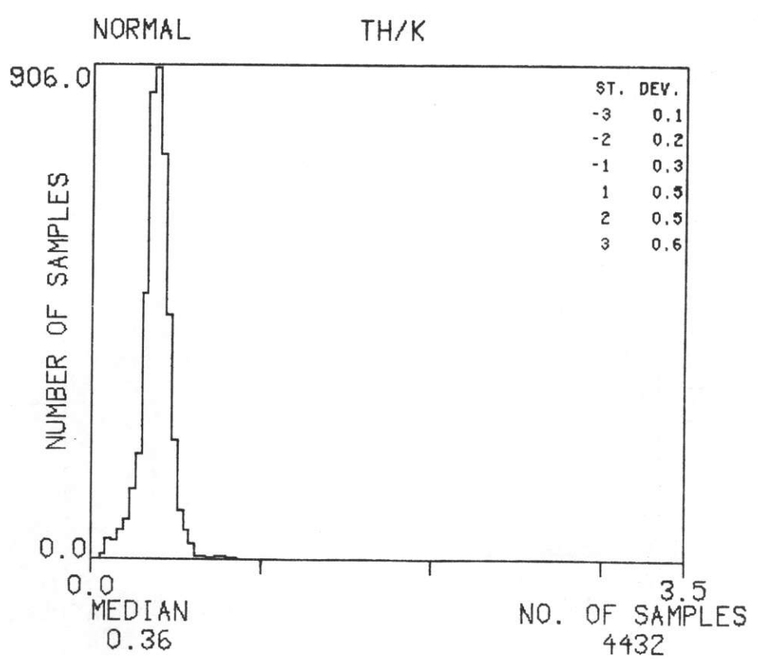












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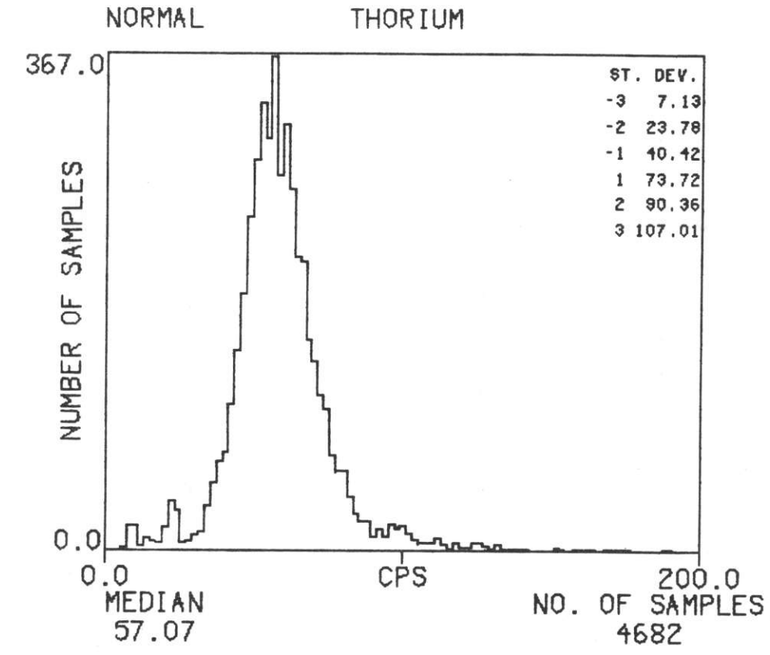
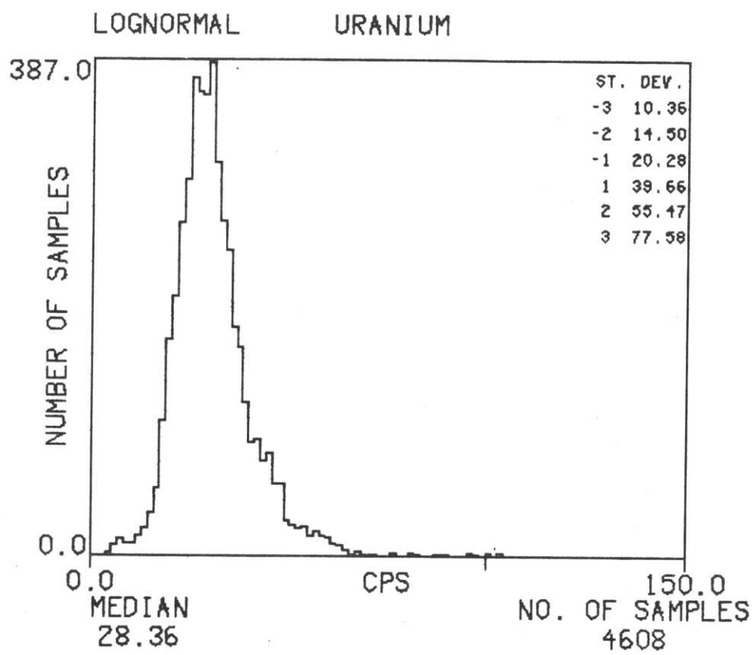
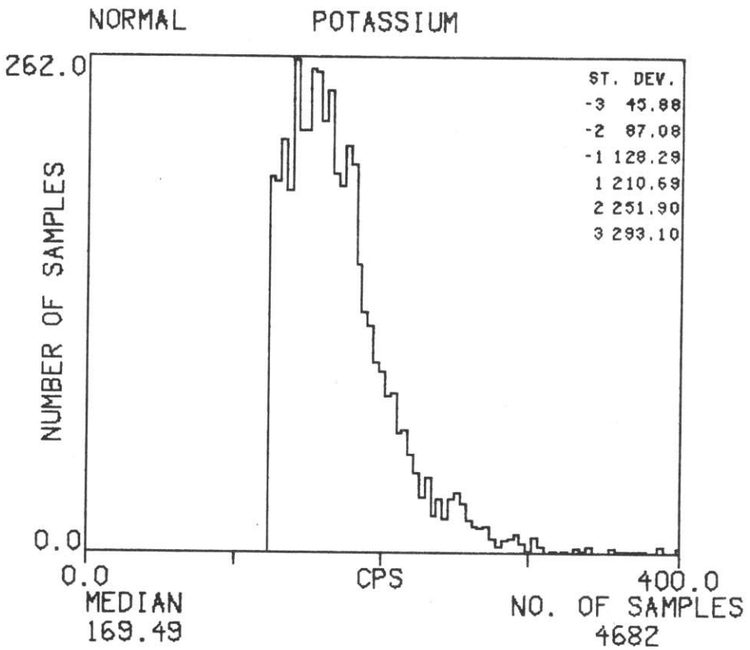
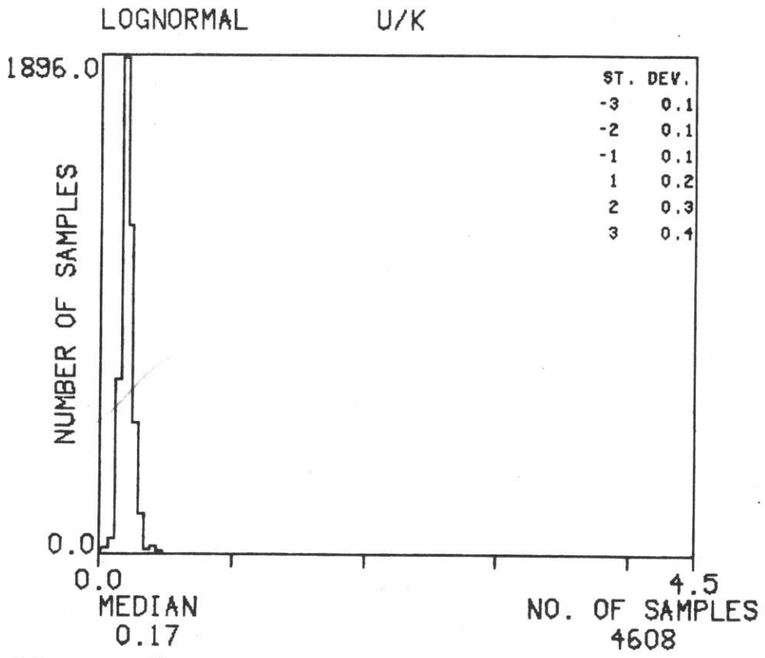
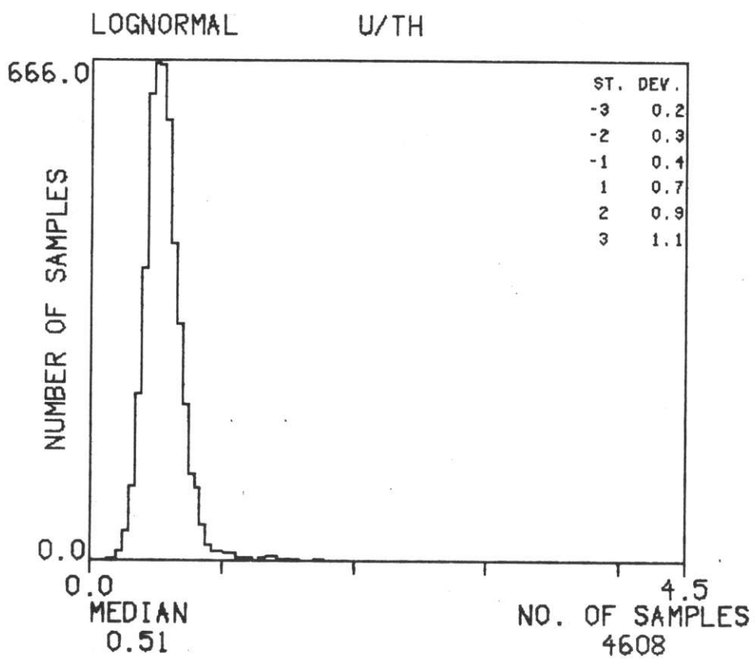
TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977

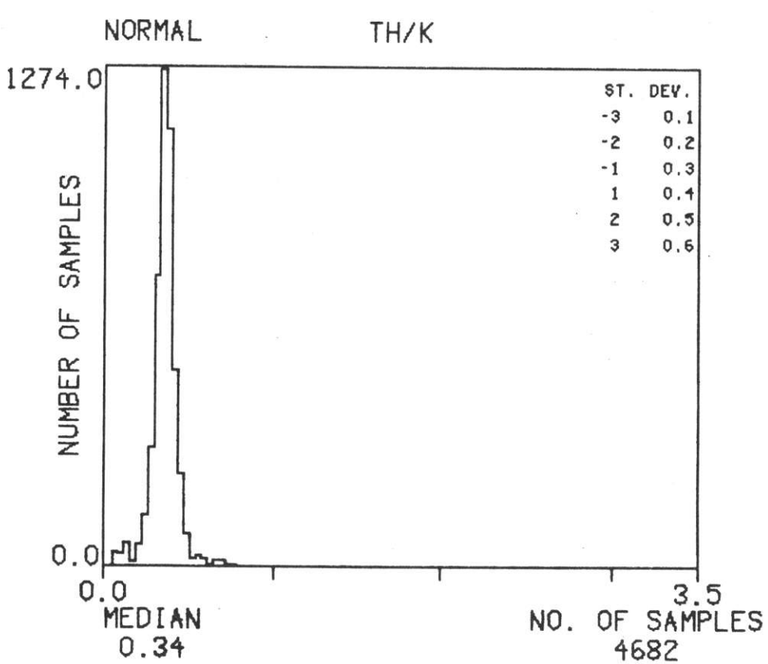












HISTOGRAMS : PZPC'

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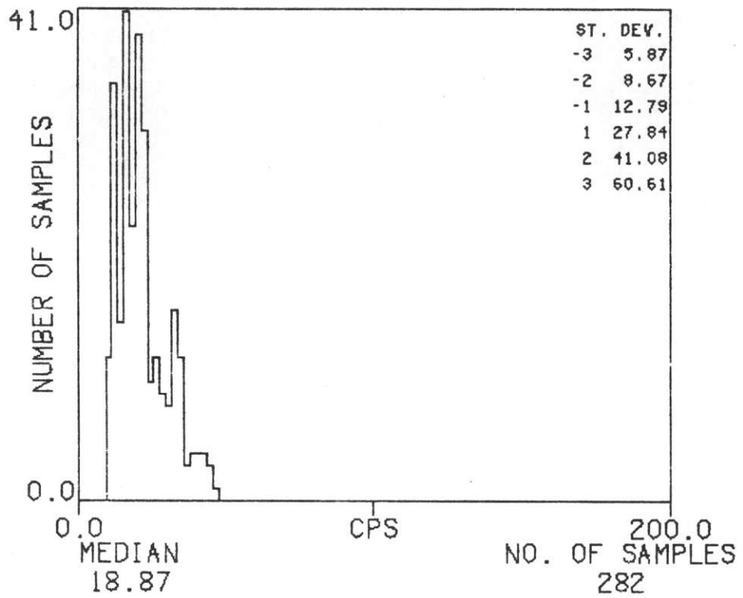
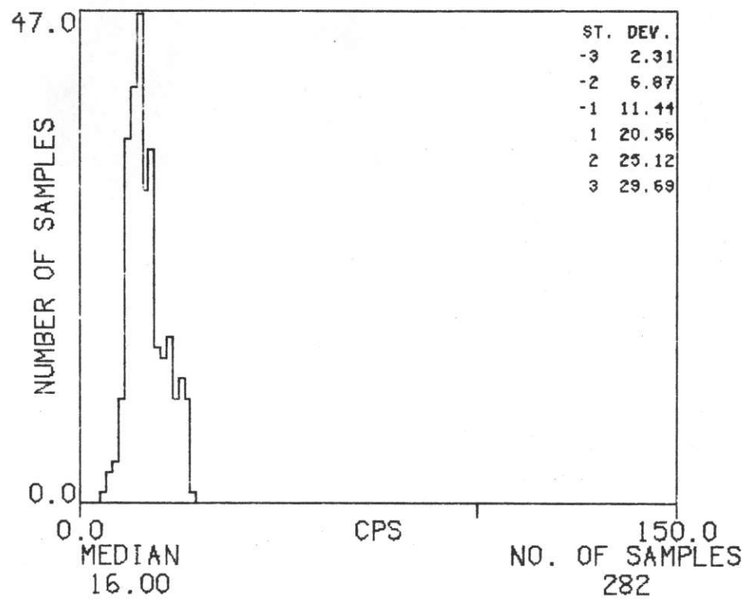
LOGNORMAL THORIUM



NORMAL URANIUM



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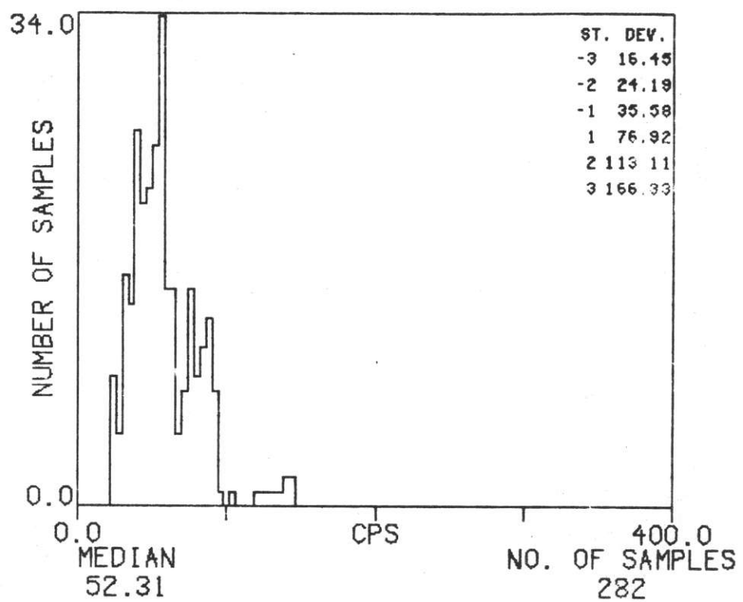
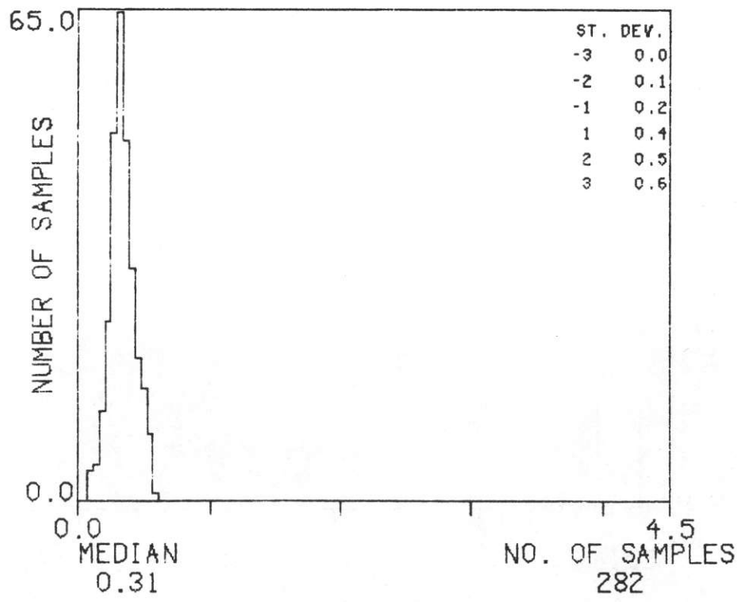


NORMAL U/K



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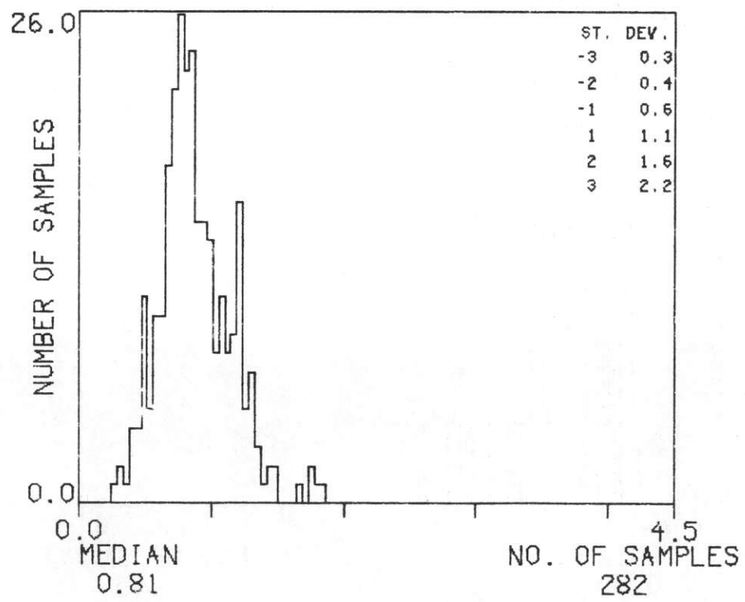

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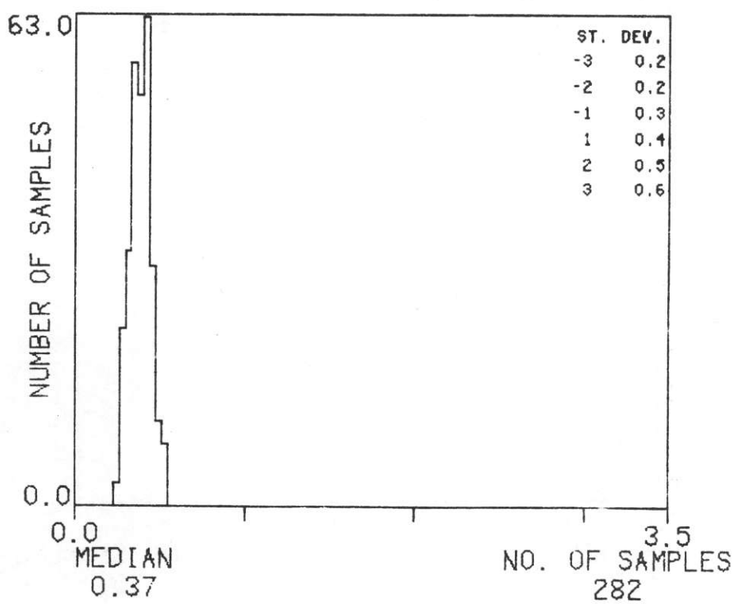

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TEXAS INSTRUMENTS INC. MT. HAYES EAGLE-DILLINGHAM 1977