GJBX-63 '81

MASTER

National Uranium Resource Evaluation

AERIAL GAMMA RAY AND MAGNETIC SURVEY FAIRMONT QUADRANGLE MINNESOTA AND IOWA

FINAL REPORT

EG&G GEOMETRICS
Sunnyvale, California 94086

February 1981

PREPARED FOR U.S. DEPARTMENT OF ENERGY
Assistant Secretary for Resource Applications
Grand Junction Office, Colorado

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Assistant Secretary for Resource Applications
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ABSTRACT

The Fairmont quadrangle covers 6,900 square miles of the northern Midwestern Physiographic Province in northern Iowa and southern Minnesota. The surface is covered with Quaternary glacial and related deposits. The subglacial surface contains Precambrian basement, and some thin Phanerozoic units.

A search of available source material revealed no known uranium deposits.

A total of 91 anomalies were detected and briefly discussed in this report. None were considered significant, and all appear to represent cultural features. Quadrangle-wide average concentrations of K, U, and T are all extremely low.

Magnetic data appear to illustrate complexities in the underlying Precambrian.

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INTRODUCTION

General

The Fairmont quadrangle covers a 6,900 square mile area of northwestern Iowa and southeastern Minnesota, (see Figure 1).

The geologic base map was compiled by AAA Engineering and Drafting, Inc. in 1980. The map was compiled at a scale of 1:250,000 from state geologic maps of 1:500,000 and 1:1,000,000 scales. Geologic map unit descriptions, found in Appendix C, were taken directly from the AAA Engineering map legend. Supplementary geologic information was taken from Fairbridge (ed.) 1975, Flint (1959), and Cohee and others (1962). Cultural and physiographic information was taken from the 1:250,000 scale Fairmont topographic sheet (1975 version).

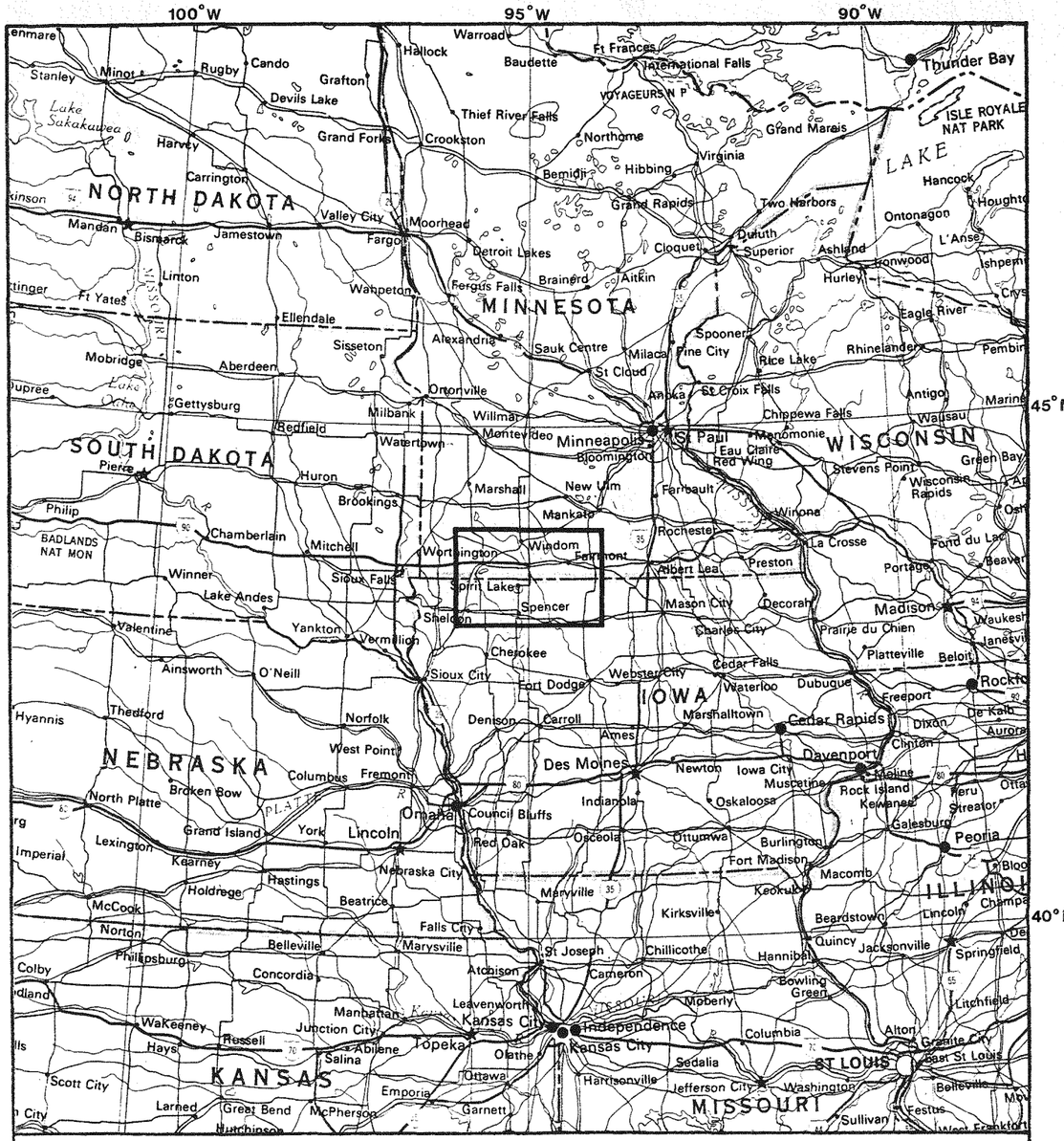
Radiometric and magnetic data were acquired within the Fairmont quadrangle in October and November of 1980, and processed in January of 1981. A detailed summary of data acquisition, processing, interpretation, and presentation methods is contained in Appendix A of this report. A flight summary report for the Fairmont quadrangle is found in Appendix B.

Physiography

The Fairmont quadrangle lies in the Corn Belt region of the northern Midwestern Physiographic Province. The quadrangle contains flat to slightly irregular topography dominated by agricultural activity and post-glacial lakes and ponds. The Des Moines River (flowing SSE through the center of the quadrangle) comprises the major drainage system. Tributaries east of the divide mainly flow south to southeast and intersect the Des Moines River southeast of the quadrangle. Tributaries in the west flow southwest to southeast, but merge south of the quadrangle and flow southeasterly into the Missouri River. The drainage systems are primarily controlled by the southeasterly-trending Mankato and older moraine systems.

Irregularities in the landscape are produced by well-preserved, nearly continous glacial features, as well as stream erosion. Elevations range from 1000 feet in the northeast corner of the quadrangle to over 1800 feet in the northwest corner. The average elevations grade gradually from 1200 feet (eastern edge of the quadrangle) to over 1600 feet (along the western edge).

Though the region is predominately agricultural, it contains numerous towns with populations in excess of 8000. The entire quadrangle is covered with a moderately dense grid of roads, several major U.S. freeways, and an extensive network of railroads.



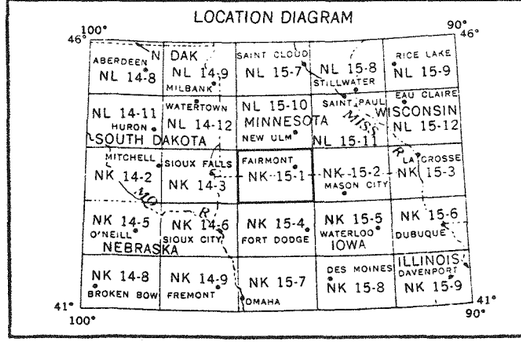


FIGURE 1

LOCATION MAP

FAIRMONT QUADRANGLE

Scale

100 50 0 100 MILES

GEOLOGY

Structure

The Fairmont quadrangle covers the eastern portion of the Sioux Uplift (see Figure 2). With three different datums, (Precambrian Rocks, late Cambrian Dresbach Formation, and the Ordovician Trenton limestone), the resulting Cretaceous and Paleozoic sediment thicknesses range considerably within the quadrangle. In general, the total Phanerozoic sediment thicknesses range from 700 feet to nearly zero, with only a thin veneer of Quaternary glacial sediments.

As mapped by AAA Engineering, there are no faults disturbing surficial units. Cohee and others (1962) show no structural complexities in the Paleozoics.

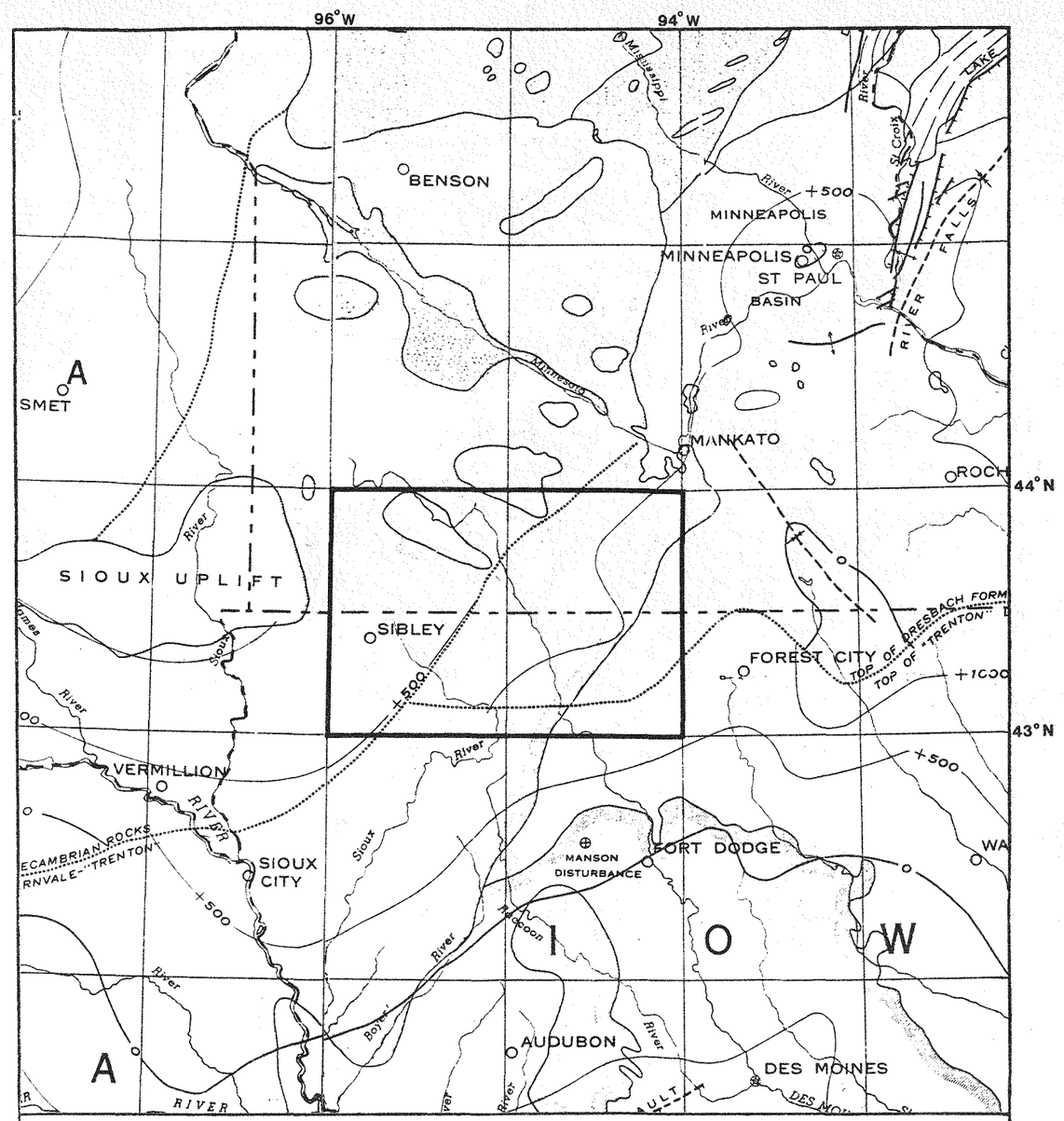
Surface Geology

As mapped, the Fairmont quadrangle contains no exposed bedrock. The entire area is mantled by Quaternary material that is composed of a combination of glacial, periglacial, and post-glacial cover.

The Quaternary system is dominated by Wisconsinan (Mankato and Iowan stages) glacial and related deposits. As mapped, glacial till from ground and end moraines covers approximately 80 percent of the surface. These moraines all show a northwesterly orientation throughout the quadrangle. Undivided alluvium and outwash deposits are mapped in and around present drainage systems. These concentrations of gravel, sand, and silt cover 15 percent of the quadrangle's surface. The Aftonian loess deposits (Flint, 1959) cover 4 percent of the area, and are limited to the southwest corner. These deposits vary from 4 to 10 feet in thickness (Flint, 1949) and overlie glacial till. The origin of these deposits appears to be from the Sand Hills region of north-central Nebraska (Fairbridge, 1975). The remaining 1 percent of surficial materials is represented by post-glacial lake deposits (silt, sand, and clay), and is confined to two localized regions in the south-central portion of the quadrangle.

Uranium

According to available literature, there are no known uranium deposits in the Fairmont quadrangle.



After
USGS and AAPG
Tectonic Map of the United States
by
Cohee and others (1962)

FIGURE 2

TECTONIC STRUCTURE MAP
FAIRMONT QUADRANGLE

Scale 1:2,500,000

25 0 25 50 75 MILES

INTERPRETATION OF GEOPHYSICAL DATA

Radiometric Data

A total of 91 groups of uranium (Bi214) samples meet the minimum statistical requirements for anomaly definitions as set forth in the data interpretation section of Appendix A. These are displayed, along with all other anomalous samples and pertinent data, on Figure 3. The anomalies are summarized in a table in Appendix G. The potassium, uranium, thorium, and ratio pseudo-contour maps, which reflect radiometric responses for the entire quadrangle, are found in Appendix H. Discussion of the abundances of potassium, uranium, and thorium are in terms of apparent equivalent percent and apparent equivalent ppm. These equivalent units are derived from scaling of counts per second data by the sensitivities calculated for the detection system and as such cannot be taken as directly determined geochemical values.

Concentrations of the three radioactive elements are extremely low in the Fairmont quadrangle. The average uranium concentration is 1.9 ppmeU. Potassium and thorium have average concentrations of 1.0 percent and 5.6 ppmeT respectively.

Map unit QL (Quaternary loess) has the highest average concentrations of K, U, and T at 1.2 percent, 2.4 ppmeU, and 6.8 ppmeT. This appears to be typical of the midwestern area in general.

The highest peak uranium concentration is found in map unit QGM (Quaternary ground moraine) at 4.0 ppmeU. Thorium has a peak concentration of 8.5 ppmeT in map unit QAO (Quaternary alluvium). Potassium is highest in map unit QEM (Quaternary end moraine) at 1.6 percent. In general, the peak concentrations of all three elements are similar in each of the map units.

Examination of the gamma ray profiles (Appendix D) shows several lines that have significantly higher uranium and BiAir concentrations. These peculiar radiometric signatures have been encountered in previous surveys nearby, and seem to indicate some weather phenomenon that the present radon correction scheme (based upon the assumption of uniform, homogenous radon distribution) has some difficulty in correcting for. Assuming that the absolute ground uranium concentrations in these areas are actually similar to those of adjacent and crossing lines, an adjustment of the uranium and affected ratios was made. Statistical analysis were done using the corrected values.

Anomalies are largely scattered throughout the quadrangle, but tend to concentrate slightly around the flood plain of the Des Moines River. All the anomalies are associated with cultural features (such as roads, railroads, quarries, etc.). Peak concentrations range as high as 4.0 ppmeU in anomaly 72. The high correlation with culture, coupled with the low concentration levels indicate that none of the anomalies are significant in any respect.

Magnetic Data

The Fairmont quadrangle is characterized by thin Phanerozoic cover over Precambrian basement. The magnetic field pseudo-contour map in Appendix H shows the magnetic field to be extremely complex, with regions of high and low gradients, and several isolated and short linear features. These features may represent lithologic and/or structural complexities in the underlying Precambrian. More detailed geologic information is needed (such as drill hole data) to prove or disprove this hypothesis.

FAIRMONT

SLAYTON
SAINT JAMES
MOUNTAIN LAKE
WINDOM
DES MOINES
HERON LAKE
SOUTH HERON LAKE
LAKEFIELD
FAIRMONT
BLUE EARTH
OKABENA LAKE
WORTHINGTON
JACKSON
SPIRIT LAKE
OKAMANPEEDAN LAKE
SPIRIT LAKE
ESTHERVILLE
SIBLEY
OKOBOJI LAKE
ARNOLD
RIVER
SHELDON
SPENCER
FIVE ISLAND LAKE
EMMETSBURG
ALGONA

96 00
95 00
94 00
44 00
43 30
43 00

URANIUM ANOMALY/ INTERPRETATION MAP

*FAIRMONT QUADRANGLE

U.S. DEPARTMENT OF ENERGY

APPROXIMATE SCALE 1:500,000

EXPLANATION

□ – CITY OR TOWN

⁘ – URANIUM SAMPLE MEETING FOLLOWING CRITERIA:

(1) $1.0 \leq U \leq \infty$

(2) $-1.0 \leq T \leq \infty$

(3) $1.0 \leq U/T \leq \infty$

IN STANDARD DEVIATION UNITS. EACH SQUARE REPRESENTS 1 STANDARD DEVIATION.

⁘ – URANIUM ANOMALY:

A SINGLE SAMPLE OF 3 OR MORE STANDARD DEVIATIONS OR GROUP OF ADJOINING SAMPLES WHICH TOGETHER TOTAL 4 OR MORE STANDARD DEVIATIONS, $4.0 \leq \text{sum} \leq \infty$, WITH AT LEAST ONE SAMPLE OF 2 OR MORE STANDARD DEVIATIONS.

N

SURVEY AND COMPILATION BY:

EG&G GEOMETRICS

Figure 3 - Uranium Anomaly/Interpretation Map -*Fairmont Quadrangle

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APPENDIX B - Flight Summary

APPENDIX B

DAILY PRODUCTION SUMMARY

OCTOBER, NOVEMBER, 1980

QUEEN AIR N9AG

Oct.	24-25	Base Mobilization
	26	612 line miles, Ft. Dodge, Waterloo, Dubuque
	27	Weather - nil production
	28	" " "
	29	740 line miles, Fairmont, Mason City, La Crosse
	30	740 " " " " "
	31	Testing - nil production
Nov.	1	" " "
	2	" "
	3	Weather - nil production
	4	420 line miles, Mason City, La Crosse
	5	740 " " Fairmont, Mason City, La Crosse
	6	Aircraft Maintenance
	7	" "
	8	Weather - nil production
	9	740 line miles, Fairmont, Mason City, La Crosse
	10	810 " " , " " "
	11	661 " " , " " "
	12	886 " " , Ft. Dodge, Waterloo, Dubuque, Omaha
	13	Weather - nil production
	14	886 line miles, Ft. Dodge, Waterloo, Dubuque, Omaha
	15	886 " " " " " "
	16	612 " " , " " " "
	17	886 " " , Ft. Dodge, Waterloo, Dubuque, Davenport
	18	Aircraft problems - nil production
	19	Weather - nil production
	20	898 lines miles, Omaha, Des Moines, Dubuque, Davenport
	21	898 " " , Omaha, Des Moines, Waterloo, Davenport
	22	Weather - nil production
	23	335 line miles, Davenport, Dubuque
	24	1051 " " , Omaha, Des Moines, Davenport
	25	1034 " " , Omaha, Des Moines, Davenport, Dubuque
	26	898 " " , Omaha, Des Moines, Davenport, Waterloo

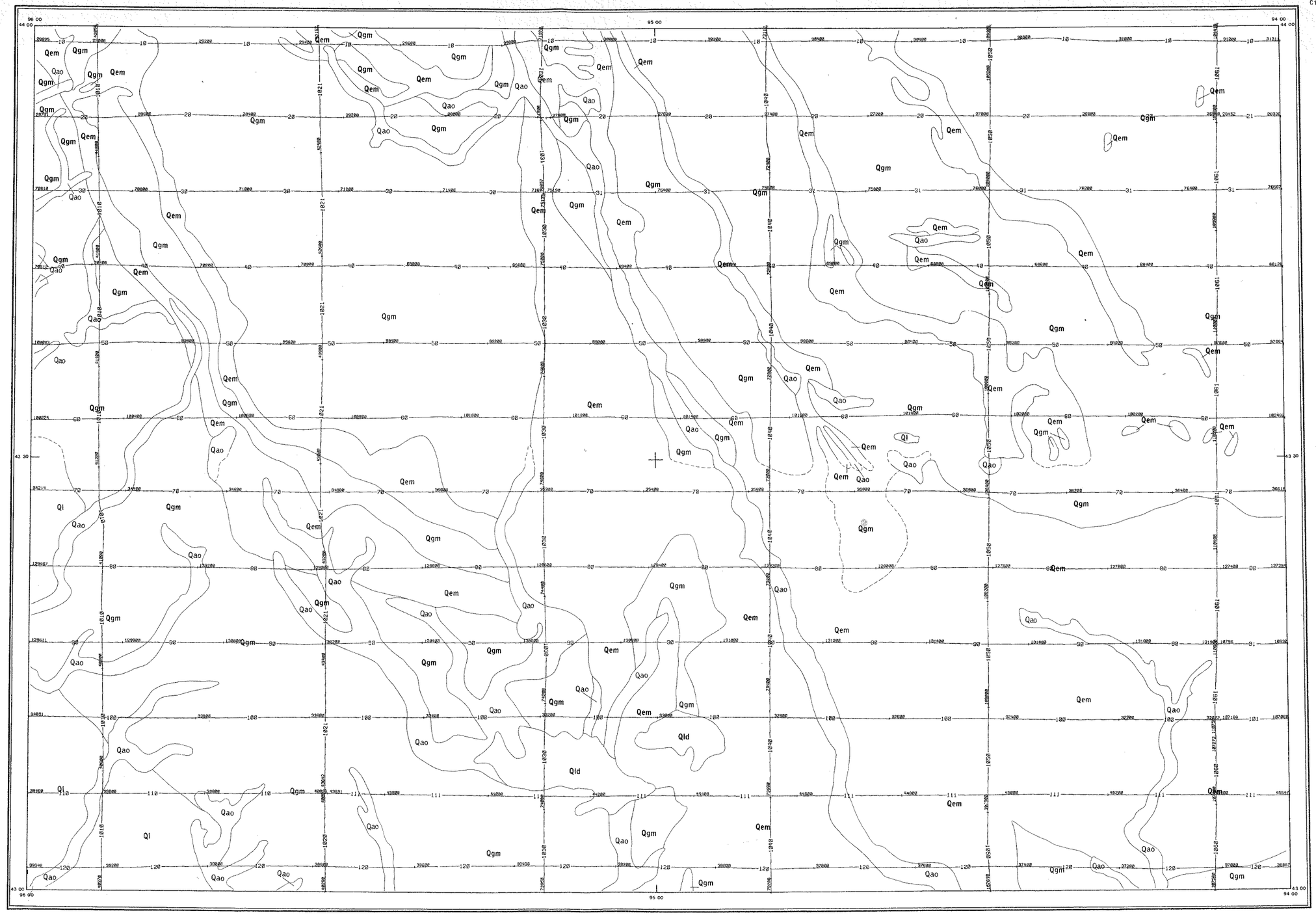
Total miles for the above period = 14,733 line miles

Total miles for the included quadrangles:

Fairmont	1,617.0
La Crosse	1,617.0
Mason City	1,617.0
Fort Dodge	1,637.4
Dubuque	1,637.4
Waterloo	1,637.4
Omaha	1,656.6
Des Moines	1,656.6
Davenport	1,656.6

APPENDIX C - Flight Path and Geologic Map

FAIRMONT



SCALE 1:500,000

MILES 5 0 5 10 15 MILES

KILOMETRES 5 0 5 10 15 20 25 30 KILOMETRES

123600 FIDUCIAL NUMBER — 053-0 — LINE NUMBER

FLIGHT LINE SPACING ..... 6.0 MILE(S)
FLIGHT ALTITUDE ..... 400 FEET AMT
FLOWN AND COMPILED 1980

LOCATION DIAGRAM

ABERDEEN NL 14-8	NL 14-9	SAINT CLOUD NL 15-7	NL 15-8 MINNEAPOLIS	RICE LAKE NL 15-9
NL 14-11 HURON	NL 14-12 MINNESOTA	NL 15-10 MINNESOTA	SAINT PAUL	EAU CLAIRE WISCONSIN NL 15-12
SOUTH DAKOTA NK 14-2	NK 14-3	NL 15-1	NL 15-11 NK 15-2	LACROSSE NK 15-3
NK 14-5	NK 14-6	NK 15-4	NK 15-5	NK 15-6
NEBRASKA NK 14-8	NK 14-9	NK 15-7	DES MOINES NK 15-8	ILLINOIS NK 15-9

SURVEY AND COMPILATION BY:

EG&G GEOMETRICS

FLIGHT PATH RECOVERY

IOWA PROJECT

U. S. DEPARTMENT OF ENERGY

FAIRMONT QUADRANGLE
GEOLOGIC MAP EXPLANATION
(Martel Laboratories, 1981)

SEDIMENTARY

CENOZOIC	Qao UNDIVIDED ALLUVIUM AND GLACIAL OUTWASH Gravel sand and silt	HOLOCENE - PLEISTOCENE	QUATERNARY
	Qld LAKE DEPOSITS Silt sand and clay		
	Ql LOESS Wind-deposited silt	PLEISTOCENE	
	Qem END MORAINE Boulders gravel sand silt and clay		
	Qgm GROUND MORAINE Boulders gravel sand silt and clay		

STRATIGRAPHIC LEGEND

QUATERNARY	Qao	Gravel sand and silt
	Qld	Silt, sand, and clay
	Ql	Wind-deposited silt
	Qem	Boulders gravel sand silt and clay
	Qgm	Boulders gravel, sand silt and clay

GEOLOGIC SYMBOLS

Contact dashed where approximate.

APPENDIX D - Profiles

LINE 10
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 8Ø3Ø3

TL/K
MIN 3.435
MAX 7.081
MEAN 5.211
STD DEV .5889

BI/K
MIN 1.023
MAX 4.290
MEAN 1.893
STD DEV .4003

BI/TL
MIN .1817
MAX .7975
MEAN .3654
STD DEV .0762

TOTAL COUNTS CTS/SEC
MIN 939.3
MAX 1809
MEAN 1480
STD DEV 105.0

POTASSIUM 40 PERCENT
MIN .4814
MAX 1.357
MEAN 1.093
STD DEV .1119

BISMUTH 214 EQ. PPM
MIN 1.112
MAX 3.648
MEAN 2.047
STD DEV .3608

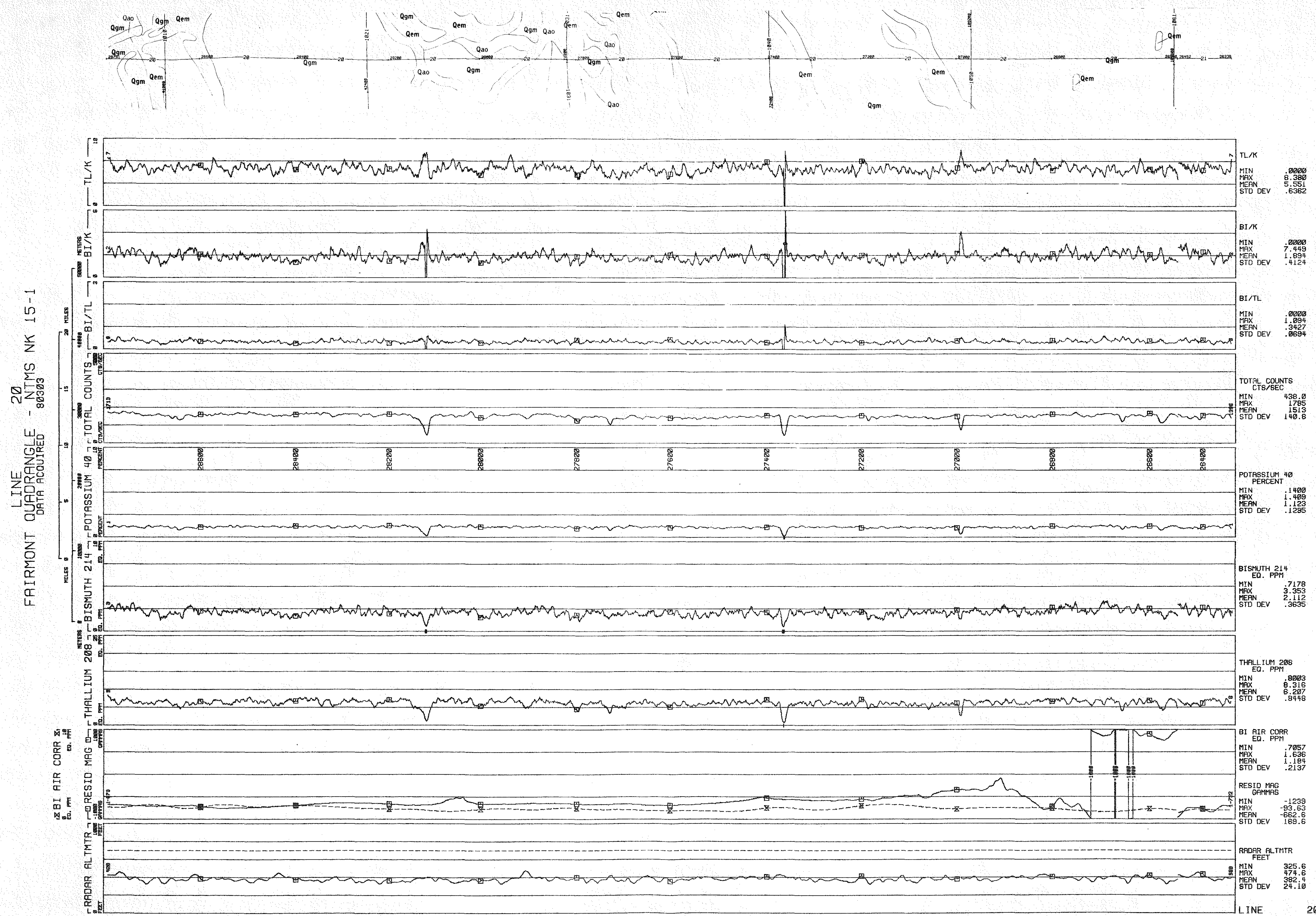
THALLIUM 208 EQ. PPM
MIN 2.924
MAX 7.887
MEAN 5.685
STD DEV .7704

BI AIR CORR EQ. PPM
MIN .9067
MAX 1.853
MEAN 1.331
STD DEV .2121

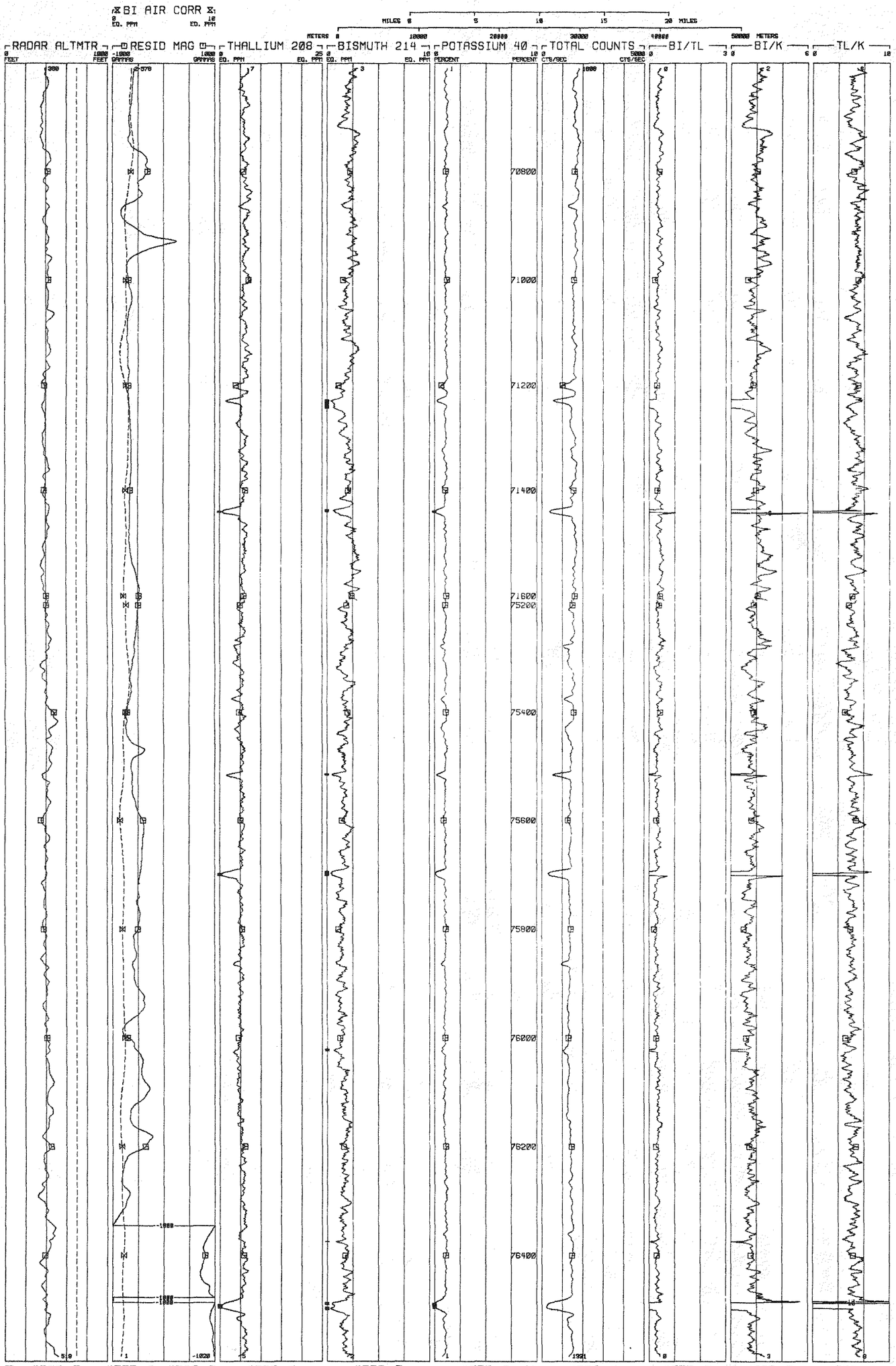
RESID MAG GAMMAS
MIN -1126
MAX 47.25
MEAN -512.8
STD DEV 227.3

RADAR ALTMTR FEET
MIN 285.3
MAX 502.0
MEAN 413.5
STD DEV 40.44

D2 f


LINE 20
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80303
Qao
Qgm
Qem
TL/K
MIN .0000
MAX 8.380
MEAN 5.551
STD DEV .6362
BI/K
MIN .0000
MAX 7.449
MEAN 1.894
STD DEV .4124
BI/TL
MIN .0000
MAX 1.094
MEAN .3427
STD DEV .0694
TOTAL COUNTS CTS/SEC
MIN 438.0
MAX 1785
MEAN 1513
STD DEV 140.8
28600 28400 28200 28000 27800 27600 27400 27200 27000 26800 26600 26400
POTASSIUM 40 PERCENT
MIN .1400
MAX 1.409
MEAN 1.123
STD DEV .1295
BISMUTH 214 EQ. PPM
MIN .7178
MAX 3.353
MEAN 2.112
STD DEV .3635
THALLIUM 208 EQ. PPM
MIN .8003
MAX 8.316
MEAN 6.207
STD DEV .8448
BI AIR CORR EQ. PPM
MIN .7057
MAX 1.636
MEAN 1.184
STD DEV .2137
RESID MAG GAMMAS
MIN -1239
MAX -93.63
MEAN -662.6
STD DEV 169.6
RADAR ALTMTR FEET
MIN 325.6
MAX 474.6
MEAN 382.4
STD DEV 24.10
LINE 20

LINE 30
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80310



LINE 30

RADAR ALTMTR FEET
MIN 317.9
MAX 517.9
MEAN 405.5
STD DEV 28.20

RESID MAG GAMMAS
MIN -1290
MAX 246.1
MEAN -537.9
STD DEV 210.4

BI AIR CORR EQ. PPM
MIN .7155
MAX 2.043
MEAN 1.213
STD DEV 1.2945

THALLIUM 208 EQ. PPM
MIN .7961
MAX 7.830
MEAN 5.447
STD DEV .8868

BISMUTH 214 EQ. PPM
MIN .6828
MAX 3.295
MEAN 1.899
STD DEV .4763

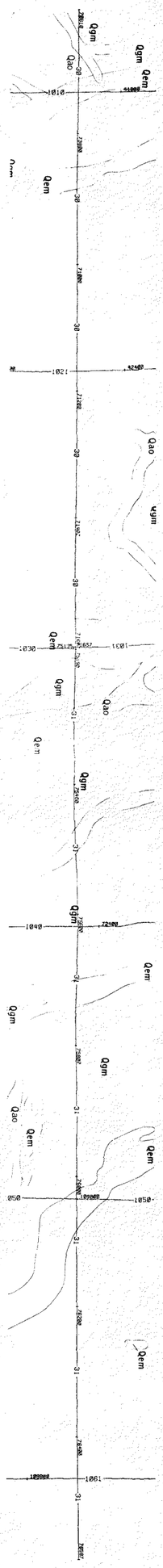
POTASSIUM 40 PERCENT
MIN 1.856
MAX 1.810
MEAN 1.830
STD DEV .1480

TOTAL COUNTS CTS/SEC
MIN 235.8
MAX 1847
MEAN 1447
STD DEV 210.7

BI/TL
MIN .0000
MAX 1.820
MEAN .3319
STD DEV .0939

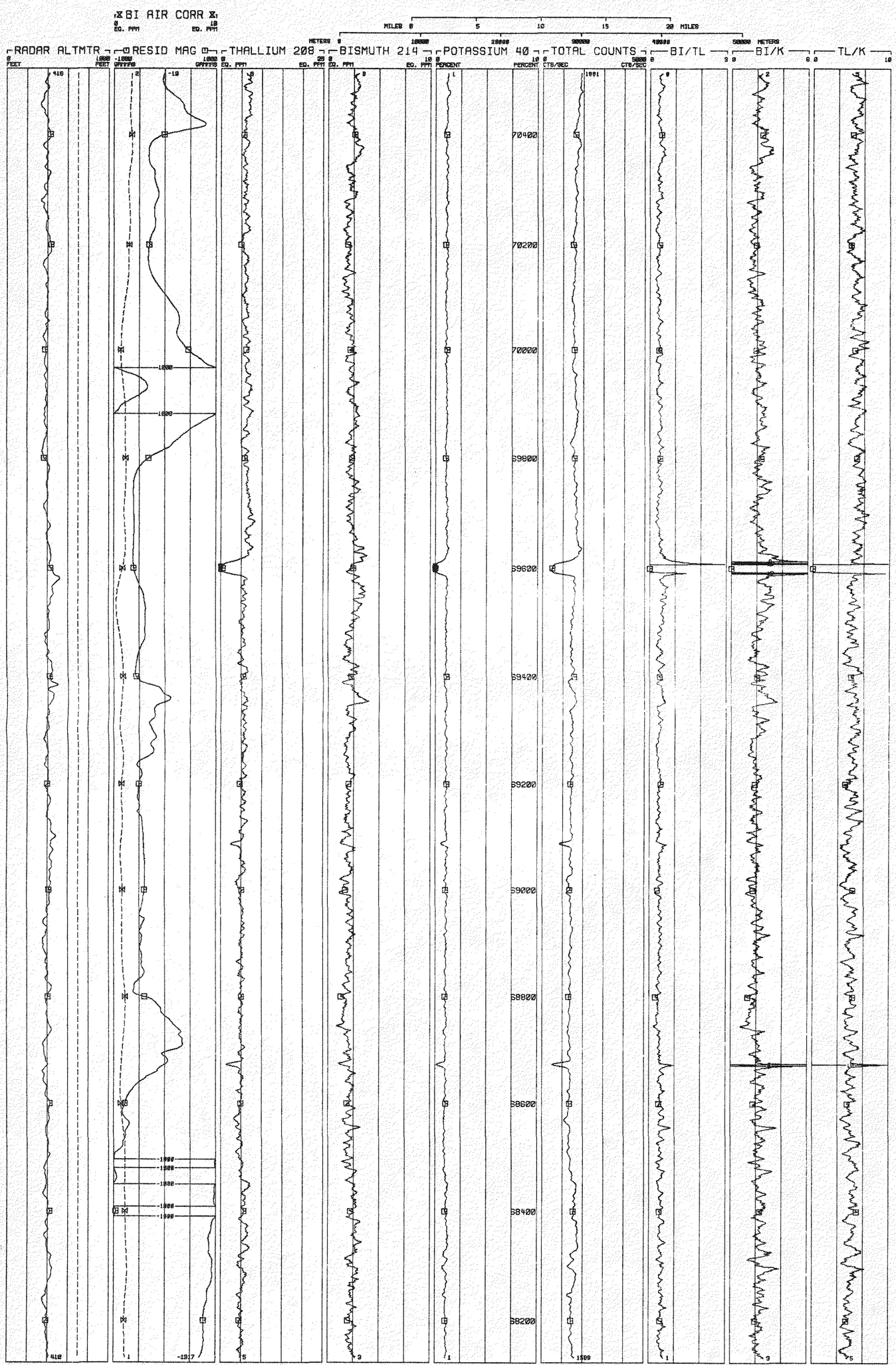
BI/K
MIN .0000
MAX 9.843
MEAN 1.764
STD DEV .5615

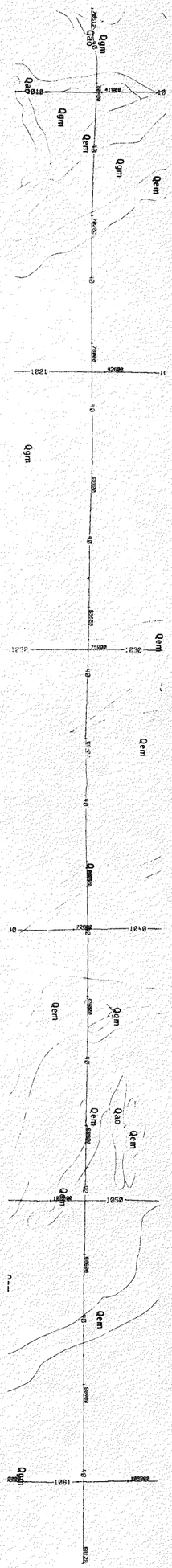
TL/K
MIN .0000
MAX 5.280
MEAN 1.501
STD DEV .8263



D3 f

LINE 40
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80310





LINE 40

RADAR ALTMTR FEET
MIN 334.9
MAX 417.4
MEAN 398.7
STD DEV 25.70

RESID MAG GAMMAS
MIN -1317
MAX 1662
MEAN -338.5
STD DEV 558.1

BI AIR CORR EQ. PPM
MIN 2408
MAX 1.814
MEAN 1.023
STD DEV .3235

THALLIUM 208 EQ. PPM
MIN .8546
MAX 8.228
MEAN 5.566
STD DEV .8868

BISMUTH 214 EQ. PPM
MIN .8286
MAX 2.532
MEAN 2.032
STD DEV .4405

POTASSIUM 40 PERCENT
MIN 1.328
MAX 1.409
MEAN 1.052
STD DEV .1122

TOTAL COUNTS CTS/SEC
MIN 42.71
MAX 1.225
MEAN 1.088
STD DEV 176.8

BI/TL
MIN .0000
MAX 2.947
MEAN .4666
STD DEV .1220

BI/K
MIN .0000
MAX 19.17
MEAN 2.138
STD DEV .7100

TL/K
MIN .0000
MAX 10.15
MEAN 5.271
STD DEV .8113

D4 f

LINE 50
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80314

TL/K
MIN 3.395
MAX 9.576
MEAN 5.365
STD DEV .6343

BI/K
MIN .0000
MAX 4.480
MEAN 2.003
STD DEV .4677

BI/TL
MIN .0000
MAX .8542
MEAN .3762
STD DEV .0885

TOTAL COUNTS CTS/SEC
MIN 858.0
MAX 2098
MEAN 1709
STD DEV 144.6

POTASSIUM 40 PERCENT
MIN .1457
MAX 1.323
MEAN 1.035
STD DEV .1296

BISMUTH 214 EQ. PPM
MIN .9388
MAX 3.728
MEAN 2.075
STD DEV .4054

THALLIUM 208 EQ. PPM
MIN 1.395
MAX 7.704
MEAN 5.541
STD DEV .8895

BI AIR CORR EQ. PPM
MIN 2.229
MAX 3.490
MEAN 2.726
STD DEV .2702

RESID MAG GAMMAS
MIN -1428
MAX 699.2
MEAN -639.2
STD DEV 353.6

RADAR ALTMTR FEET
MIN 327.6
MAX 651.3
MEAN 408.2
STD DEV 53.88

LINE 50

LINE 60
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80314

TL/K
BI/K
BI/TL
TOTAL COUNTS CTS/SEC
POTASSIUM 40 PERCENT
BISMUTH 214 EQ. PPM
THALLIUM 208 EQ. PPM
BI AIR CORR EQ. PPM
RESID MAG GAMMAS
RADAR ALTMTR FEET

400 600 800 1000 1200 1400 1600 1800 2000 2200 2400

	TL/K	BI/K	BI/TL	TOTAL COUNTS CTS/SEC	POTASSIUM 40 PERCENT	BISMUTH 214 EQ. PPM	THALLIUM 208 EQ. PPM	BI AIR CORR EQ. PPM	RESID MAG GAMMAS	RADAR ALTMTR FEET
MIN	.0000	.0000	.0000	497.9	.1283	.9076	.8427	2.141	-1552	340.8
MAX	12.54	10.95	1.074	2147	1.569	3.440	8.100	3.191	782.3	526.0
MEAN	5.324	1.928	.3611	1711	1.044	2.048	5.580	2.708	-591.3	423.5
STD DEV	.8569	.5602	.0984	213.2	.1475	.3868	.9819	.2229	472.7	34.59

LINE 60

LINE 70
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80316

TL/K
MIN .0000
MAX 7.847
MEAN 5.133
STD DEV .8351

BI/K
MIN .0000
MAX 2.892
MEAN 1.538
STD DEV .3945

BI/TL
MIN .0000
MAX .6064
MEAN .2974
STD DEV .0756

TOTAL COUNTS CTS/SEC
MIN 152.3
MAX 1808
MEAN 1385
STD DEV 223.8

POTASSIUM 40 PERCENT
MIN .1169
MAX 1.431
MEAN 1.055
STD DEV .1411

BISMUTH 214 EQ. PPM
MIN .7321
MAX 2.855
MEAN 1.664
STD DEV .3339

THALLIUM 208 EQ. PPM
MIN .7017
MAX 8.248
MEAN 5.471
STD DEV .9816

BI AIR CORR EQ. PPM
MIN .6473
MAX 1.387
MEAN .9463
STD DEV .1732

RESID MAG GAMMAS
MIN -1442
MAX 752.6
MEAN -648.3
STD DEV 403.8

RADAR ALTMTR FEET
MIN 335.8
MAX 507.0
MEAN 403.9
STD DEV 29.82

LINE 70

LINE 80
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80316

TL/K
BI/K
BI/TL
TOTAL COUNTS CTS/SEC
POTASSIUM 40 PERCENT
BISMUTH 214 EQ. PPM
THALLIUM 208 EQ. PPM
BI AIR CORR EQ. PPM
RESID MAG GAMMAS
RADAR ALTMTR FEET

29400 29200 29000 28800 28600 28400 28200 28000 27800 27600 27400

	TL/K	BI/K	BI/TL	TOTAL COUNTS CTS/SEC	POTASSIUM 40 PERCENT	BISMUTH 214 EQ. PPM	THALLIUM 208 EQ. PPM	BI AIR CORR EQ. PPM	RESID MAG GAMMAS	RADAR ALTMTR FEET
MIN	.0000	.0000	.0000	187.8	.1181	.7409	1.005	.5700	-2385	293.1
MAX	7.863	2.855	.5734	1771	1.404	3.124	7.889	1.294	367.0	597.4
MEAN	5.164	1.552	.2975	1378	1.060	1.700	5.562	.8464	-704.2	412.5
STD DEV	.9022	.4265	.0827	232.7	.1510	.3566	.9743	.1598	449.0	38.34

LINE 90
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80315

TL/K
MIN .0000
MAX 11.97
MEAN 5.348
STD DEV .7705

BI/K
MIN .0000
MAX 7.168
MEAN 1.629
STD DEV .4215

BI/TL
MIN .0000
MAX .9337
MEAN .3055
STD DEV .0746

TOTAL COUNTS CTS/SEC
MIN 257.3
MAX 1871
MEAN 1439
STD DEV 201.2

POTASSIUM 40 PERCENT
MIN .0938
MAX 1.519
MEAN 1.076
STD DEV .1437

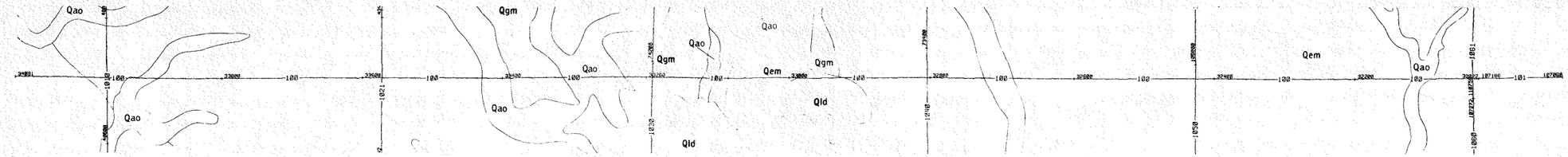
BISMUTH 214 EQ. PPM
MIN .6350
MAX 2.906
MEAN 1.775
STD DEV .3973

THALLIUM 208 EQ. PPM
MIN .8200
MAX 8.219
MEAN 5.756
STD DEV 1.011

BI AIR CORR EQ. PPM
MIN .4877
MAX 1.380
MEAN .8765
STD DEV .1825

RESID MAG GAMMAS
MIN -440
MAX 470.8
MEAN -863.4
STD DEV 821.5

RADAR ALTMTR FEET
MIN 332.6
MAX 689.7
MEAN 405.8
STD DEV 37.86



LINE 100
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80315

TL/K
MIN .0000
MAX 7.667
MEAN 5.310
STD DEV .7432

BI/K
MIN .0000
MAX 7.516
MEAN 1.642
STD DEV .4148

BI/TL
MIN .0000
MAX 1.047
MEAN .3092
STD DEV .0714

TOTAL COUNTS CTS/SEC
MIN 231.5
MAX 1904
MEAN 1456
STD DEV 198.8

POTASSIUM 40 PERCENT
MIN .1256
MAX 1.446
MEAN 1.097
STD DEV .1332

BISMUTH 214 EQ. PPM
MIN .7273
MAX 2.987
MEAN 1.801
STD DEV .4046

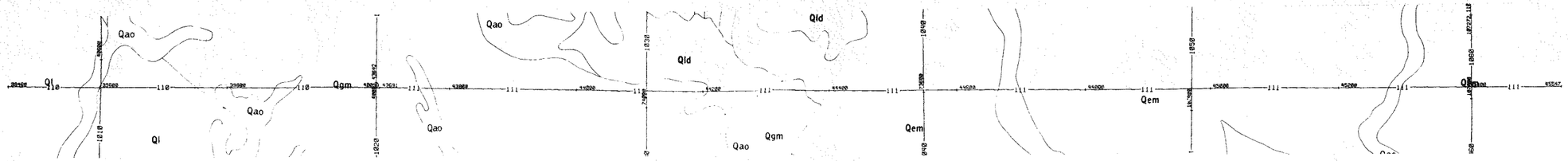
THALLIUM 208 EQ. PPM
MIN .9023
MAX 8.307
MEAN 5.844
STD DEV 1.011

BI AIR CORR EQ. PPM
MIN .2678
MAX 1.230
MEAN .9042
STD DEV .1564

RESID MAG GAMMAS
MIN -2979
MAX 1862
MEAN -717.3
STD DEV 601.5

RADAR ALTMTR FEET
MIN 335.9
MAX 580.0
MEAN 422.3
STD DEV 42.55

LINE 100



LINE 110
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80304

TL/K
MIN 3.291
MAX 8.477
MEAN 5.374
STD DEV .6836

BI/K
MIN .0000
MAX 4.941
MEAN 2.522
STD DEV .5489

BI/TL
MIN .0000
MAX 1.173
MEAN .4722
STD DEV .1003

TOTAL COUNTS CTS/SEC
MIN 1668
MAX 2370
MEAN 1982
STD DEV 146.0

POTASSIUM 40 PERCENT
MIN .6049
MAX 1.417
MEAN 1.025
STD DEV .1186

BISMUTH 214 EQ. PPM
MIN 1.073
MAX 4.652
MEAN 2.587
STD DEV .5842

THALLIUM 208 EQ. PPM
MIN 2.579
MAX 8.212
MEAN 5.505
STD DEV .9338

BI AIR CORR EQ. PPM
MIN 2.717
MAX 4.564
MEAN 3.946
STD DEV .3443

RESID MAG GAMMAS
MIN -2357
MAX 1592
MEAN -750.3
STD DEV 452.3

RADAR ALTMTR FEET
MIN 322.8
MAX 510.2
MEAN 397.9
STD DEV 28.32

LINE 120
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80304

TL/K
MIN .0000
MAX 8.351
MEAN 5.443
STD DEV .9093

BI/K
MIN .0000
MAX 7.254
MEAN 2.443
STD DEV .5830

BI/TL
MIN .0000
MAX 2.864
MEAN .4474
STD DEV .1027

TOTAL COUNTS CTS/SEC
MIN 773.8
MAX 2460
MEAN 1967
STD DEV 248.6

POTASSIUM 40 PERCENT
MIN .1519
MAX 1.448
MEAN 1.078
STD DEV .1339

BISMUTH 214 EQ. PPM
MIN 1.001
MAX 4.838
MEAN 2.633
STD DEV .6087

THALLIUM 208 EQ. PPM
MIN .8289
MAX 8.473
MEAN 5.913
STD DEV 1.070

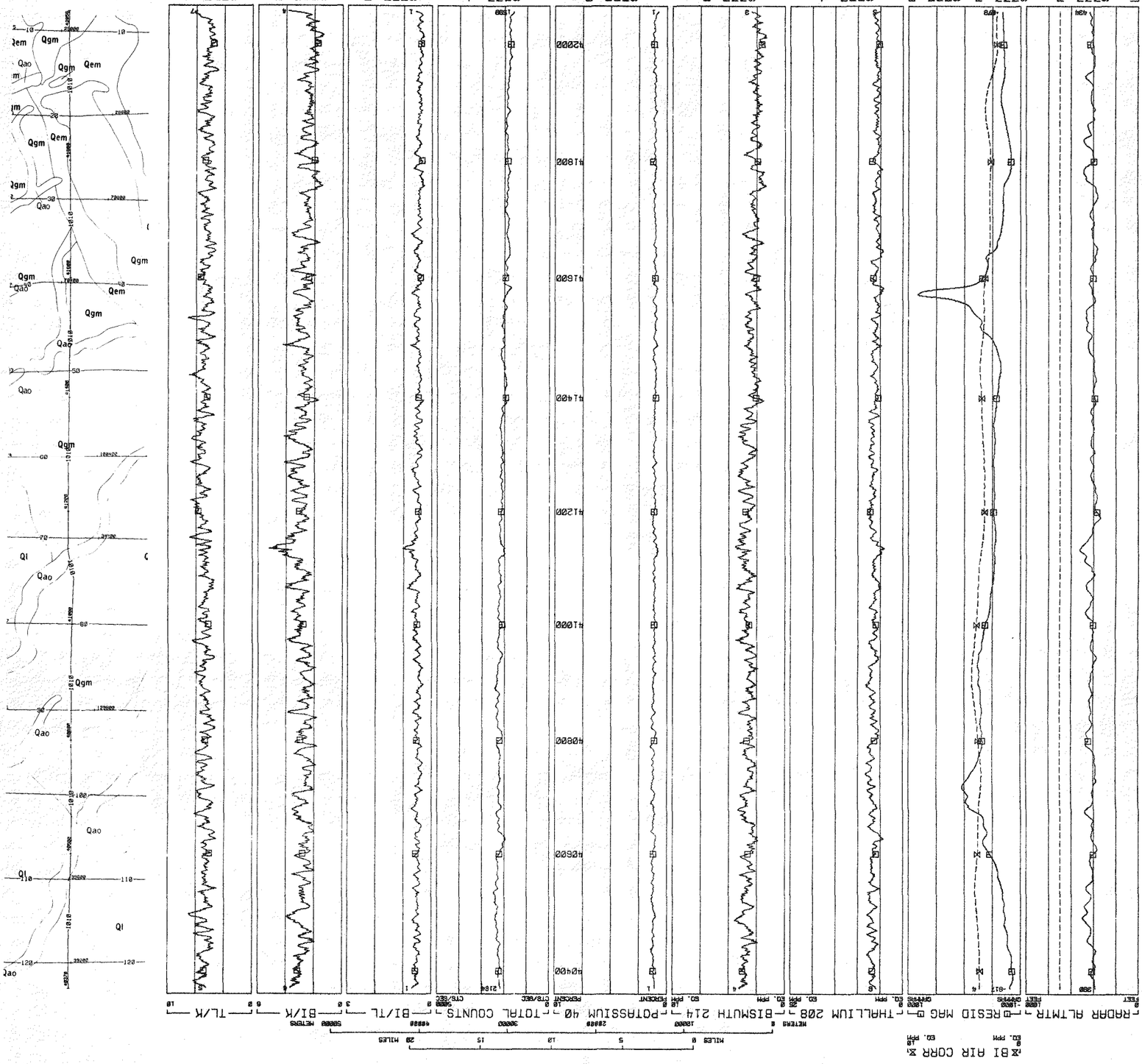
BI AIR CORR EQ. PPM
MIN 2.914
MAX 4.011
MEAN 3.466
STD DEV .2696

RESID MAG GAMMAS
MIN -1935
MAX -294.8
MEAN -833.5
STD DEV 240.1

RADAR ALTMTR FEET
MIN 341.0
MAX 498.0
MEAN 407.8
STD DEV 27.23

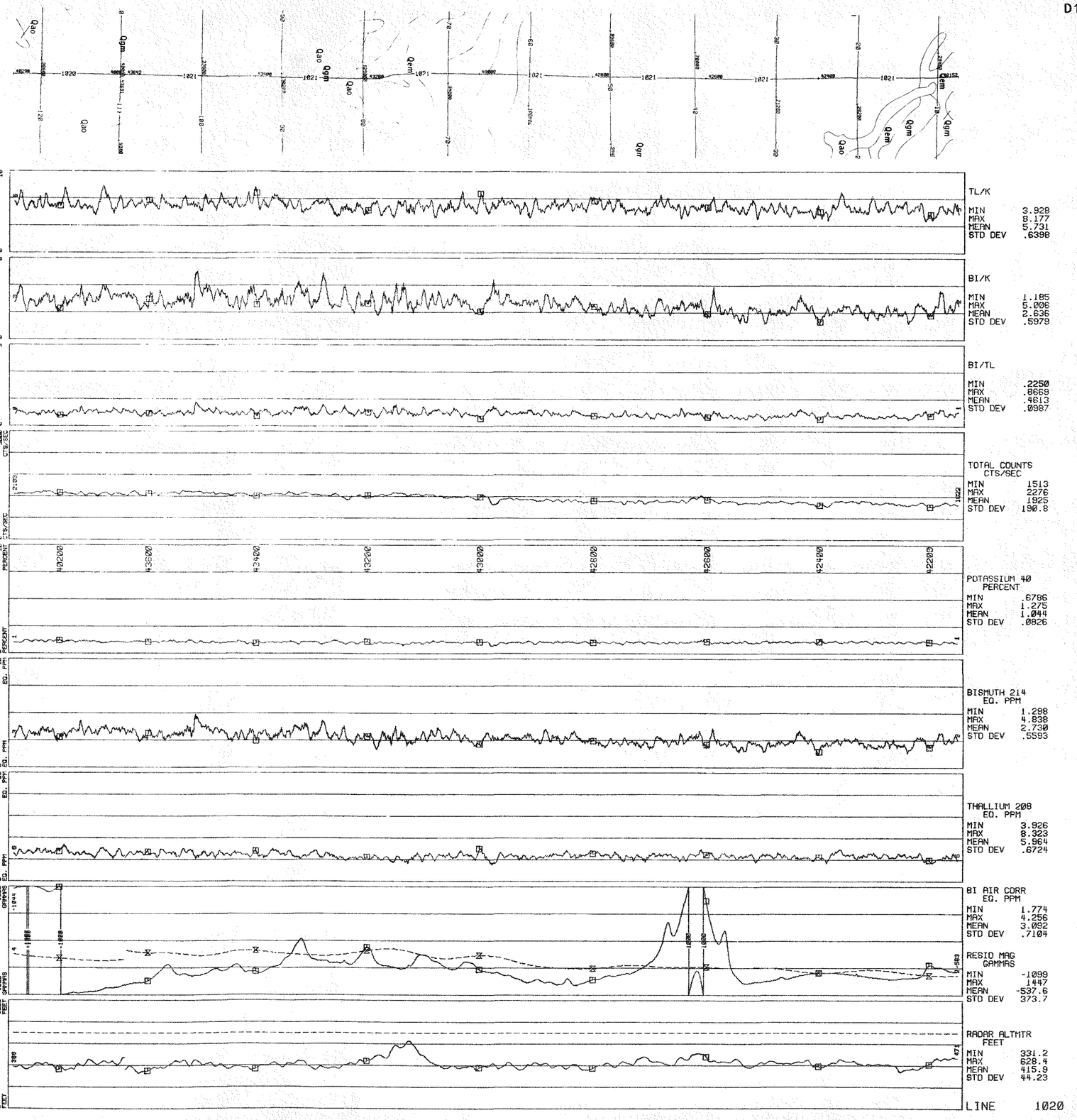
LINE 120

D13f

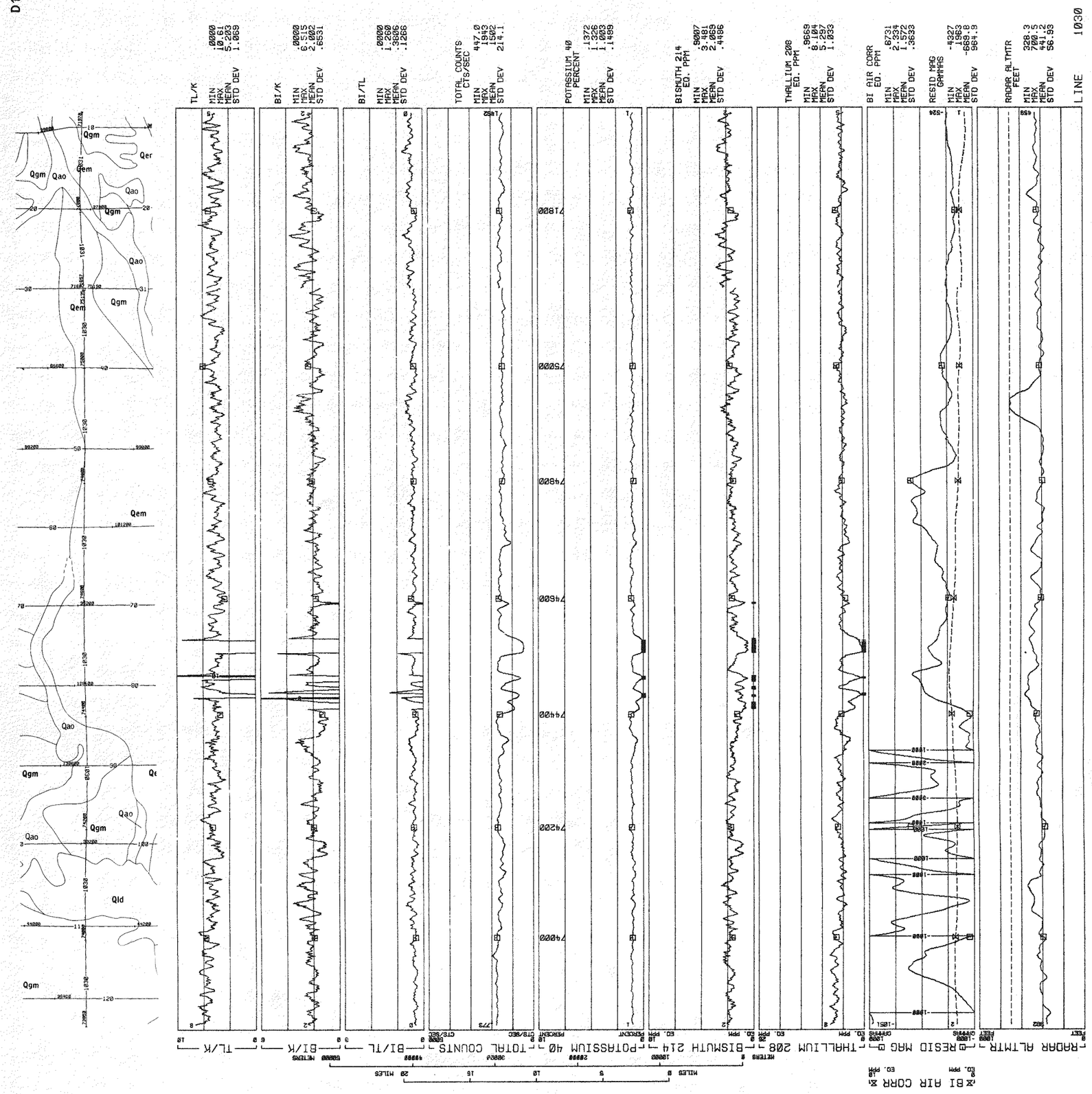


LINE 1010
FAIRMONT QUADRANGLE - NIMS NK 15-1
DATA ACQUIRED 8030Ø4

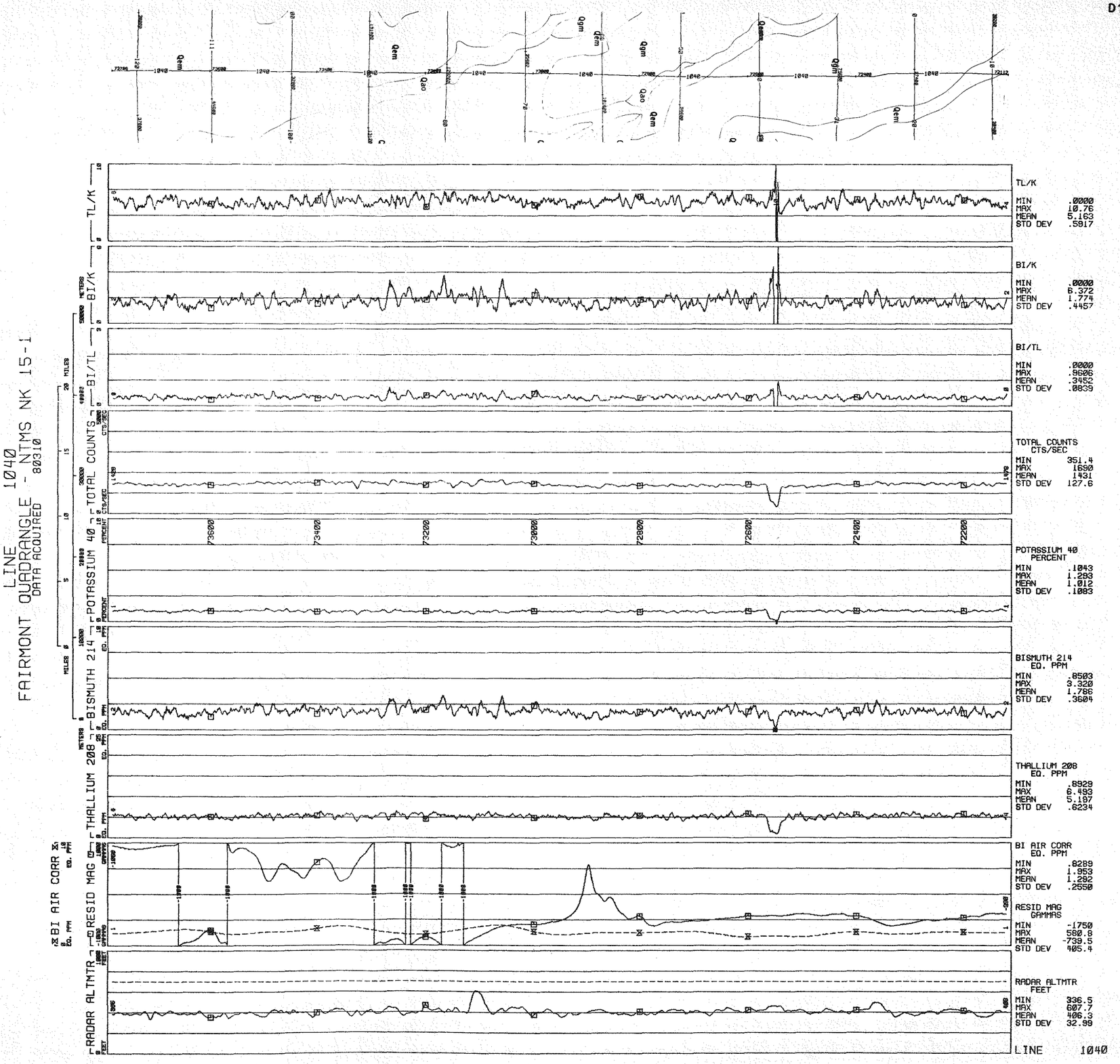
LINE 1020
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80304



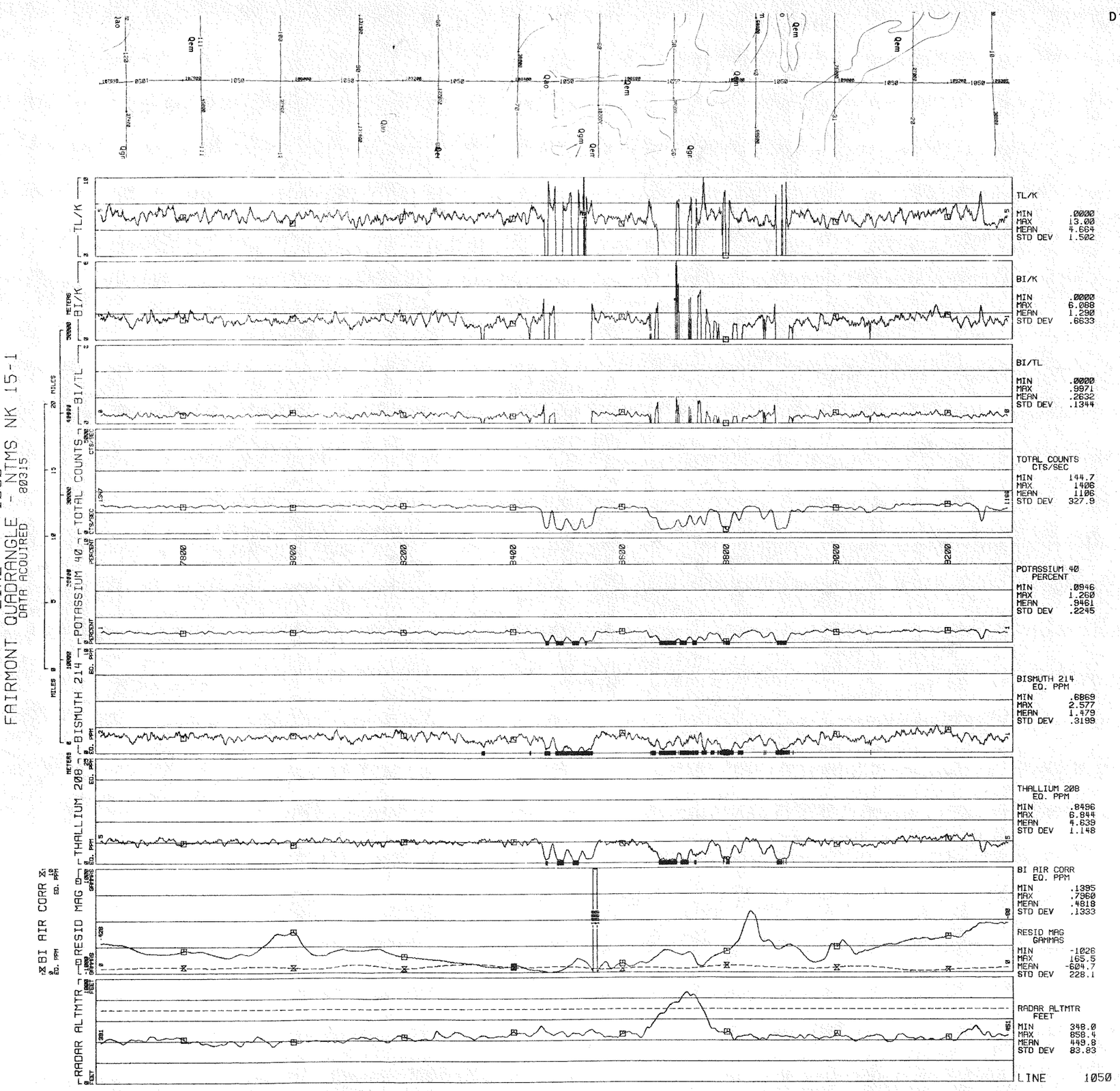
D15 f


TL/K
MIN .0000
MAX 10.861
MEAN 5.203
STD DEV 1.069
BI/K
MIN .0000
MAX 6.515
MEAN 2.002
STD DEV .6531
BI/TL
MIN .0000
MAX 1.260
MEAN .3686
STD DEV .1266
TOTAL COUNTS CTS/SEC
MIN 447.0
MAX 1943
MEAN 1132
STD DEV 214.1
POTASSIUM 40 PERCENT
MIN .1372
MAX 1.326
MEAN 1.003
STD DEV .1499
BISMUTH 214 EQ. PPM
MIN .5007
MAX 3.481
MEAN 2.068
STD DEV .4486
THALLIUM 208 EQ. PPM
MIN .9663
MAX 8.104
MEAN 5.257
STD DEV 1.033
BI AIR CORR EQ. PPM
MIN .6731
MAX 2.934
MEAN 1.572
STD DEV .3633
RESID MAG GAMMAS
MIN -4327
MAX 1963
MEAN -669.8
STD DEV 984.9
RADAR ALTMTR FEET
MIN 328.3
MAX 760.5
MEAN 441.2
STD DEV 56.93
LINE 1030
TL/K
BI/K
BI/TL
TOTAL COUNTS
POTASSIUM 40
BISMUTH 214
THALLIUM 208
RESID MAG
BI AIR CORR
RADAR ALTMTR
METERS
MILES
CTS/SEC
PERCENT
EQ. PPM
FEET
LINE 1030
FAIRMONT QUADRANGLE - NIMS NK 15-1
DATA ACQUIRED 80310

LINE 1040
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80310



LINE 1050
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 00315

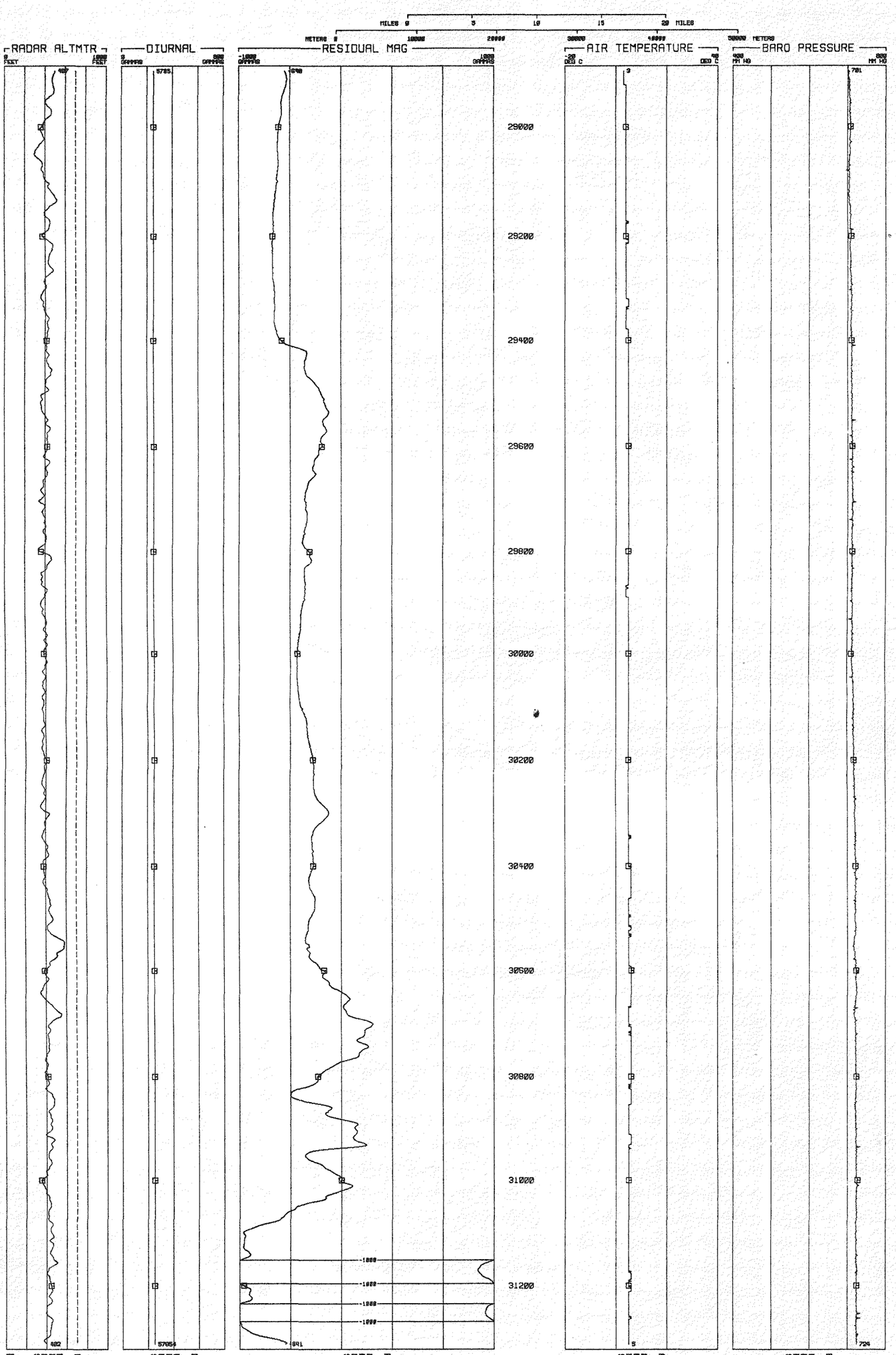


	TL/K	BI/K	BI/TL	TOTAL COUNTS CTS/SEC	POTASSIUM 40 PERCENT	BISMUTH 214 EQ. PPM	THALLIUM 208 EQ. PPM	BI AIR CORR EQ. PPM	RESID MAG GAMMAS	RADAR ALTMTR FEET
MIN	.0000	.0000	.0000	144.7	.0946	.6869	.8496	.1395	-1026	348.0
MAX	13.00	6.088	.9971	1406	1.260	2.577	6.844	.7960	165.5	858.4
MEAN	4.664	1.290	.2632	1106	.9461	1.479	4.639	.4818	-604.7	449.8
STD DEV	1.502	.6633	.1344	327.9	.2245	.3199	1.148	.1333	228.1	83.83

LINE 1050

LINE 1060
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80315

LINE 10
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80303



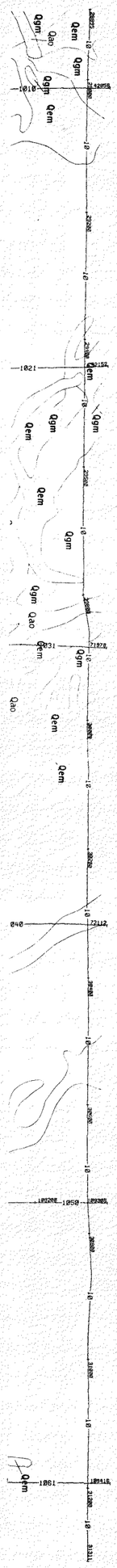
RADAR ALTMTR FEET
MIN 285.3
MAX 582.0
MEAN 413.5
STD DEV 40.44

DIURNAL GAMMAS
MIN 57051
MAX 57851
MEAN 57814
STD DEV 9.071

RESIDUAL MAG GAMMAS
MIN -1125
MAX 472.8
MEAN -512.8
STD DEV 227.3

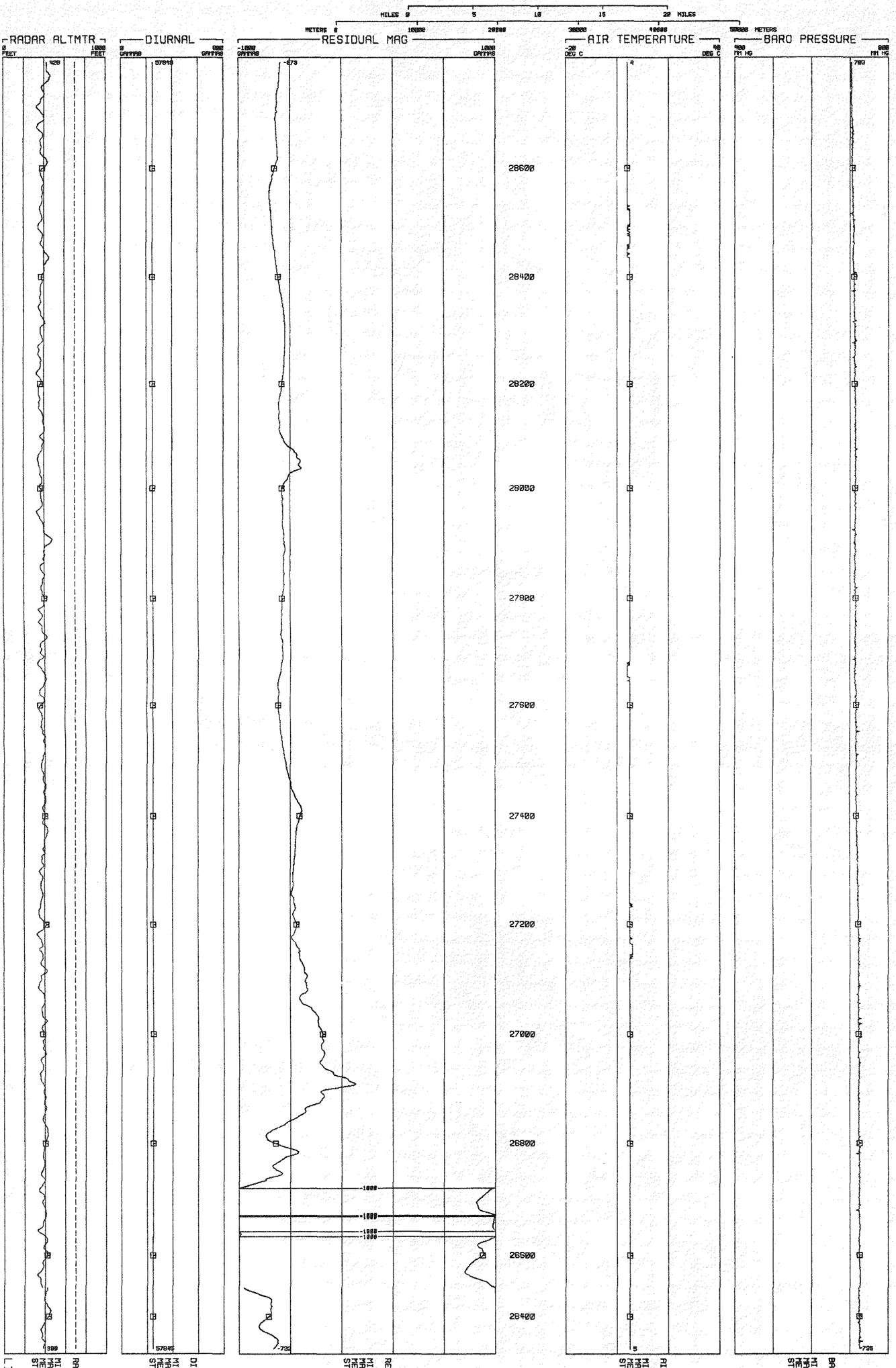
AIR TEMPERATURE DEG C
MIN 3.000
MAX 6.000
MEAN 4.934
STD DEV .6044

BARO PRESSURE MM HG
MIN 698.0
MAX 715.7
MEAN 706.1
STD DEV 6.426



LINE 10

LINE 20
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80303



LINE 20

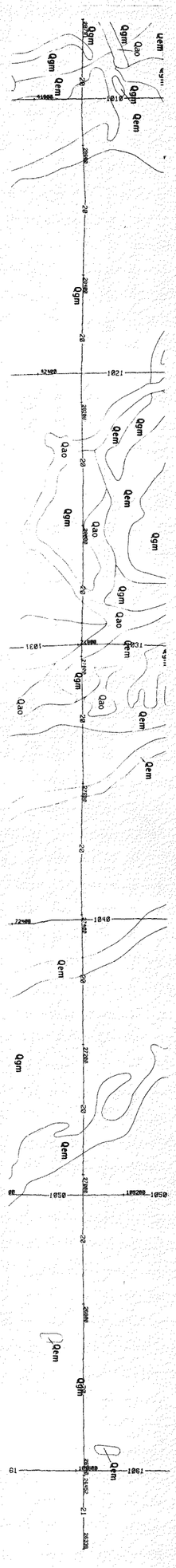
RADAR ALTMTR FEET
MIN 325.6
MAX 474.6
MEAN 382.4
STD DEV 24.10

DIURNAL GAMMAS
MIN 57845
MAX 57869
MEAN 57849
STD DEV 5.207

RESIDUAL MAG GAMMAS
MIN -1239
MAX 1000
MEAN -852.5
STD DEV 169.6

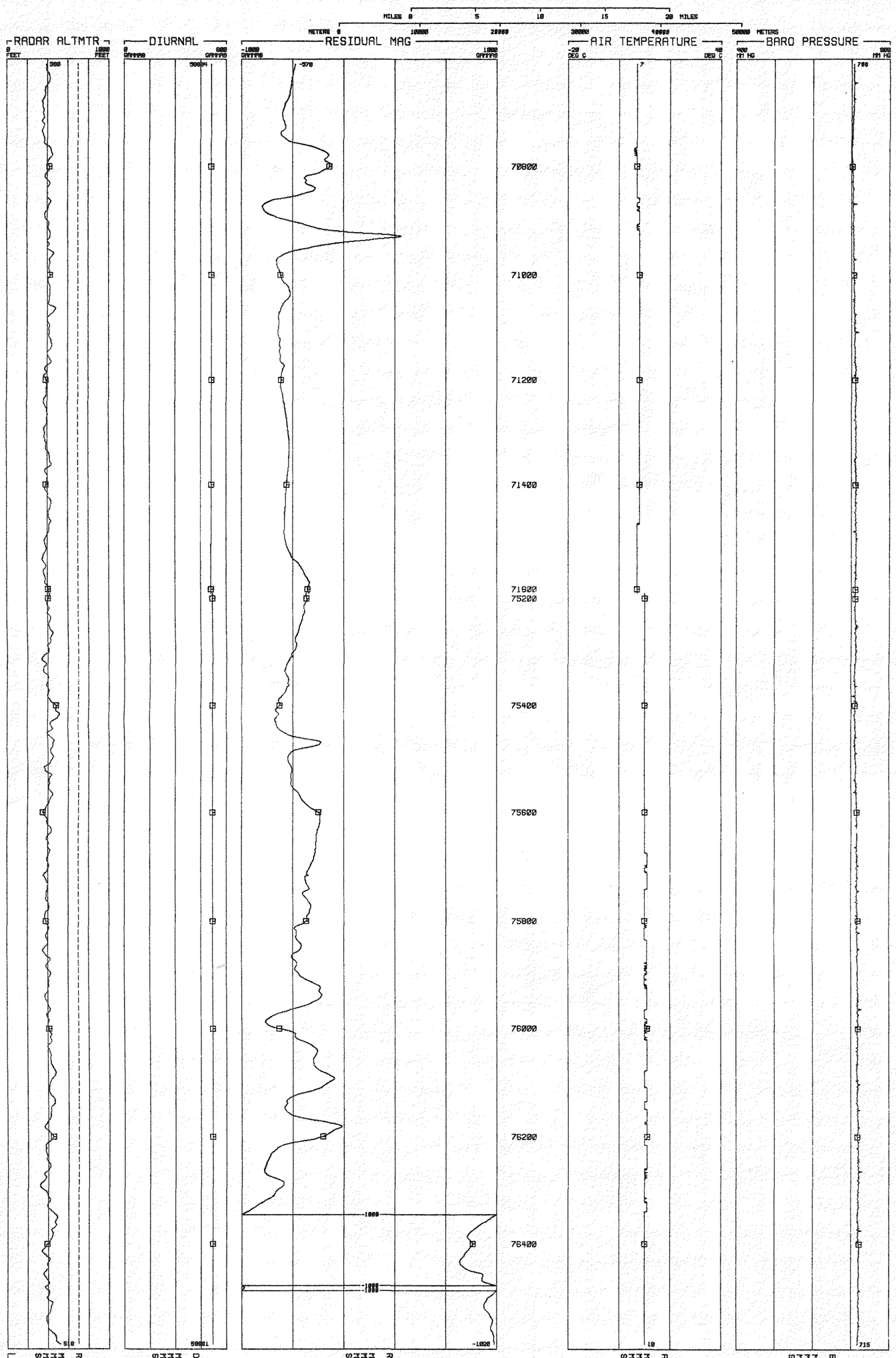
AIR TEMPERATURE DEG C
MIN 5.000
MAX 6.000
MEAN 4.878
STD DEV .3622

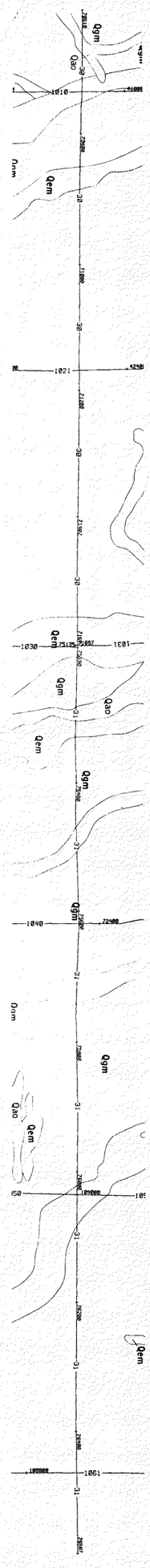
BARO PRESSURE MM HG
MIN 700.8
MAX 732.9
MEAN 716.5
STD DEV 6.565



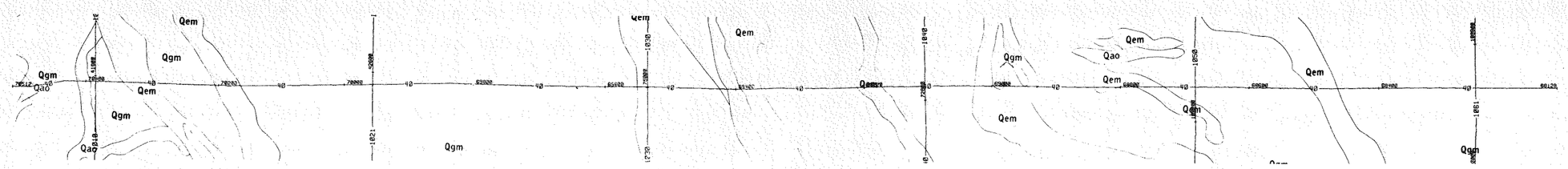
D20 f

LINE 30
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80310

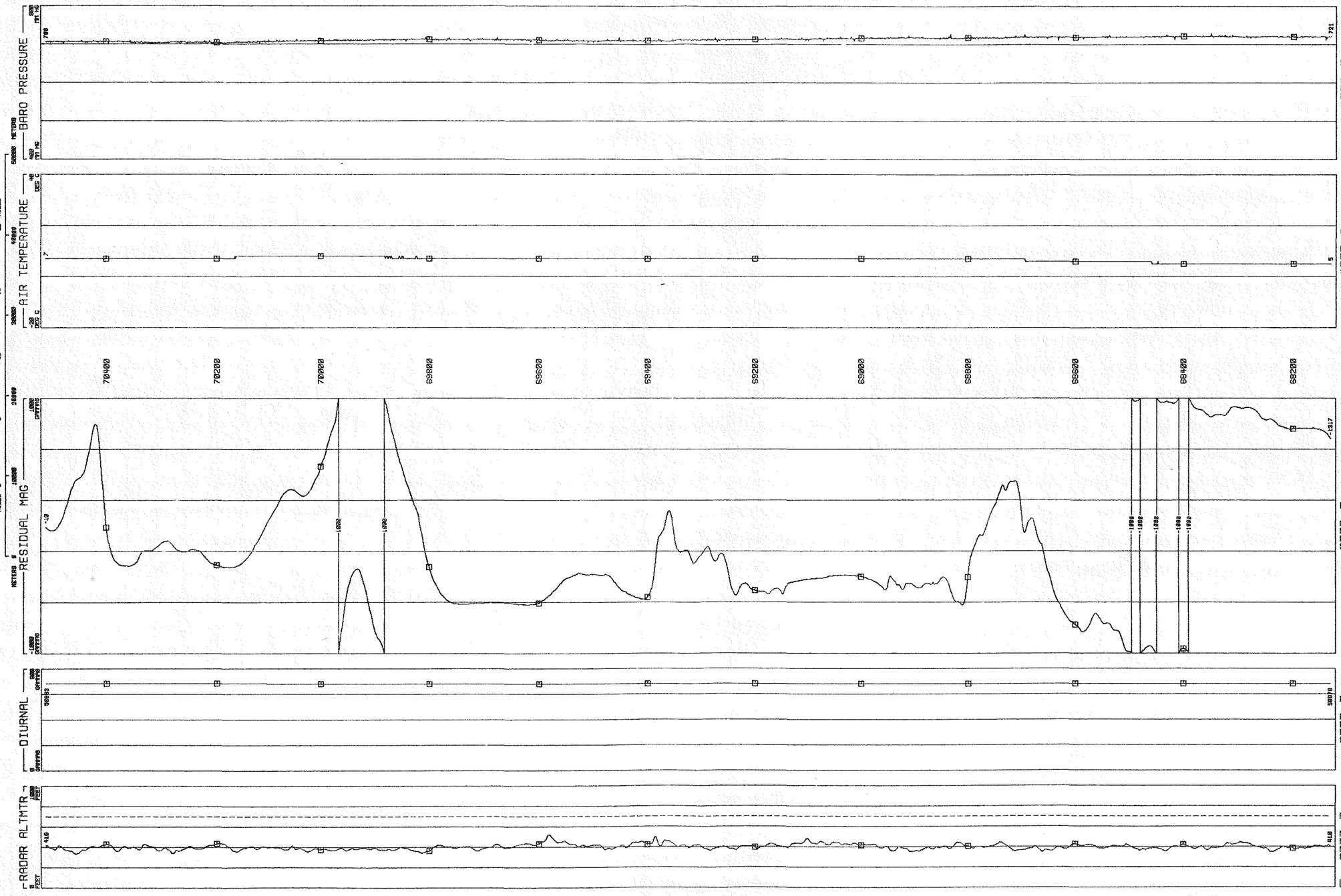




D21 f



LINE 40
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80310



BARO PRESSURE MM HG
MIN 700.6
MAX 727.4
MEAN 713.0
STD DEV 5.515

AIR TEMPERATURE DEG C
MIN 5.000
MAX 8.000
MEAN 6.752
STD DEV .8440

RESIDUAL MAG GAMMAS
MIN -1317
MAX 1662
MEAN -338.5
STD DEV 558.1

DIURNAL GAMMAS
MIN 56678
MAX 56683
MEAN 56676
STD DEV 4.673

RADAR ALTMTR FEET
MIN 334.9
MAX 521.4
MEAN 399.7
STD DEV 25.70

LINE 40

LINE 50
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80314

BARO PRESSURE MM HG

BARO PRESSURE
MM HG
MIN 691.6
MAX 719.9
MEAN 705.1
STD DEV 5.312

AIR TEMPERATURE DEG C

AIR TEMPERATURE
DEG C
MIN 8.000
MAX 10.00
MEAN 9.435
STD DEV .5382

RESIDUAL MAG GAMMAS

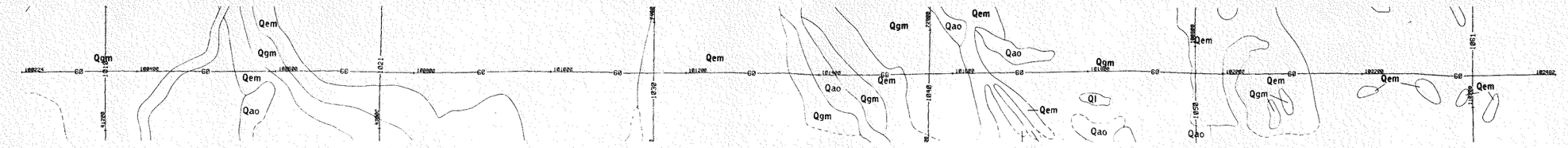
RESIDUAL MAG
GAMMAS
MIN -1428
MAX 699.2
MEAN -639.2
STD DEV 353.6

DIURNAL GAMMAS

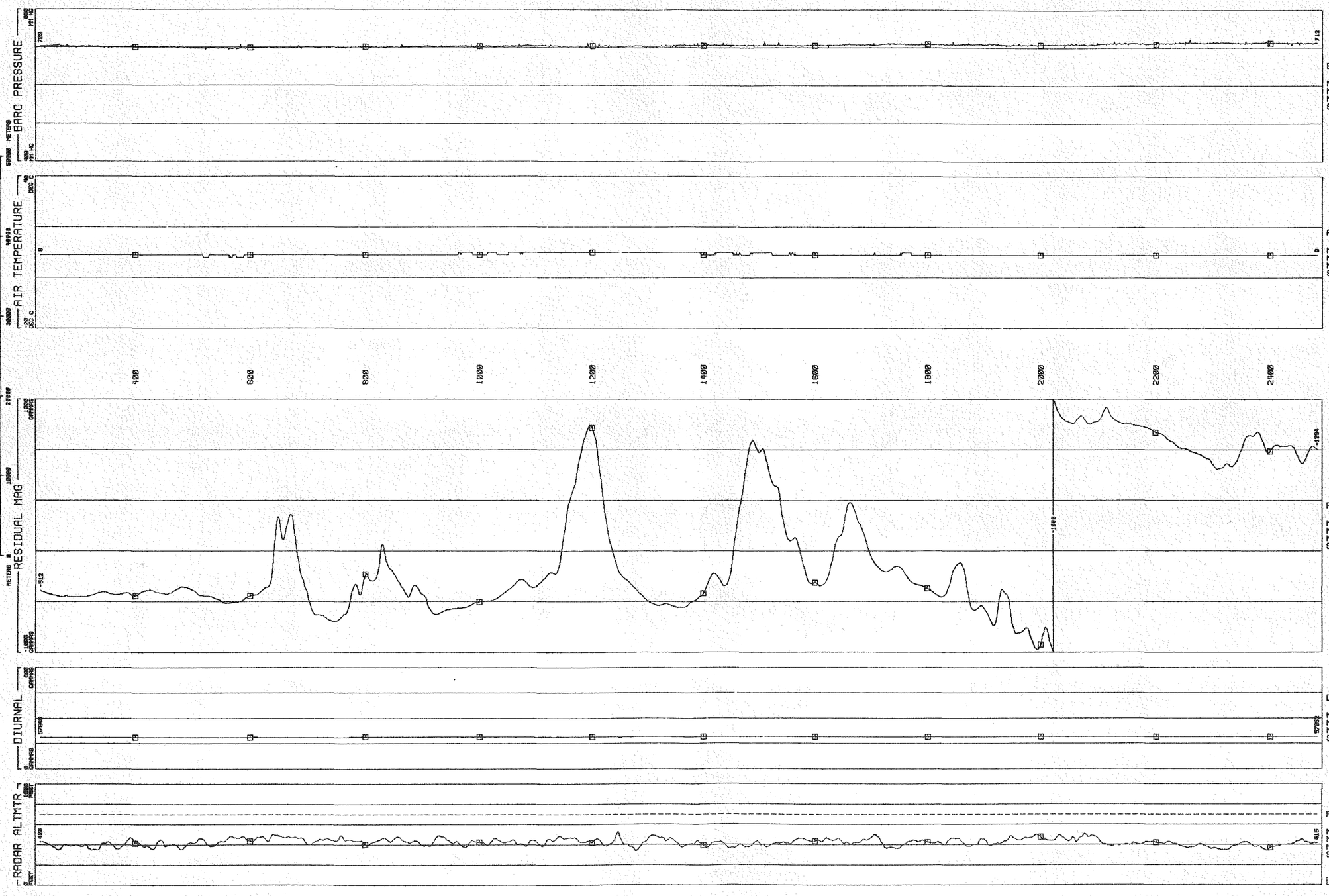
DIURNAL
GAMMAS
MIN 57842
MAX 57847
MEAN 57840
STD DEV 4.362

RADAR ALTMTR FEET

RADAR ALTMTR
FEET
MIN 327.6
MAX 651.3
MEAN 488.2
STD DEV 53.88



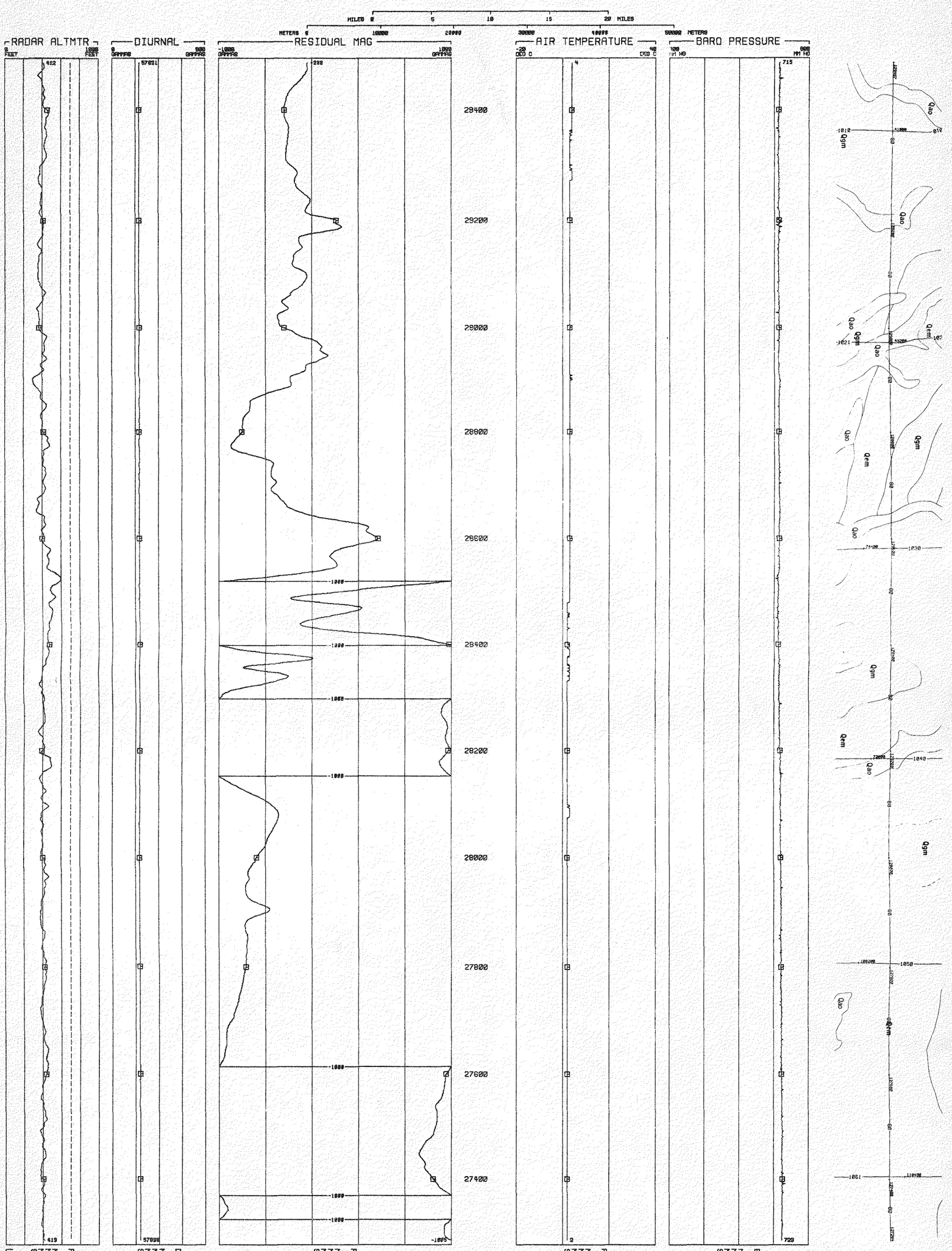
LINE 60
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80314



LINE 60

LINE 70
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80316

LINE 80
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80316



RADAR ALTMTR FEET
MIN 283.1
MAX 597.4
MEAN 412.5
STD DEV 36.34

DIURNAL GAMMAS
MIN 57831
MAX 57882
MEAN 57829
STD DEV 8.484

RESIDUAL MAG GAMMAS
MIN -2365
MAX 382.5
MEAN -704.2
STD DEV 449.0

AIR TEMPERATURE DEG C
MIN -4.000
MAX 2.000
MEAN -1.552
STD DEV .6220

BARO PRESSURE MM HG
MIN 704.1
MAX 733.4
MEAN 719.9
STD DEV 4.787

LINE 80

LINE 90
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80315

BARO PRESSURE MM HG
MIN 705.3
MAX 735.0
MEAN 717.0
STD DEV 3.912

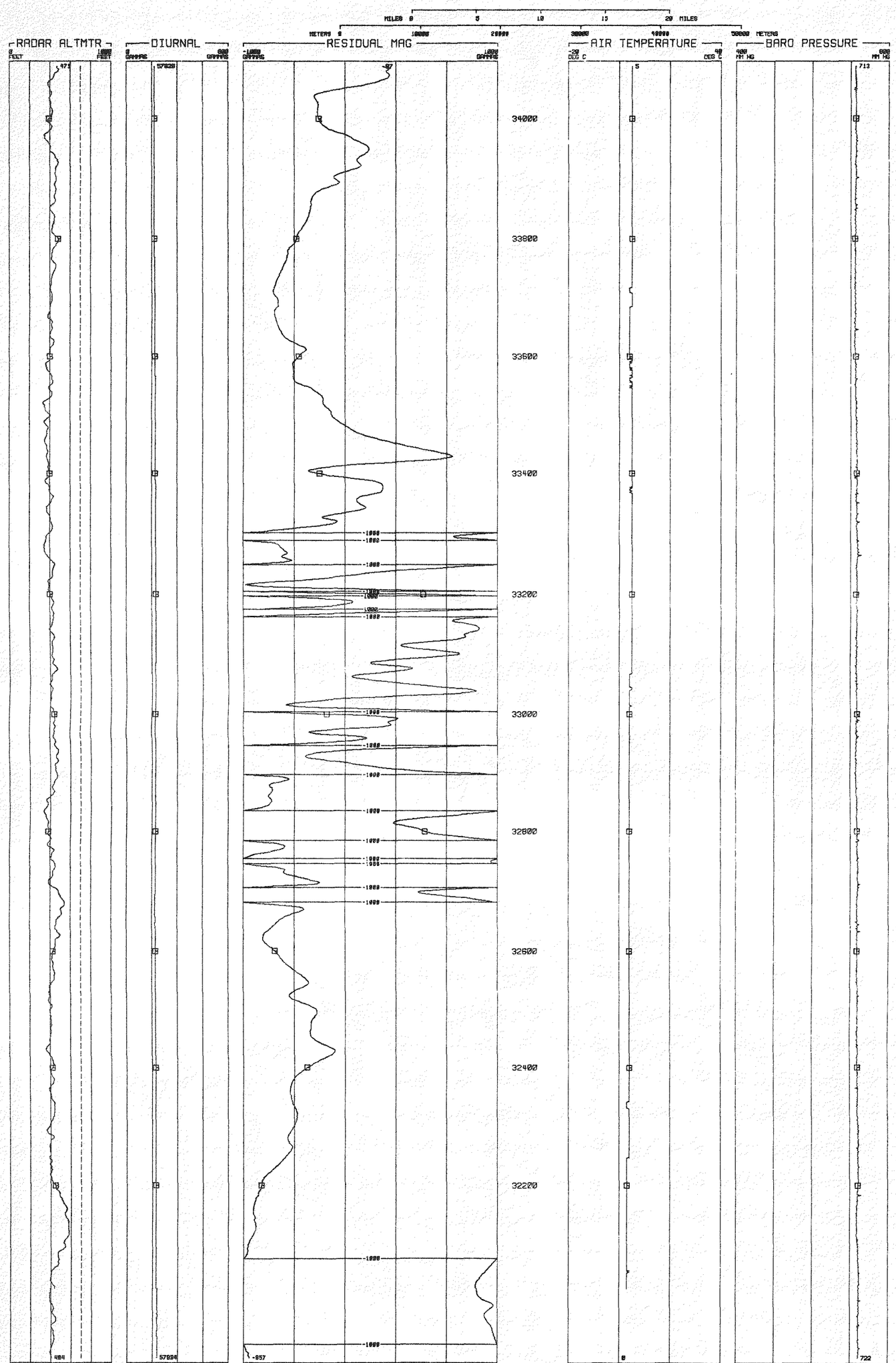
AIR TEMPERATURE DEG C
MIN .0000
MAX 5.000
MEAN 3.908
STD DEV .8832

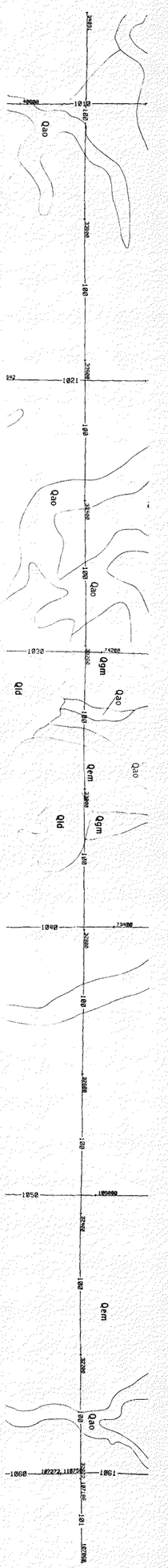
RESIDUAL MAG GAMMAS
MIN -4404
MAX 470.8
MEAN -863.4
STD DEV 821.5

DIURNAL GAMMAS
MIN 57823
MAX 57831
MEAN 57825
STD DEV 3.218

RADAR ALTMTR FEET
MIN 332.6
MAX 669.7
MEAN 485.8
STD DEV 37.86

LINE 100
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80315





LINE 100

RADAR ALTMTR FEET
MIN 335.0
MAX 488.0
MEAN 422.3
STD DEV 42.55

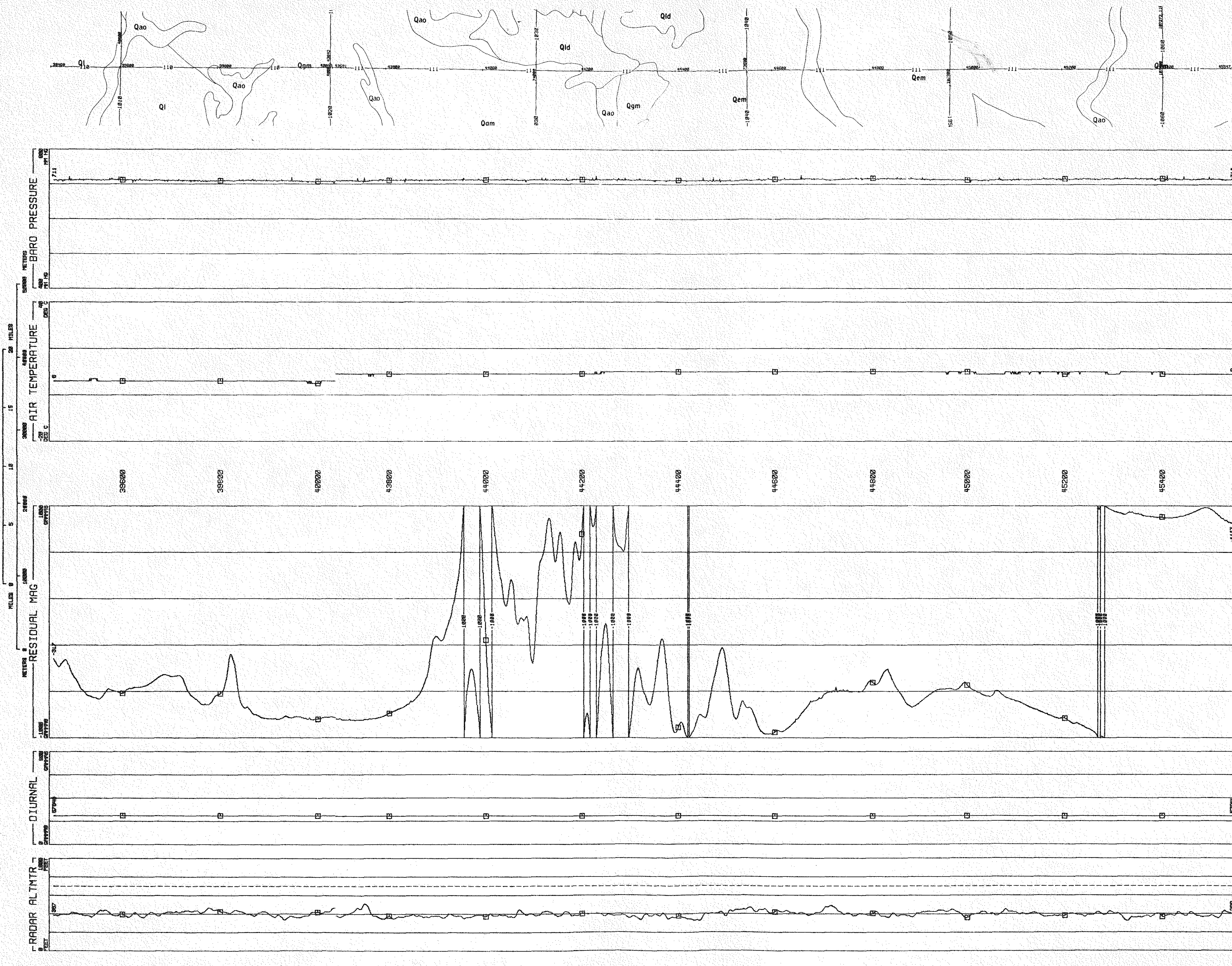
DIURNAL GAMMAS
MIN 57818
MAX 57834
MEAN 57823
STD DEV 5.568

RESIDUAL MAG GAMMAS
MIN -2879
MAX 1862
MEAN -717.3
STD DEV 601.5

AIR TEMPERATURE DEG C
MIN .0000
MAX 5.000
MEAN 4.077
STD DEV 1.183

BARO PRESSURE MM HG
MIN 709.5
MAX 722.5
MEAN 716.8
STD DEV 3.521

LINE 110
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80304



BARO PRESSURE
MM HG

MIN	701.4
MAX	724.8
MEAN	712.7
STD DEV	2.715

AIR TEMPERATURE
DEG C

MIN	5.000
MAX	10.00
MEAN	8.706
STD DEV	1.588

RESIDUAL MAG
GAMMAS

MIN	-2357
MAX	1592
MEAN	-750.3
STD DEV	452.3

DIURNAL
GAMMAS

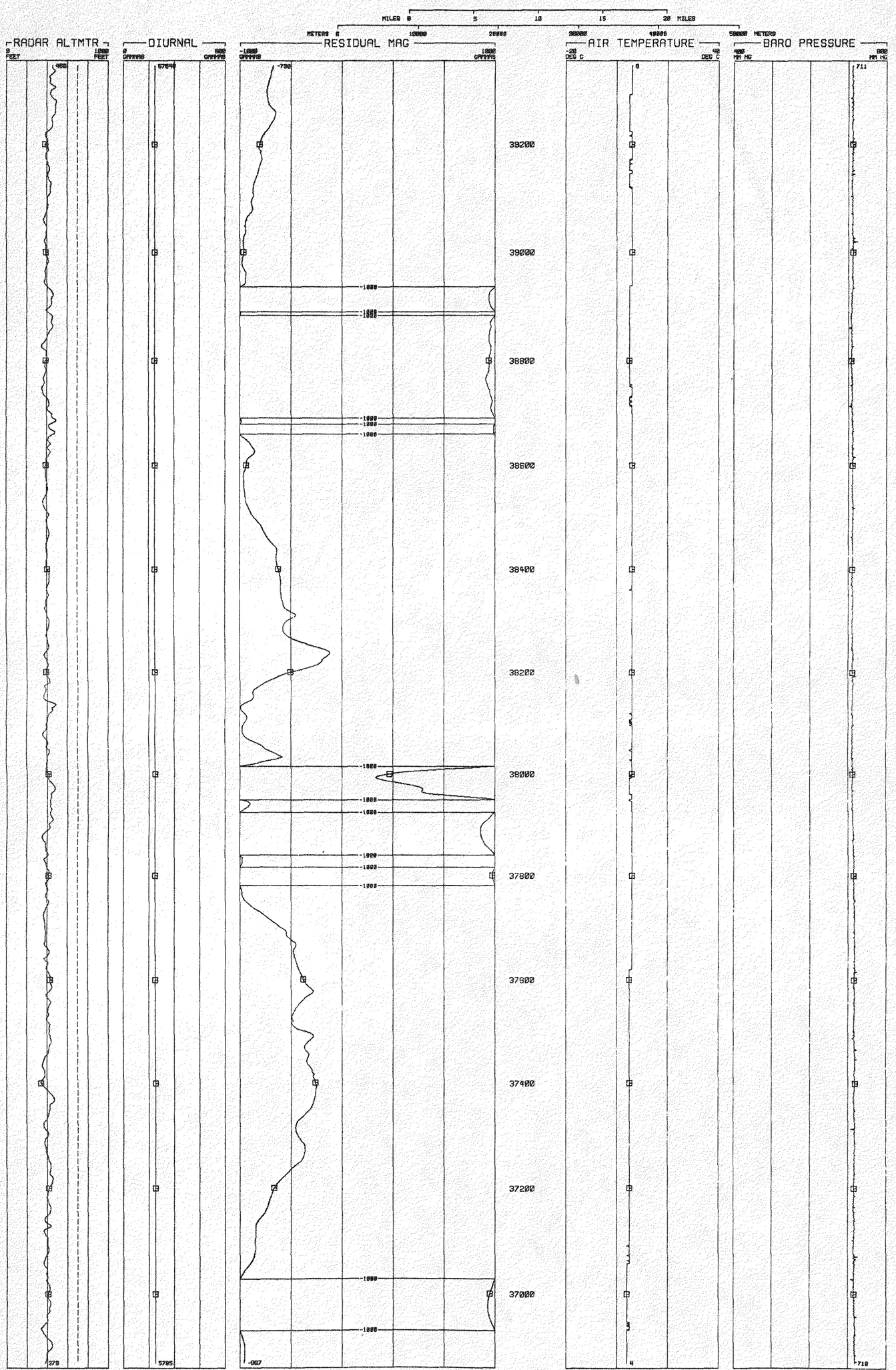
MIN	57842
MAX	57848
MEAN	57841
STD DEV	4.424

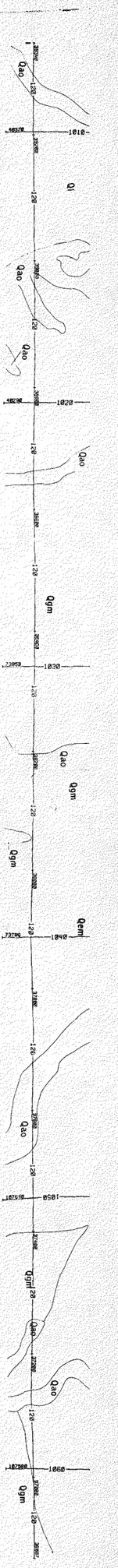
RADAR ALTMTR
FEET

MIN	322.9
MAX	510.2
MEAN	397.9
STD DEV	28.32

LINE 110

LINE 120
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80304





LINE 120

RADAR ALTMTR FEET
MIN 341.0
MAX 498.0
MEAN 467.8
STD DEV 27.23

DIURNAL GAMMAS
MIN 57848
MAX 57851
MEAN 57843
STD DEV 6.786

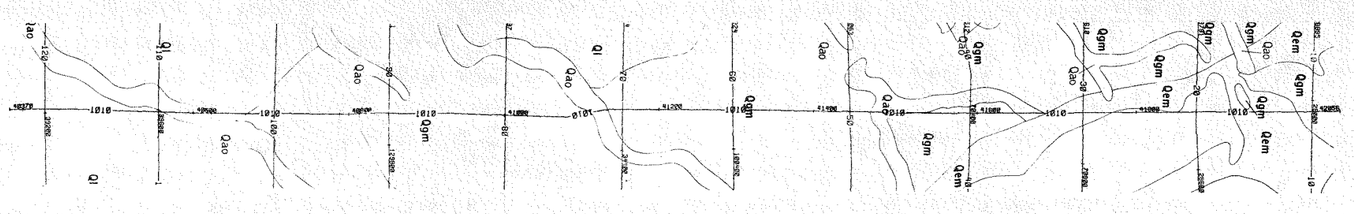
RESIDUAL MAG GAMMAS
MIN -1835
MAX -294.8
MEAN -833.5
STD DEV 240.1

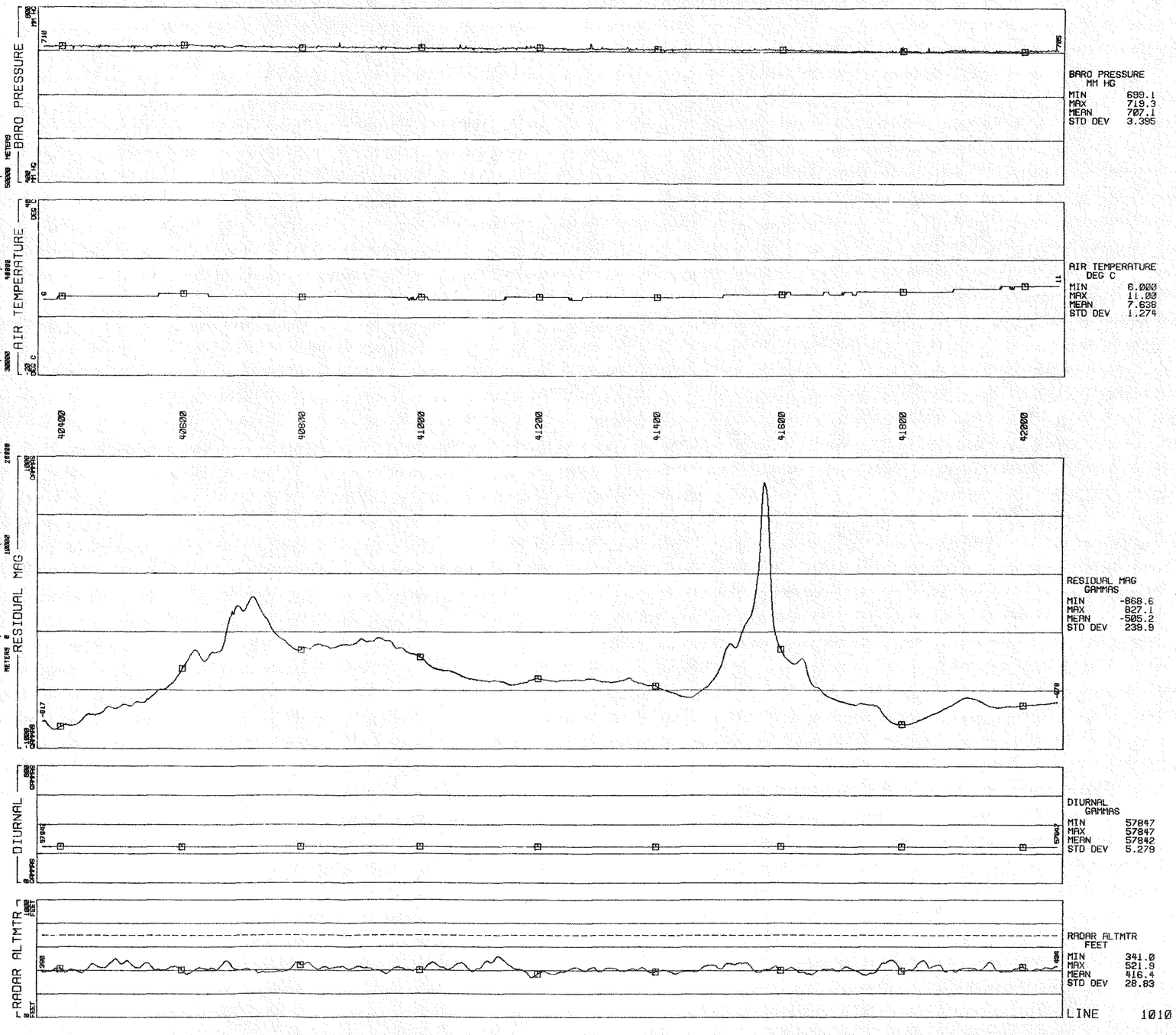
AIR TEMPERATURE DEG C
MIN 4.000
MAX 6.000
MEAN 5.475
STD DEV .6294

BARO PRESSURE MM HG
MIN 700.4
MAX 722.3
MEAN 712.3
STD DEV 3.057

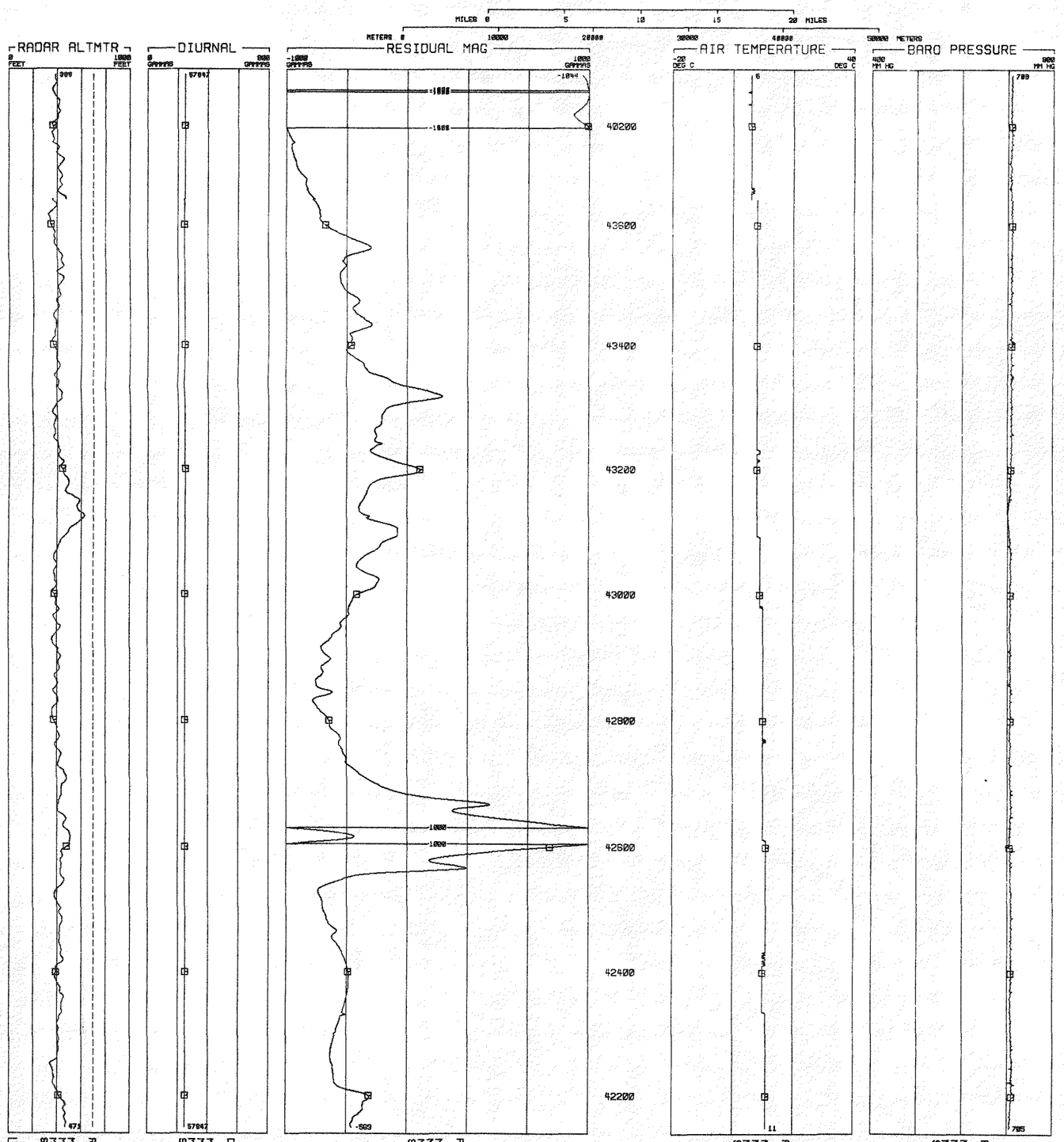
D30 f

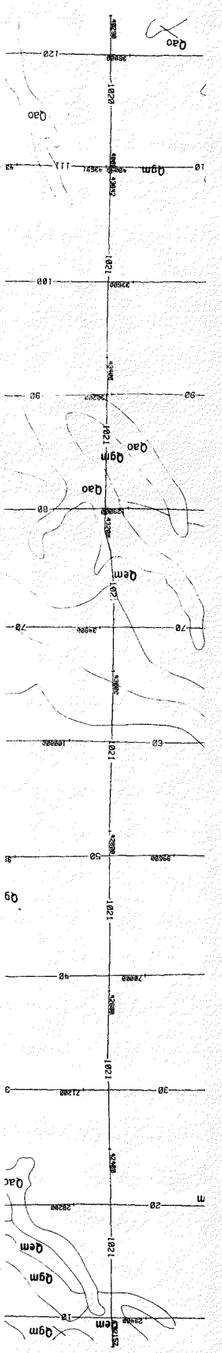
LINE 1010
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80304





LINE 1020
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80304





RADAR ALTMTR FEET
MIN 331.2
MAX 638.4
MEAN 415.9
STD DEV 44.23

DIURNAL GAMMAS
MIN 57845
MAX 57942
MEAN 57882
STD DEV 4.685

RESIDUAL MAG GAMMAS
MIN -1089
MAX 1089
MEAN -537.6
STD DEV 373.7

AIR TEMPERATURE DEG C
MIN 5.000
MAX 11.00
MEAN 9.028
STD DEV 1.604

BARO PRESSURE MM HG
MIN 697.7
MAX 717.8
MEAN 707.5
STD DEV 1.934

LINE 1020

D32f

LINE 1030
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 80310

BARO PRESSURE
MM HG
MIN 700.4
MAX 721.5
MEAN 709.7
STD DEV 2.339

AIR TEMPERATURE
DEG C
MIN 7.000
MAX 10.00
MEAN 8.904
STD DEV .7006

RESIDUAL MAG
GAMMAS
MIN -4327
MAX 1963
MEAN -669.8
STD DEV 964.8

DIURNAL
GAMMAS
MIN 56681
MAX 56691
MEAN 56685
STD DEV 5.208

RADAR ALTMTR
FEET
MIN 328.3
MAX 700.5
MEAN 441.2
STD DEV 56.93

LINE 1030

LINE 1040
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 00310

BARO PRESSURE MM HG
MIN 705.6
MAX 723.1
MEAN 713.6
STD DEV 1.785

AIR TEMPERATURE DEG C
MIN 9.000
MAX 10.00
MEAN 9.053
STD DEV .2234

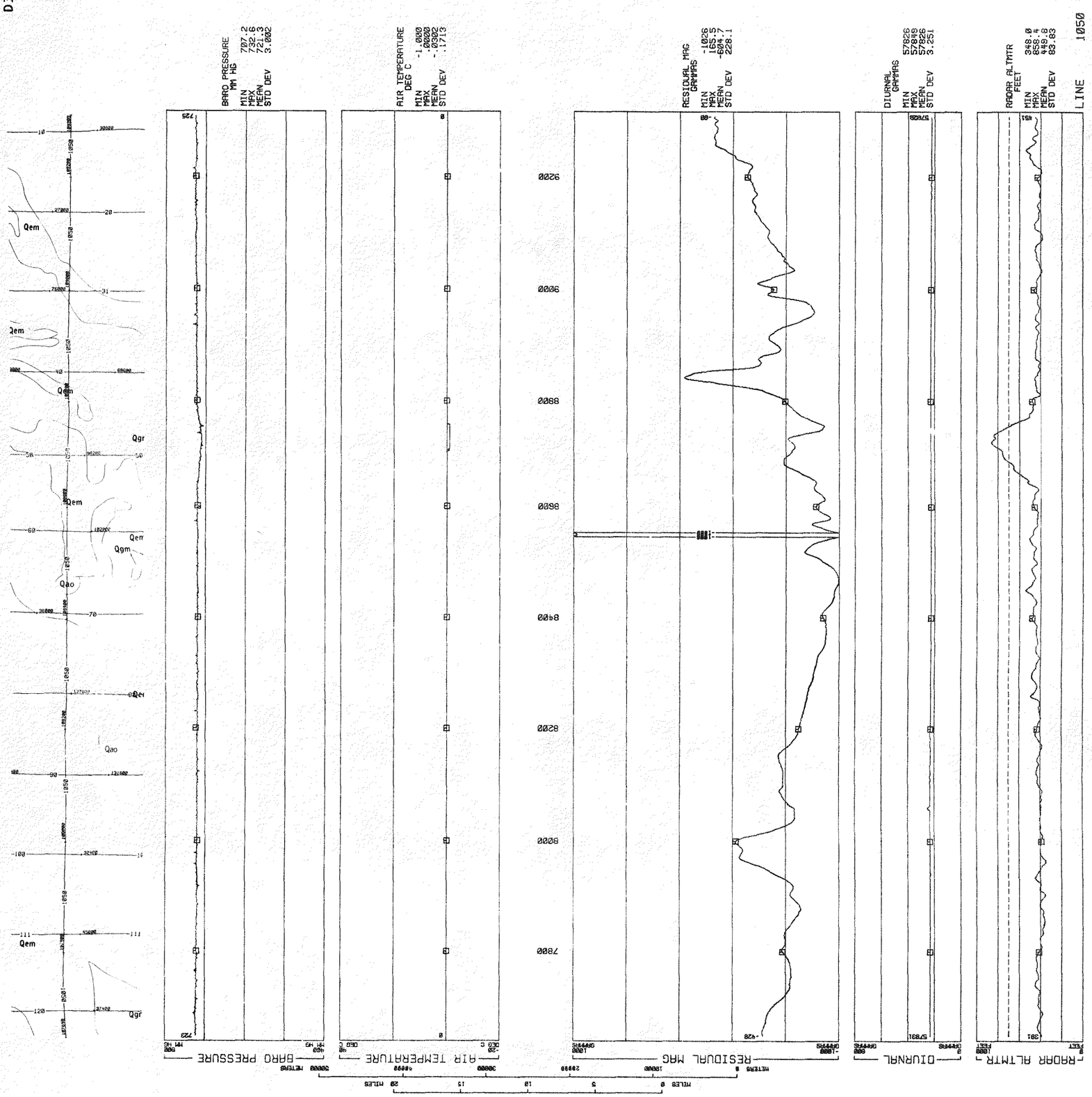
RESIDUAL MAG GAMMAS
MIN -1750
MAX 580.8
MEAN -739.5
STD DEV 405.4

DIURNAL GAMMAS
MIN 56884
MAX 56886
MEAN 56879
STD DEV 5.776

RADAR ALTMTR FEET
MIN 336.5
MAX 607.7
MEAN 498.3
STD DEV 32.98

LINE 1040

D35 f

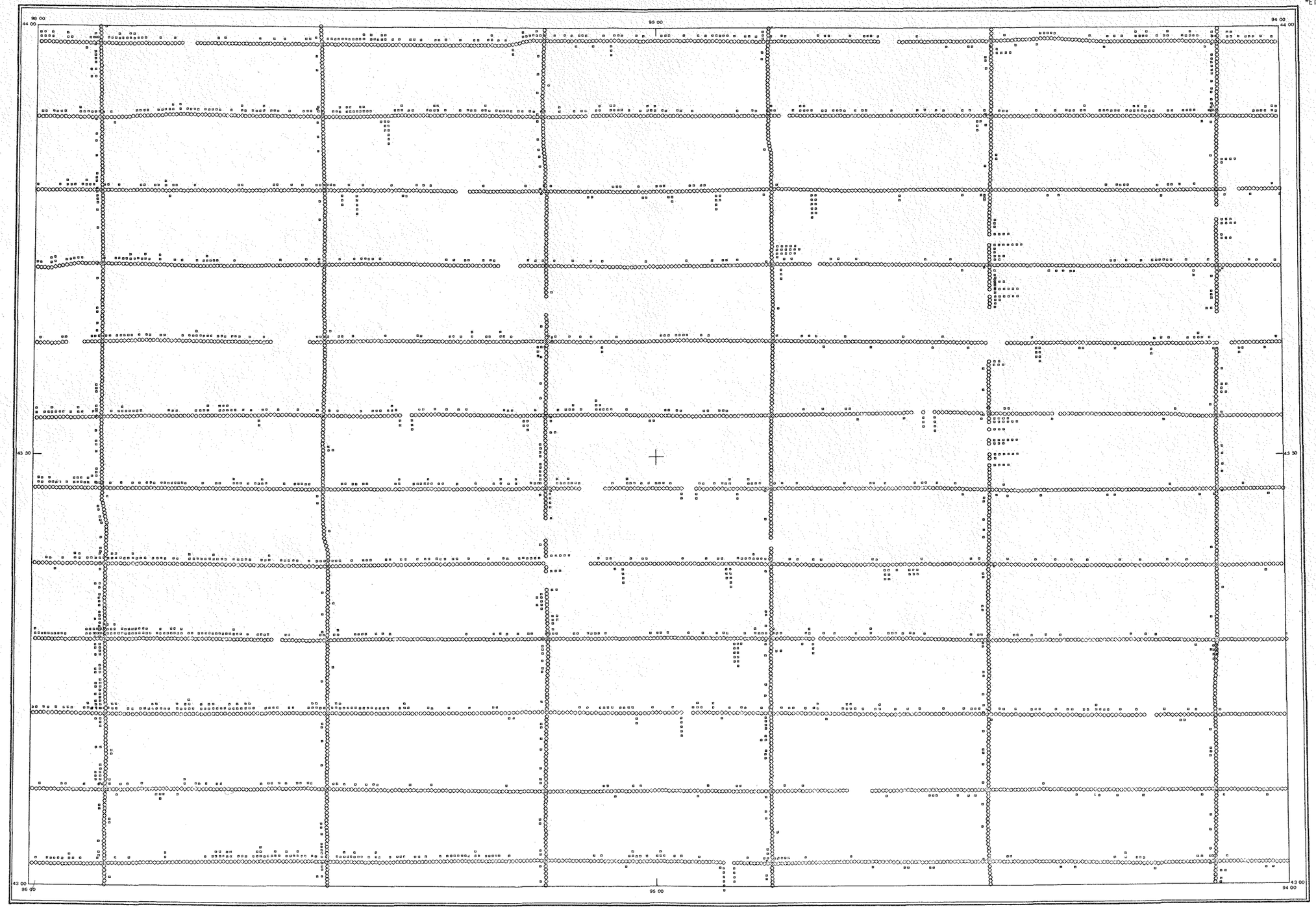


LINE 1050
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 8031S

LINE 1060
FAIRMONT QUADRANGLE - NTMS NK 15-1
DATA ACQUIRED 8031S

APPENDIX E - Standard Deviation Maps

FAIRMONT



SCALE 1:500,000

MILES 5 0 5 10 15 MILES

KILOMETRES 5 0 5 10 15 20 25 30 KILOMETRES

N

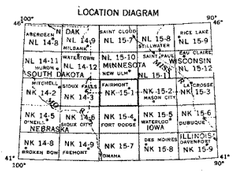
SURVEY AND COMPILATION BY:

EG&G GEOMETRICS

- ◇ – DATA STATISTICALLY ADEQUATE
- BLANK – DATA STATISTICALLY INADEQUATE
- ■ – 1 σ ABOUT MEASURE OF CENTRAL TENDENCY

NOTE: ON E-W LINES, +σ TO NORTH, -σ TO SOUTH.
ON N-S LINES, +σ TO WEST, -σ TO EAST.

LOCATION DIAGRAM



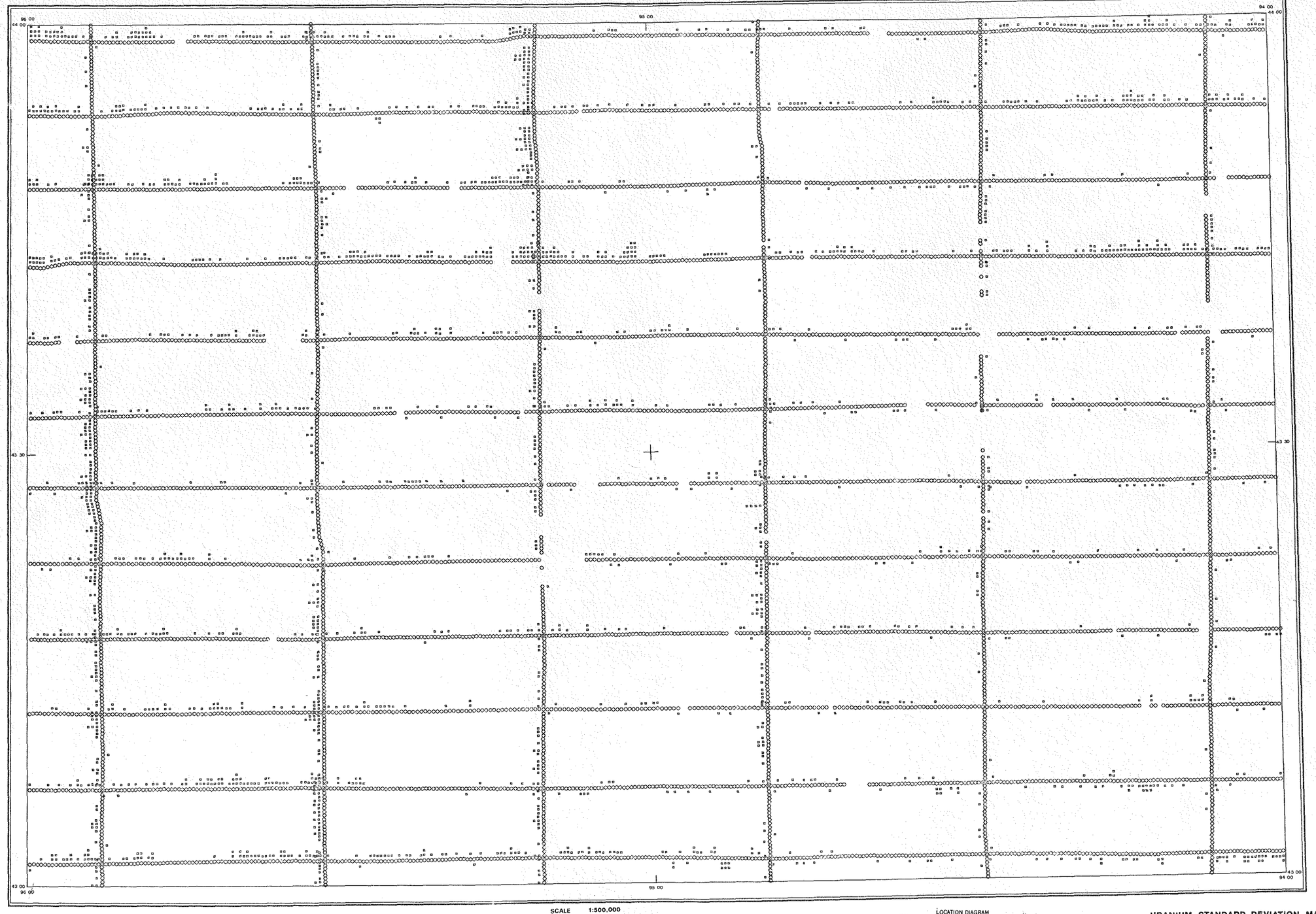
POTASSIUM STANDARD DEVIATION MAP

IOWA PROJECT

U. S. DEPARTMENT OF ENERGY

FAIRMONT

*E2_f



SCALE 1:500.000

MILES 0 5 10 15 MILES

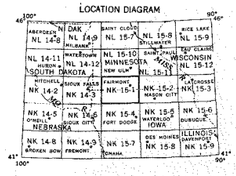
KILOMETRES 0 5 10 15 20 25 30 KILOMETRES

◇ - DATA STATISTICALLY ADEQUATE
BLANK - DATA STATISTICALLY INADEQUATE
ø - 1 σ ABOUT MEASURE OF CENTRAL TENDENCY

NOTE: ON E-W LINES, +σ TO NORTH, -σ TO SOUTH.
ON N-S LINES, +σ TO WEST, -σ TO EAST.

N

LOCATION DIAGRAM



SURVEY AND COMPILATION BY:

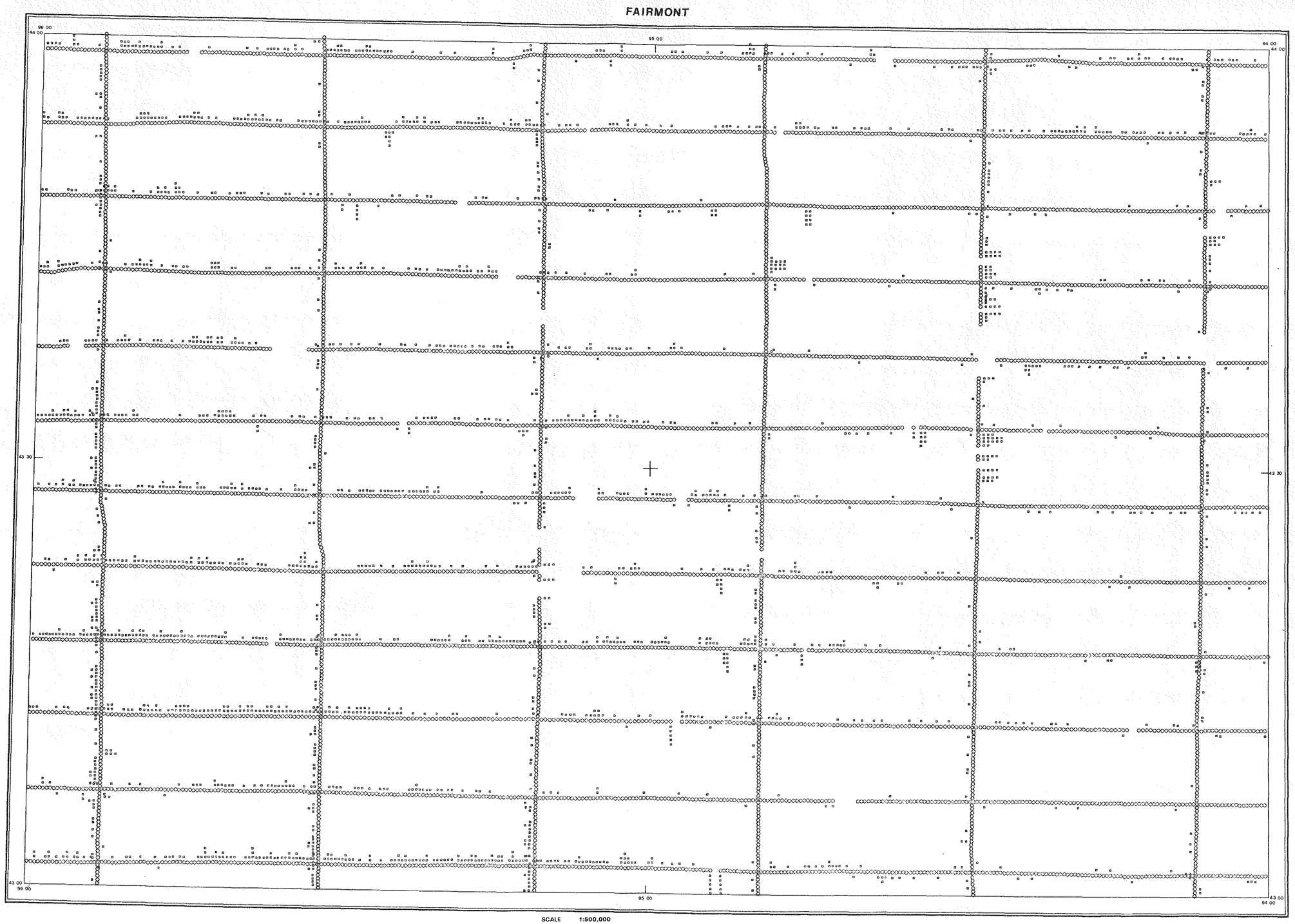
EG&G GEOMETRICS

URANIUM STANDARD DEVIATION MAP

IOWA PROJECT

U. S. DEPARTMENT OF ENERGY

FAIRMONT



SCALE 1:500,000

MILES 0 5 10 15 MILES
KILOMETRES 0 5 10 15 20 25 30 KILOMETRES

N

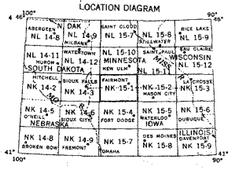
SURVEY AND COMPILATION BY:

EG&G GEOMETRICS

◇ - DATA STATISTICALLY ADEQUATE
BLANK - DATA STATISTICALLY INADEQUATE
σ - 1 σ ABOUT MEASURE OF CENTRAL TENDENCY

NOTE: ON E-W LINES, +σ TO NORTH, -σ TO SOUTH.
ON N-S LINES, +σ TO WEST, -σ TO EAST.

LOCATION DIAGRAM



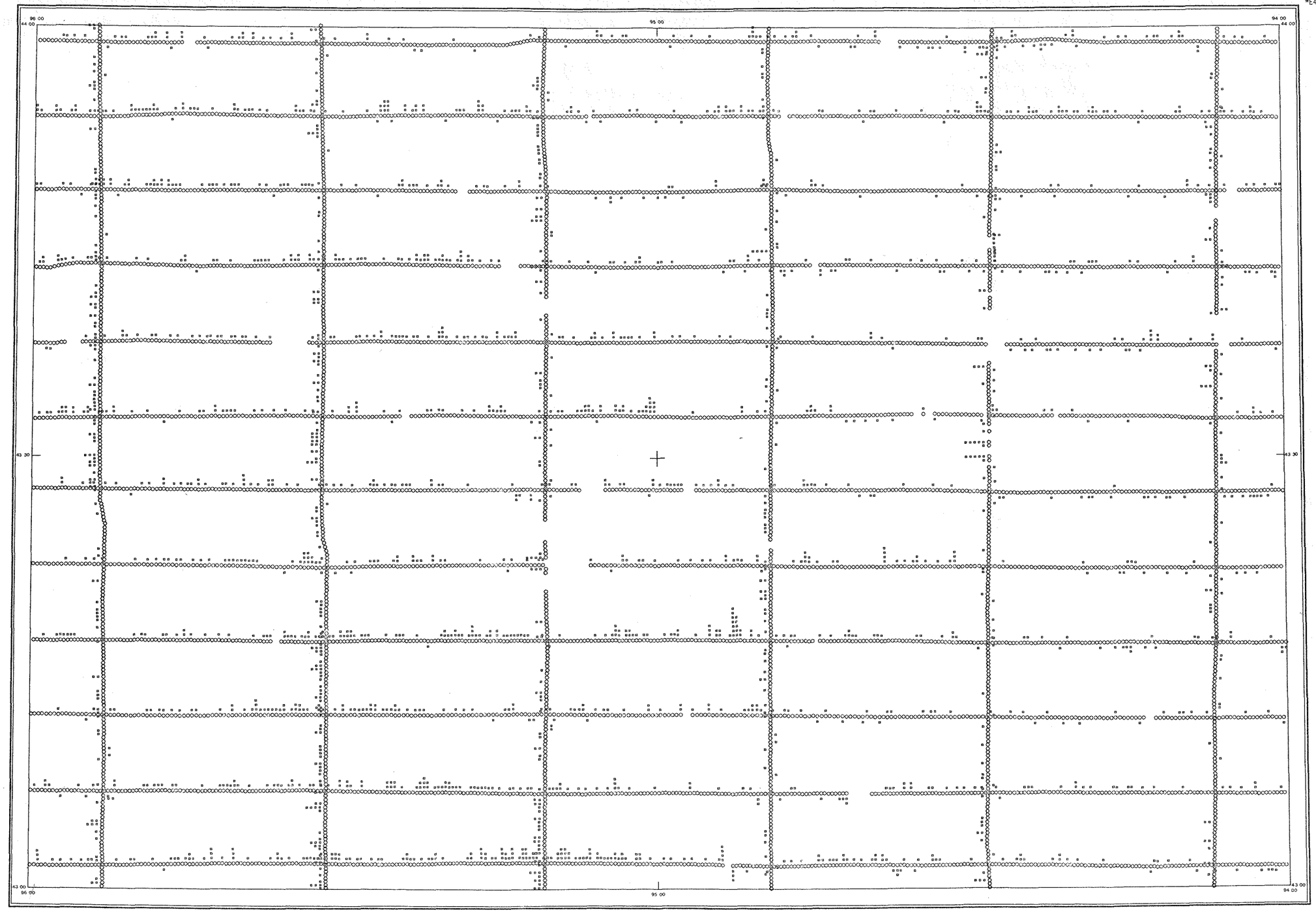
THORIUM STANDARD DEVIATION MAP

IOWA PROJECT

U. S. DEPARTMENT OF ENERGY

FAIRMONT

*E4F



SCALE 1:500,000

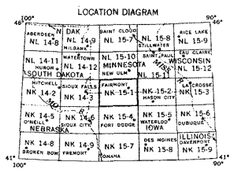
MILES 5 0 5 10 15 MILES

KILOMETRES 5 0 5 10 15 20 25 30 KILOMETRES

O - DATA STATISTICALLY ADEQUATE
BLANK - DATA STATISTICALLY INADEQUATE
σ - 1 σ ABOUT MEASURE OF CENTRAL TENDENCY

NOTE: ON E-W LINES, +σ TO NORTH, -σ TO SOUTH.
ON N-S LINES, +σ TO WEST, -σ TO EAST.

LOCATION DIAGRAM



SURVEY AND COMPILATION BY:

EG&G GEOMETRICS

THORIUM/POTASSIUM STANDARD DEVIATION MAP

IOWA PROJECT

U. S. DEPARTMENT OF ENERGY

FAIRMONT

*E5f

96 00
44 00
95 00
94 00
44 00
43 30
43 30
43 00
96 00
95 00
94 00
43 00

SCALE 1:500,000

MILES 0 5 10 15 MILES
KILOMETRES 0 5 10 15 20 25 30 KILOMETRES

O - DATA STATISTICALLY ADEQUATE
BLANK - DATA STATISTICALLY INADEQUATE
ø - 1 σ ABOUT MEASURE OF CENTRAL TENDENCY

NOTE: ON E-W LINES, +σ TO NORTH, -σ TO SOUTH.
ON N-S LINES, +σ TO WEST, -σ TO EAST.

LOCATION DIAGRAM

ABERDEEN NL 14-8	DAK NL 14-9 HILLSBORO	SAINT CLOUD NL 15-7	NL 15-8 STILLWATER	RICE LAKE NL 15-9
NL 14-11 HURON	WATERTOWN NL 14-12 NEW ULM	NL 15-10 MINNESOTA	BARO FALLS NL 15-11	LA CROSSE WISCONSIN NL 15-12
SOUTH DAKOTA				
NK 14-2	SIOUX FALLS NK 14-3	FAIRMONT NK 15-1	NK 15-2 MASON CITY	LA CROSSE NK 15-3
NK 14-5 O'NEILL NEBRASKA	NK 14-6 SIOUX CITY	NK 15-4 FORT DODGE	NK 15-5 WATERLOO IOWA	NK 15-6 DUBUQUE
NK 14-8 BROKEN BOW	NK 14-9 FREMONT	NK 15-7 OMAHA	DES MOINES NK 15-8	ILLINOIS DAVENPORT NK 15-9

100° 95° 90° 41°

SURVEY AND COMPILATION BY:

EG&G GEOMETRICS

N

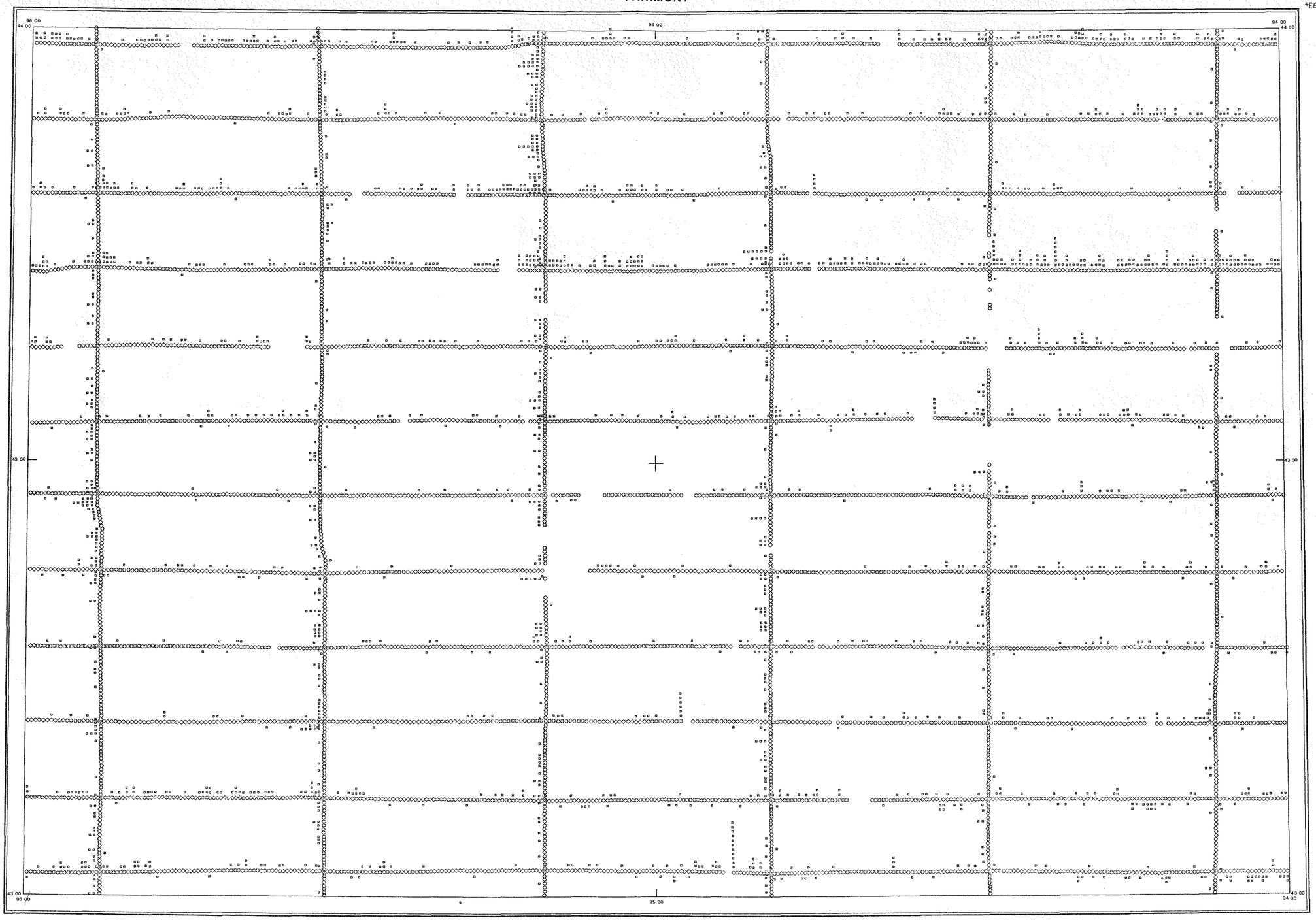
URANIUM/POTASSIUM STANDARD DEVIATION MAP

IOWA PROJECT

U. S. DEPARTMENT OF ENERGY

FAIRMONT

*E6$_f$



SCALE 1:500,000

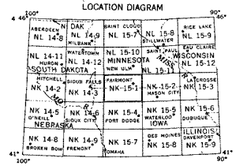
MILES 5 0 5 10 15 MILES

KILOMETRES 5 0 5 10 15 20 25 30 KILOMETRES

◇ – DATA STATISTICALLY ADEQUATE
BLANK – DATA STATISTICALLY INADEQUATE
* – 1 σ ABOUT MEASURE OF CENTRAL TENDENCY

NOTE: ON E–W LINES, +σ TO NORTH, –σ TO SOUTH.
ON N–S LINES, +σ TO WEST, –σ TO EAST.

LOCATION DIAGRAM



URANIUM/THORIUM STANDARD DEVIATION MAP

IOWA PROJECT

U. S. DEPARTMENT OF ENERGY

SURVEY AND COMPILATION BY:

EG&G GEOMETRICS

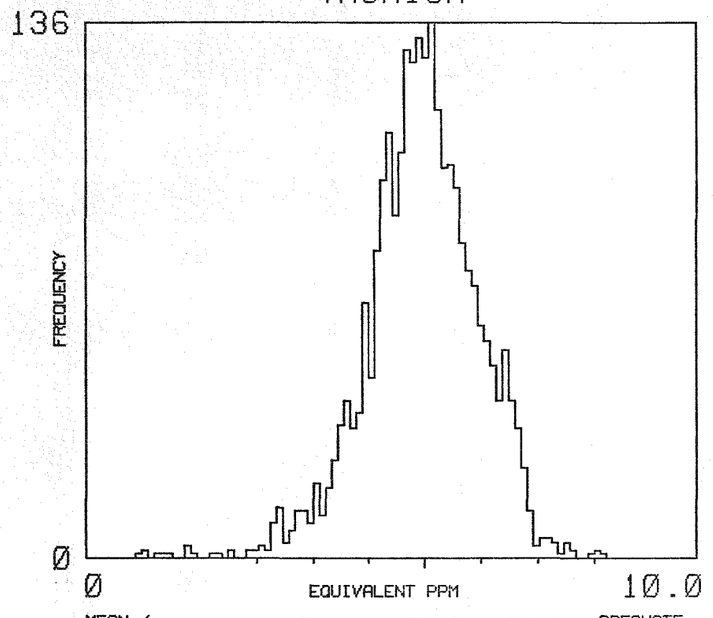
APPENDIX F - Histograms and Map Unit Conversion Table

NK 15-1 FAIRMONT

MAP UNIT : QAO TOTAL NUMBER OF SAMPLES 2563

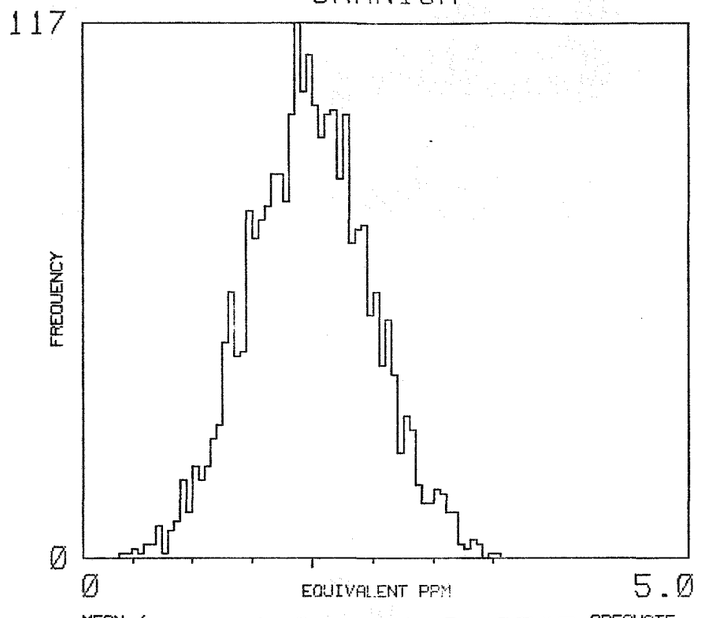
*F1f

THORIUM



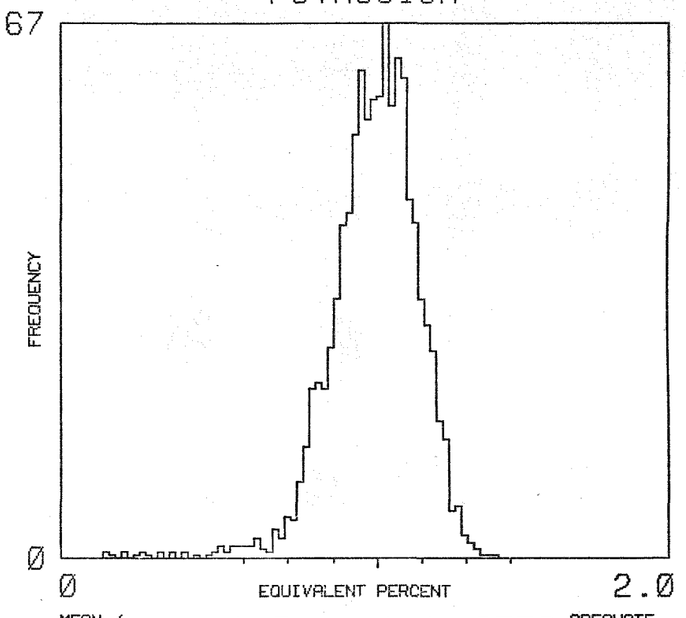
MEAN / MEDIAN 5.5 5.6 2560 ADEQUATE SAMPLES

URANIUM



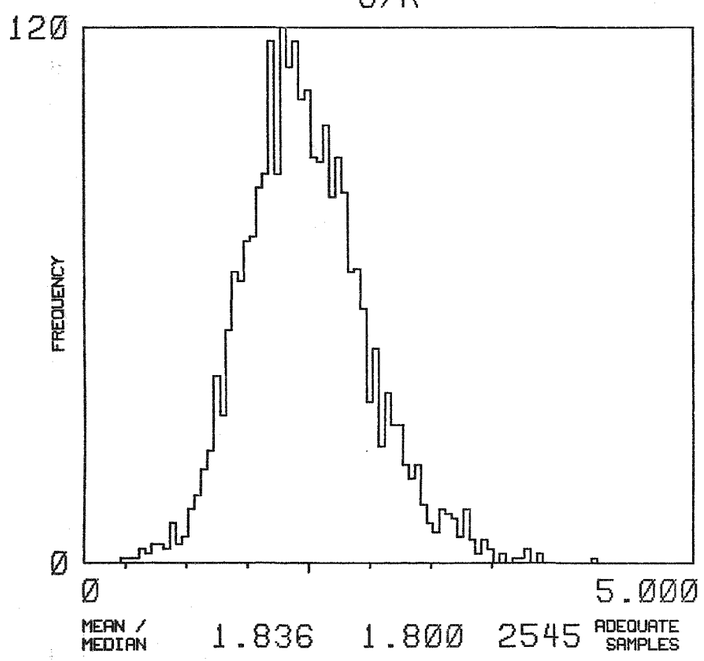
MEAN / MEDIAN 1.9 1.9 2545 ADEQUATE SAMPLES

POTASSIUM



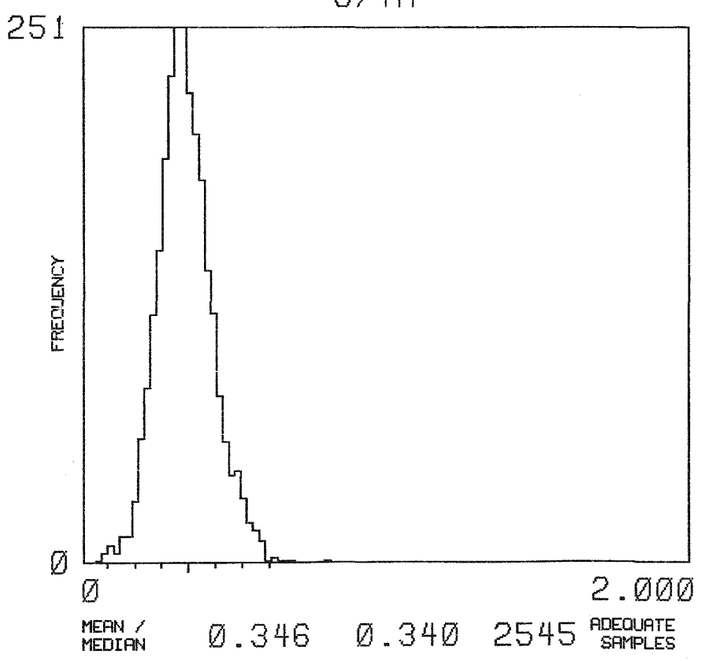
MEAN / MEDIAN 1.Ø 1.1 2558 ADEQUATE SAMPLES

U/K



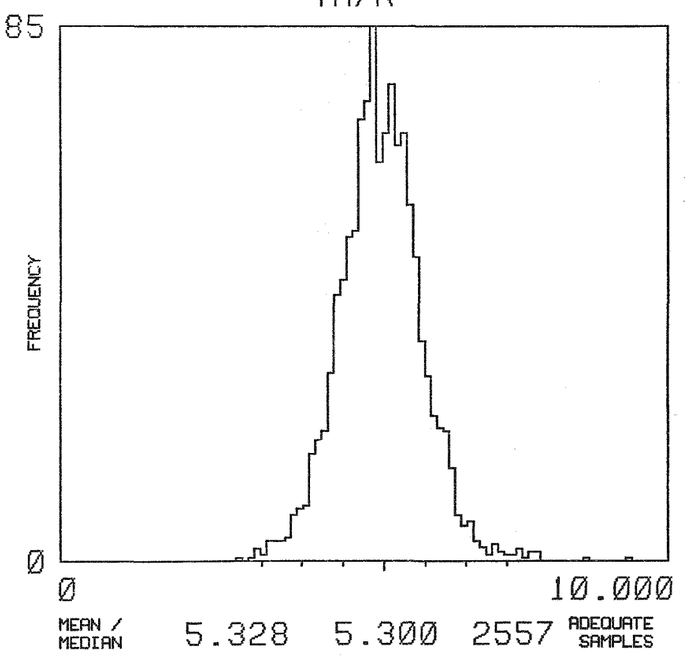
MEAN / MEDIAN 1.836 1.8ØØ 2545 ADEQUATE SAMPLES

U/TH



MEAN / MEDIAN Ø.346 Ø.34Ø 2545 ADEQUATE SAMPLES

TH/K

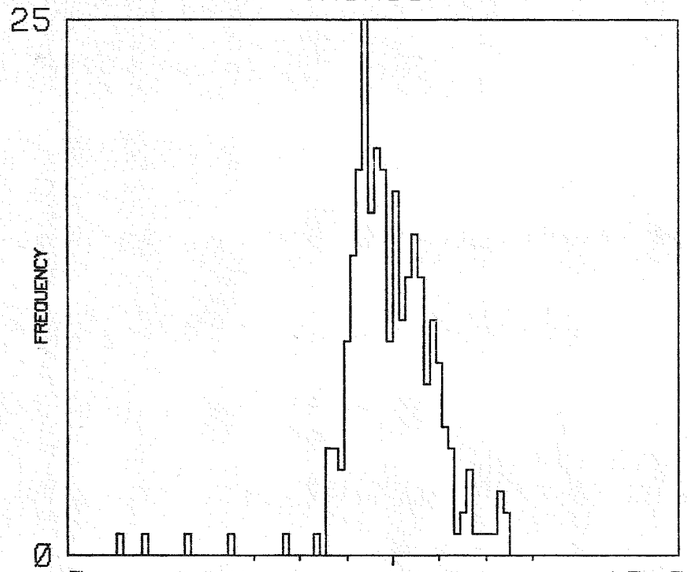


MEAN / MEDIAN 5.328 5.3ØØ 2557 ADEQUATE SAMPLES

NK 15-1 FAIRMONT

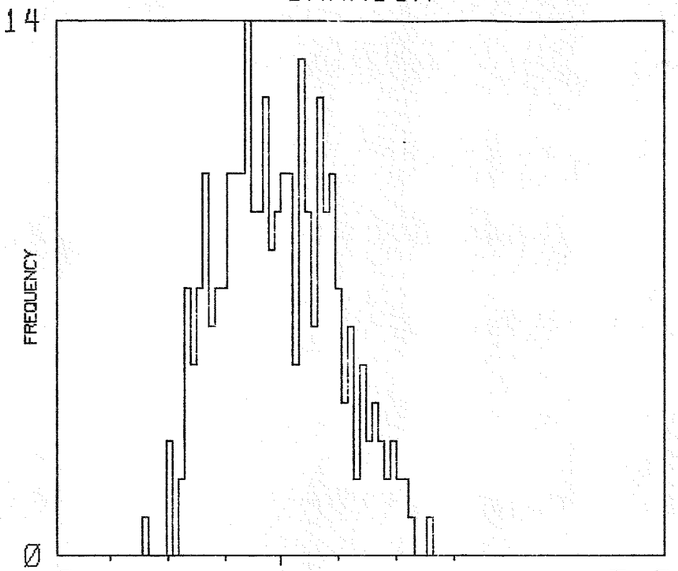
MAP UNIT : QLD TOTAL NUMBER OF SAMPLES 275

THORIUM



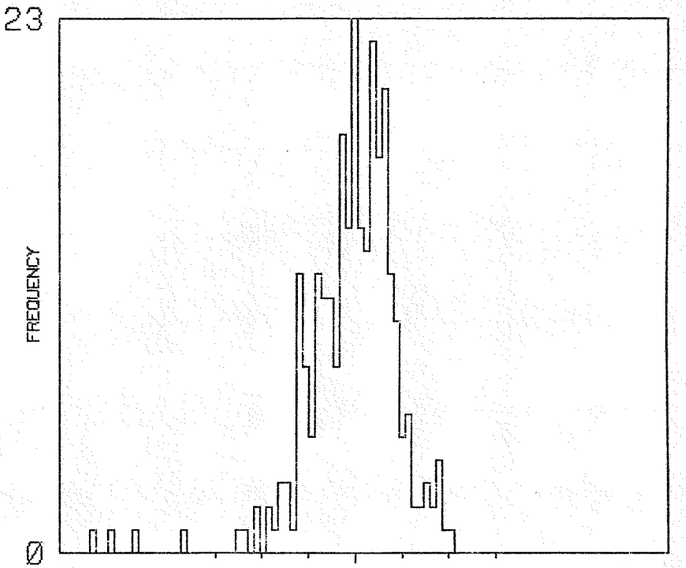
MEAN / MEDIAN 5.3 5.2 274 ADEQUATE SAMPLES

URANIUM



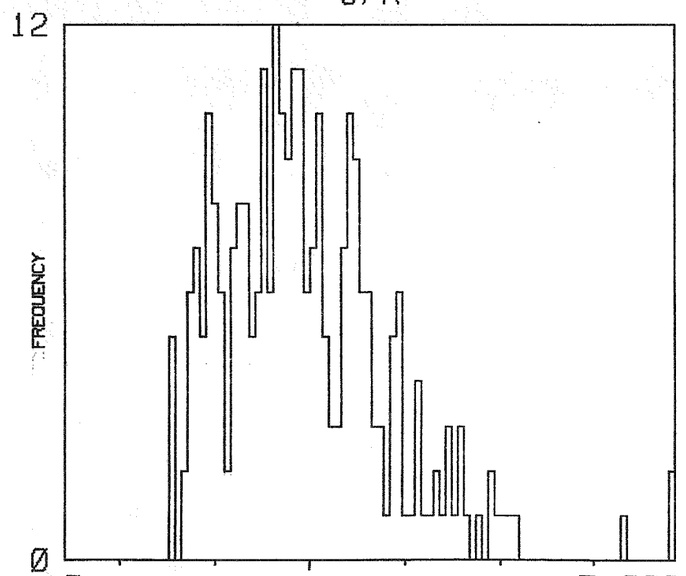
MEAN / MEDIAN 1.9 1.8 275 ADEQUATE SAMPLES

POTASSIUM



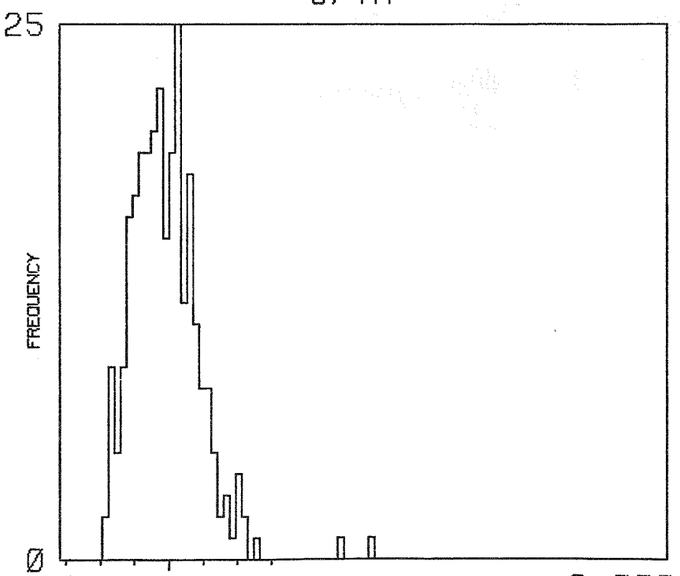
MEAN / MEDIAN 1.Ø 1.Ø 274 ADEQUATE SAMPLES

U/K



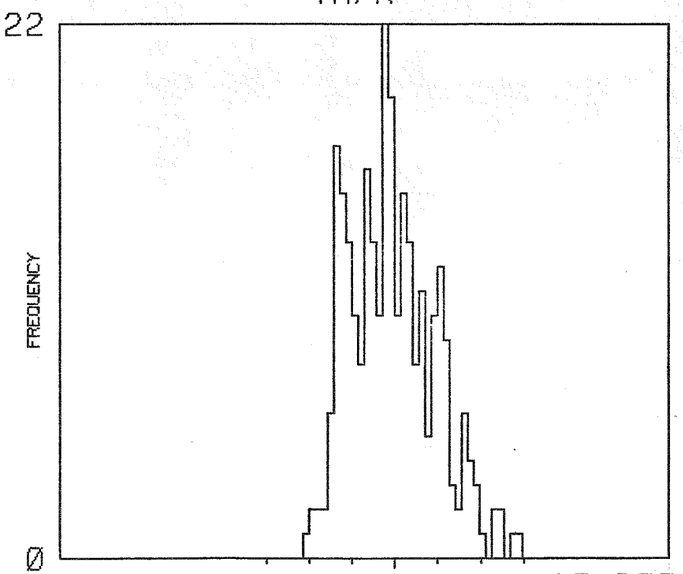
MEAN / MEDIAN 2.000 1.900 274 ADEQUATE SAMPLES

U/TH



MEAN / MEDIAN 0.360 0.340 274 ADEQUATE SAMPLES

TH/K



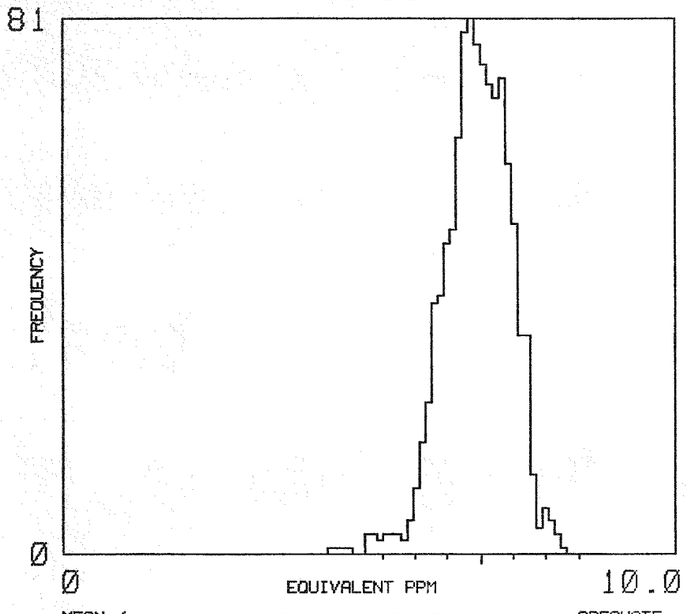
MEAN / MEDIAN 5.510 5.400 274 ADEQUATE SAMPLES

NK 15-1 FAIRMONT

MAP UNIT : QL TOTAL NUMBER OF SAMPLES 1044

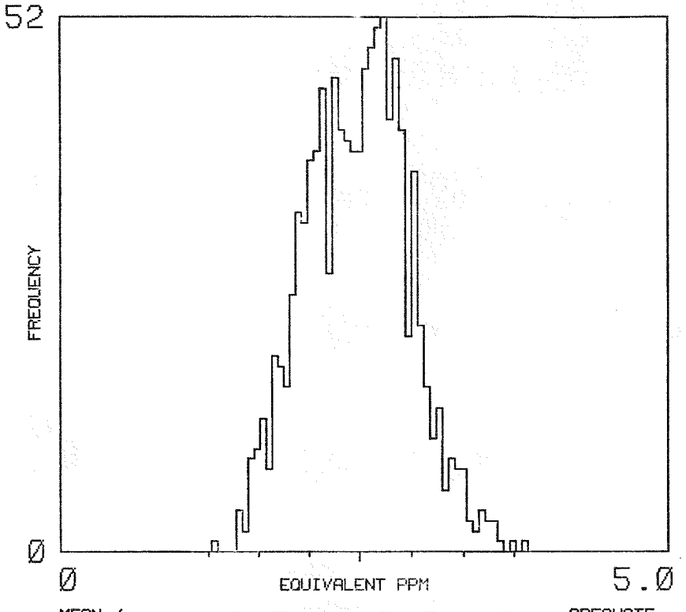
*F3f

THORIUM



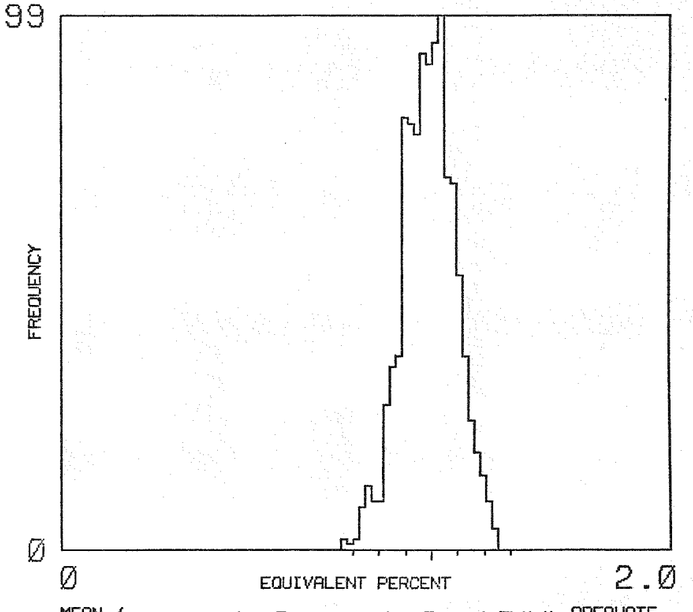
MEAN / MEDIAN 6.8 6.8 1044 ADEQUATE SAMPLES

URANIUM



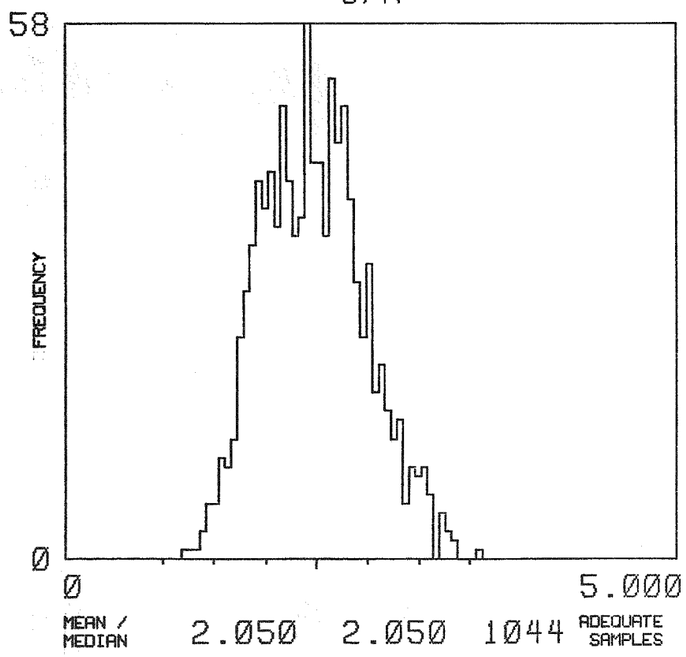
MEAN / MEDIAN 2.5 2.5 1044 ADEQUATE SAMPLES

POTASSIUM



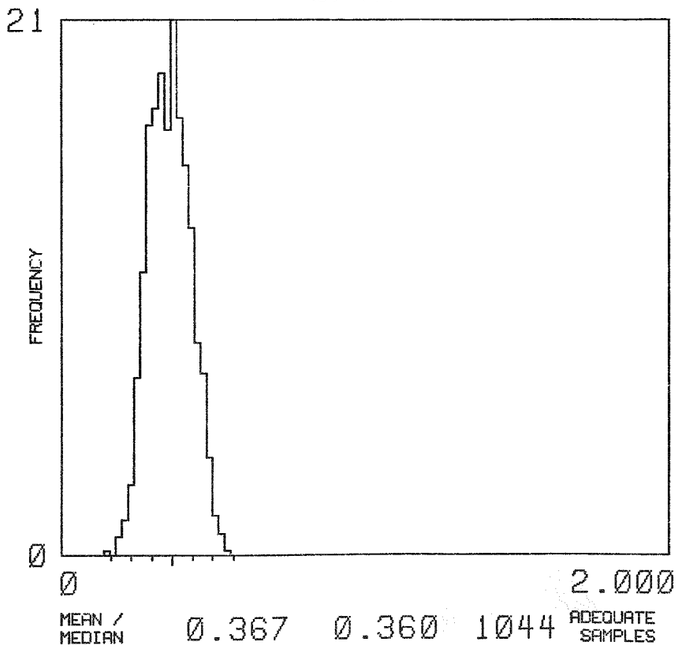
MEAN / MEDIAN 1.2 1.2 1044 ADEQUATE SAMPLES

U/K



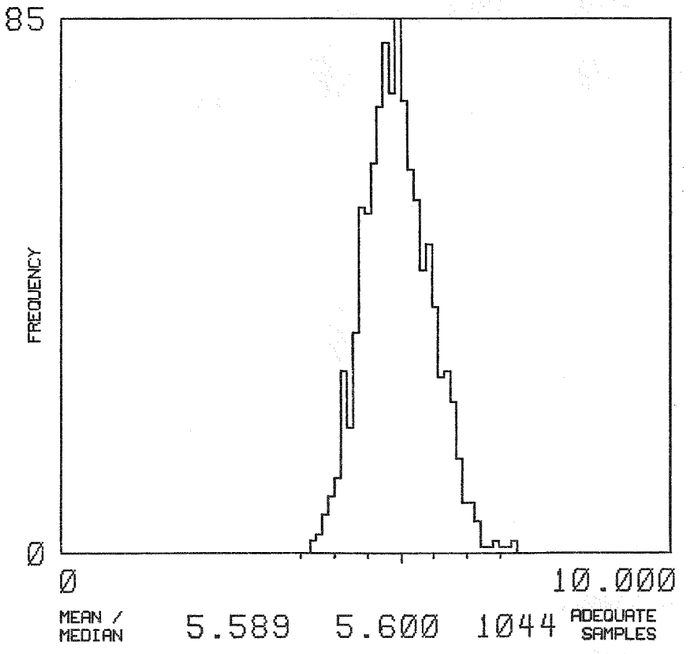
MEAN / MEDIAN 2.050 2.050 1044 ADEQUATE SAMPLES

U/TH



MEAN / MEDIAN 0.367 0.360 1044 ADEQUATE SAMPLES

TH/K

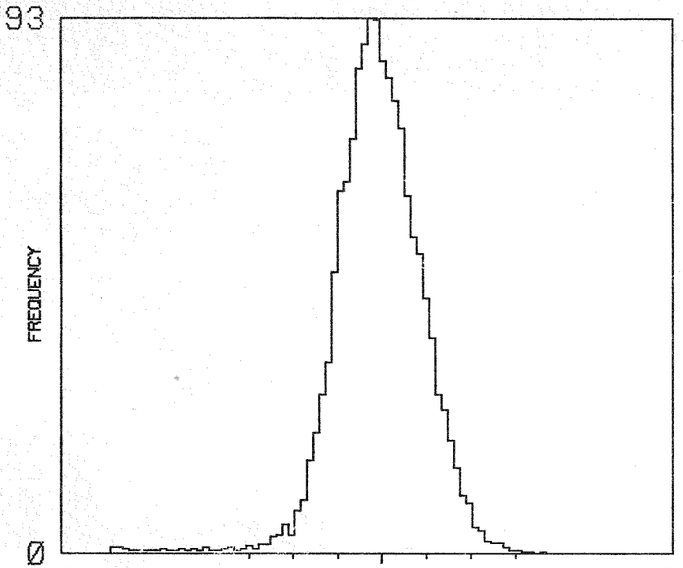


MEAN / MEDIAN 5.589 5.600 1044 ADEQUATE SAMPLES

NK 15-1 FAIRMONT

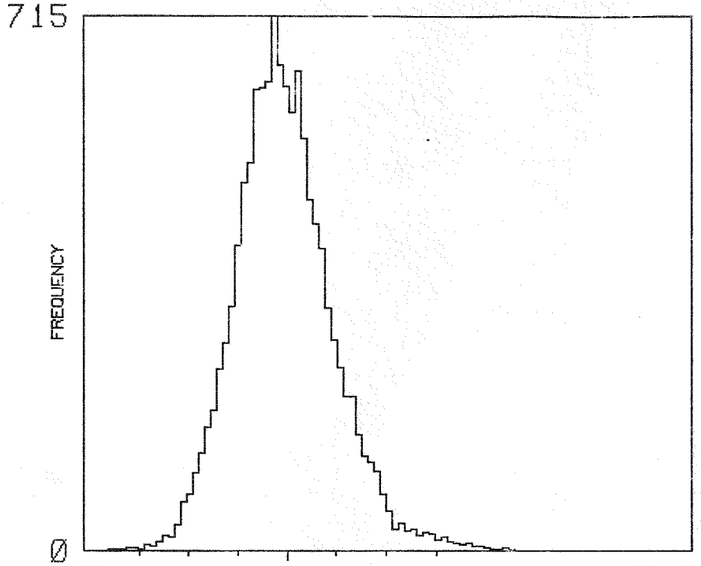
MAP UNIT : QEM TOTAL NUMBER OF SAMPLES 12423

THORIUM



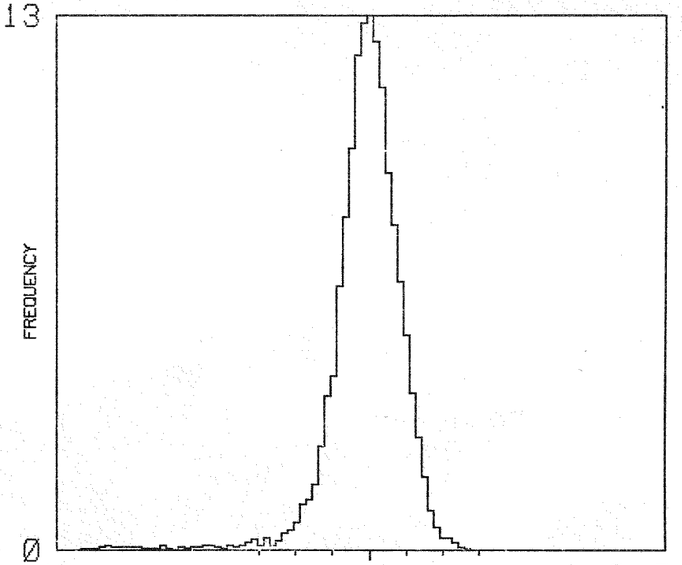
MEAN / MEDIAN 5.2 5.2 12369 ADEQUATE SAMPLES

URANIUM



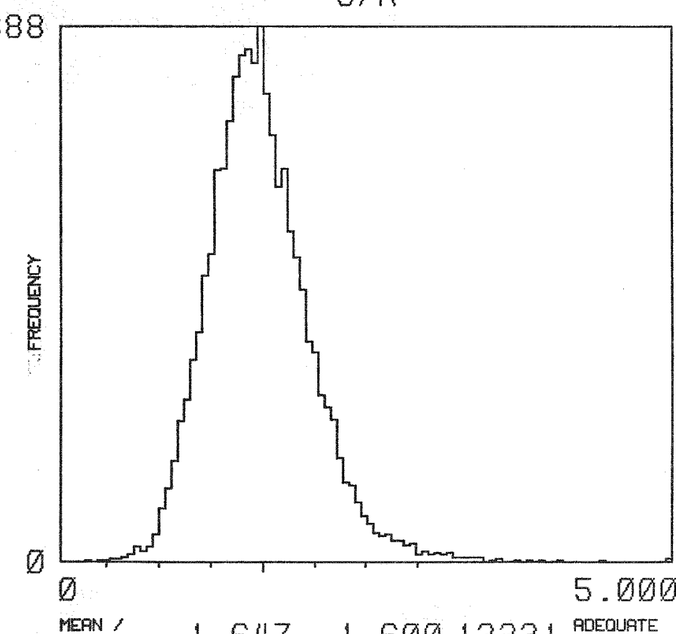
MEAN / MEDIAN 1.7 1.6 12249 ADEQUATE SAMPLES

POTASSIUM



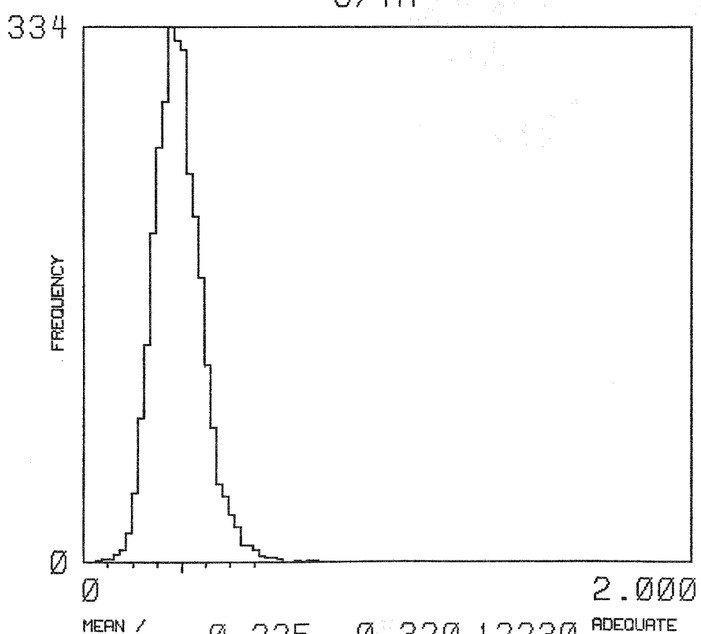
MEAN / MEDIAN 1.Ø 1.Ø 12364 ADEQUATE SAMPLES

U/K



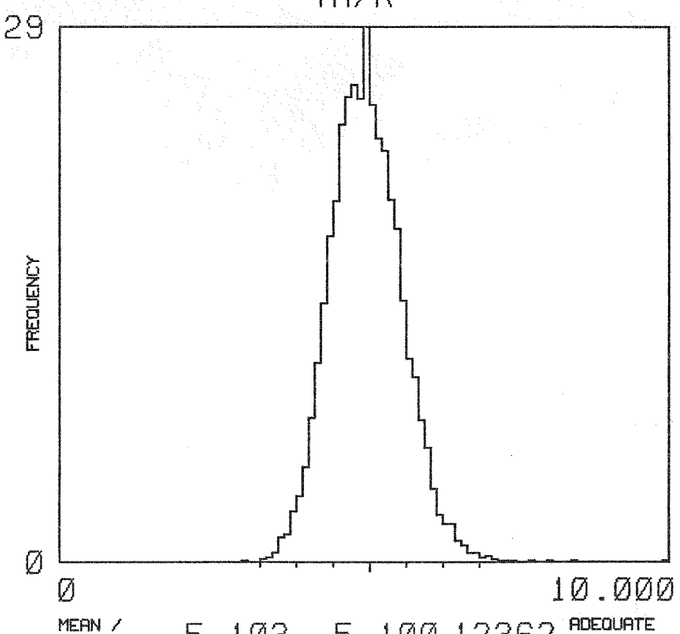
MEAN / MEDIAN 1.647 1.600 12231 ADEQUATE SAMPLES

U/TH



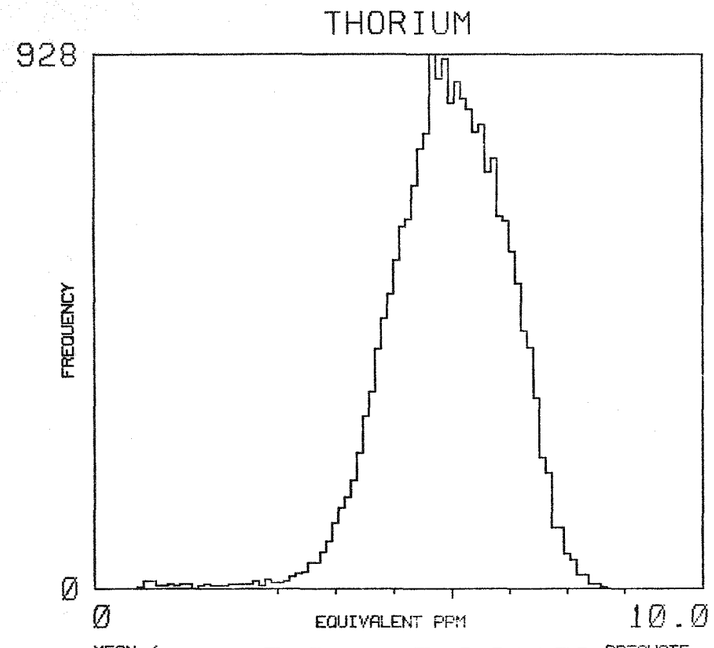
MEAN / MEDIAN Ø.325 Ø.32Ø 12230 ADEQUATE SAMPLES

TH/K

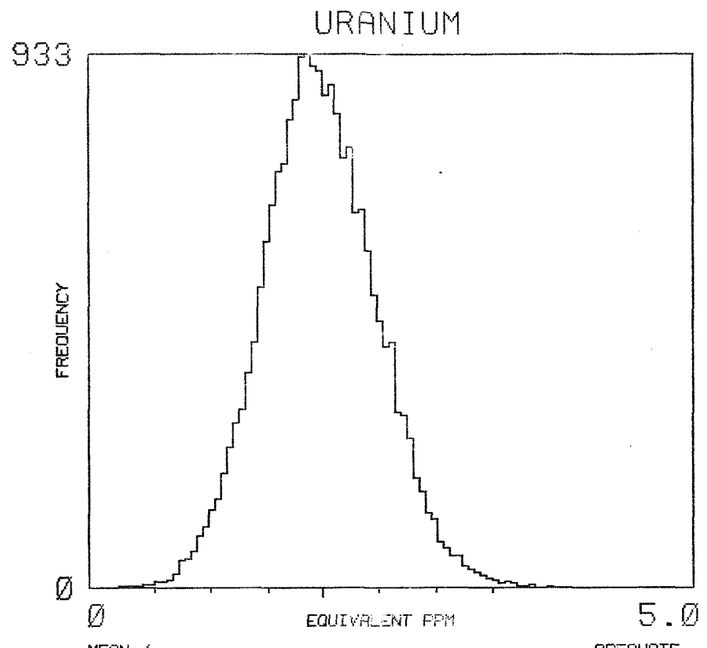


MEAN / MEDIAN 5.1Ø3 5.1ØØ 12362 ADEQUATE SAMPLES

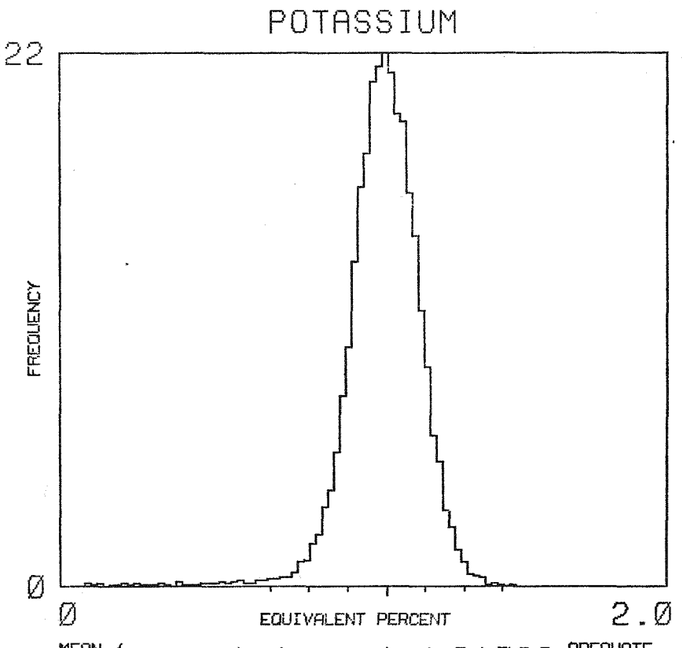
NK 15-1 FAIRMONT MAP UNIT : QGM TOTAL NUMBER OF SAMPLES 21167



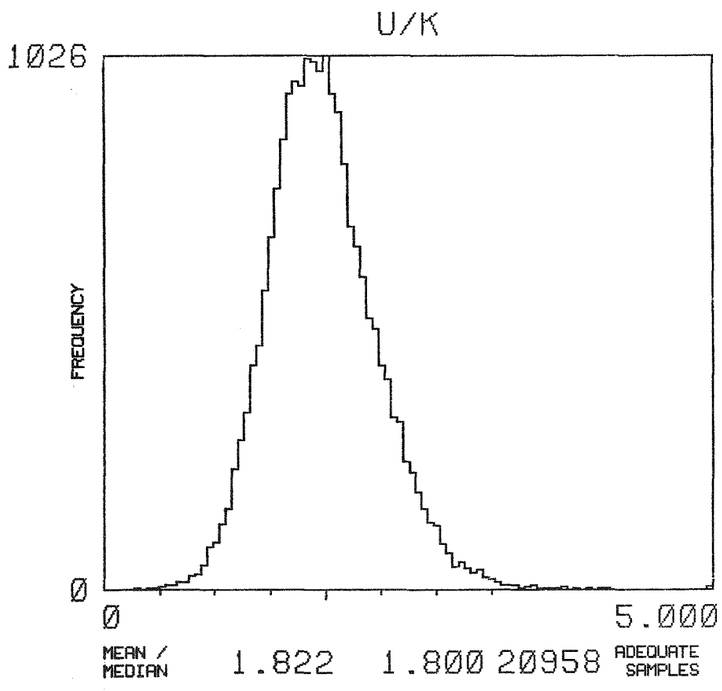
MEAN / MEDIAN 5.8 5.9 21103 ADEQUATE SAMPLES



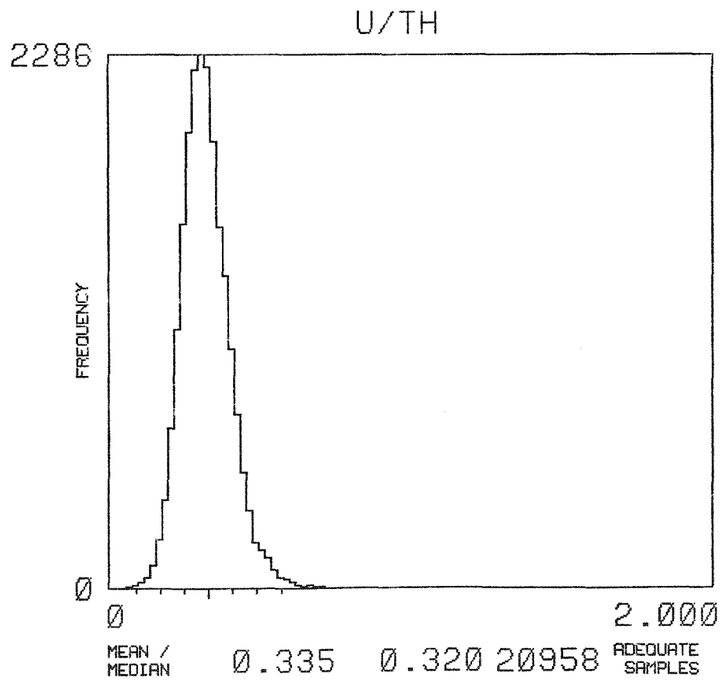
MEAN / MEDIAN 1.9 1.9 20958 ADEQUATE SAMPLES



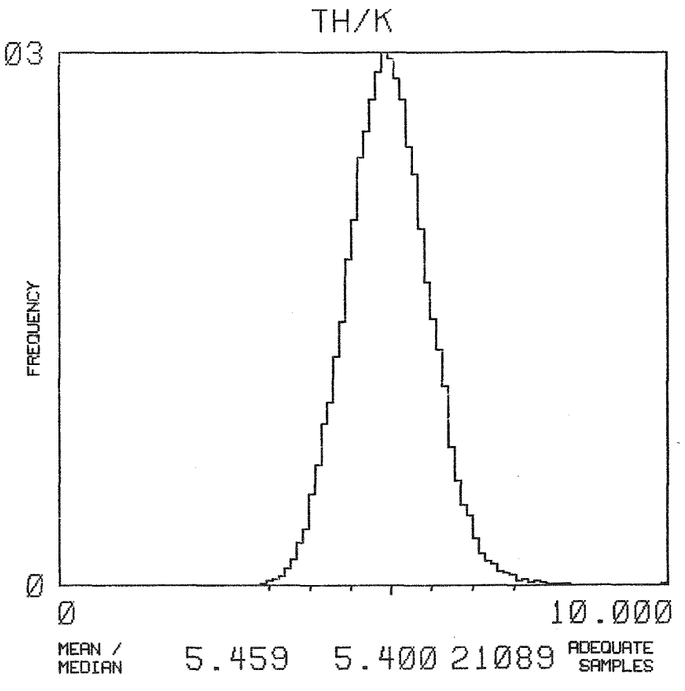
MEAN / MEDIAN 1.1 1.1 21096 ADEQUATE SAMPLES



MEAN / MEDIAN 1.822 1.800 20958 ADEQUATE SAMPLES



MEAN / MEDIAN 0.335 0.320 20958 ADEQUATE SAMPLES



MEAN / MEDIAN 5.459 5.400 21089 ADEQUATE SAMPLES

FAIRMONT QUADRANGLE

Computer Map Unit Symbol Conversion Table

Computer Map Unit Symbol	Geologic Map Unit Symbol
QAO	Qao
QLD	Qld
QL	Ql
QEM	Qem
QGM	Qgm

NOTES:

On the following pages, histograms for each computer map unit are included in the same order as they appear on the above list.

Geologic descriptions of original geologic map units are in Appendix A.

Areas over water or cultural features were assigned separate map unit symbols and were removed from the data block during processing.

APPENDIX G - Uranium Anomaly Summary and Statistical Tables

ANOMALY SUMMARY TABLE

ANOMALY	FLIGHT	COMPUTER MAP UNIT AND NO. ANOMALOUS SAMPLES IN UNIT			PEAK PPM	NUMBER OF SAMPLES WITH A STANDARD DEVIATION OF :							
						1	2	3	4	5	6	7	GT7
1 C	10	QEM / 3	/ 0	/ 0	2.9	0	1	2	0	0	0	0	0
2 C	10	QEM / 3	/ 0	/ 0	2.5	0	3	0	0	0	0	0	0
3 C	10	QEM / 1QGM	/ 4	/ 0	2.8	4	0	1	0	0	0	0	0
4 C	10	QEM / 6QGM	/ 1	/ 0	2.9	1	5	1	0	0	0	0	0
5 C	10	QGM / 5	/ 0	/ 0	2.8	4	1	0	0	0	0	0	0
6 C	10	QGM / 1QEM	/ 5	/ 0	2.7	3	3	0	0	0	0	0	0
7 C	10	QEM / 2	/ 0	/ 0	2.5	0	2	0	0	0	0	0	0
8 C	10	QGM / 3	/ 0	/ 0	2.8	2	1	0	0	0	0	0	0
9 C	10	QGM / 3	/ 0	/ 0	3.2	1	1	1	0	0	0	0	0
10 C	10	QGM / 5	/ 0	/ 0	2.9	3	2	0	0	0	0	0	0
11 C	20	QGM / 3	/ 0	/ 0	3.1	2	1	0	0	0	0	0	0
12 C	20	QGM / 3QEM	/ 1	/ 0	2.7	1	3	0	0	0	0	0	0
13 C	20	QGM / 1QEM	/ 1	/ 0	2.7	1	0	1	0	0	0	0	0
14 C	20	QEM / 3	/ 0	/ 0	2.4	2	1	0	0	0	0	0	0
15 C	20	QGM / 3	/ 0	/ 0	3.4	0	2	1	0	0	0	0	0
16 C	20	QGM / 2	/ 0	/ 0	2.7	0	2	0	0	0	0	0	0
17 C	20	QGM / 3	/ 0	/ 0	3.0	1	2	0	0	0	0	0	0
18 C	30	QEM / 5QGM	/ 3	/ 0	2.9	3	1	4	0	0	0	0	0
19 C	30	QGM / 3	/ 0	/ 0	2.9	2	1	0	0	0	0	0	0
20 C	30	QGM / 4	/ 0	/ 0	3.1	2	1	1	0	0	0	0	0
21 C	30	QGM / 4	/ 0	/ 0	3.1	1	3	0	0	0	0	0	0
22 C	30	QGM /10QEM	/ 4	/ 0	3.1	7	6	1	0	0	0	0	0
23 C	40	QGM / 5	/ 0	/ 0	3.1	0	5	0	0	0	0	0	0
24 C	40	QAD / 3QGM	/ 6	/ 0	3.4	2	6	1	0	0	0	0	0
25 C	40	QEM / 2	/ 0	/ 0	2.5	0	2	0	0	0	0	0	0
26 C	40	QGM / 4	/ 0	/ 0	3.1	2	2	0	0	0	0	0	0
27 C	40	QGM / 4	/ 0	/ 0	2.9	2	2	0	0	0	0	0	0
28 C	40	QGM / 7	/ 0	/ 0	3.4	3	3	1	0	0	0	0	0
29 C	40	QGM / 5QEM	/10	/ 0	3.5	3	5	5	2	0	0	0	0
30 C	40	QEM / 1QGM	/ 1QAD	/ 1	2.9	1	2	0	0	0	0	0	0
31 C	40	QEM / 4QGM	/ 1	/ 0	3.7	1	1	1	2	0	0	0	0
32 C	40	QEM / 3	/ 0	/ 0	2.4	2	1	0	0	0	0	0	0
33 C	40	QEM / 1QGM	/ 3	/ 0	2.5	3	1	0	0	0	0	0	0
34 C	40	QEM / 2	/ 0	/ 0	2.7	0	2	0	0	0	0	0	0
35 C	40	QGM /11	/ 0	/ 0	3.2	6	4	1	0	0	0	0	0
36 C	40	QGM / 2	/ 0	/ 0	3.3	1	0	1	0	0	0	0	0
37 C	40	QGM / 4	/ 0	/ 0	2.9	1	3	0	0	0	0	0	0
38 C	50	QGM / 4	/ 0	/ 0	2.9	2	2	0	0	0	0	0	0
39 C	50	QGM / 2	/ 0	/ 0	3.1	0	2	0	0	0	0	0	0
40 C	50	QEM / 3	/ 0	/ 0	2.5	2	1	0	0	0	0	0	0
41 C	60	QEM / 3	/ 0	/ 0	2.3	2	1	0	0	0	0	0	0
42 C	60	QGM / 3	/ 0	/ 0	2.7	1	2	0	0	0	0	0	0
43 C	100	QGM / 2	/ 0	/ 0	2.8	0	2	0	0	0	0	0	0
44 C	100	QEM / 4	/ 0	/ 0	2.4	2	2	0	0	0	0	0	0
45 C	110	QAD / 2QGM	/ 2	/ 0	3.0	1	3	0	0	0	0	0	0
46 C	110	QGM / 2	/ 0	/ 0	2.8	0	2	0	0	0	0	0	0
47 C	110	QGM / 3QAD	/ 1	/ 0	3.1	1	2	1	0	0	0	0	0
48 C	110	QGM / 3	/ 0	/ 0	2.8	1	2	0	0	0	0	0	0
49 C	110	QGM / 4	/ 0	/ 0	3.4	0	3	1	0	0	0	0	0
50 C	110	QGM / 3QAD	/ 2	/ 0	3.1	3	2	0	0	0	0	0	0

ANOMALY SUMMARY TABLE

ANOMALY	FLIGHT	COMPUTER MAP UNIT AND NO. ANOMALOUS SAMPLES IN UNIT			PEAK PPM	NUMBER OF SAMPLES WITH A STANDARD DEVIATION OF :							
						1	2	3	4	5	6	7	GT7
51 C	120	QAO / 3	/ 0	/ 0	3.1	2	1	0	0	0	0	0	0
52 C	120	QL / 3	/ 0	/ 0	3.6	1	1	1	0	0	0	0	0
53 C	120	QL / 2	/ 0	/ 0	3.4	0	2	0	0	0	0	0	0
54 C	120	QQM / 2	/ 0	/ 0	3.1	0	2	0	0	0	0	0	0
55 C	120	QEM / 3	/ 0	/ 0	2.5	2	1	0	0	0	0	0	0
56 C	1010	QL / 3	/ 0	/ 0	3.4	1	2	0	0	0	0	0	0
57 C	1010	QQM / 5	/ 0	/ 0	3.1	1	3	1	0	0	0	0	0
58 C	1010	QQM / 1	/ 0	/ 0	3.2	0	0	1	0	0	0	0	0
59 C	1010	QQM / 4	/ 0	/ 0	3.2	2	1	1	0	0	0	0	0
60 C	1010	QQM / 3	/ 0	/ 0	3.1	1	2	0	0	0	0	0	0
61 C	1010	QQM / 7	/ 0	/ 0	3.2	4	2	1	0	0	0	0	0
62 C	1010	QQM / 2QAO	/ 3	/ 0	3.0	0	5	0	0	0	0	0	0
63 C	1010	QQM / 6	/ 0	/ 0	3.3	1	4	1	0	0	0	0	0
64 C	1010	QQM / 2	/ 0	/ 0	3.0	0	2	0	0	0	0	0	0
65 C	1010	QQM / 5	/ 0	/ 0	3.3	1	3	1	0	0	0	0	0
66 C	1010	QQM / 3	/ 0	/ 0	3.3	0	2	1	0	0	0	0	0
67 C	1010	QQM / 1	/ 0	/ 0	3.1	0	0	1	0	0	0	0	0
68 C	1020	QQM / 3	/ 0	/ 0	2.9	1	2	0	0	0	0	0	0
69 C	1020	QQM / 3	/ 0	/ 0	2.8	1	2	0	0	0	0	0	0
70 C	1020	QQM / 3	/ 0	/ 0	2.8	1	2	0	0	0	0	0	0
71 C	1020	QQM / 2	/ 0	/ 0	2.7	0	2	0	0	0	0	0	0
72 C	1020	QQM / 9	/ 0	/ 0	4.0	3	4	1	1	0	0	0	0
73 C	1020	QAO / 4	/ 0	/ 0	3.0	0	4	0	0	0	0	0	0
74 C	1020	QQM / 2	/ 0	/ 0	3.5	1	0	1	0	0	0	0	0
75 C	1030	QEM / 3	/ 0	/ 0	2.5	2	1	0	0	0	0	0	0
76 C	1030	QEM / 3	/ 0	/ 0	2.4	2	1	0	0	0	0	0	0
77 C	1030	QEM / 3	/ 0	/ 0	2.5	2	1	0	0	0	0	0	0
78 C	1030	QEM / 3	/ 0	/ 0	3.0	0	2	1	0	0	0	0	0
79 C	1030	QEM / 2	/ 0	/ 0	3.4	0	0	1	1	0	0	0	0
80 C	1030	QEM / 8	/ 0	/ 0	3.5	1	4	1	2	0	0	0	0
81 C	1030	QEM / 2QAO	/ 3	/ 0	2.9	2	3	0	0	0	0	0	0
82 C	1030	QAO / 1QEM	/ 4	/ 0	2.6	3	2	0	0	0	0	0	0
83 C	1030	QEM / 7	/ 0	/ 0	3.3	0	5	0	2	0	0	0	0
84 C	1030	QQM / 3	/ 0	/ 0	2.9	1	2	0	0	0	0	0	0
85 C	1040	QEM / 3	/ 0	/ 0	2.5	1	2	0	0	0	0	0	0
86 C	1040	QEM / 3	/ 0	/ 0	2.7	1	1	1	0	0	0	0	0
87 C	1040	QEM / 3	/ 0	/ 0	2.9	1	1	1	0	0	0	0	0
88 C	1040	QAO / 2	/ 0	/ 0	2.9	0	2	0	0	0	0	0	0
89 C	1040	QEM / 3	/ 0	/ 0	2.5	2	1	0	0	0	0	0	0
90 C	1040	QEM / 1	/ 0	/ 0	3.3	0	0	0	1	0	0	0	0
91 C	1040	QEM / 2	/ 0	/ 0	2.5	0	2	0	0	0	0	0	0

NOTES: M INDICATES THAT THE ANOMALY LIES OVER A URANIUM MINE OR PROSPECT.

C INDICATES THAT THE ANOMALY LIES OVER A CULTURAL FEATURE.

W INDICATES POSSIBLE INTERFERENCE BY WEATHER PHENOMENA.

MAP UNIT QAO

			-3	-2	-1	0	+1	+2	+3
POTASIUM	DIST	NORMAL	0.6059	0.7518	0.8977	1.0436	1.1895	1.3354	1.4813
URANIUM	DIST	NORMAL	0.4087	0.9060	1.4033	1.9006	2.3979	2.8952	3.3925
THORIUM	DIST	NORMAL	2.7703	3.6904	4.6105	5.5306	6.4507	7.3708	8.2909
U/K	DIST	NORMAL	0.3383	0.8375	1.3367	1.8359	2.3351	2.8343	3.3335
U/TH	DIST	NORMAL	0.0786	0.1679	0.2572	0.3465	0.4358	0.5251	0.6144
TH/K	DIST	NORMAL	3.3130	3.9845	4.6560	5.3275	5.9990	6.6705	7.3420

MAP UNIT QLD

			-3	-2	-1	0	+1	+2	+3
POTASIUM	DIST	NORMAL	0.5138	0.6673	0.8208	0.9743	1.1278	1.2813	1.4348
URANIUM	DIST	NORMAL	0.4371	0.9096	1.3821	1.8546	2.3271	2.7996	3.2721
THORIUM	DIST	NORMAL	3.0182	3.7792	4.5402	5.3012	6.0622	6.8232	7.5842
U/K	DIST	NORMAL	-0.3241	0.4507	1.2255	2.0003	2.7751	3.5499	4.3247
U/TH	DIST	NORMAL	0.0204	0.1337	0.2470	0.3603	0.4736	0.5869	0.7002
TH/K	DIST	NORMAL	3.4049	4.1067	4.8085	5.5103	6.2121	6.9139	7.6157

MAP UNIT QL

			-3	-2	-1	0	+1	+2	+3
POTASIUM	DIST	NORMAL	0.9598	1.0465	1.1332	1.2199	1.3066	1.3933	1.4800
URANIUM	DIST	NORMAL	1.2192	1.6391	2.0590	2.4789	2.8988	3.3187	3.7386
THORIUM	DIST	NORMAL	5.1901	5.7236	6.2571	6.7906	7.3241	7.8576	8.3911
U/K	DIST	NORMAL	0.7951	1.2135	1.6319	2.0503	2.4687	2.8871	3.3055
U/TH	DIST	NORMAL	0.1647	0.2322	0.2997	0.3672	0.4347	0.5022	0.5697
TH/K	DIST	NORMAL	3.9611	4.5036	5.0461	5.5886	6.1311	6.6736	7.2161

MAP UNIT QEM

			-3	-2	-1	0	+1	+2	+3
POTASIUM	DIST	NORMAL	0.6639	0.7851	0.9063	1.0275	1.1487	1.2699	1.3911
URANIUM	DIST	NORMAL	0.4603	0.8686	1.2769	1.6852	2.0935	2.5018	2.9101
THORIUM	DIST	NORMAL	3.0449	3.7688	4.4927	5.2166	5.9405	6.6644	7.3883
U/K	DIST	NORMAL	0.3803	0.8026	1.2249	1.6472	2.0695	2.4918	2.9141
U/TH	DIST	NORMAL	0.0819	0.1628	0.2437	0.3246	0.4055	0.4864	0.5673
TH/K	DIST	NORMAL	3.3034	3.9031	4.5028	5.1025	5.7022	6.3019	6.9016

MAP UNIT QGM

			-3	-2	-1	0	+1	+2	+3
POTASIUM	DIST	NORMAL	0.6895	0.8172	0.9449	1.0726	1.2003	1.3280	1.4557
URANIUM	DIST	NORMAL	0.5500	1.0163	1.4826	1.9489	2.4152	2.8815	3.3478
THORIUM	DIST	NORMAL	2.9956	3.9470	4.8984	5.8498	6.8012	7.7526	8.7040
U/K	DIST	NORMAL	0.4667	0.9184	1.3701	1.8218	2.2735	2.7252	3.1769
U/TH	DIST	NORMAL	0.0970	0.1764	0.2558	0.3352	0.4146	0.4940	0.5734
TH/K	DIST	NORMAL	3.4508	4.1203	4.7898	5.4593	6.1288	6.7983	7.4678

LINE BASED MEAN CONCENTRATIONS
AND RATIOS PER ROCK TYPE

MAP UNIT QAO

	10	20	30	40	50	60	70	80	90	100	110	120	1010	1020	1030
POTASIUM	0.840	1.005	1.044	0.999	1.027	1.048	1.009	1.112	1.088	1.046	1.062	1.040	1.095	1.000	1.028
URANIUM	1.988	1.975	1.801	2.396	1.960	1.766	1.544	1.656	1.914	1.686	1.995	1.762	2.373	2.146	2.005
THORIUM	4.287	5.369	5.331	5.604	5.548	5.566	5.072	5.653	5.847	5.491	5.546	5.545	6.015	5.450	5.265
U/K	2.500	1.976	1.737	2.396	1.921	1.697	1.554	1.487	1.767	1.627	1.861	1.691	2.203	2.156	2.022
U/TH	0.472	0.365	0.343	0.426	0.358	0.322	0.308	0.293	0.330	0.309	0.358	0.320	0.400	0.396	0.396
TH/K	5.242	5.499	5.093	5.626	5.412	5.315	5.071	5.110	5.383	5.275	5.215	5.347	5.515	5.471	5.143

	1040	1050	1060
POTASIUM	0.969	0.587	0.000
URANIUM	2.080	1.252	0.000
THORIUM	5.235	3.087	0.000
U/K	2.152	2.012	0.000
U/TH	0.397	0.373	0.000
TH/K	5.425	5.791	0.000

MAP UNIT QLD

	10	20	30	40	50	60	70	80	90	100	110	120	1010	1020	1030
POTASIUM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.005	0.961	0.000	0.000	0.000	0.968
URANIUM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.499	1.698	0.000	0.000	0.000	2.209
THORIUM	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.388	5.266	0.000	0.000	0.000	5.282
U/K	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.728	1.827	0.000	0.000	0.000	2.317
U/TH	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.309	0.325	0.000	0.000	0.000	0.422
TH/K	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.479	5.552	0.000	0.000	0.000	5.492

	1040	1050	1060
POTASIUM	0.000	0.000	0.000
URANIUM	0.000	0.000	0.000
THORIUM	0.000	0.000	0.000
U/K	0.000	0.000	0.000
U/TH	0.000	0.000	0.000
TH/K	0.000	0.000	0.000

MAP UNIT GL

	10	20	30	40	50	60	70	80	90	100	110	120	1010	1020	1030
POTASIUM	0.000	0.000	0.000	0.000	0.000	0.000	1.308	1.235	0.000	1.278	1.192	1.214	1.198	0.000	0.000
URANIUM	0.000	0.000	0.000	0.000	0.000	0.000	2.106	2.007	0.000	2.390	2.514	2.570	2.581	0.000	0.000
THORIUM	0.000	0.000	0.000	0.000	0.000	0.000	7.014	6.719	0.000	6.878	6.651	6.910	6.690	0.000	0.000
U/K	0.000	0.000	0.000	0.000	0.000	0.000	1.616	1.627	0.000	1.876	2.134	2.127	2.169	0.000	0.000
U/TH	0.000	0.000	0.000	0.000	0.000	0.000	0.302	0.299	0.000	0.349	0.381	0.373	0.388	0.000	0.000
TH/K	0.000	0.000	0.000	0.000	0.000	0.000	5.372	5.445	0.000	5.395	5.613	5.709	5.603	0.000	0.000

	1040	1050	1060
POTASIUM	0.000	0.000	0.000
URANIUM	0.000	0.000	0.000
THORIUM	0.000	0.000	0.000
U/K	0.000	0.000	0.000
U/TH	0.000	0.000	0.000
TH/K	0.000	0.000	0.000

MAP UNIT QEM

	10	20	30	40	50	60	70	80	90	100	110	120	1010	1020	1030
POTASIUM	1.123	1.123	1.033	1.049	1.032	1.051	1.068	1.032	1.009	1.052	0.957	1.021	1.107	0.966	1.011
URANIUM	2.120	2.059	1.824	2.114	1.793	1.825	1.643	1.626	1.554	1.613	1.431	1.469	1.725	1.777	2.034
THORIUM	5.905	5.897	5.225	5.312	5.303	5.584	5.520	5.250	5.125	5.232	4.822	5.128	5.929	5.285	5.170
U/K	1.907	1.847	1.779	2.026	1.745	1.743	1.542	1.582	1.557	1.550	1.512	1.482	1.573	1.883	2.032
U/TH	0.363	0.352	0.349	0.400	0.343	0.329	0.299	0.313	0.306	0.312	0.299	0.294	0.291	0.340	0.399
TH/K	5.279	5.270	5.065	5.077	5.149	5.345	5.183	5.105	5.132	4.994	5.069	5.051	5.377	5.504	5.150

	1040	1050	1060
POTASIUM	1.033	0.986	1.020
URANIUM	1.815	1.516	1.482
THORIUM	5.272	4.813	4.909
U/K	1.770	1.494	1.460
U/TH	0.347	0.307	0.305
TH/K	5.127	4.975	4.823

MAP UNIT GQM

	10	20	30	40	50	60	70	80	90	100	110	120	1010	1020	1030
POTASIUM	1.093	1.133	1.035	1.058	1.049	1.051	1.048	1.125	1.160	1.173	1.073	1.096	1.124	1.057	1.051
URANIUM	2.032	2.129	1.860	2.246	1.880	1.868	1.666	1.859	1.993	2.071	2.017	1.917	2.271	1.925	2.155
THORIUM	5.674	6.311	5.522	5.663	5.676	5.643	5.460	6.269	6.554	6.816	6.190	6.354	6.340	6.089	6.081
U/K	1.877	1.898	1.799	2.143	1.801	1.787	1.597	1.667	1.721	1.774	1.882	1.749	2.032	1.833	2.059
U/TH	0.363	0.341	0.337	0.404	0.334	0.334	0.309	0.299	0.305	0.306	0.327	0.300	0.361	0.317	0.359
TH/K	5.204	5.593	5.348	5.360	5.414	5.381	5.202	5.590	5.667	5.821	5.783	5.805	5.654	5.782	5.779

	1040	1050	1060
POTASIUM	0.995	0.938	1.018
URANIUM	1.701	1.417	1.548
THORIUM	5.099	4.615	5.164
U/K	1.734	1.449	1.514
U/TH	0.338	0.296	0.299
TH/K	5.182	5.033	5.118

APPENDIX H - Pseudo Contour Maps

H1 F

PRINT CHARACTER	VALUE LE	VALUE
0	0.0000	0.0000
	0.1250	0.1250
1	0.2500	0.2500
	0.3750	0.3750
2	0.5000	0.5000
	0.6250	0.6250
3	0.7500	0.7500
	0.8750	0.8750
4	1.0000	1.0000
	1.1250	1.1250
5	1.2500	1.2500
	1.3750	1.3750
6	1.5000	1.5000
	1.6250	1.6250
7	1.7500	1.7500
	1.8750	1.8750
8	2.0000	2.0000
	2.1250	2.1250
9	2.2500	2.2500
	GT	2.2500

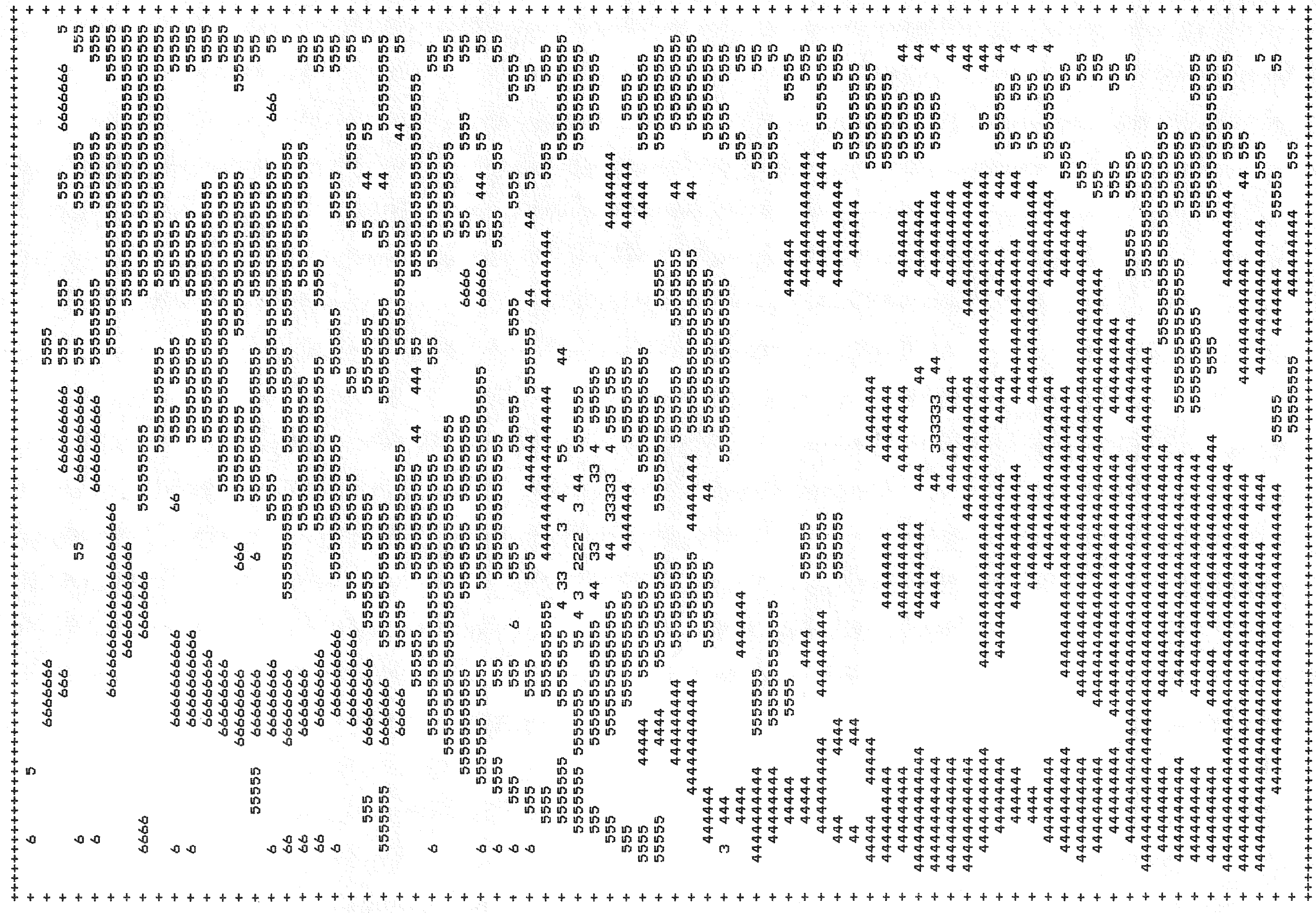
SCALE IN EQUIVALENT PERCENT

FAIRMONT

Potassium Pseudo-Contour Map - Fairmont Quadrangle

2. f

FAIRMONT



EXPLANATION

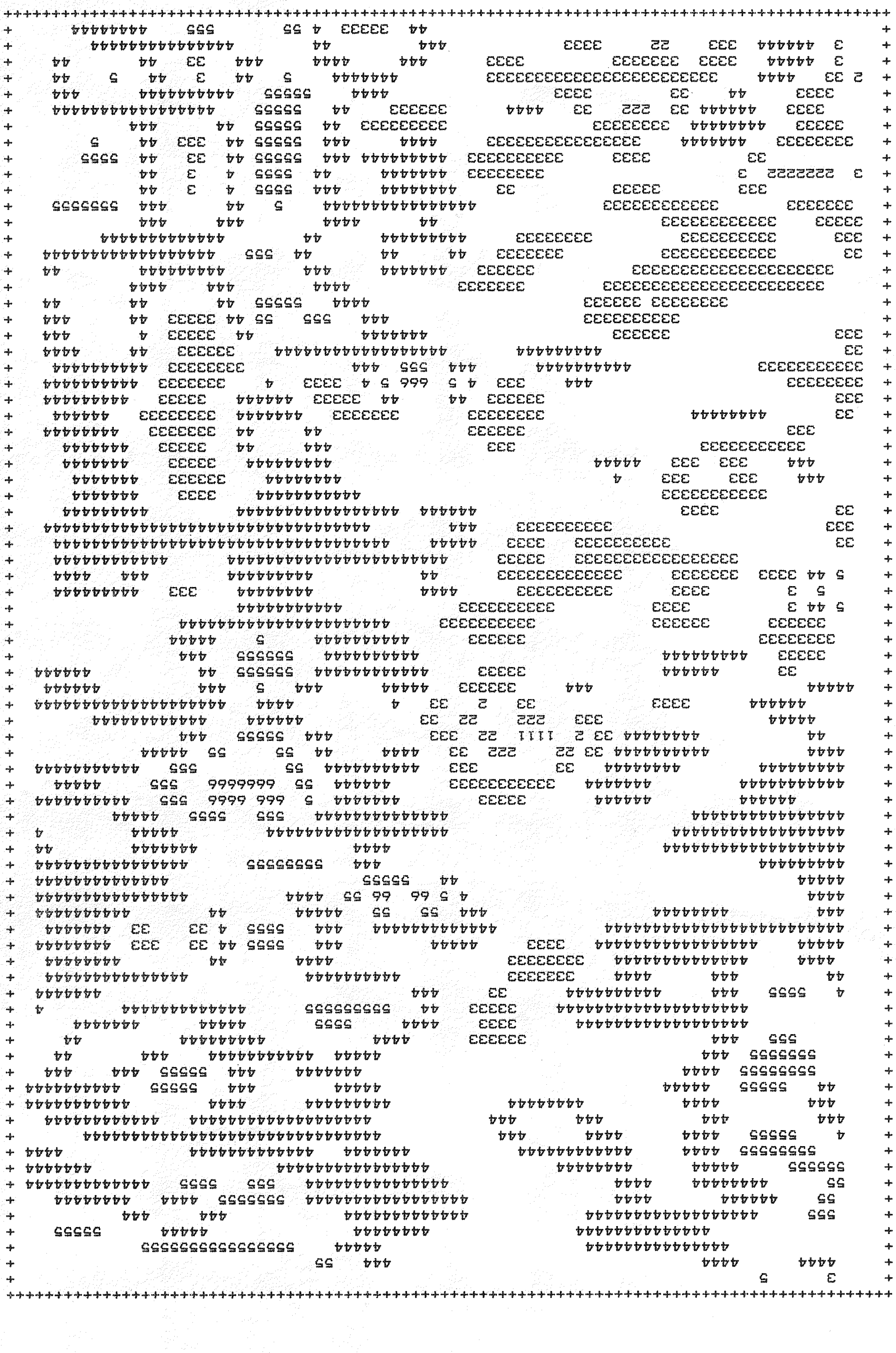
PRINT CHARACTER	VALUE	
0	LE	0.0000
	0.0000	0.6250
1	0.6250	1.2500
	1.2500	1.8750
2	1.8750	2.5000
	2.5000	3.1250
3	3.1250	3.7500
	3.7500	4.3750
4	4.3750	5.0000
	5.0000	5.6250
5	5.6250	6.2500
	6.2500	6.8750
6	6.8750	7.5000
	7.5000	8.1250
7	8.1250	8.7500
	8.7500	9.3750
8	9.3750	10.0000
	10.0000	10.6250
9	10.6250	11.2500
	GT	11.2500

Thorium Pseudo-Contour Map - Fairmont Quadrangle

SCALE IN EQUIVALENT PPM

H4 f

PRINT CHARACTER	EXPLANATION VALUE	
0	LE	0.0000
	0.0000	0.2500
1	0.2500	0.5000
	0.5000	0.7500
2	0.7500	1.0000
	1.0000	1.2500
3	1.2500	1.5000
	1.5000	1.7500
4	1.7500	2.0000
	2.0000	2.2500
5	2.2500	2.5000
	2.5000	2.7500
6	2.7500	3.0000
	3.0000	3.2500
7	3.2500	3.5000
	3.5000	3.7500
8	3.7500	4.0000
	4.0000	4.2500
9	4.2500	4.5000
	GT	4.5000



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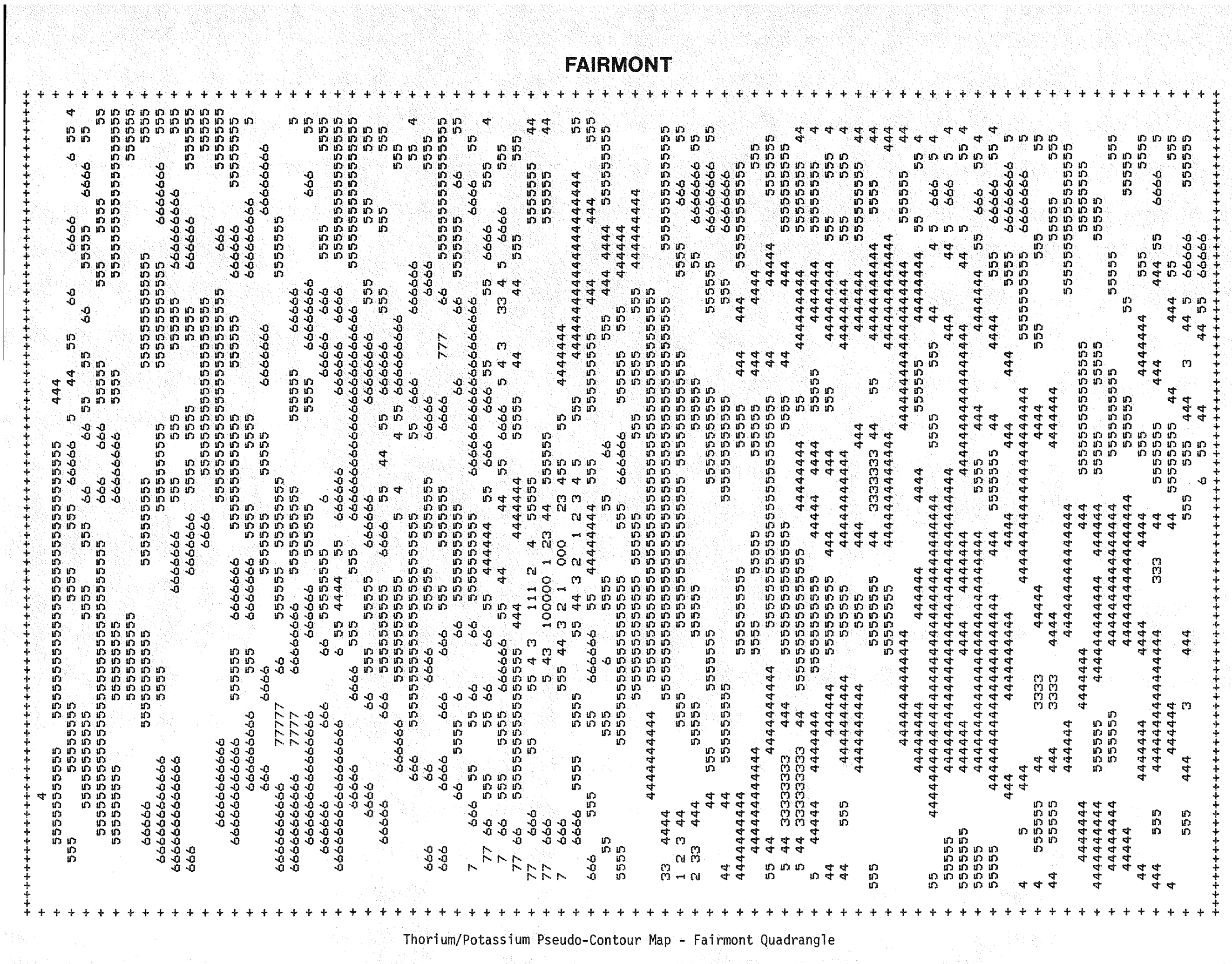
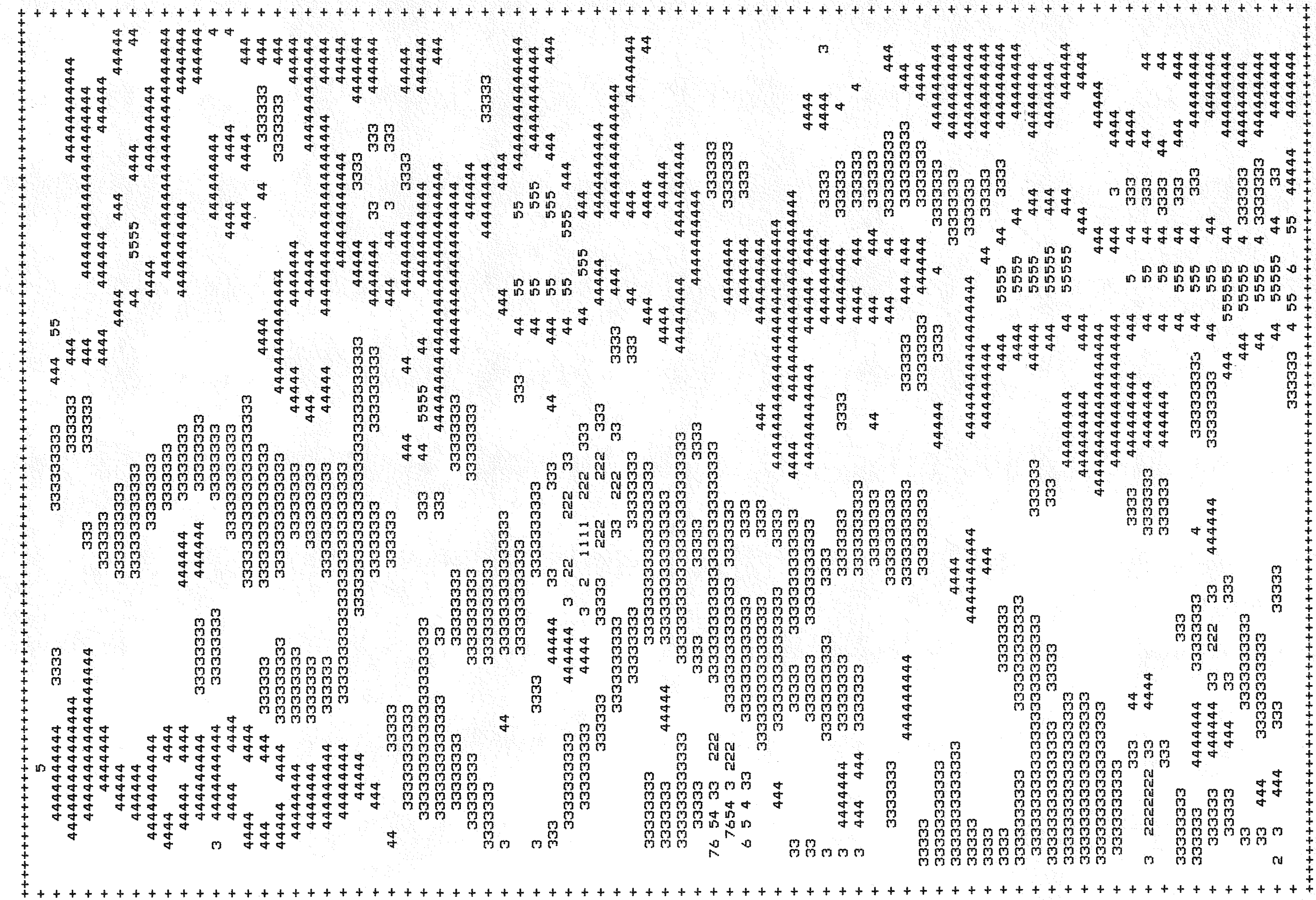


Thorium/Potassium Pseudo-Contour Map - Fairmont Quadrangle

EXPLANATION

PRINT CHARACTER	VALUE	
0	LE	3.0000
	3.0000	3.2500
1	3.2500	3.5000
	3.5000	3.7500
2	3.7500	4.0000
	4.0000	4.2500
3	4.2500	4.5000
	4.5000	4.7500
4	4.7500	5.0000
	5.0000	5.2500
5	5.2500	5.5000
	5.5000	5.7500
6	5.7500	6.0000
	6.0000	6.2500
7	6.2500	6.5000
	6.5000	6.7500
8	6.7500	7.0000
	7.0000	7.2500
9	7.2500	7.5000
	GT	7.5000

FAIRMONT



Uranium/Thorium Pseudo-Contour Map - Fairmont Quadrangle

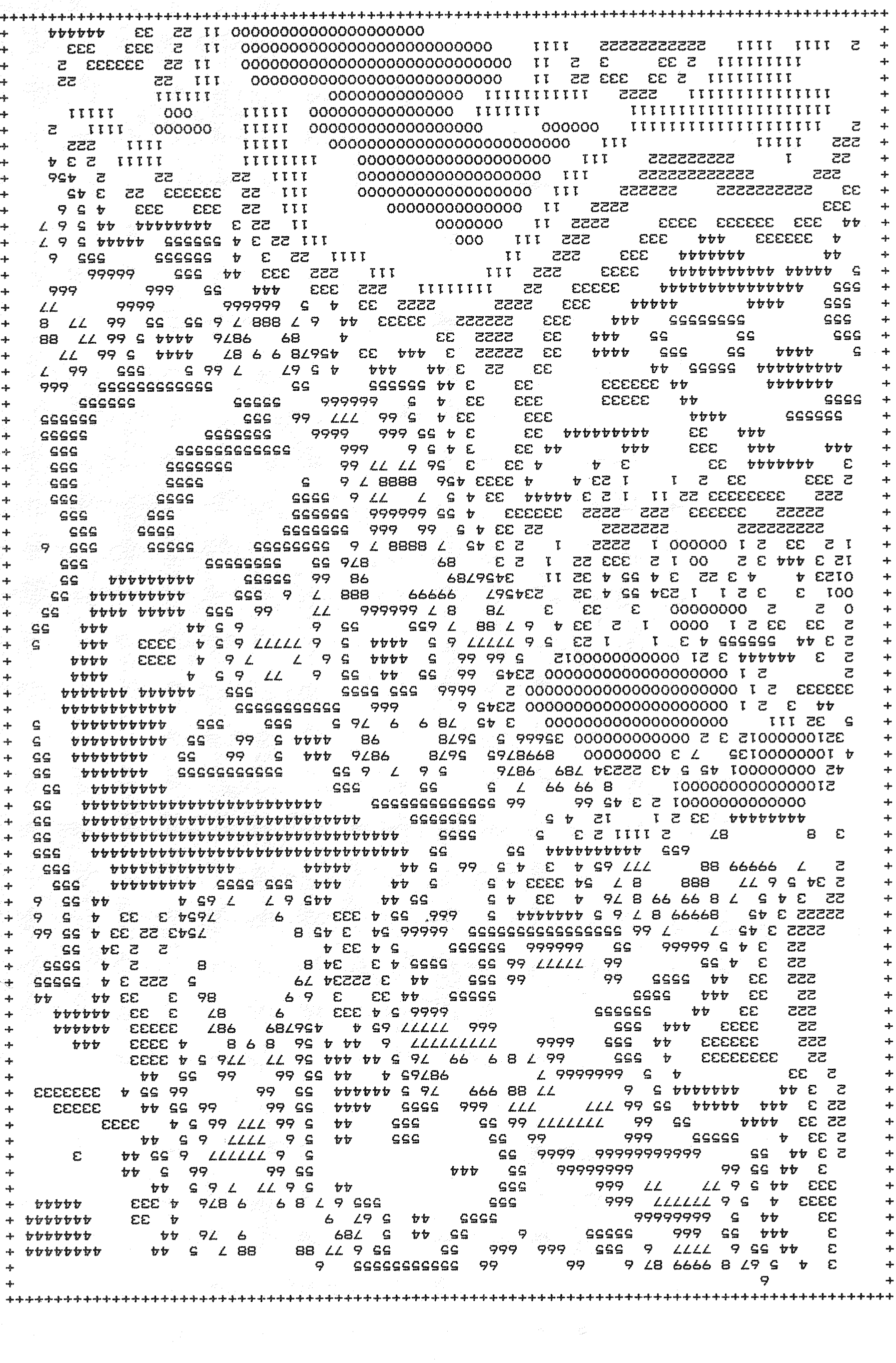
EXPLANATION

PRINT CHARACTER	VALUE	
0	LE	0.0000
	0.0000	0.0500
1	0.0500	0.1000
	0.1000	0.1500
2	0.1500	0.2000
	0.2000	0.2500
3	0.2500	0.3000
	0.3000	0.3500
4	0.3500	0.4000
	0.4000	0.4500
5	0.4500	0.5000
	0.5000	0.5500
6	0.5500	0.6000
	0.6000	0.6500
7	0.6500	0.7000
	0.7000	0.7500
8	0.7500	0.8000
	0.8000	0.8500
9	0.8500	0.9000
	GT	0.9000

EXPLANATION

PRINT CHARACTER	VALUE
0	LE-1200. 0000
	-1200. 0000-1125. 0000
1	-1125. 0000-1050. 0000
	-1050. 0000 -975. 0000
2	-975. 0000 -900. 0000
	-900. 0000 -825. 0000
3	-825. 0000 -750. 0000
	-750. 0000 -675. 0000
4	-675. 0000 -600. 0000
	-600. 0000 -525. 0000
5	-525. 0000 -450. 0000
	-450. 0000 -375. 0000
6	-375. 0000 -300. 0000
	-300. 0000 -225. 0000
7	-225. 0000 -150. 0000
	-150. 0000 -75. 0000
8	-75. 0000 0. 0000
	0. 0000 75. 0000
9	75. 0000 150. 0000
	GT 150. 0000

SCALE IN GAMMAS



FAIRMONT

Residual Magnetic Pseudo-Contour Map - Fairmont Quadrangle