

**AIRBORNE GEOPHYSICAL SURVEY
1988**

**BLATCHFORD LAKE (THOR LAKE) ALKALINE COMPLEX
NORTHWEST TERRITORIES**

**Blatchford Lake 85I/2 (Part of)
Blanchet Island 85I/1 (Part of)**

**GAMMA RAY SPECTROMETER, VLF AND MAGNETOMETER
COLOUR MAPS**

**with accompanying
Profile Map, Stacked Profiles and Geology Map**

Scale 1:100 000

**OPEN FILE
DOSSIER PUBLIC
1922**

**GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA
OTTAWA**

1988

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Northwest
Territories Energy, Mines and Resources Secretariat



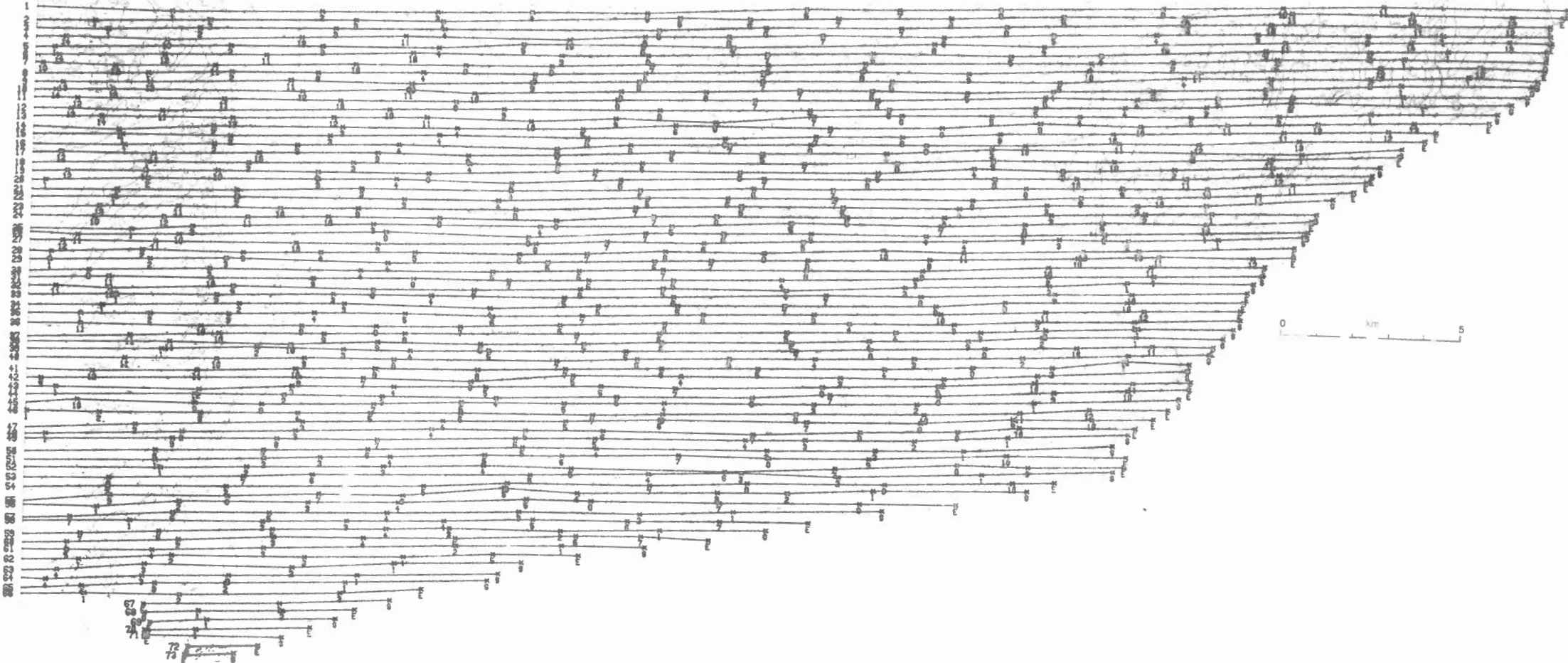
Energy, Mines and
Resources Canada

Énergie, Mines et
Ressources Canada

Canada



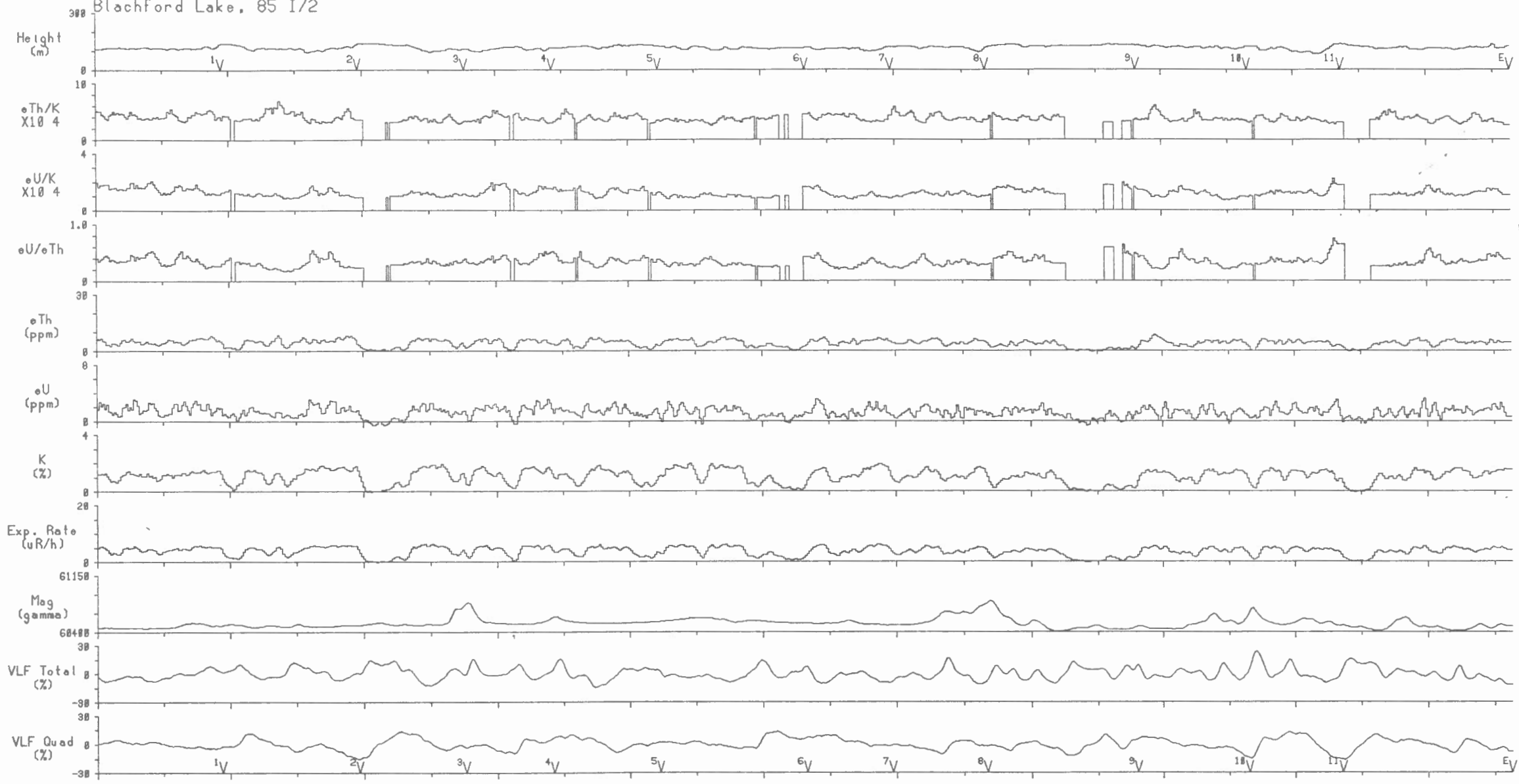
Canada/N.W.T.
Mineral Development
Sub-Agreement



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GAMMA RAY SPECTROMETER SURVEY
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
NORTHWEST TERRITORIES
1954

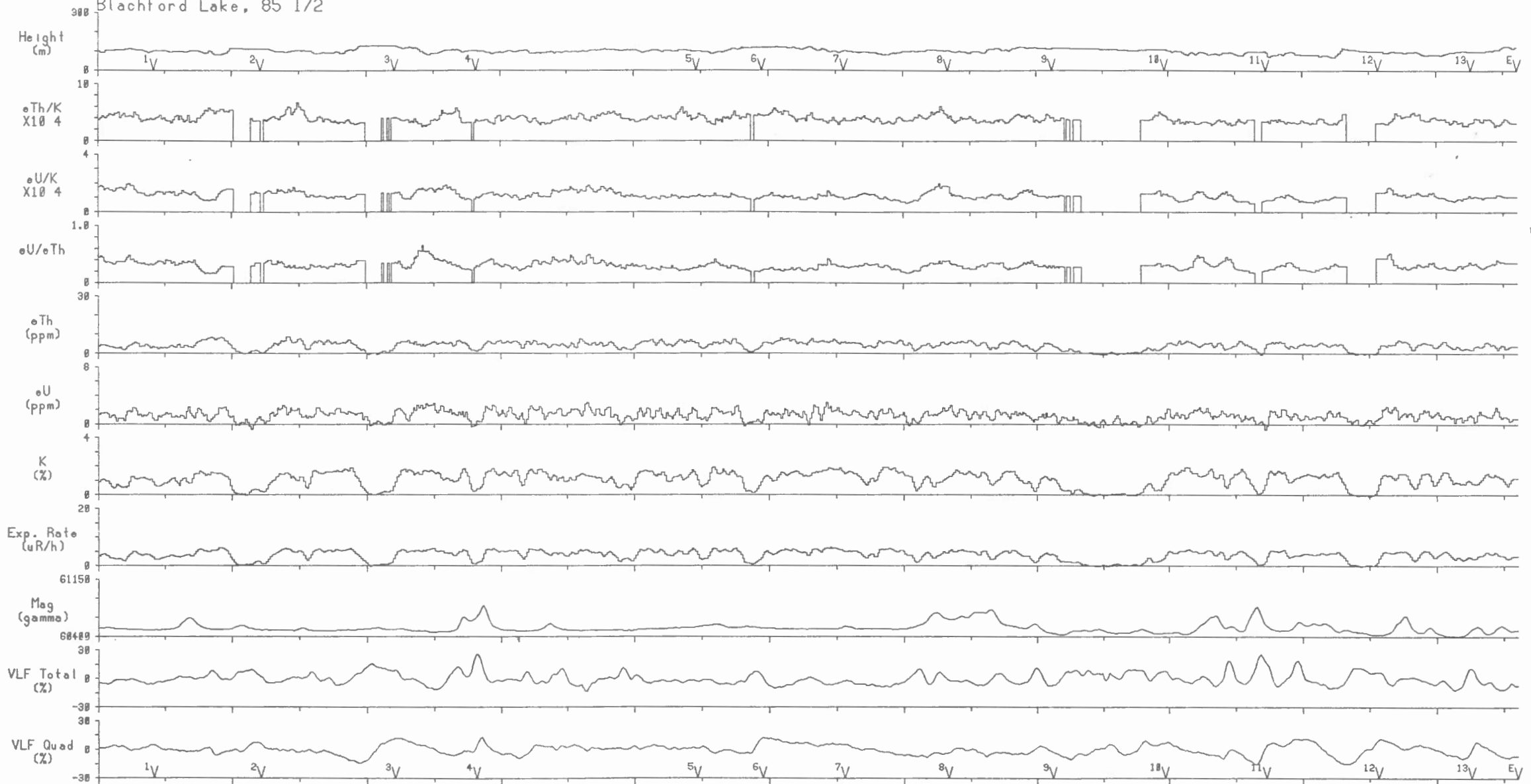
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



Line 1  Scale 1:150000

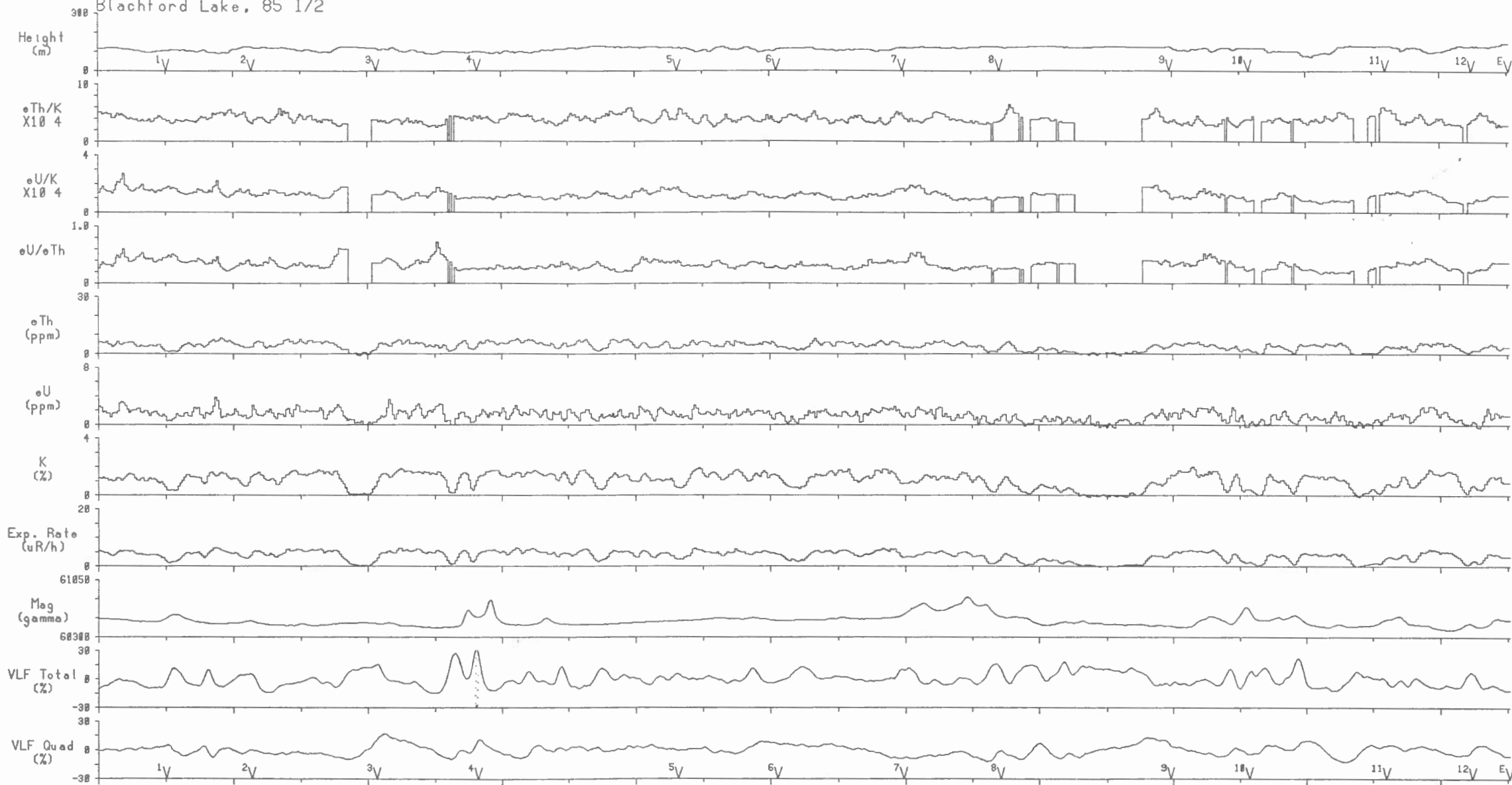
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
Blachford Lake, 85 I/2



Line 2 | 2 km | Scale 1:150000

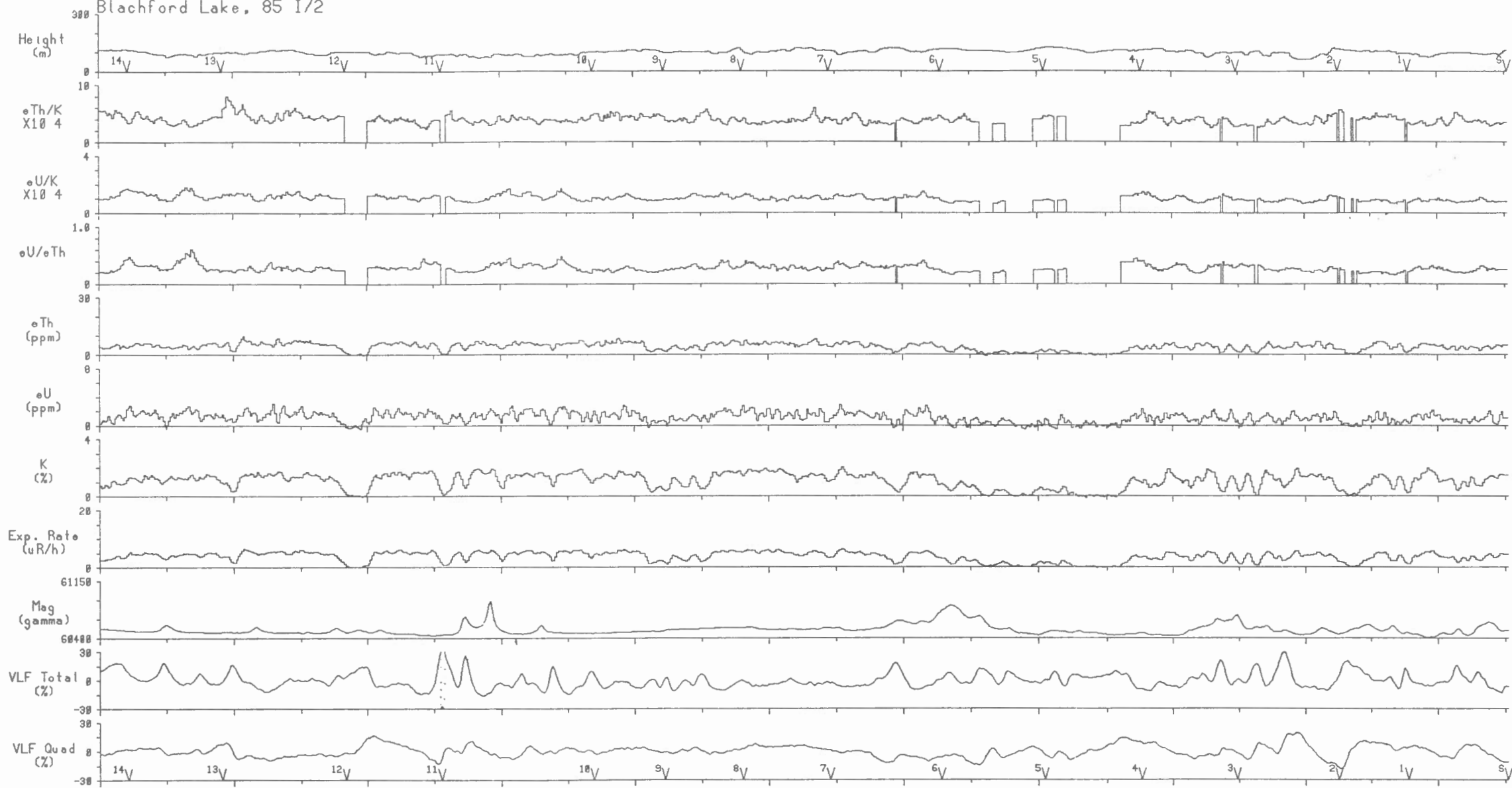
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



Line 3 | 2 km | Scale 1:150000

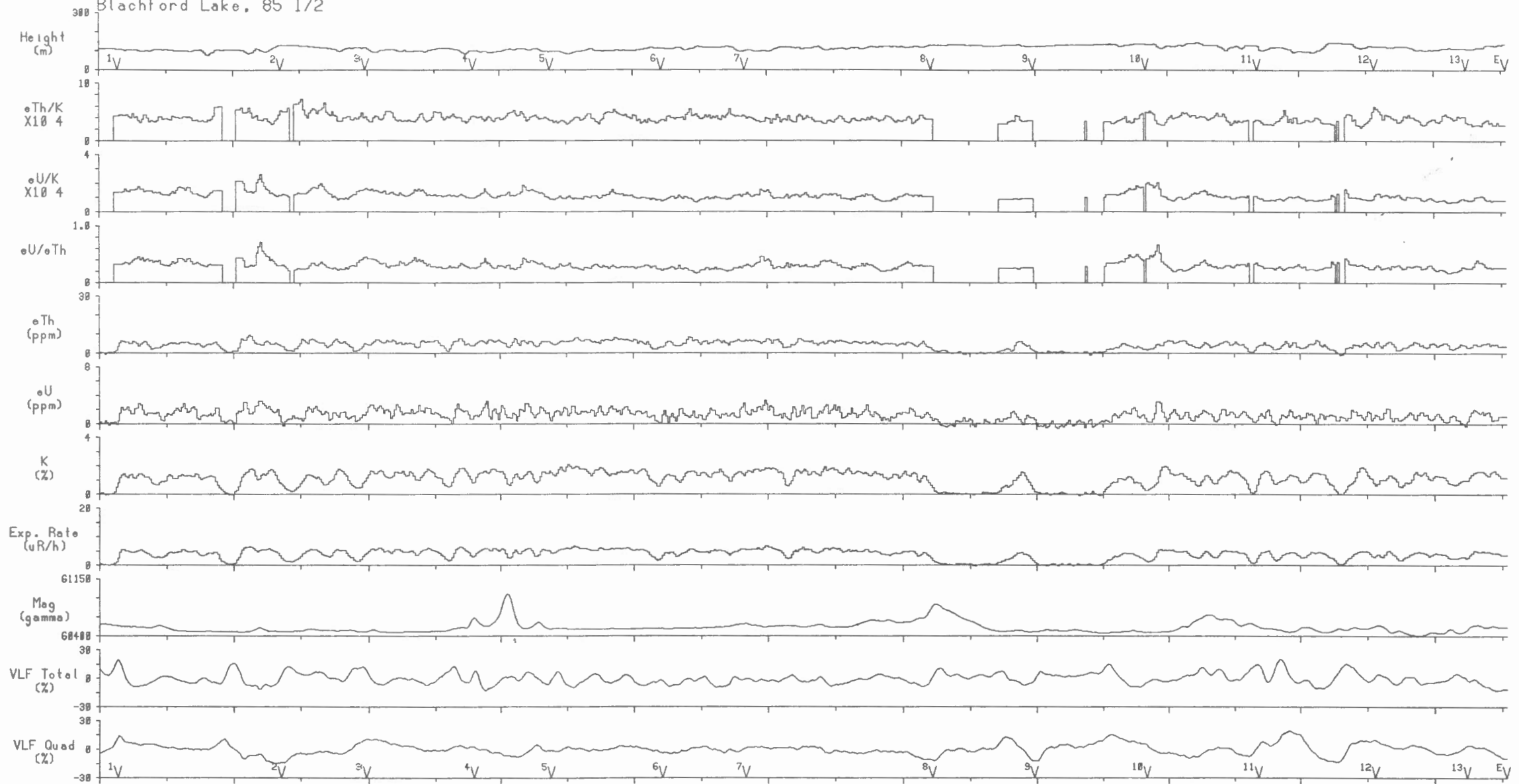
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



Line 4 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

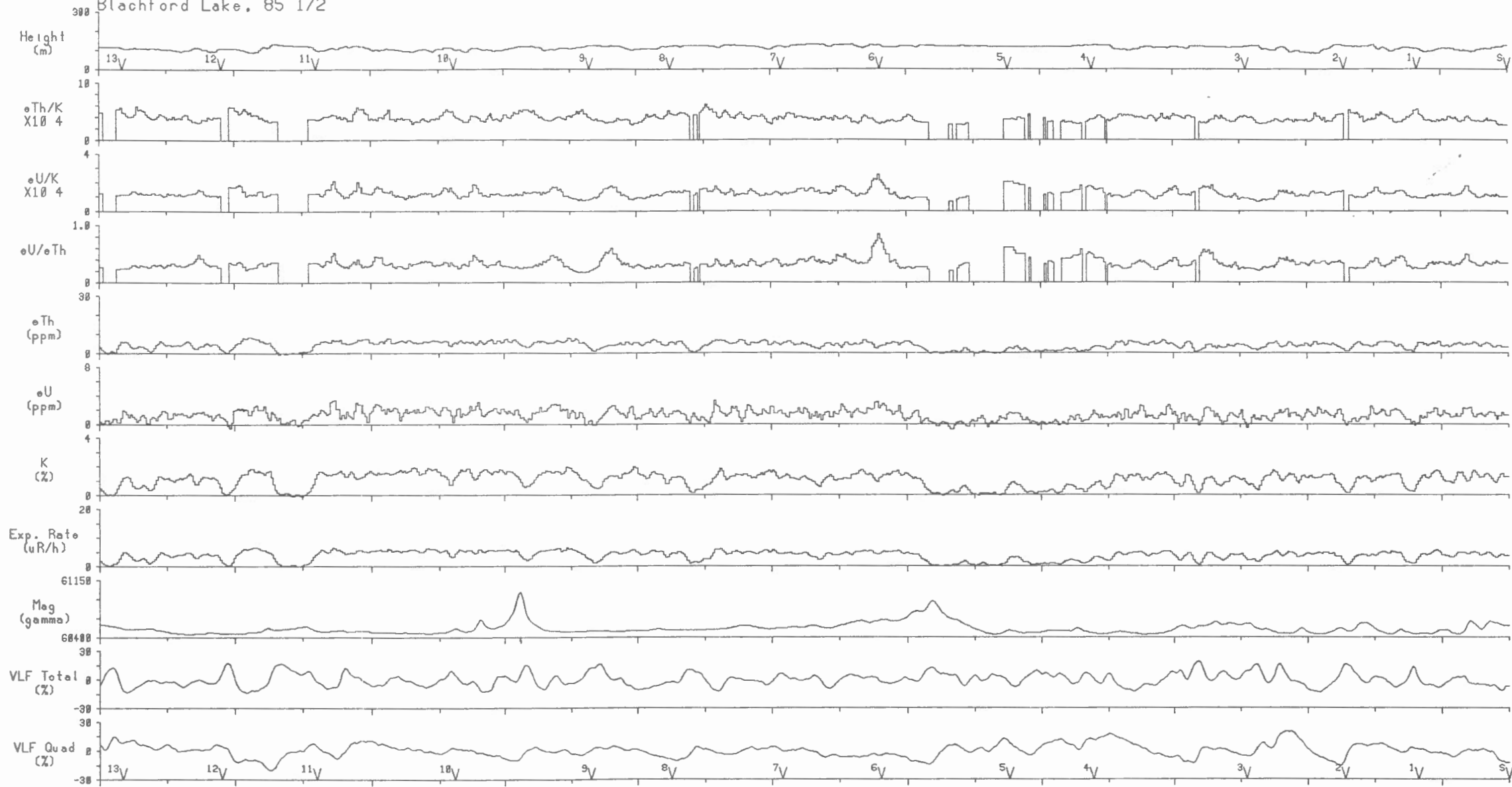
Blachford Lake, 85 I/2



Line 5 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

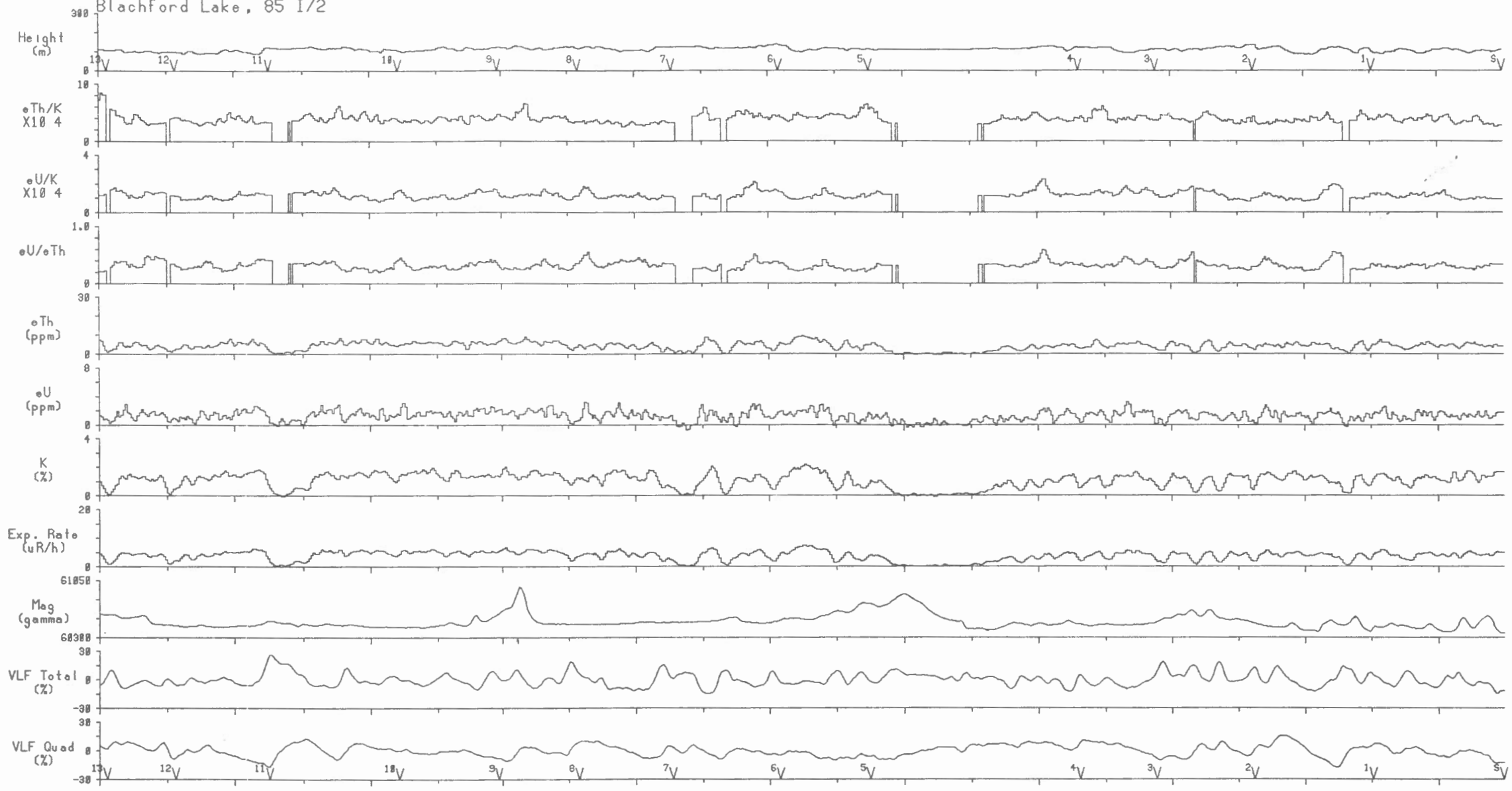
Blachford Lake, 85 I/2



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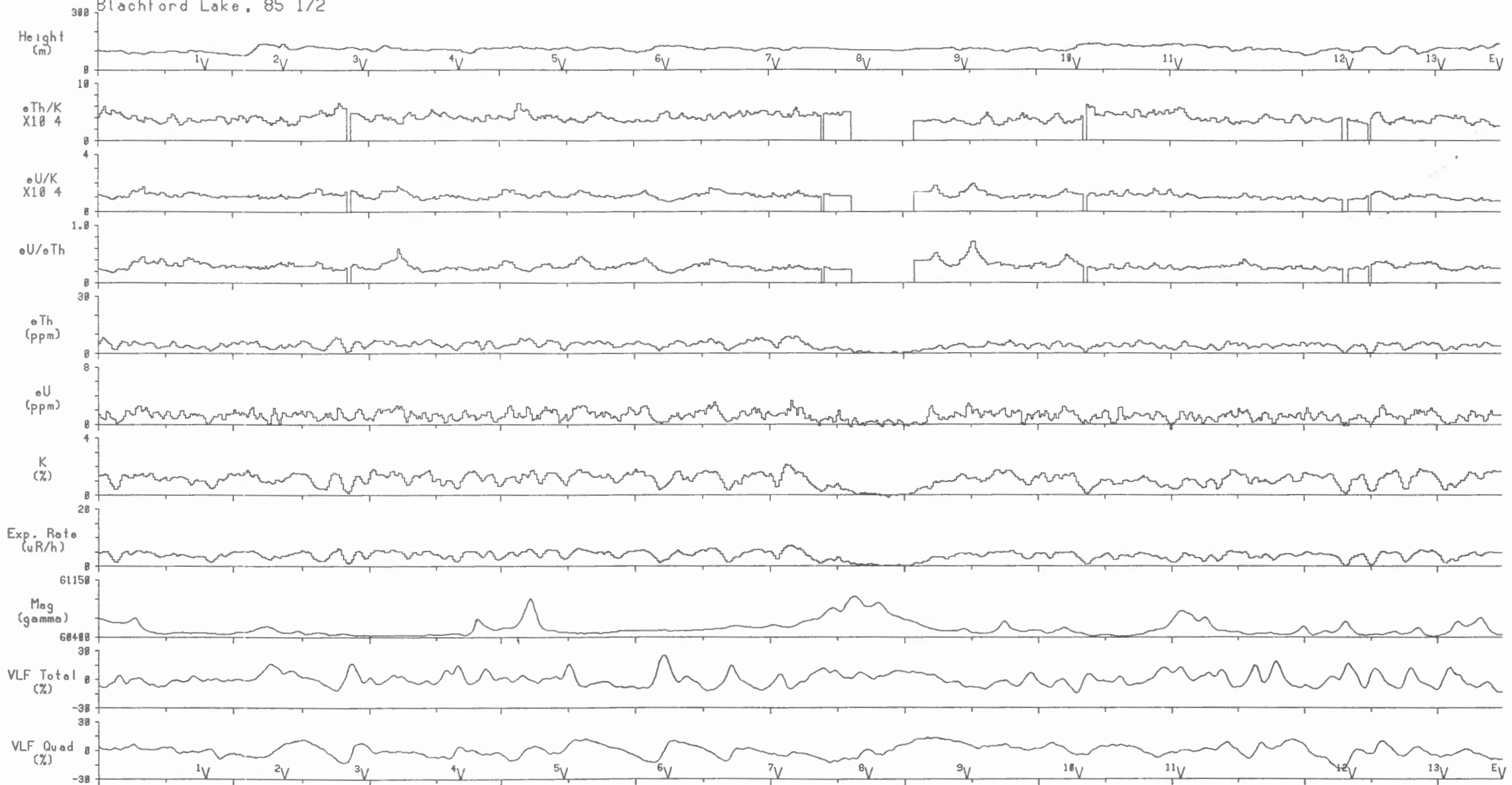
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



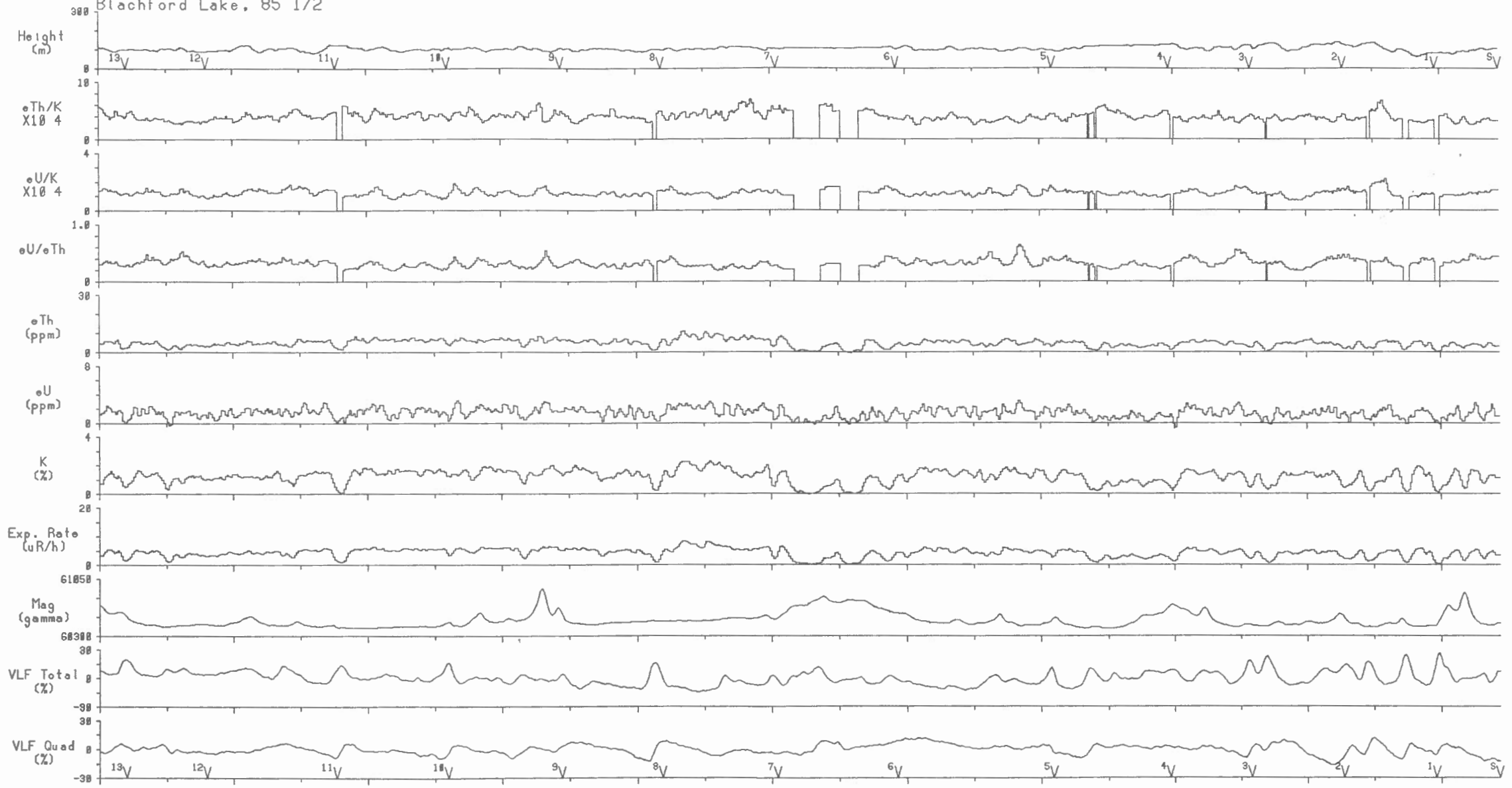
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Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
Blachford Lake, 85 I/2



Line 8 | 2 km | Scale 1:150000

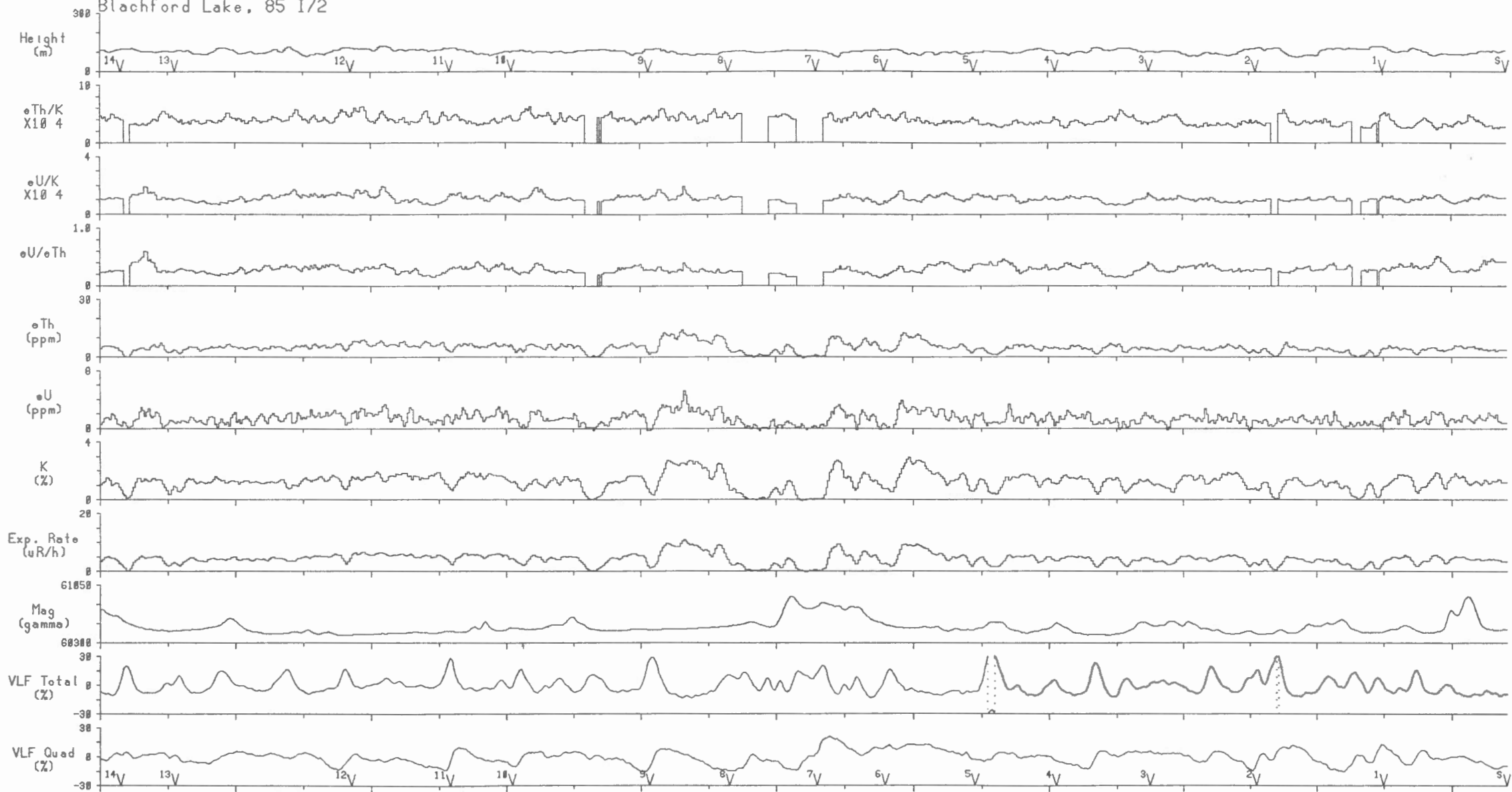
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
Blachford Lake, 85 I/2



Line 9 | 2 km | Scale 1:150000

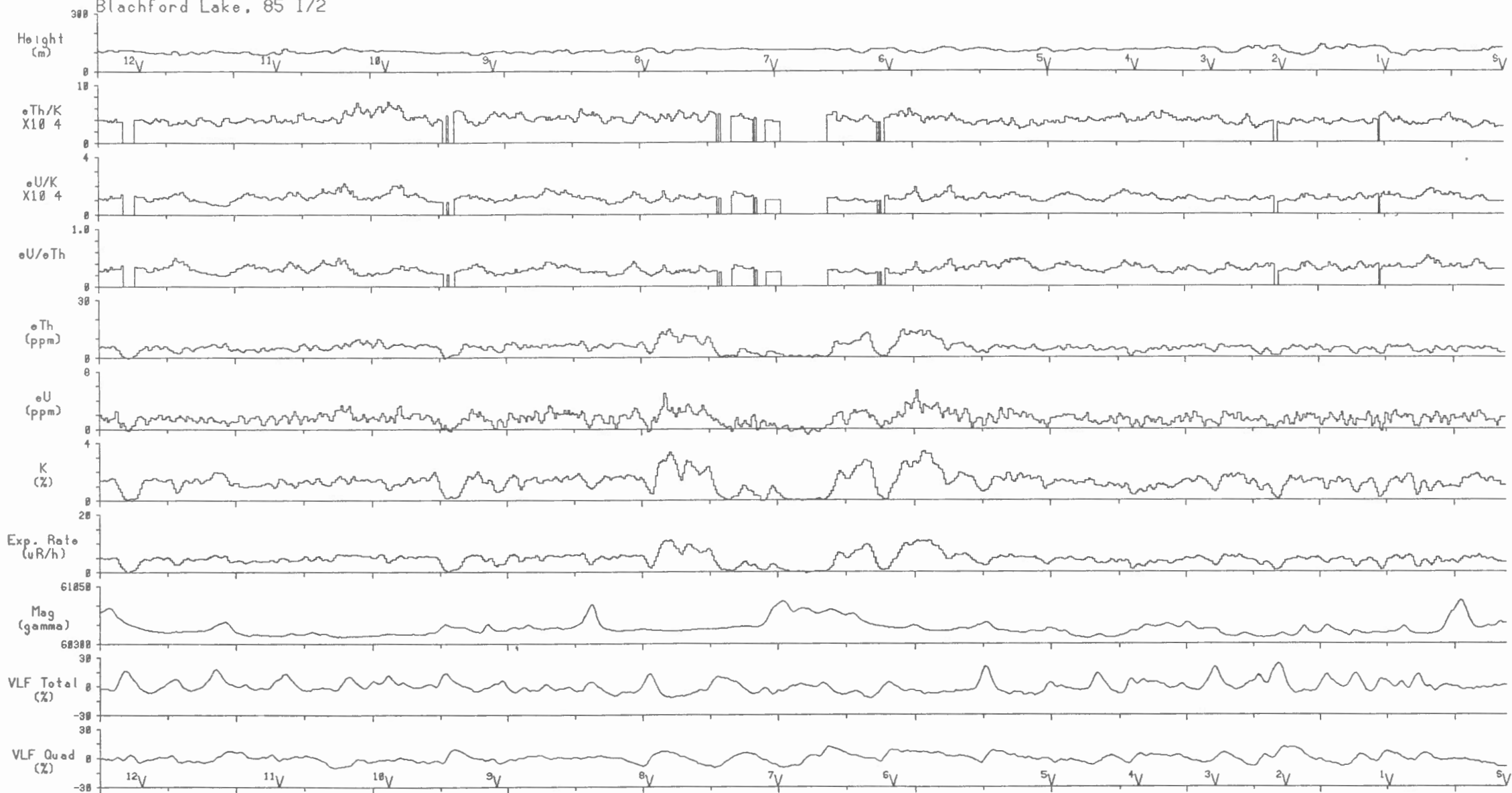
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



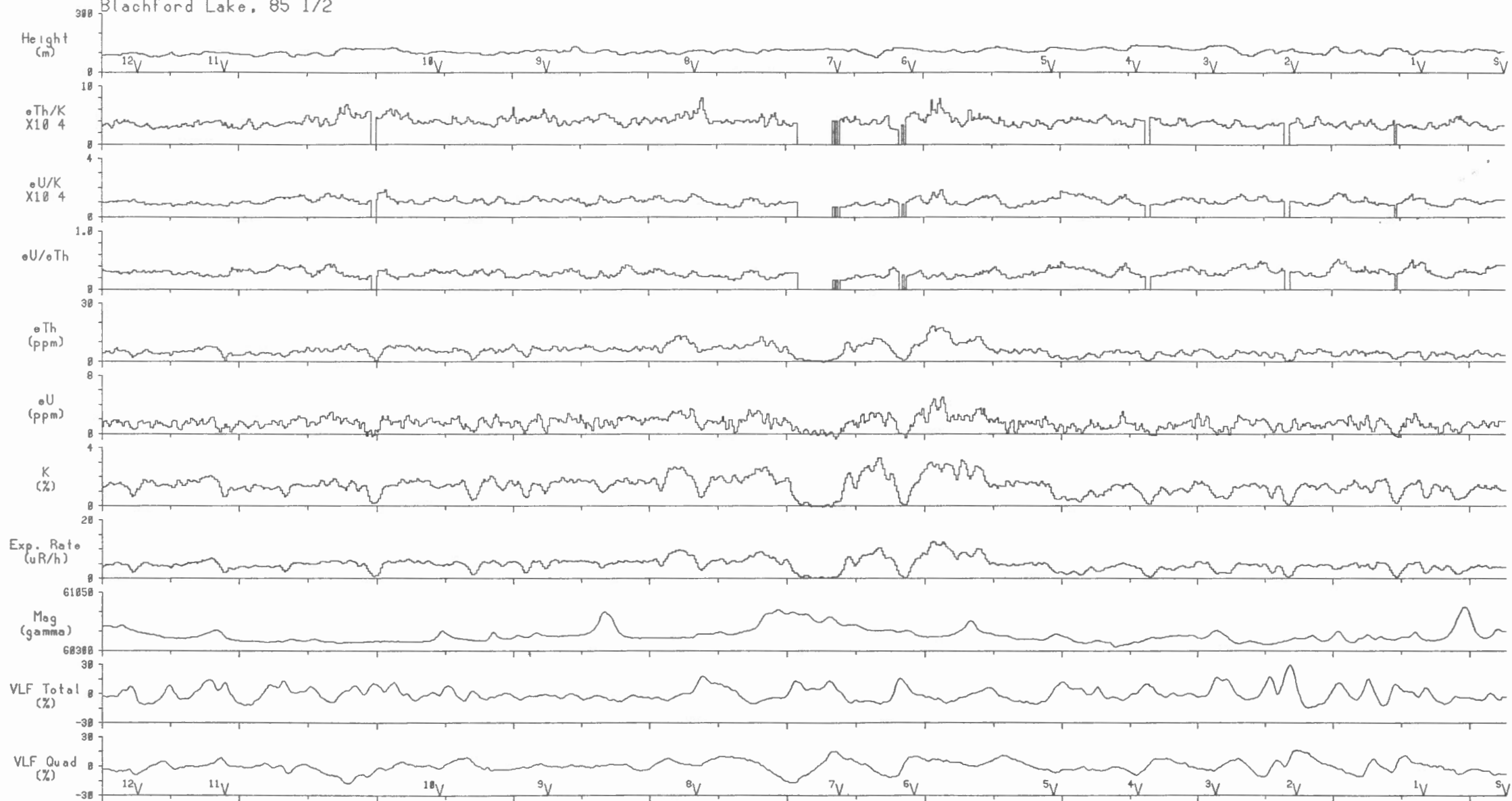
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Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
Blachford Lake, 85 I/2



Line 11 | 2 km | Scale 1:150000

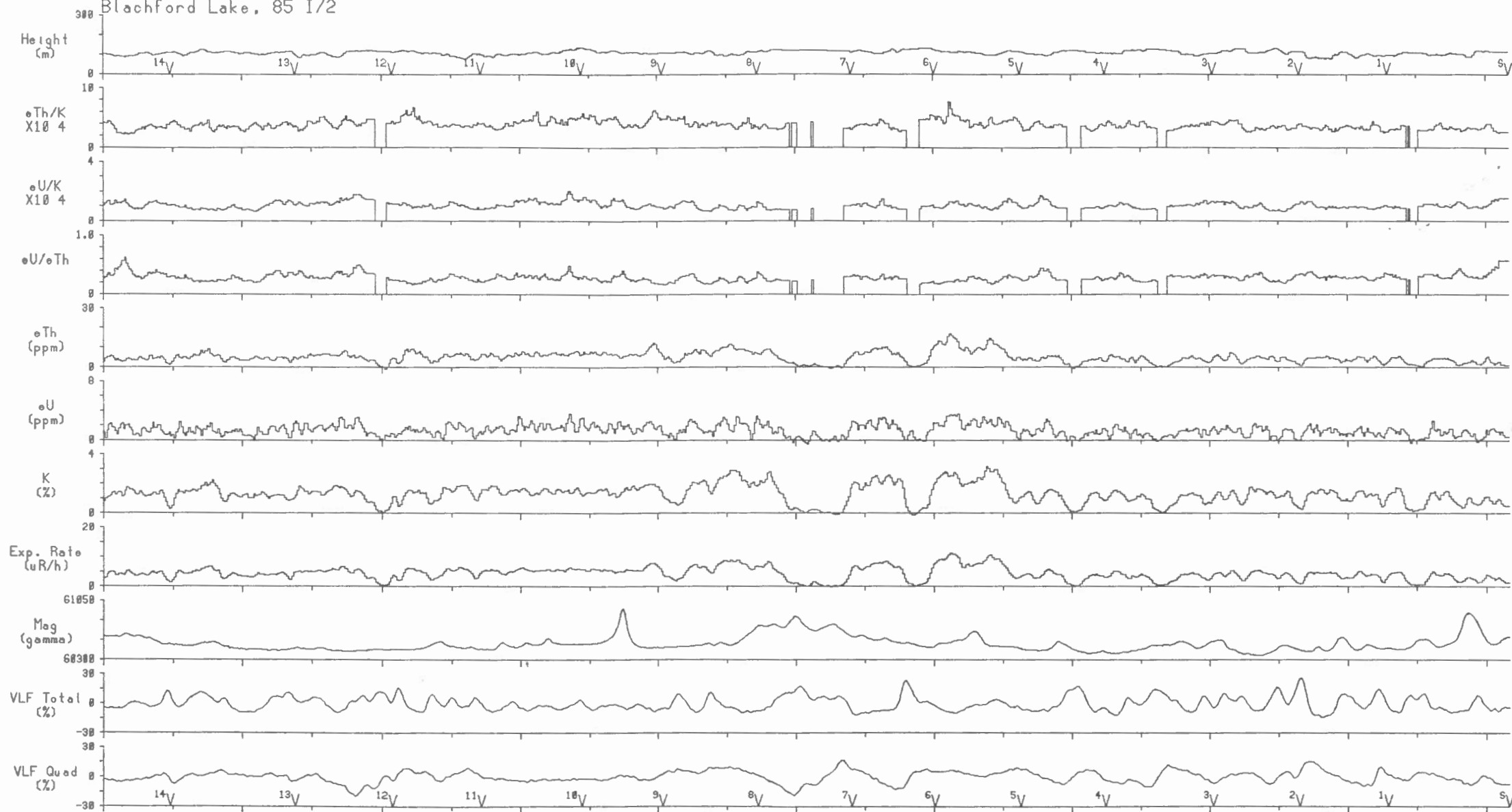
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
Blachford Lake, 85 I/2



Line 12 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



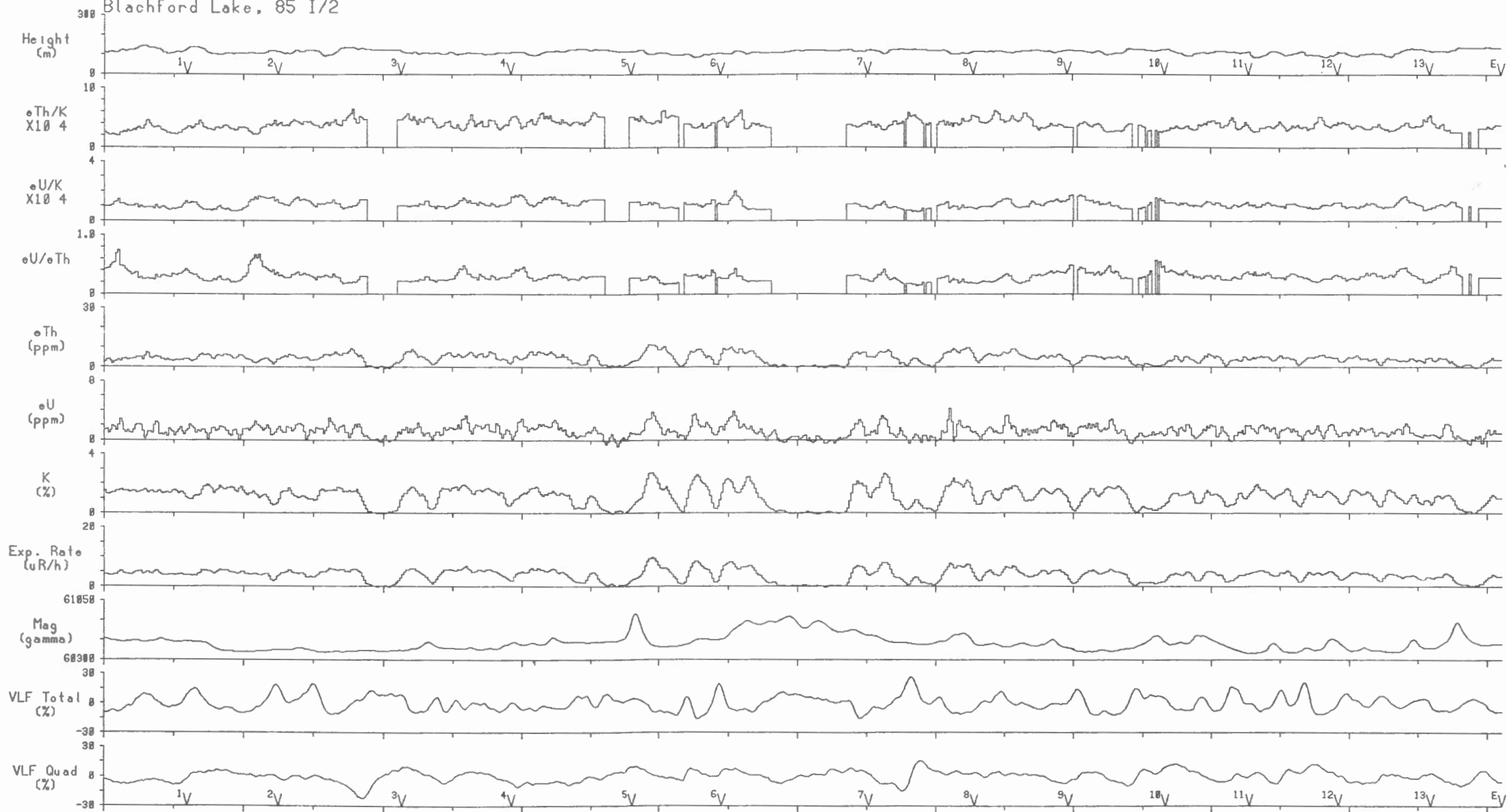
Line 13

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Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



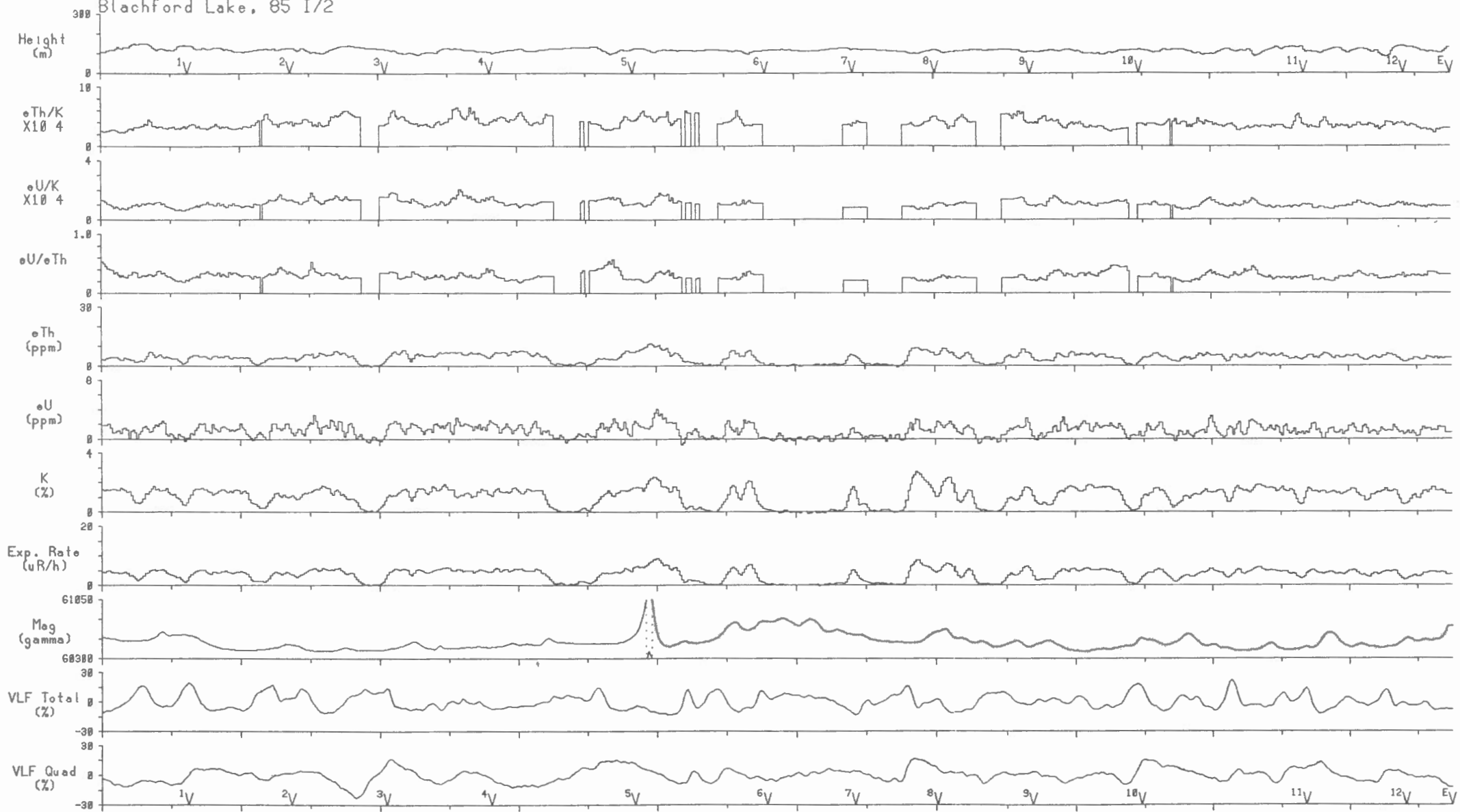
Line 14

2 km

Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2

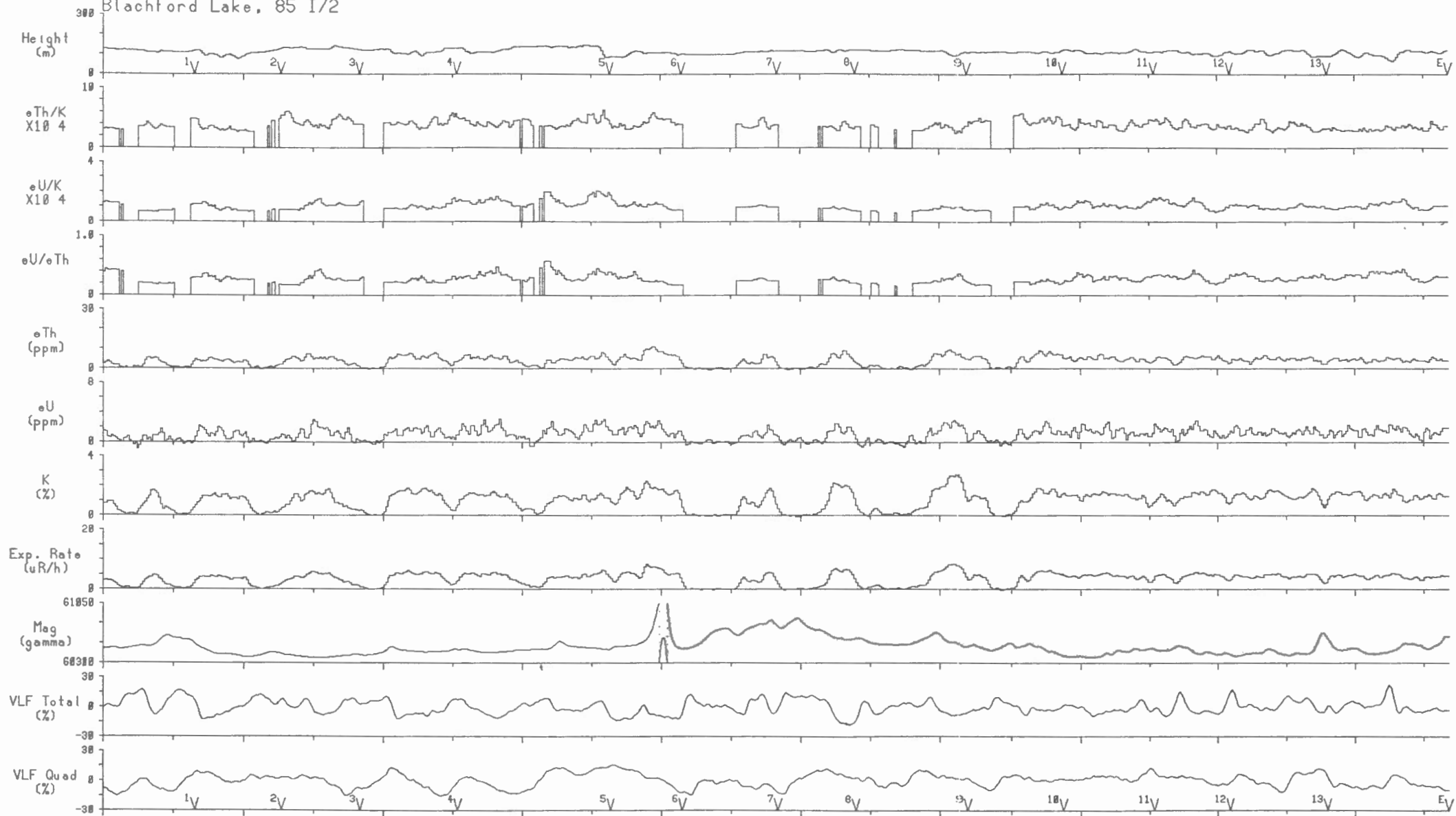


Line 15

2 km

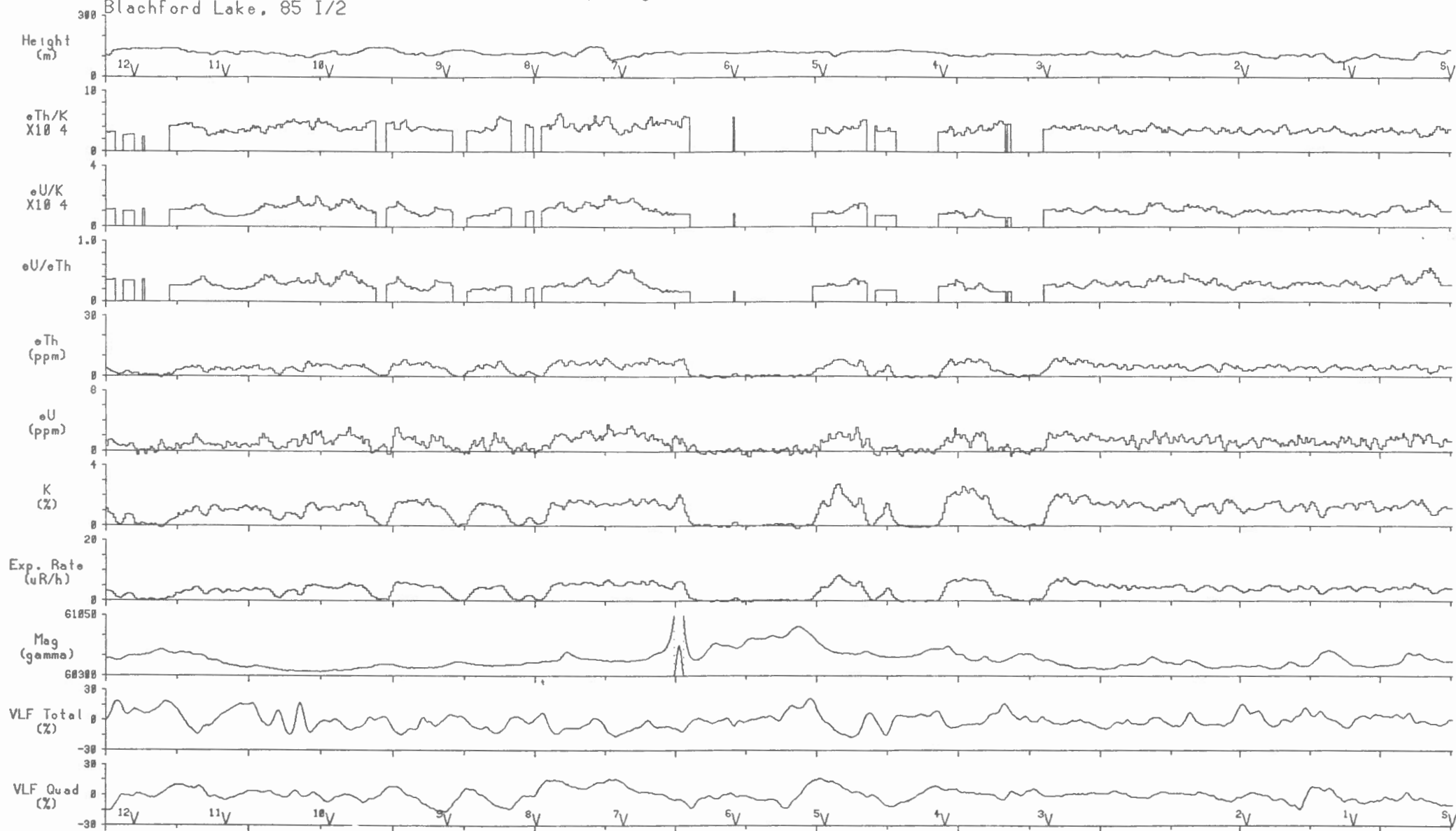
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Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
Blachford Lake, 85 I/2



Line 16 2 km Scale 1:150000

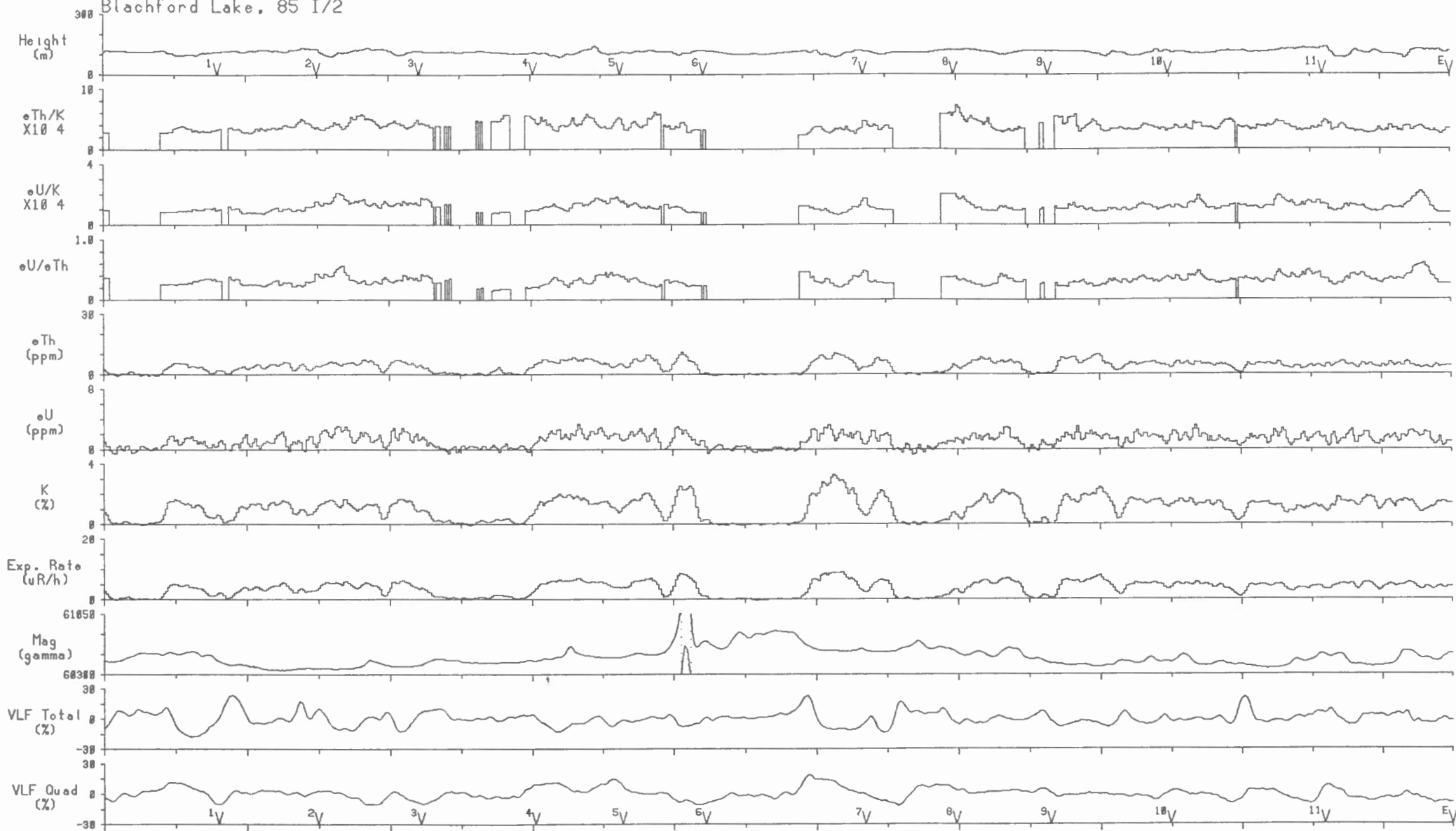
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



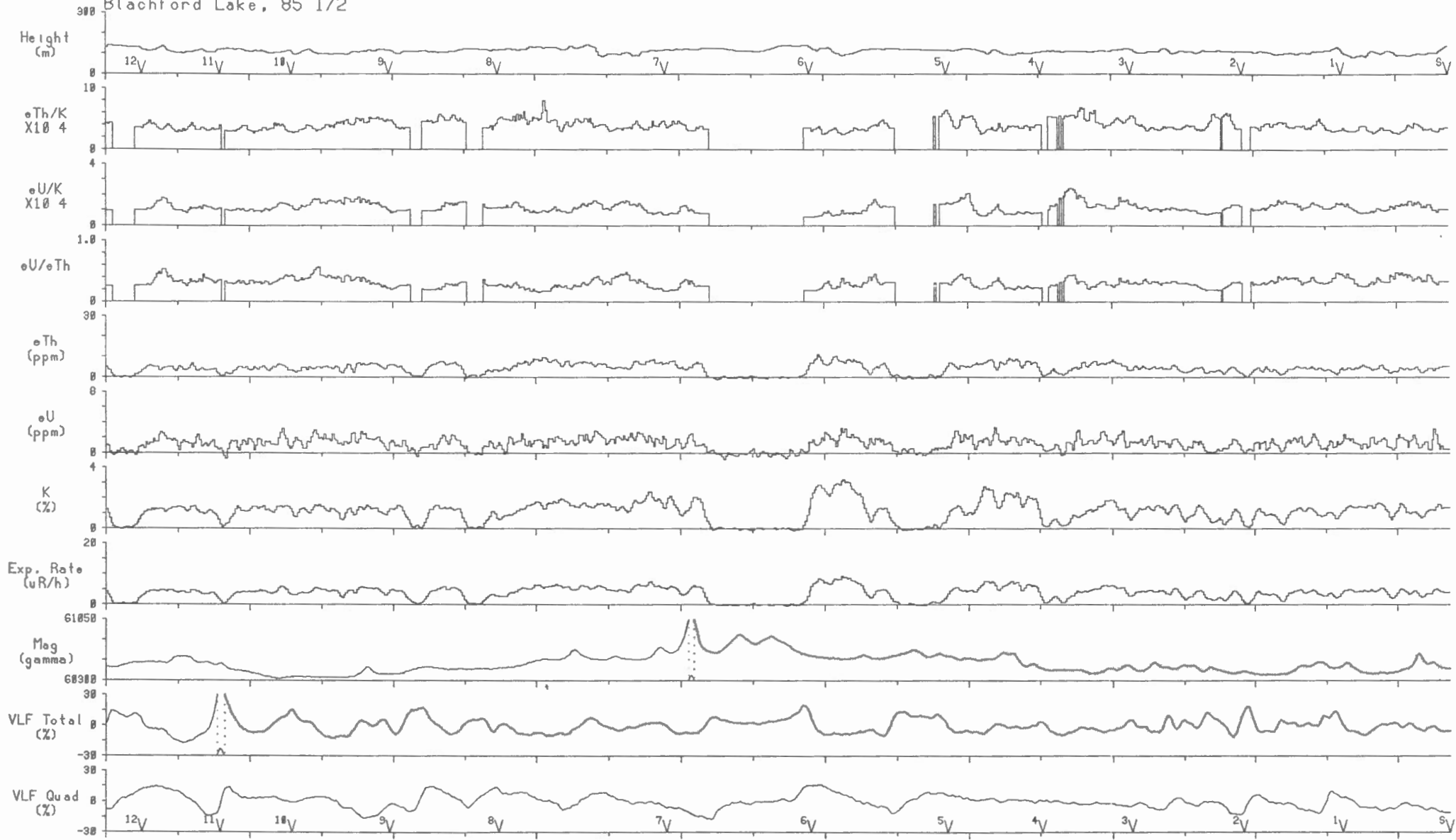
Line 17 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



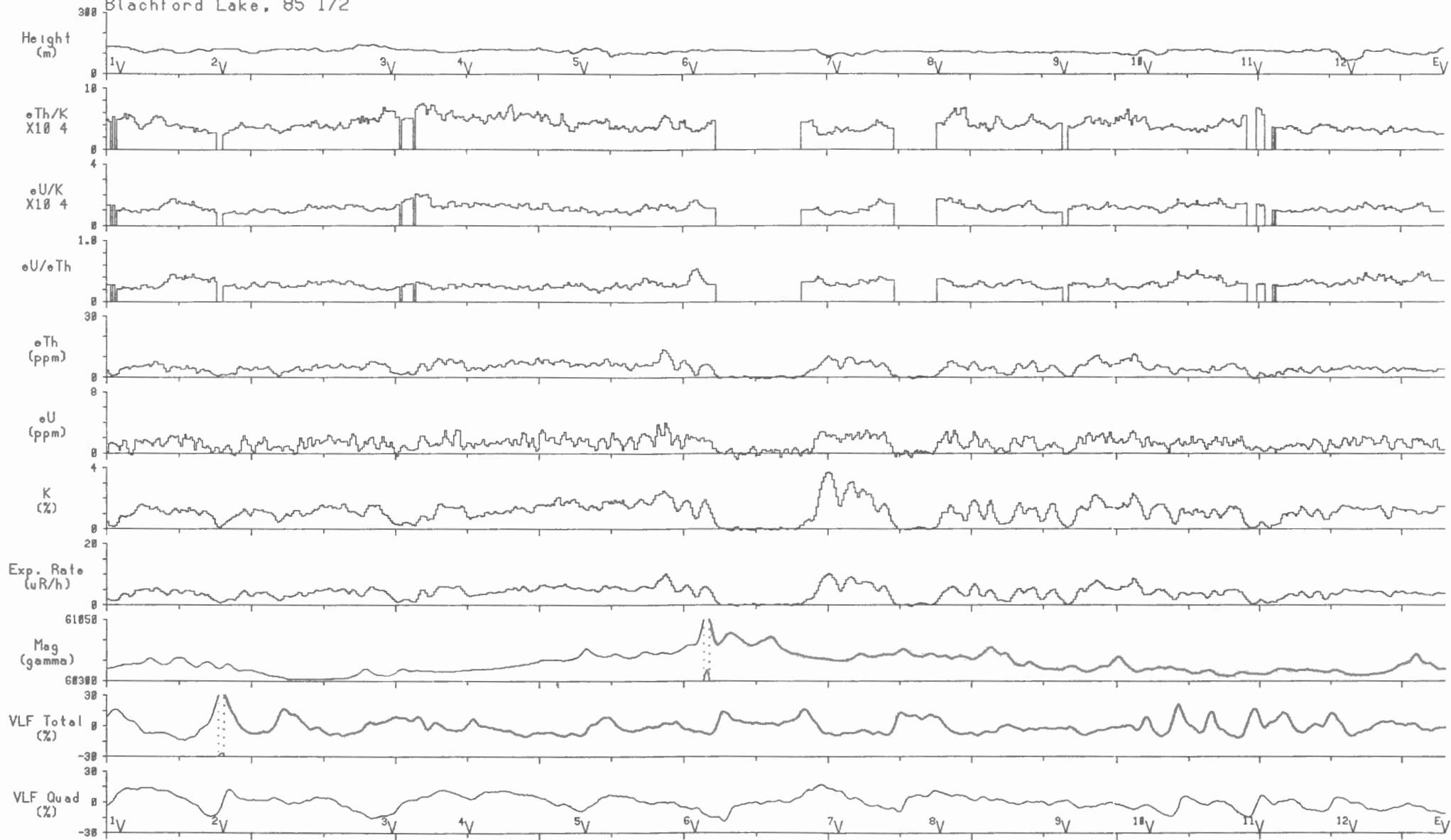
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



Line 19 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

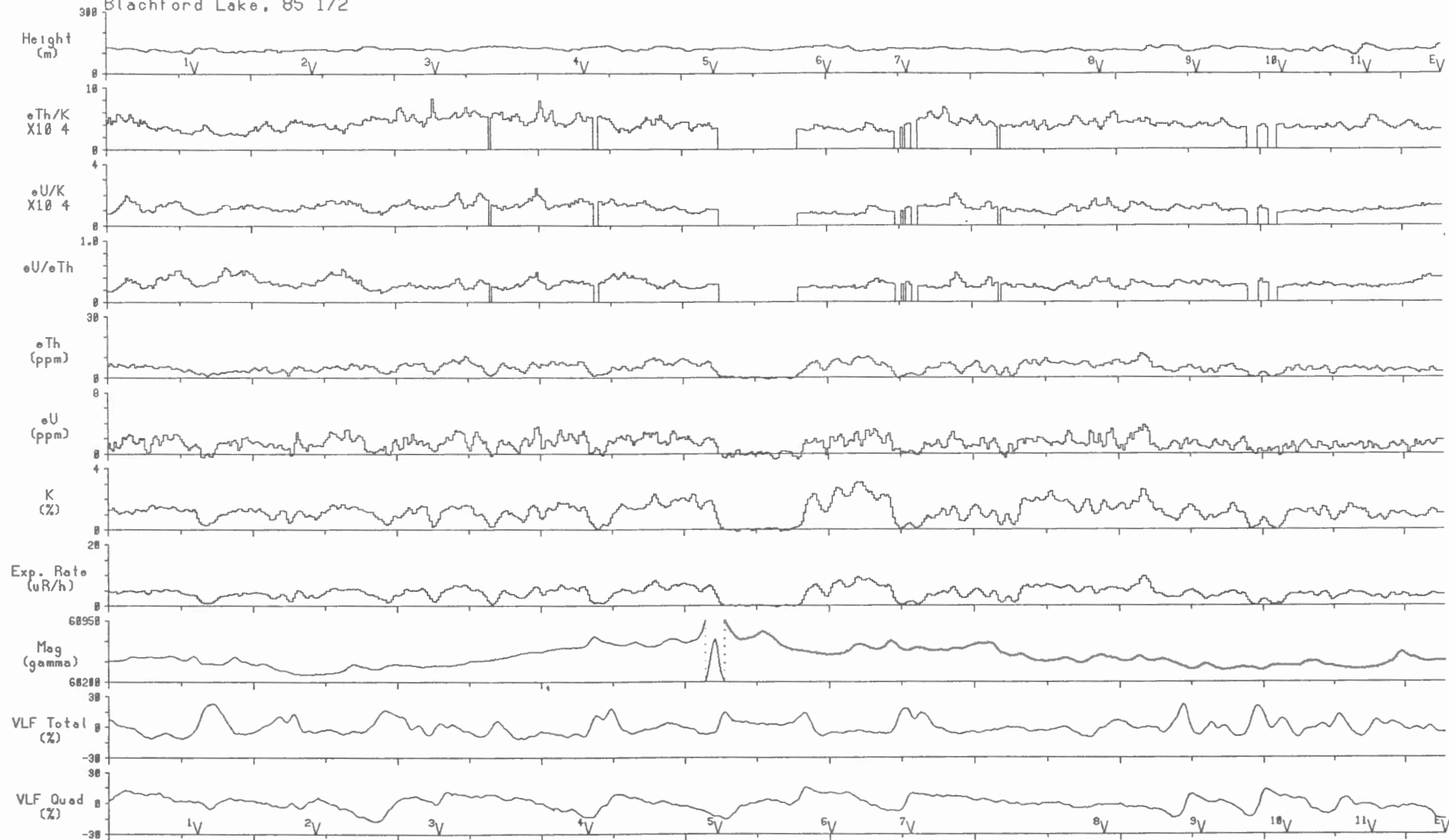
Blachford Lake, 85 I/2



Line 20 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2

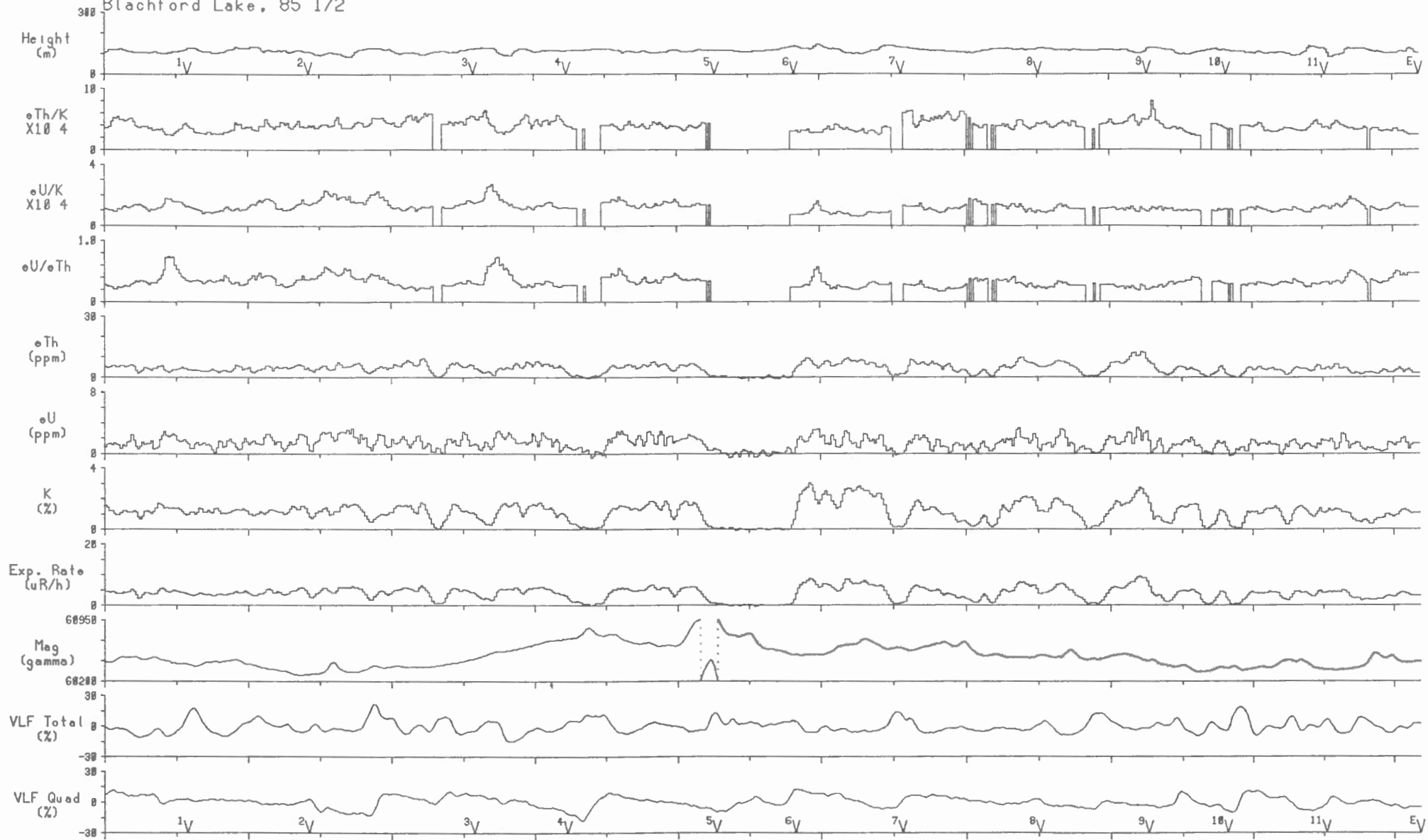


Line 21

2 km

Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
Blachford Lake, 85 I/2



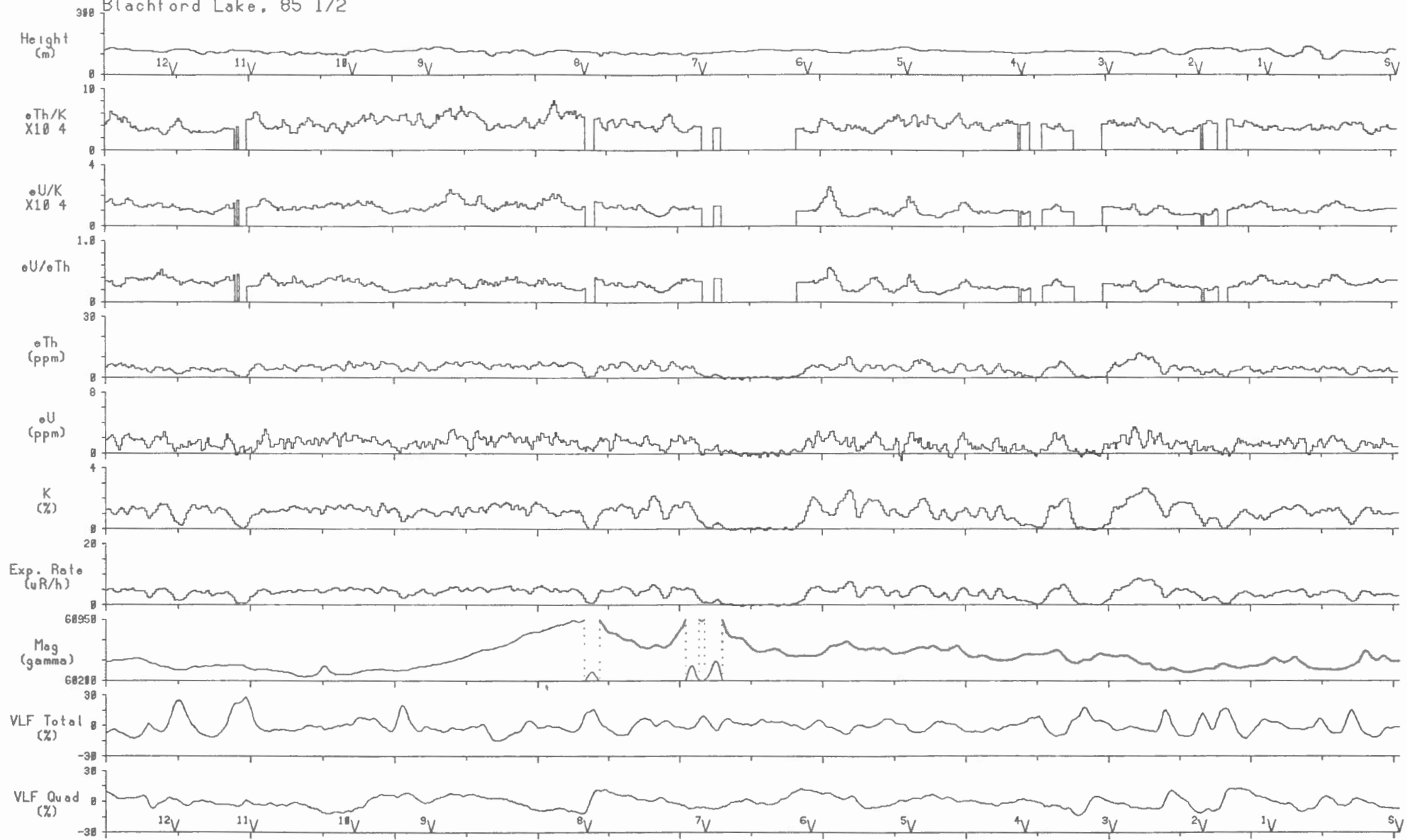
Line 22

2 km

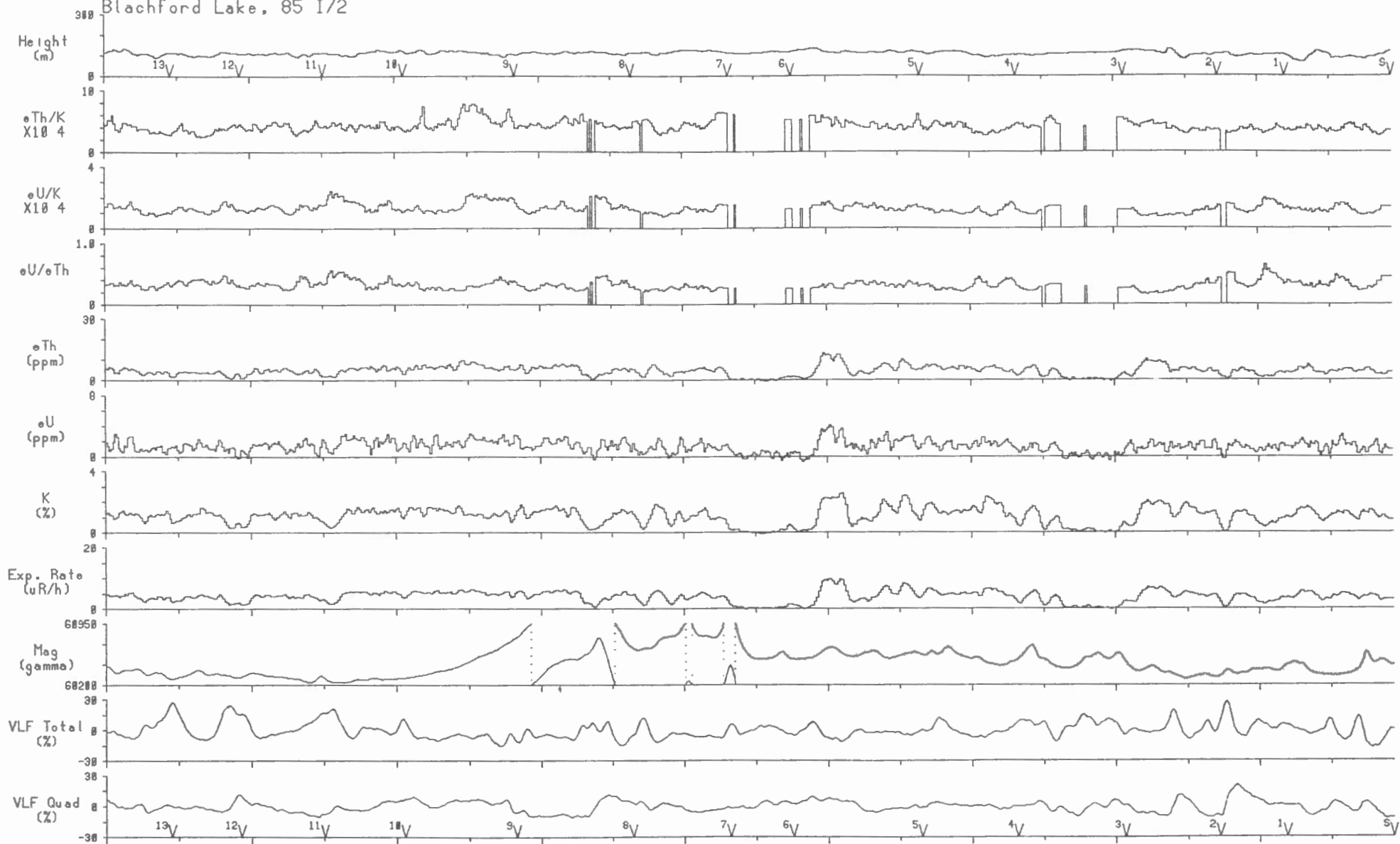
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Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2

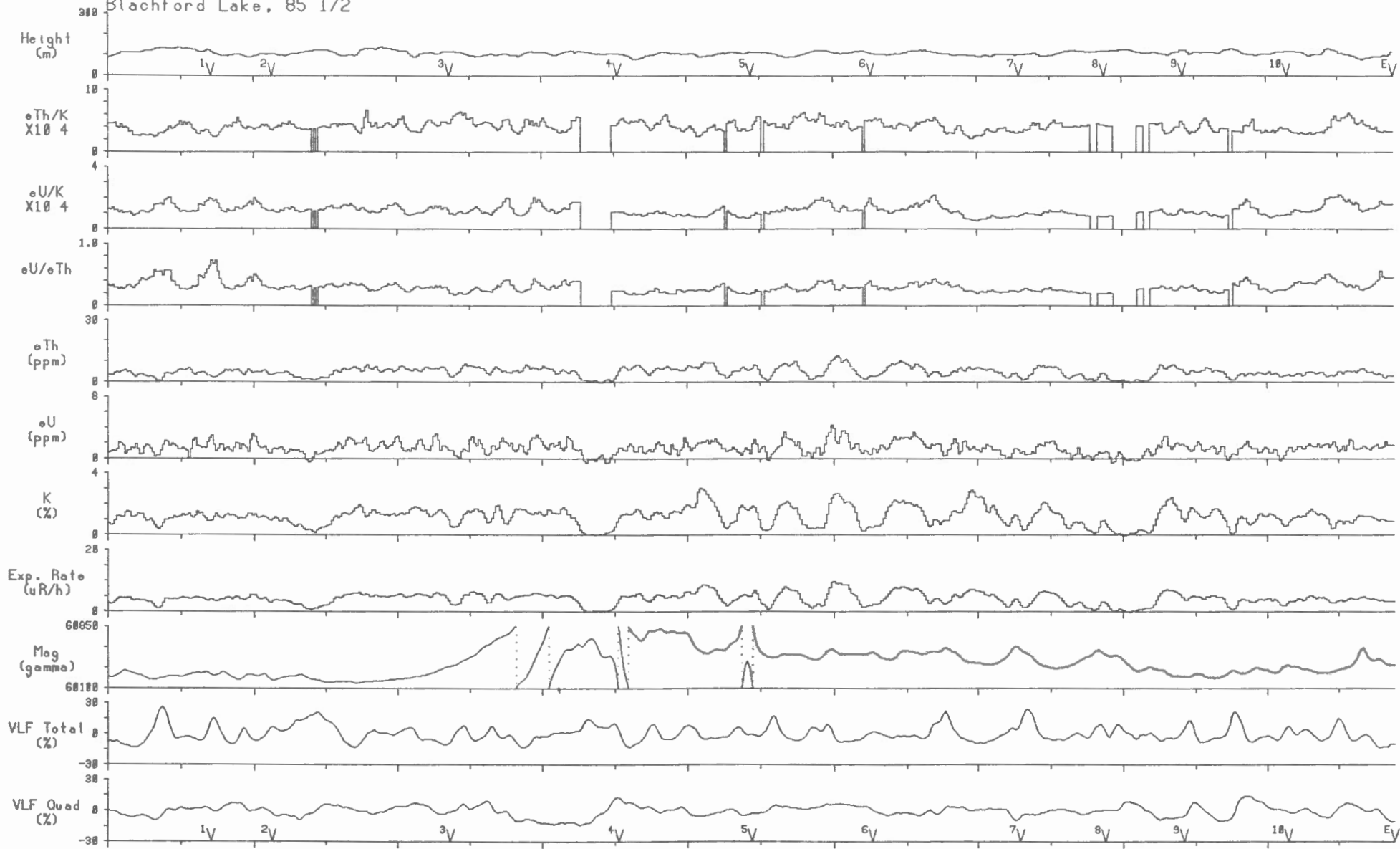


Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



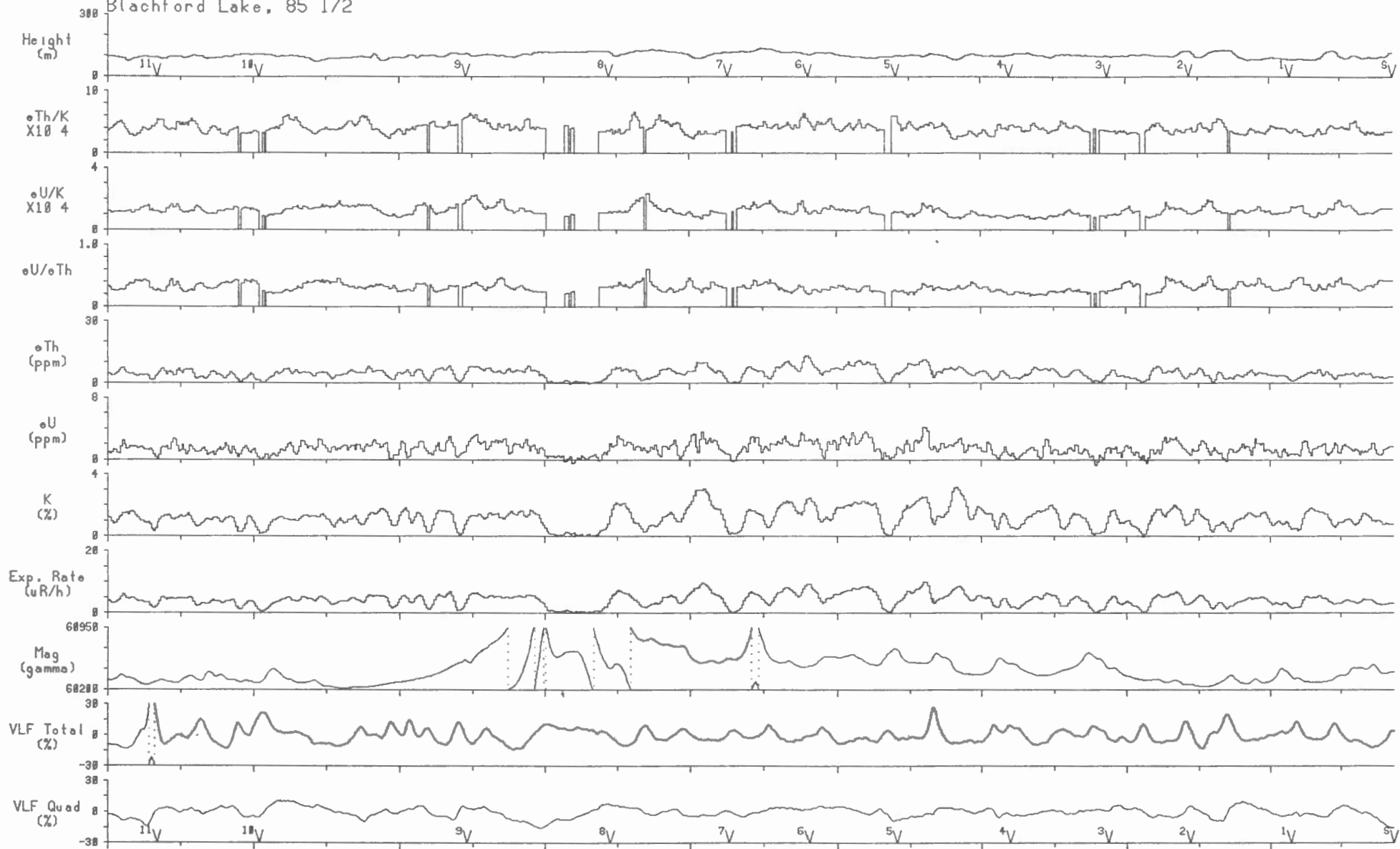
Line 24 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

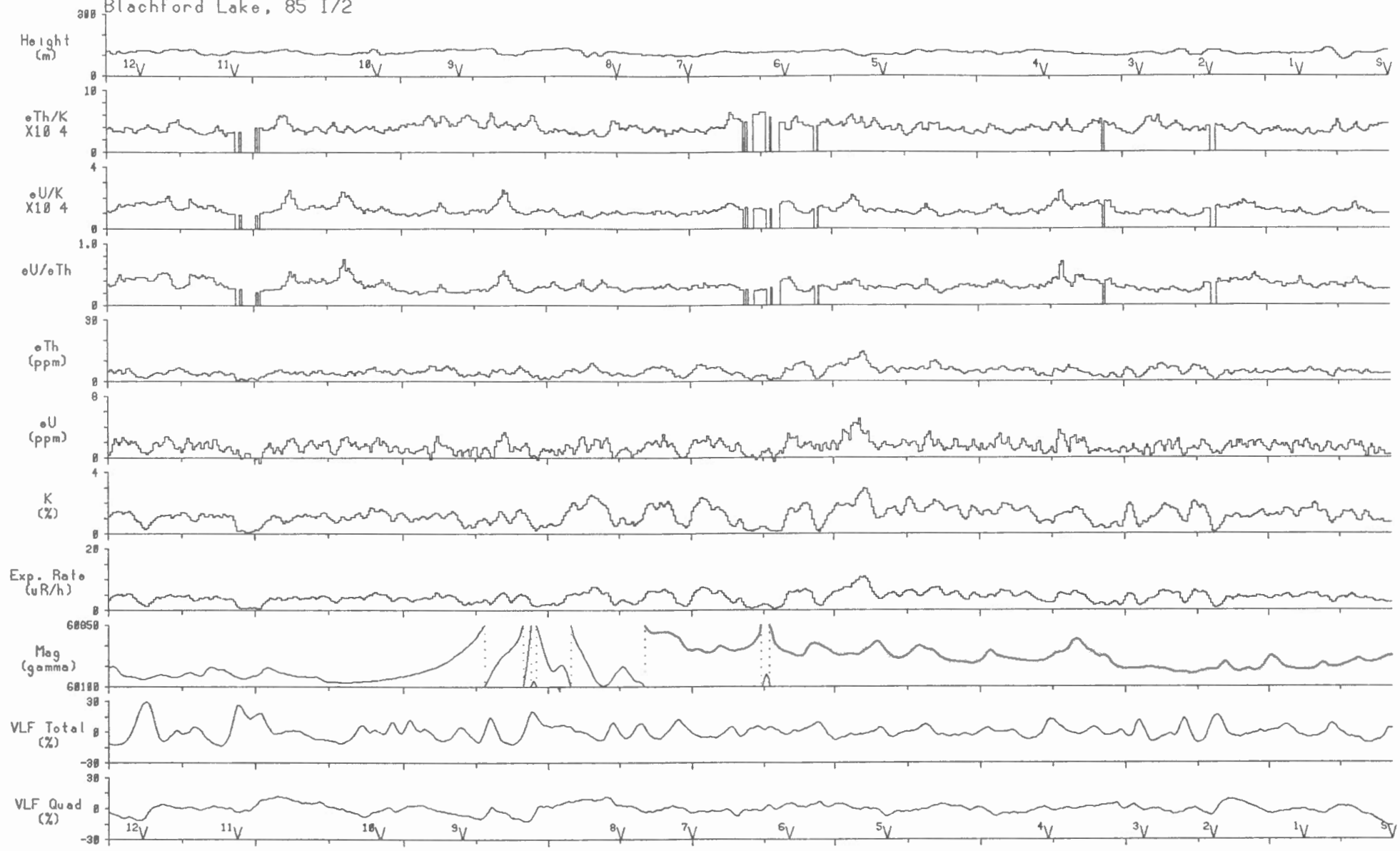
Blachford Lake, 85 I/2



Line 26 | 2 km | Scale 1:150000

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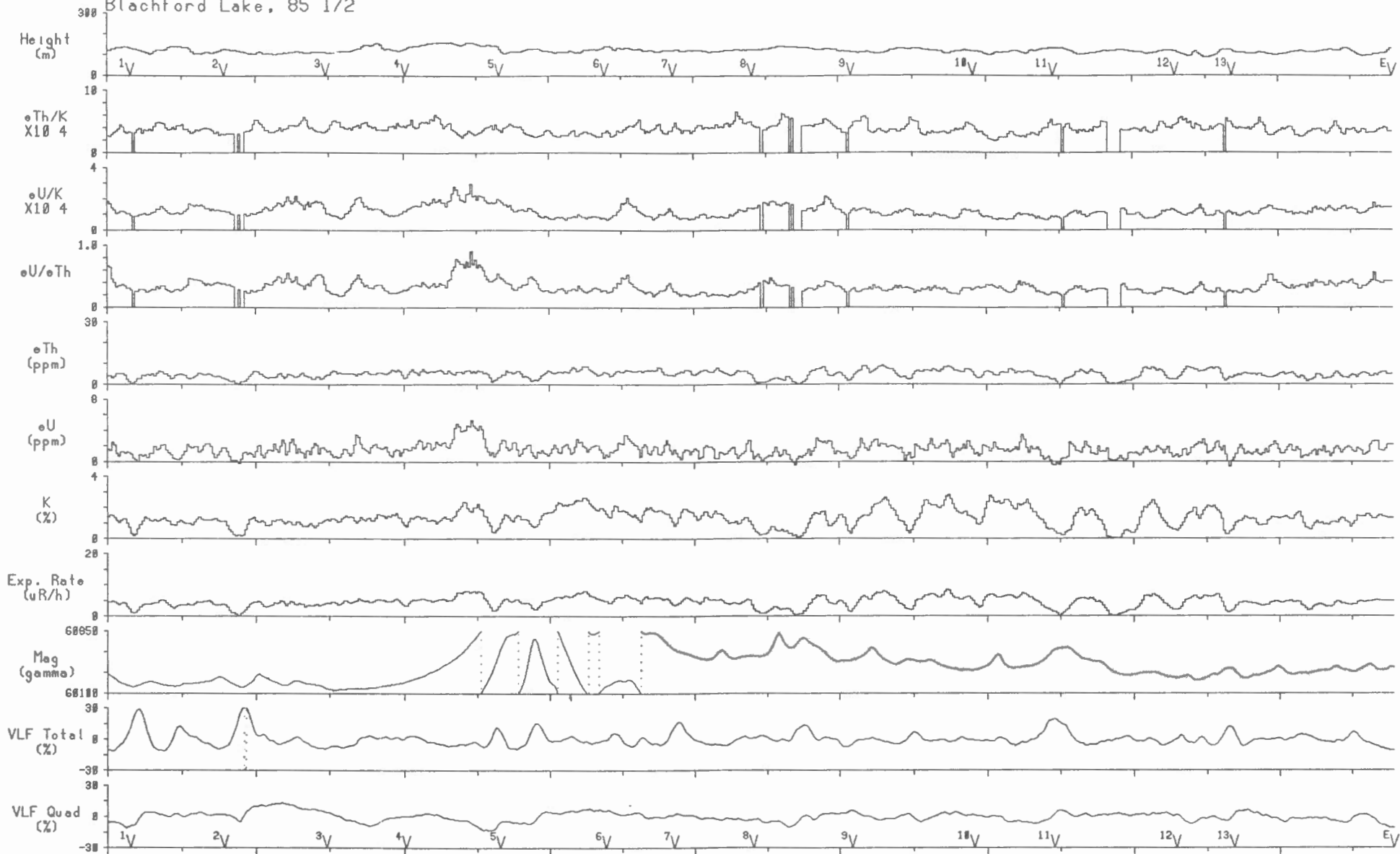
Blachford Lake, 85 I/2



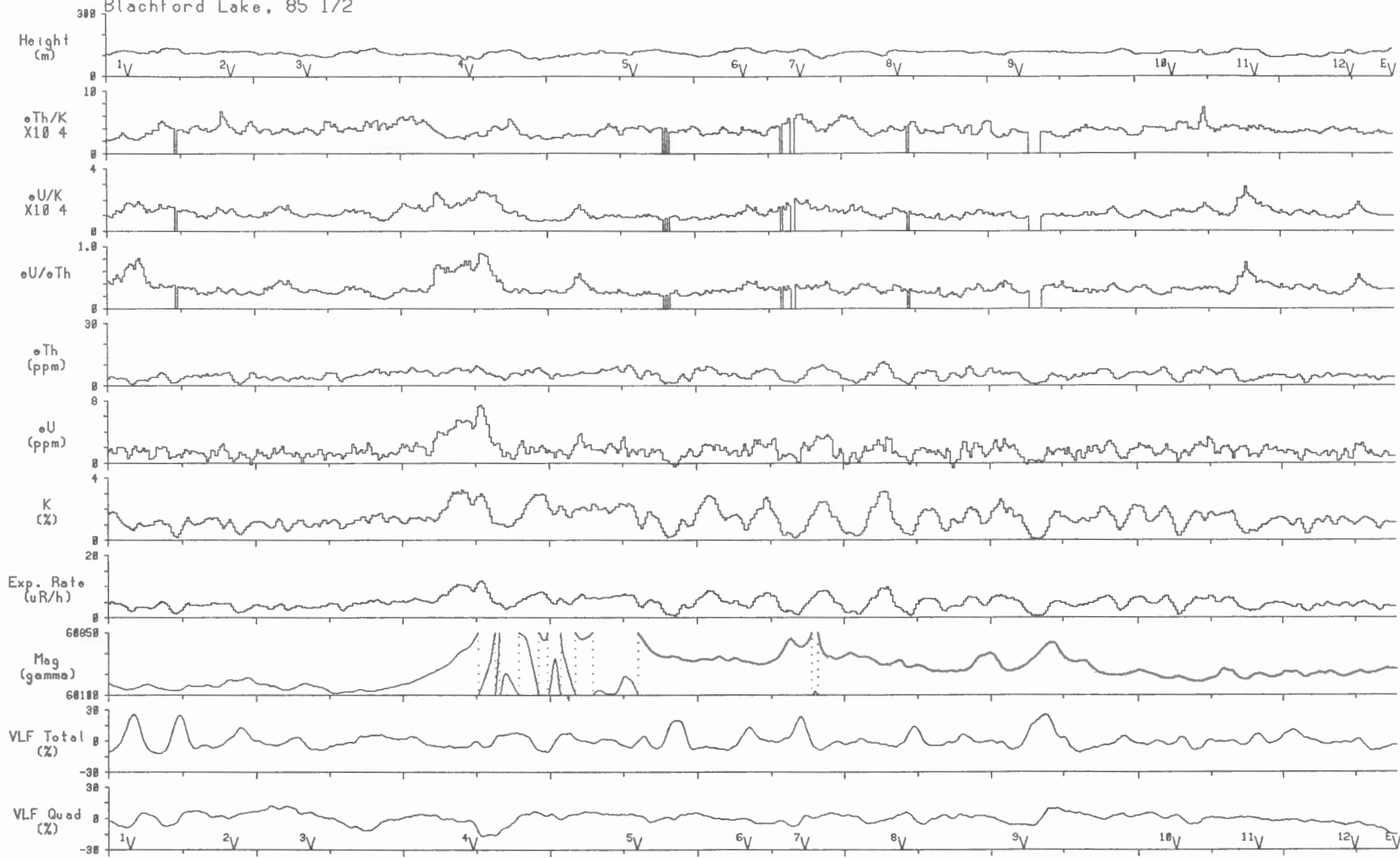
Line 27 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



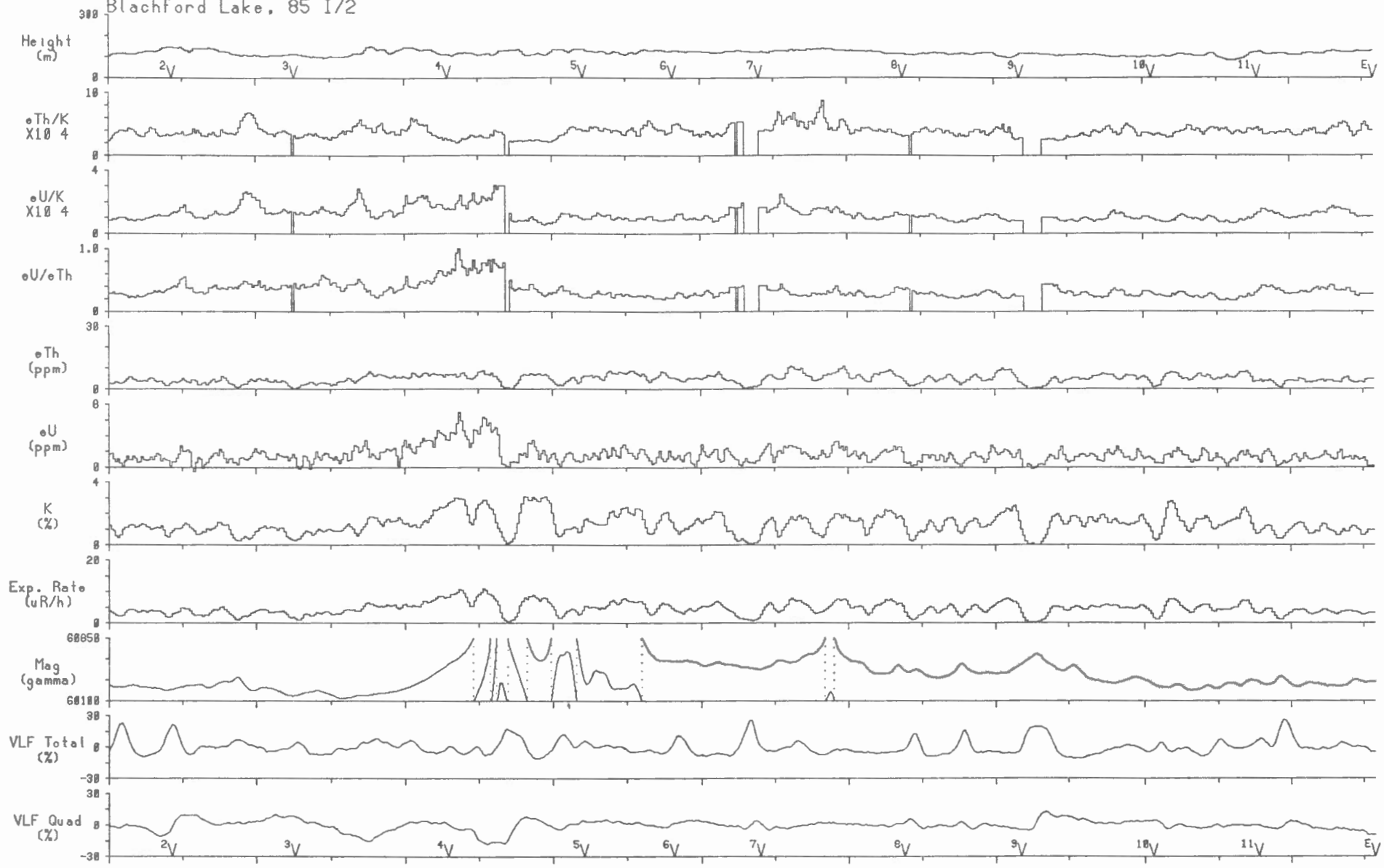
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Blachford Lake, 85 I/2



Line 29 | 2 km | Scale 1:150000

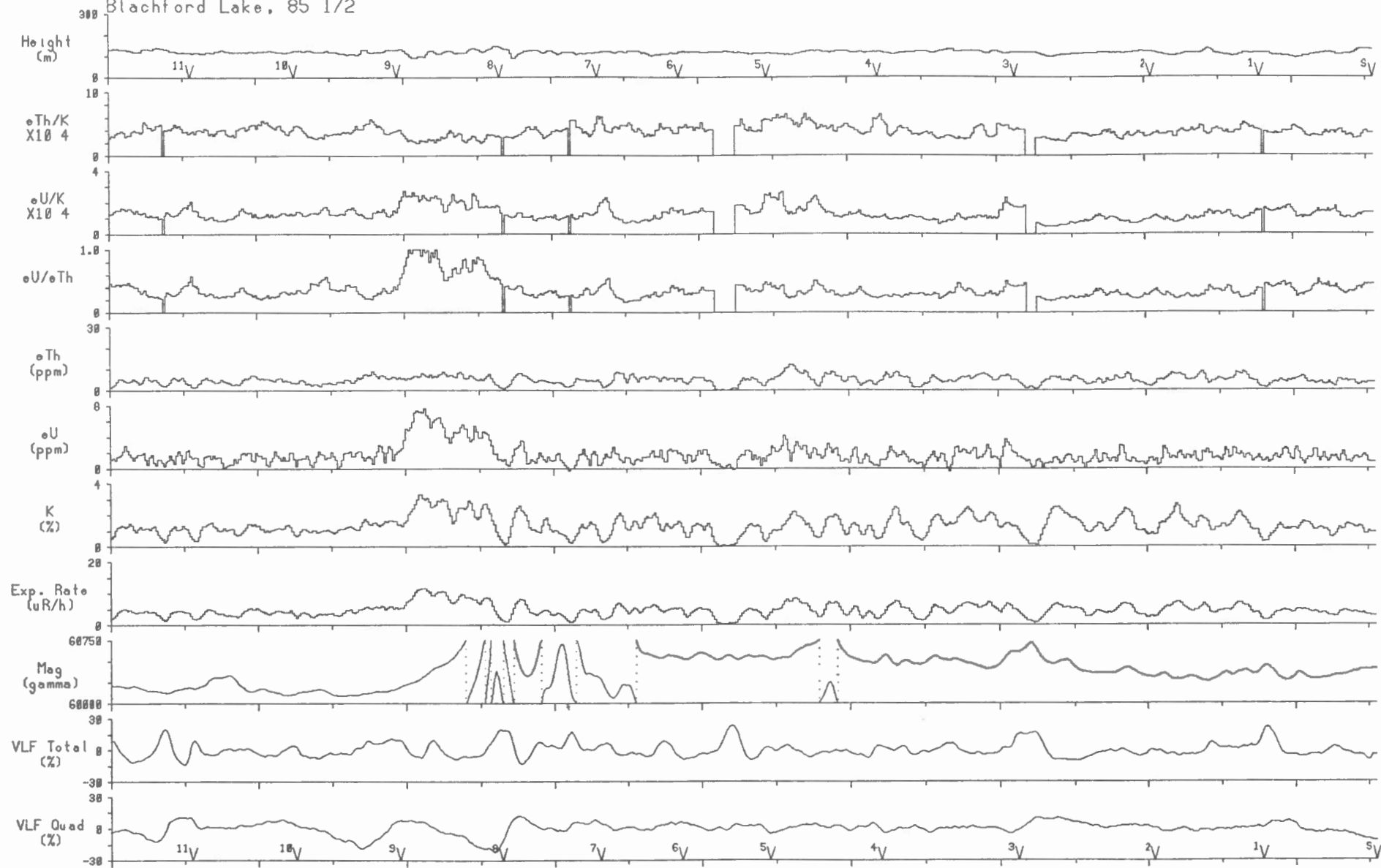
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



Line 30 2 km Scale 1:150000

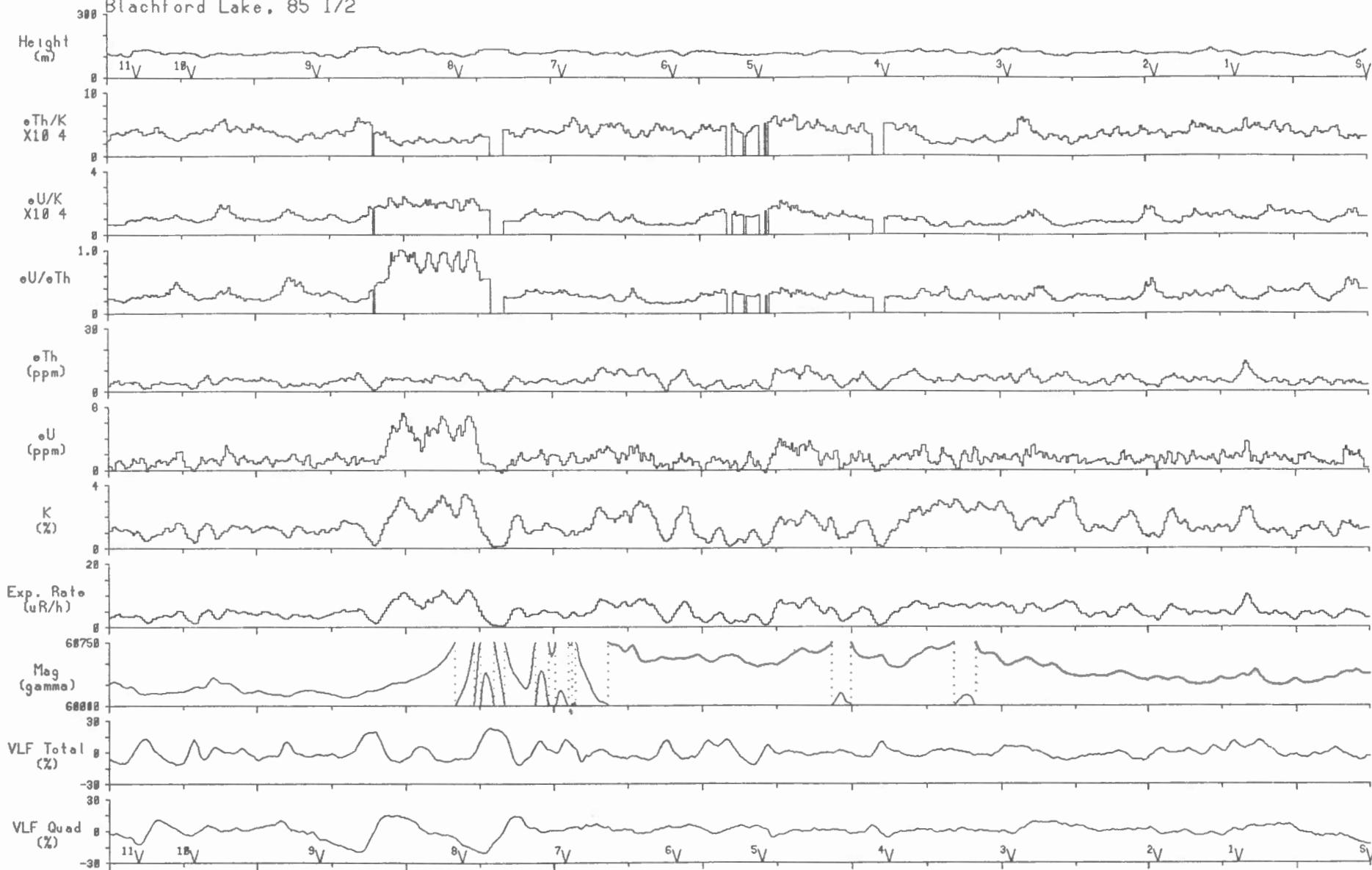
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
Blachford Lake, 85 I/2



Line 31 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

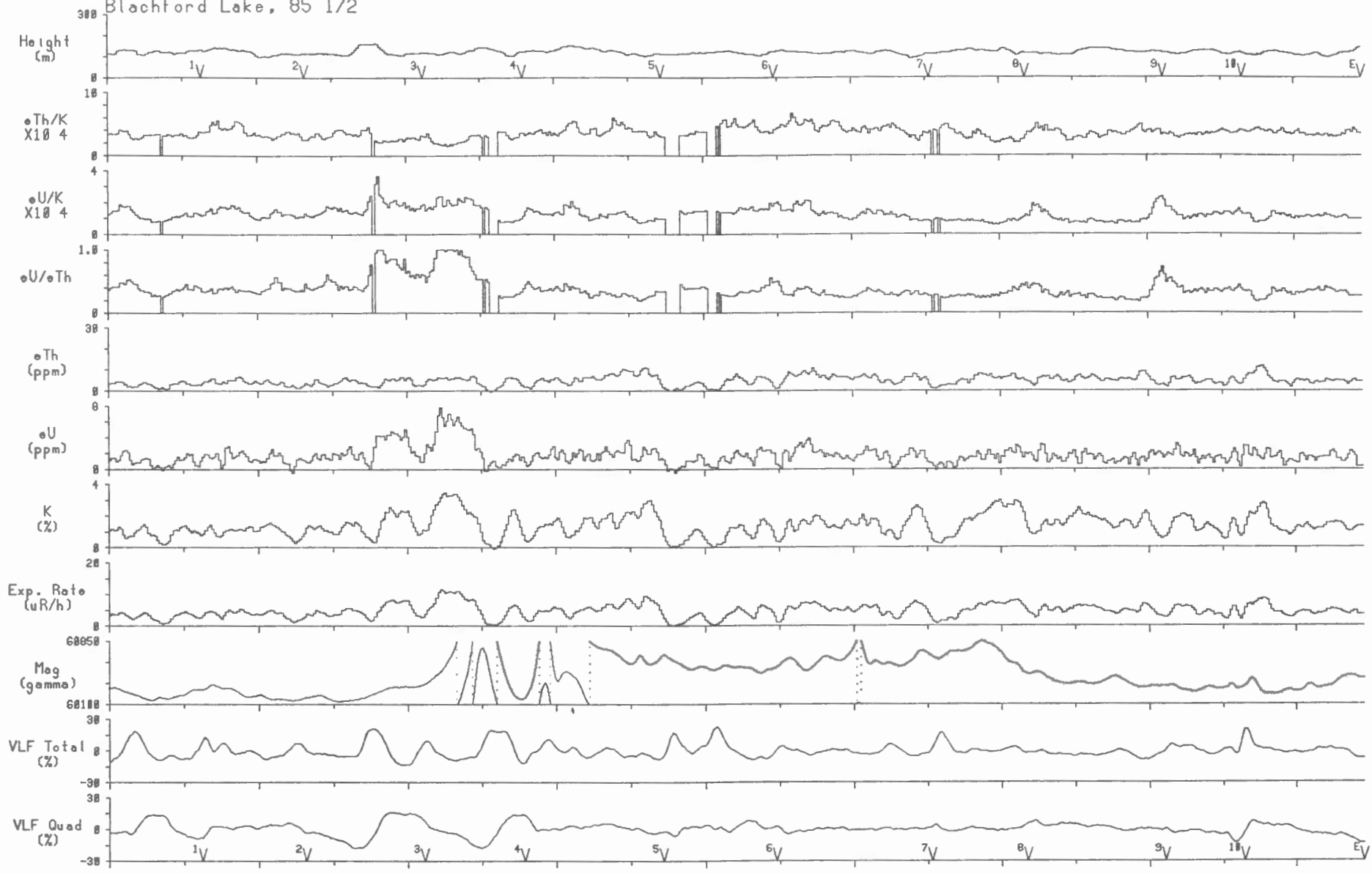
Blachford Lake, 85 I/2



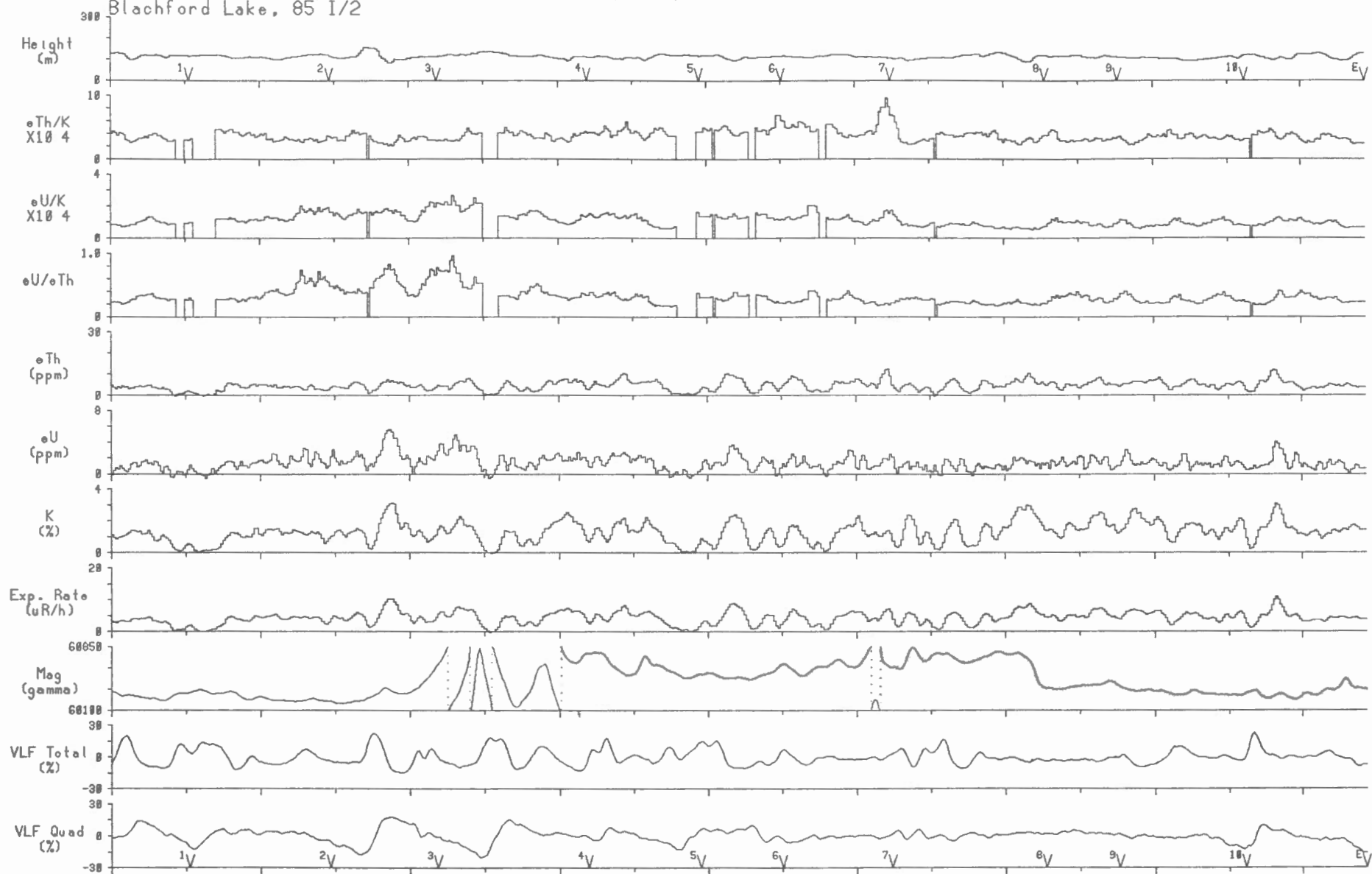
Line 32 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



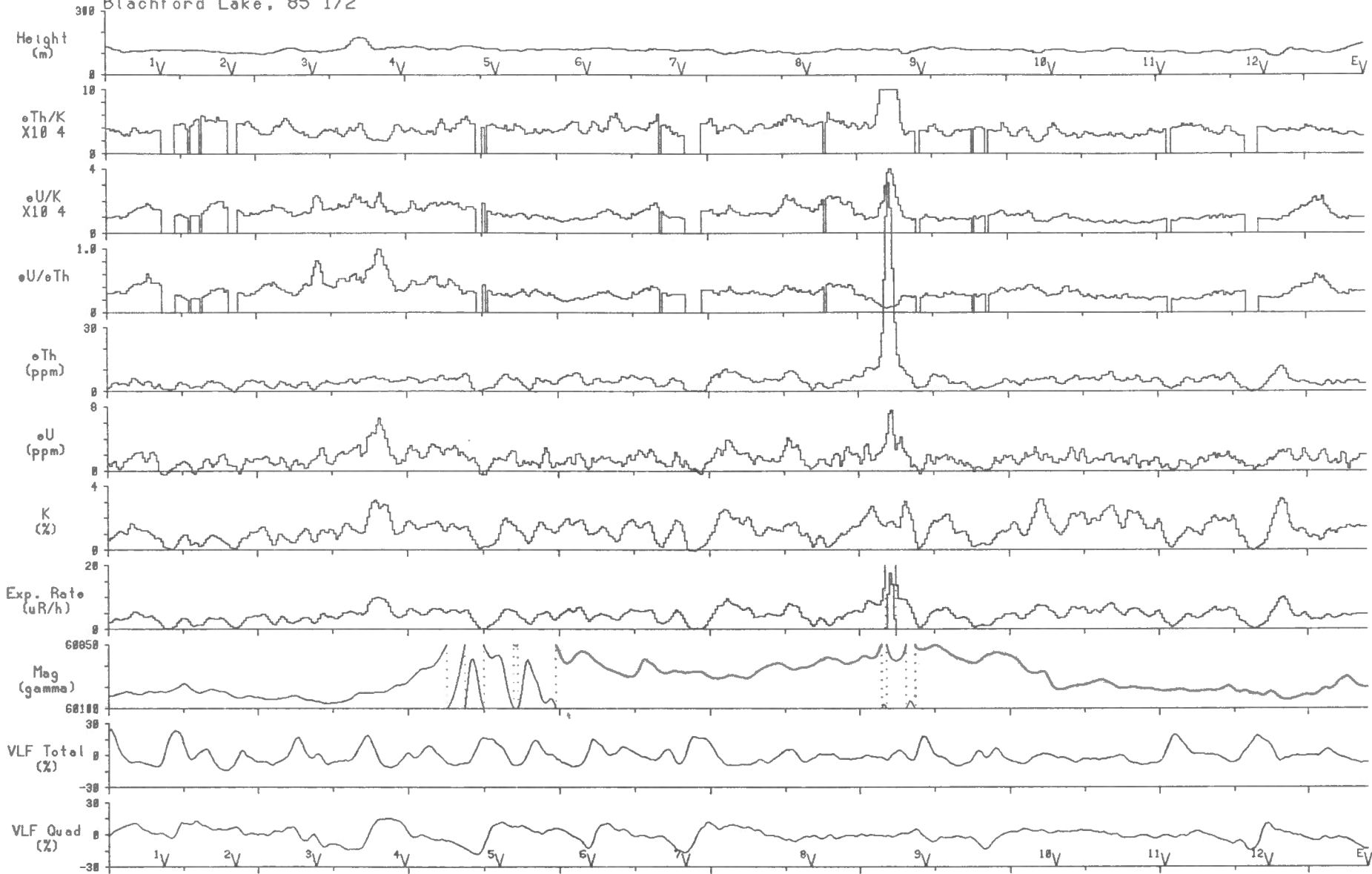
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
Blachford Lake, 85 I/2



Line 34 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



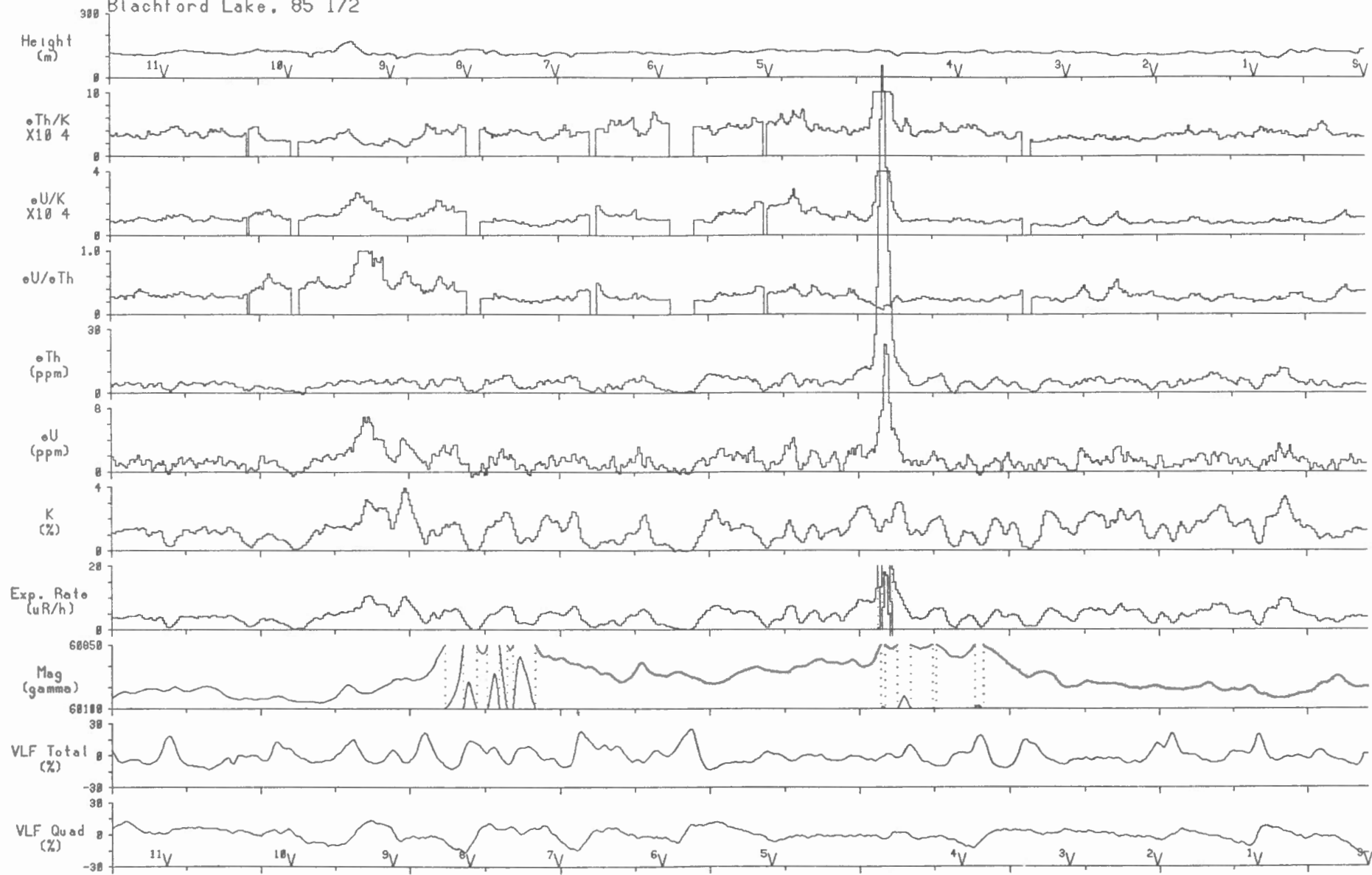
Line 35

2 km

Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2

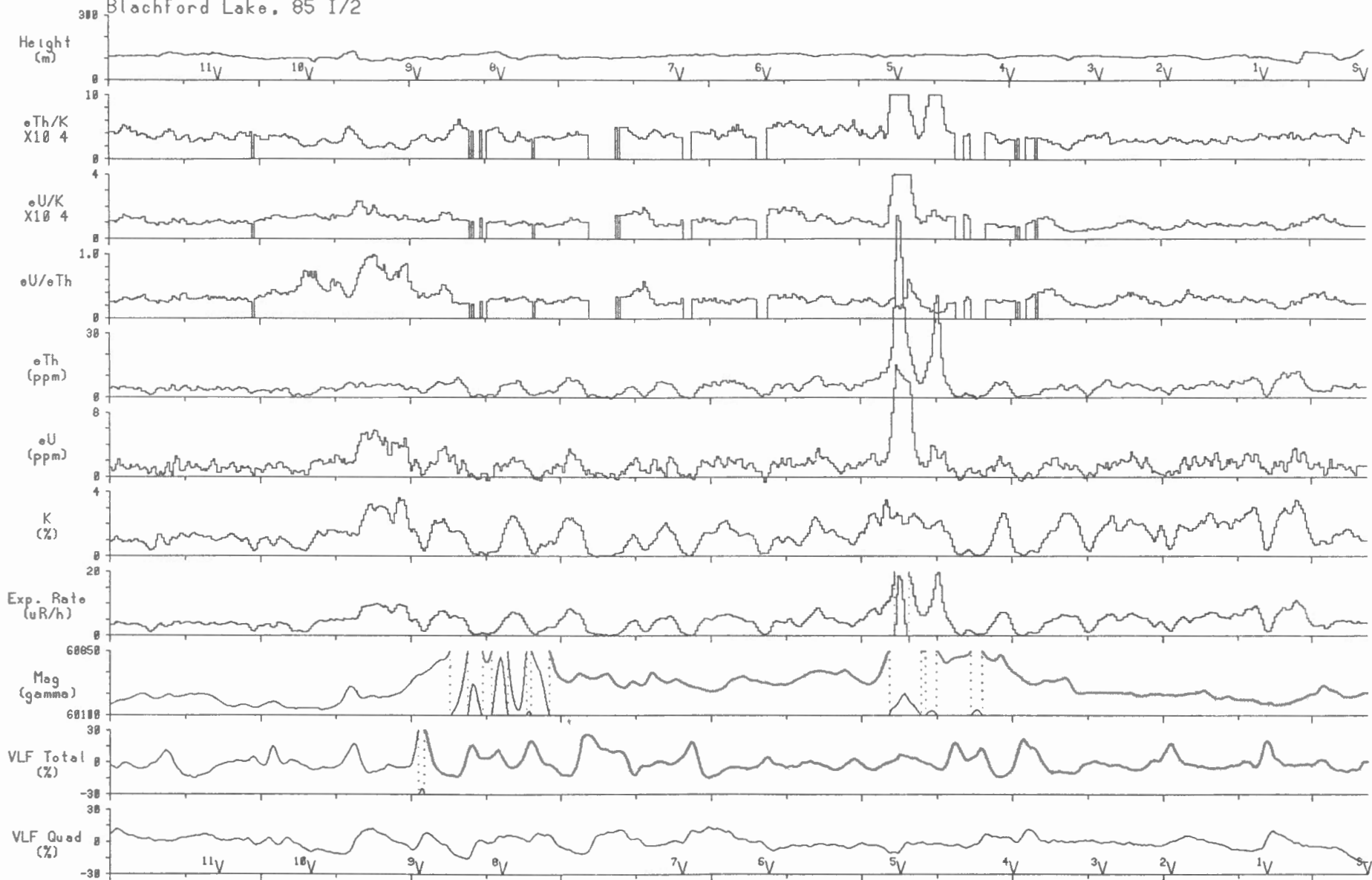


Line 36

2 km

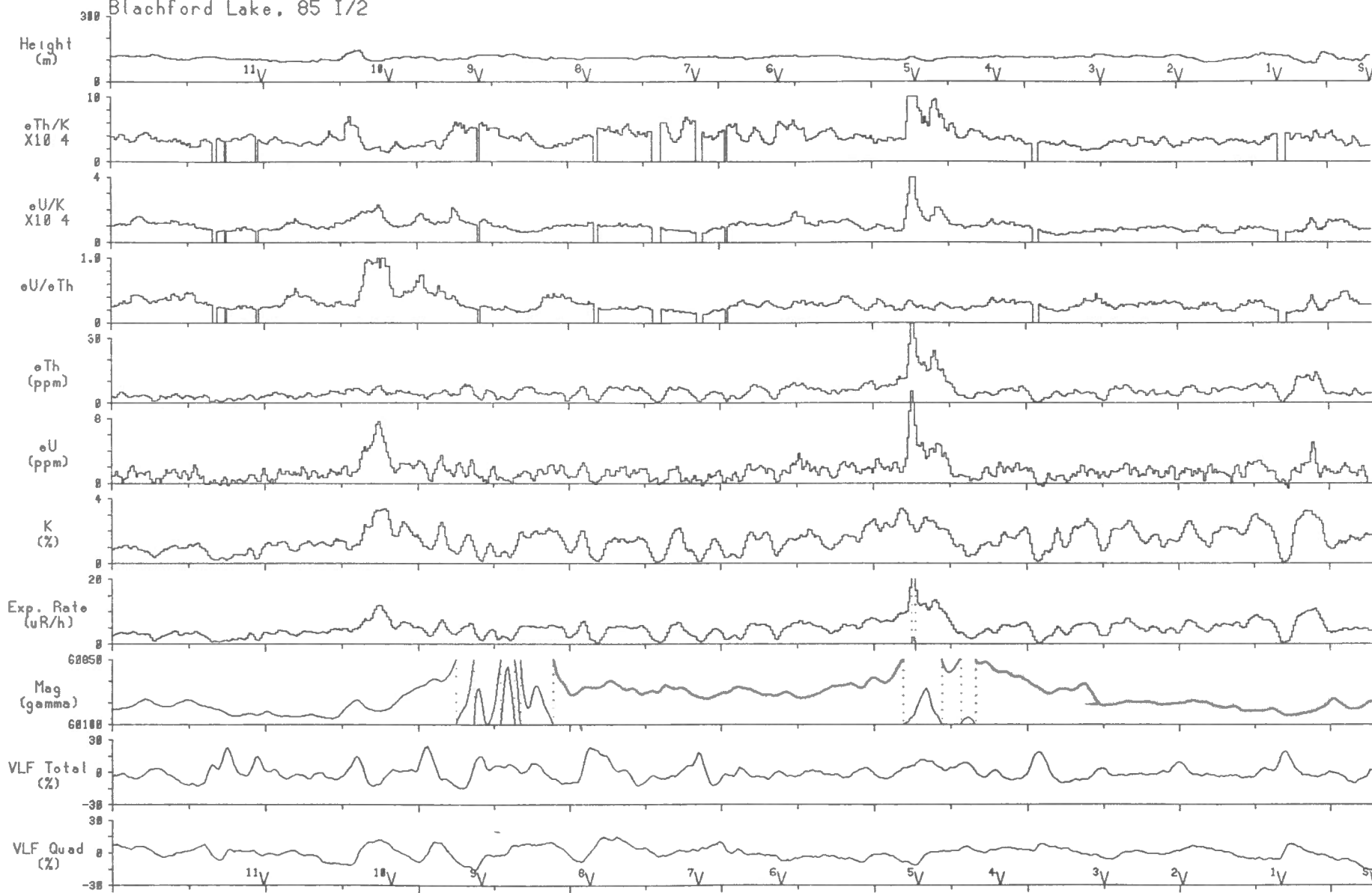
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Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



Line 37 | 2 km | Scale 1:150000

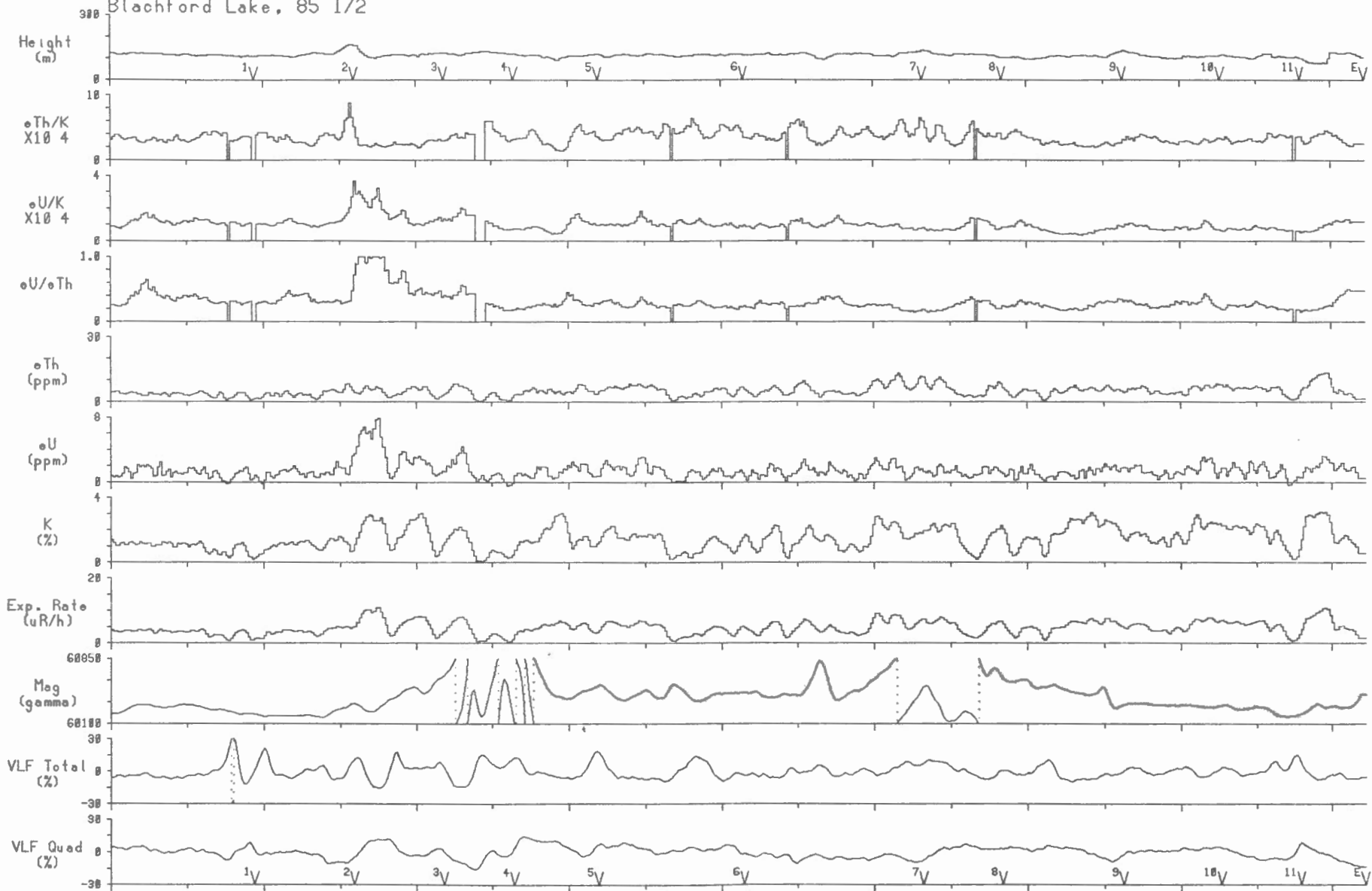
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Blachford Lake, 85 I/2



Line 38 | 2 km | Scale 1:150000

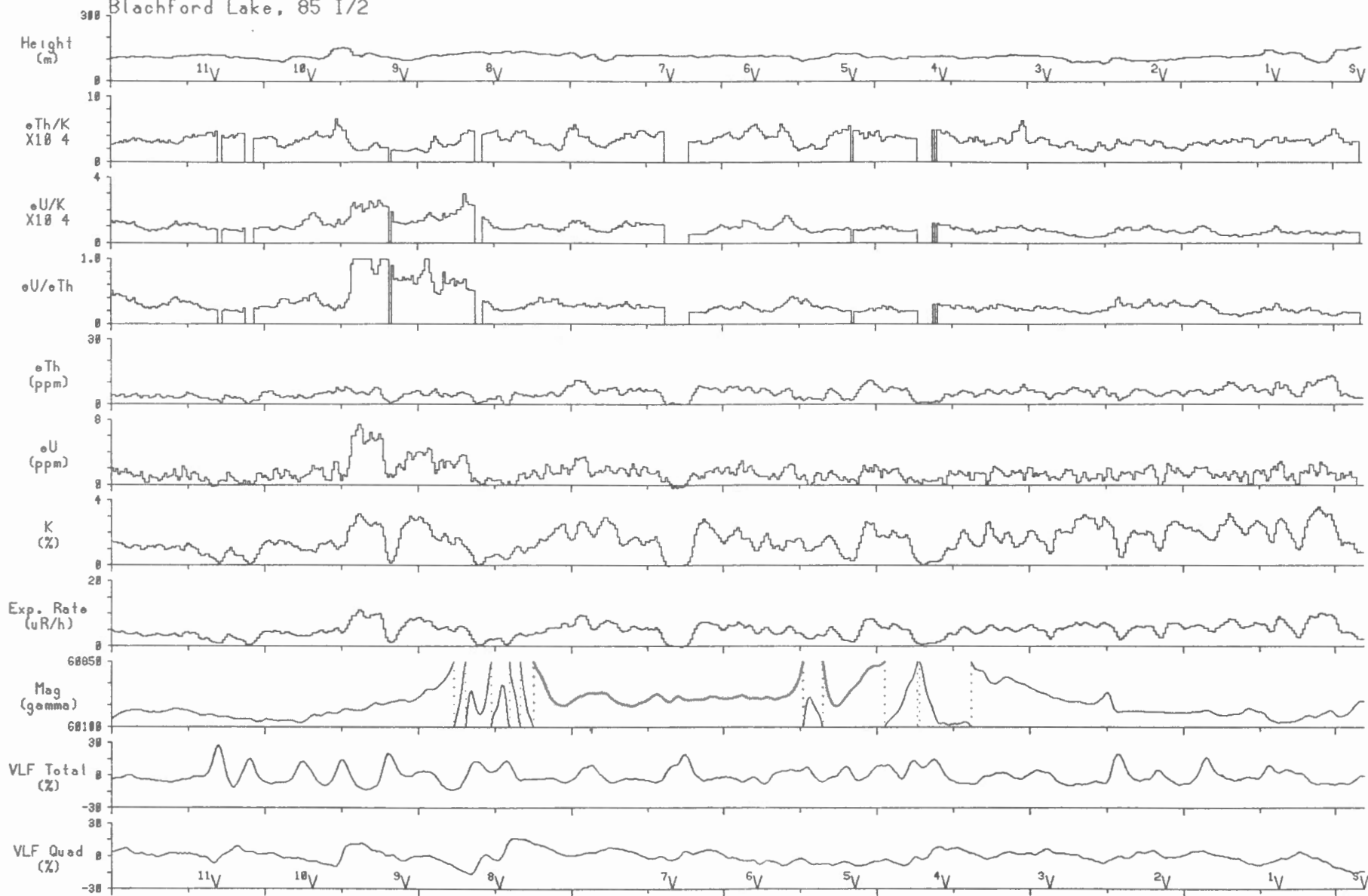
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

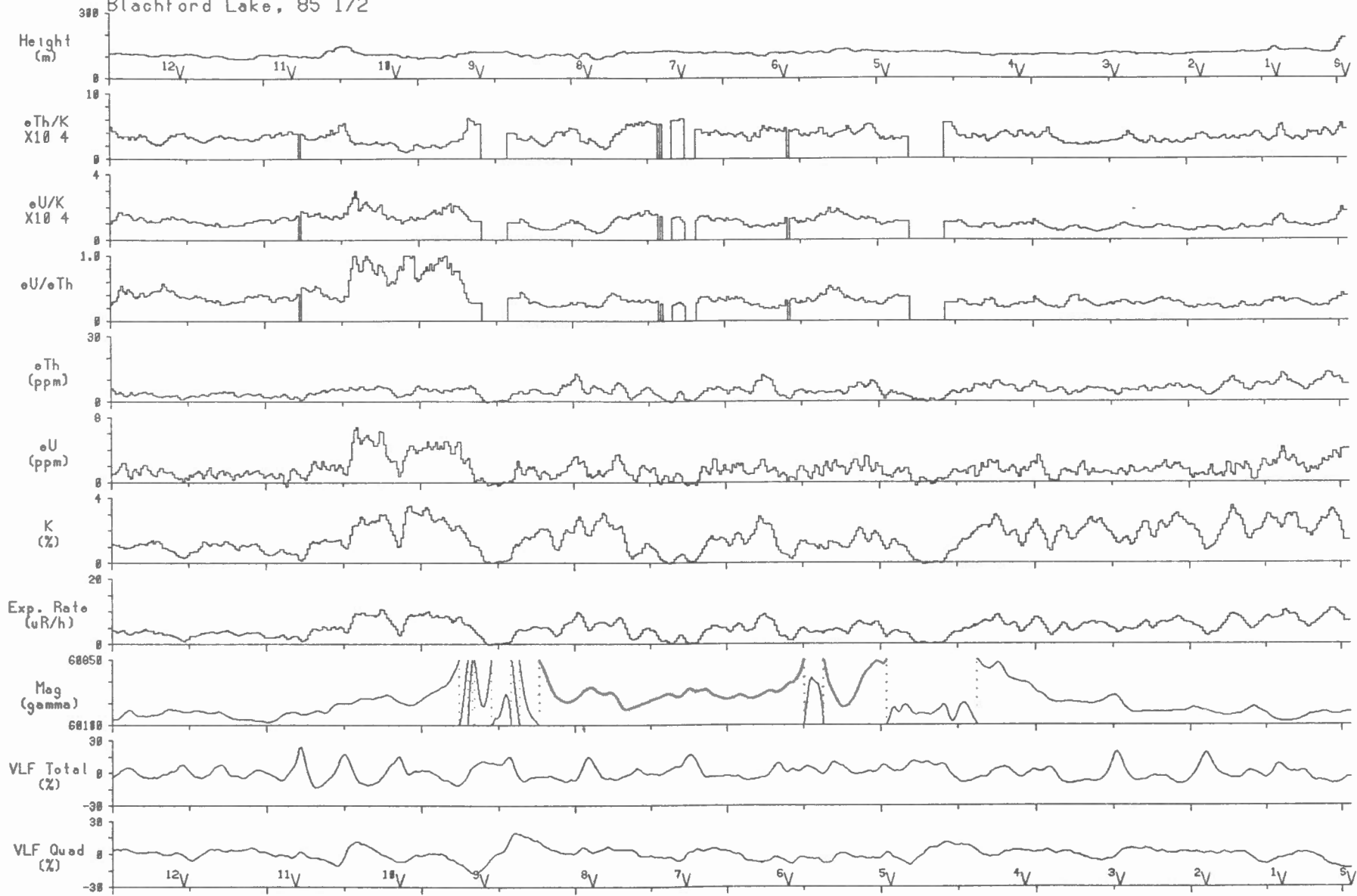
Blachford Lake, 85 I/2



Line 40 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

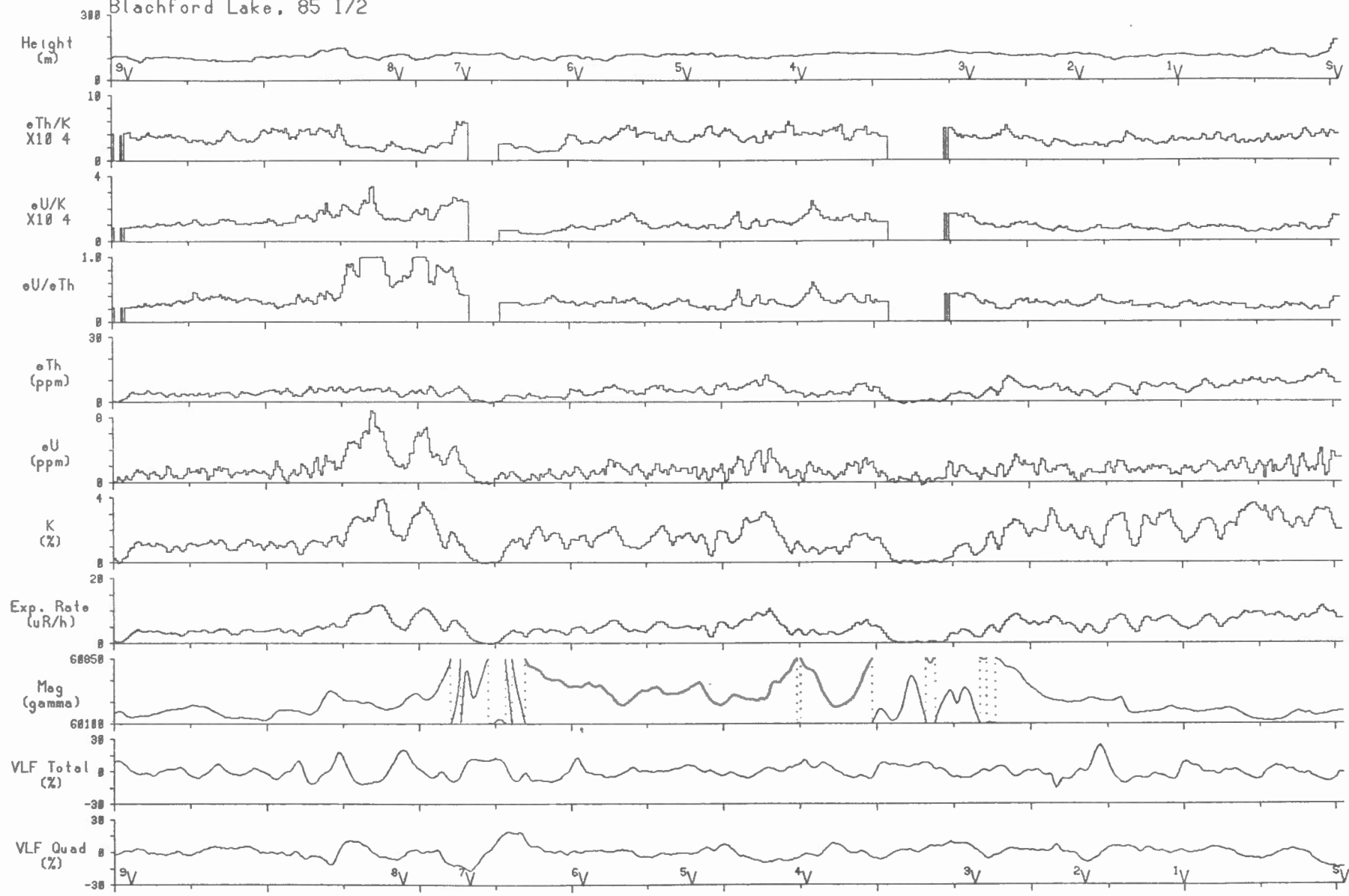
Blachford Lake, 85 I/2



Line 41 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

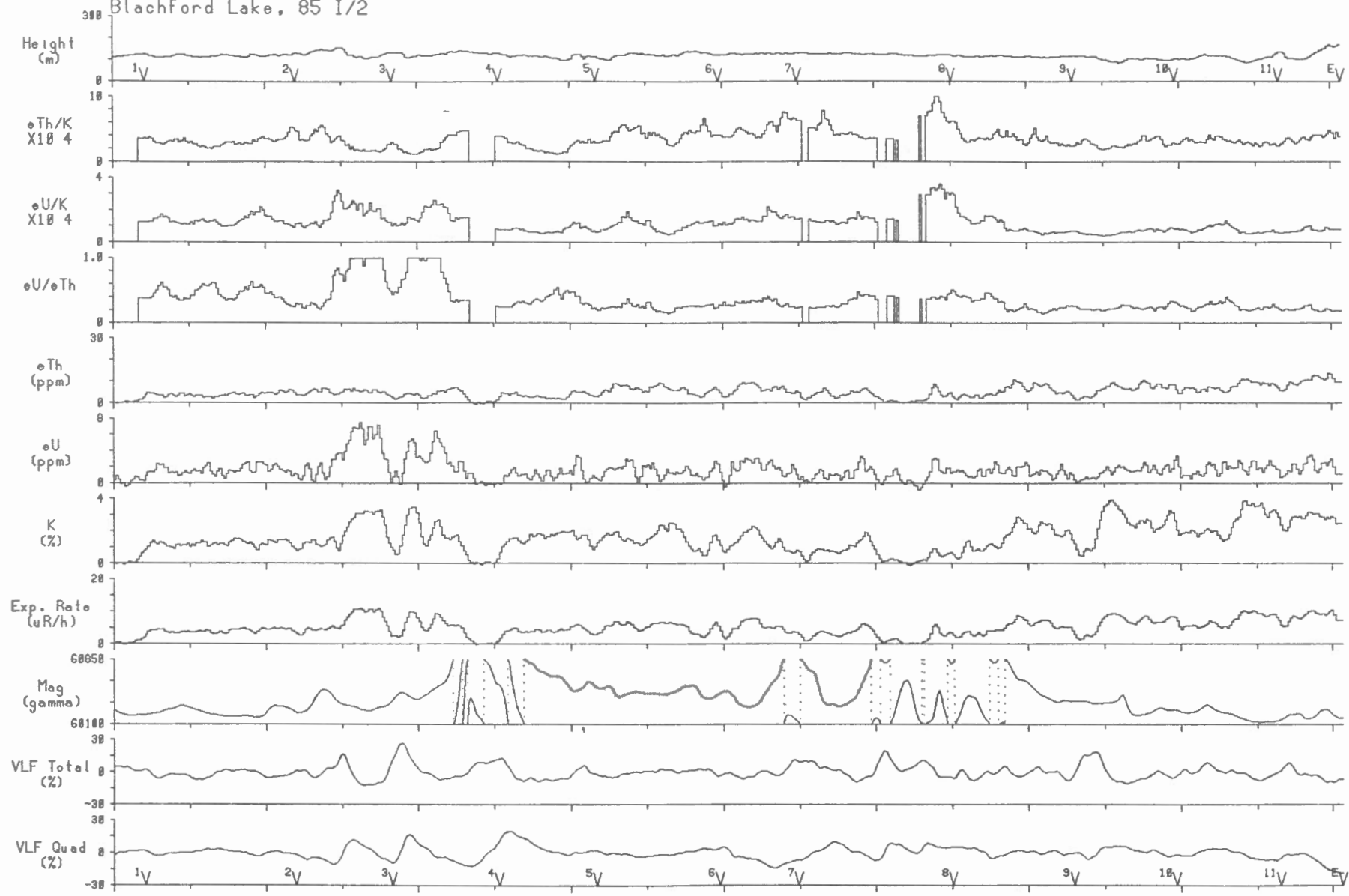
Blachford Lake, 85 I/2



Line 42 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

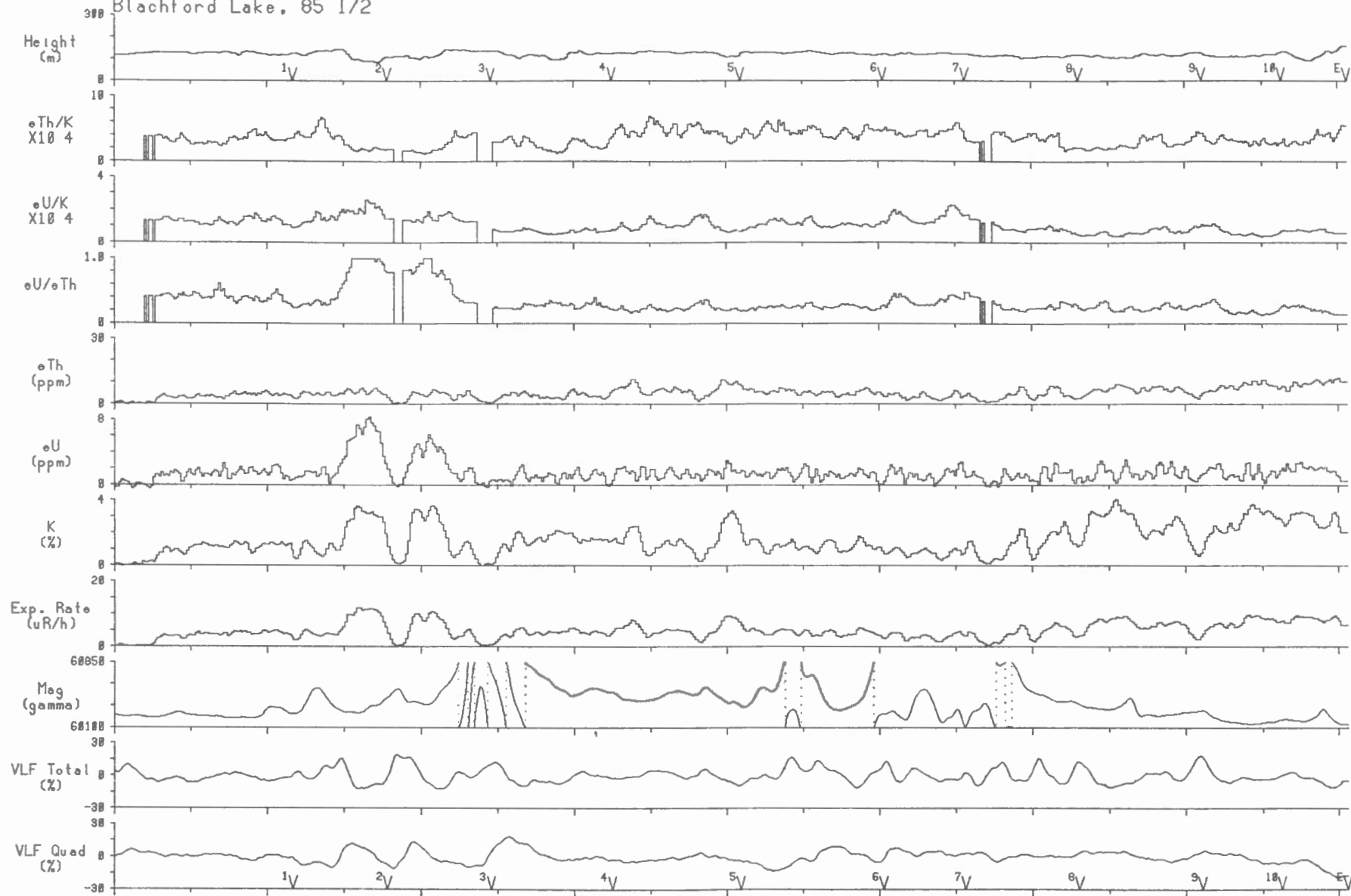
Blachford Lake, 85 I/2



Line 43 2 km Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



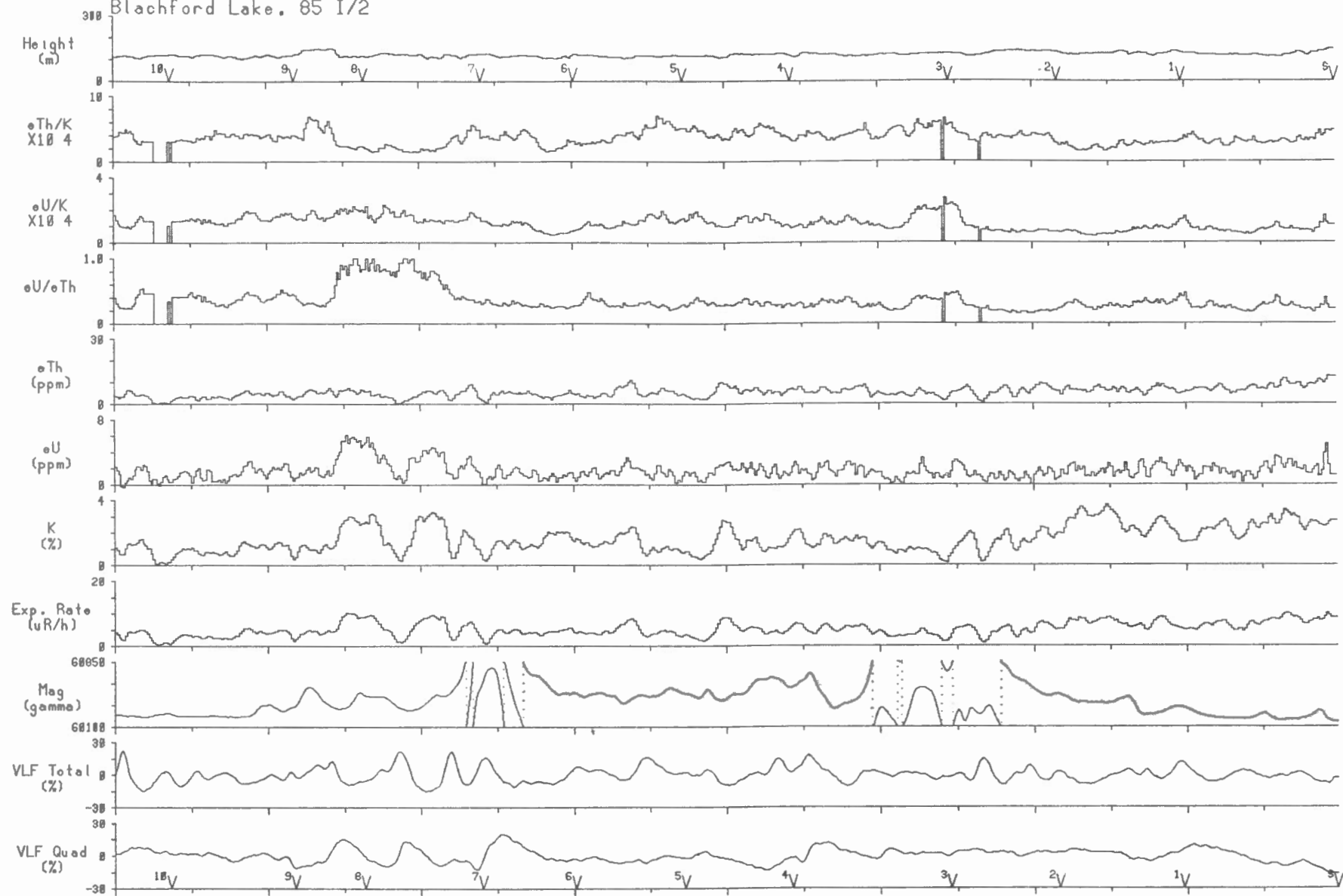
Line 44

2 km

Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

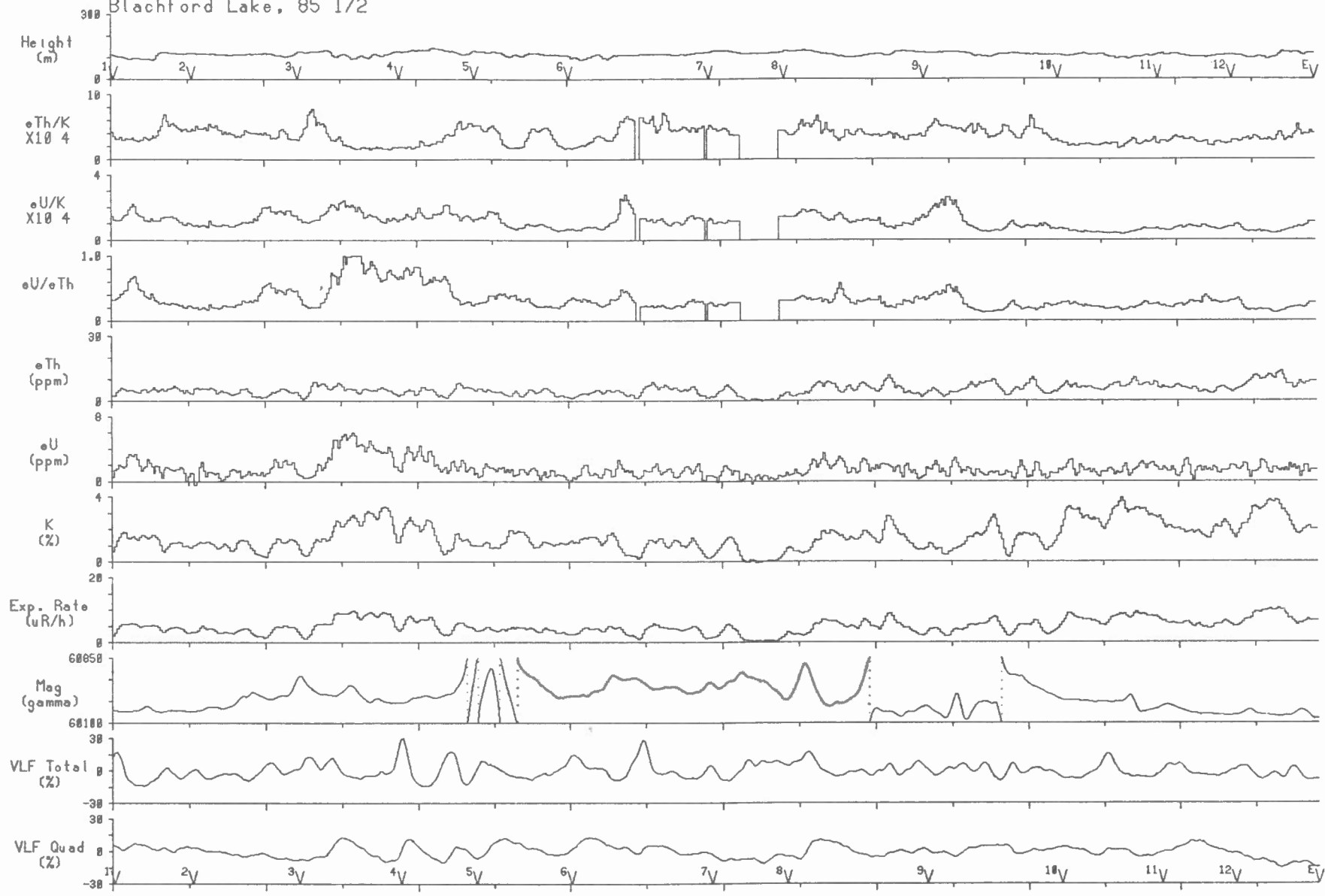
Blachford Lake. 85 I/2



Line 45 | 2 km | Scale 1:150000

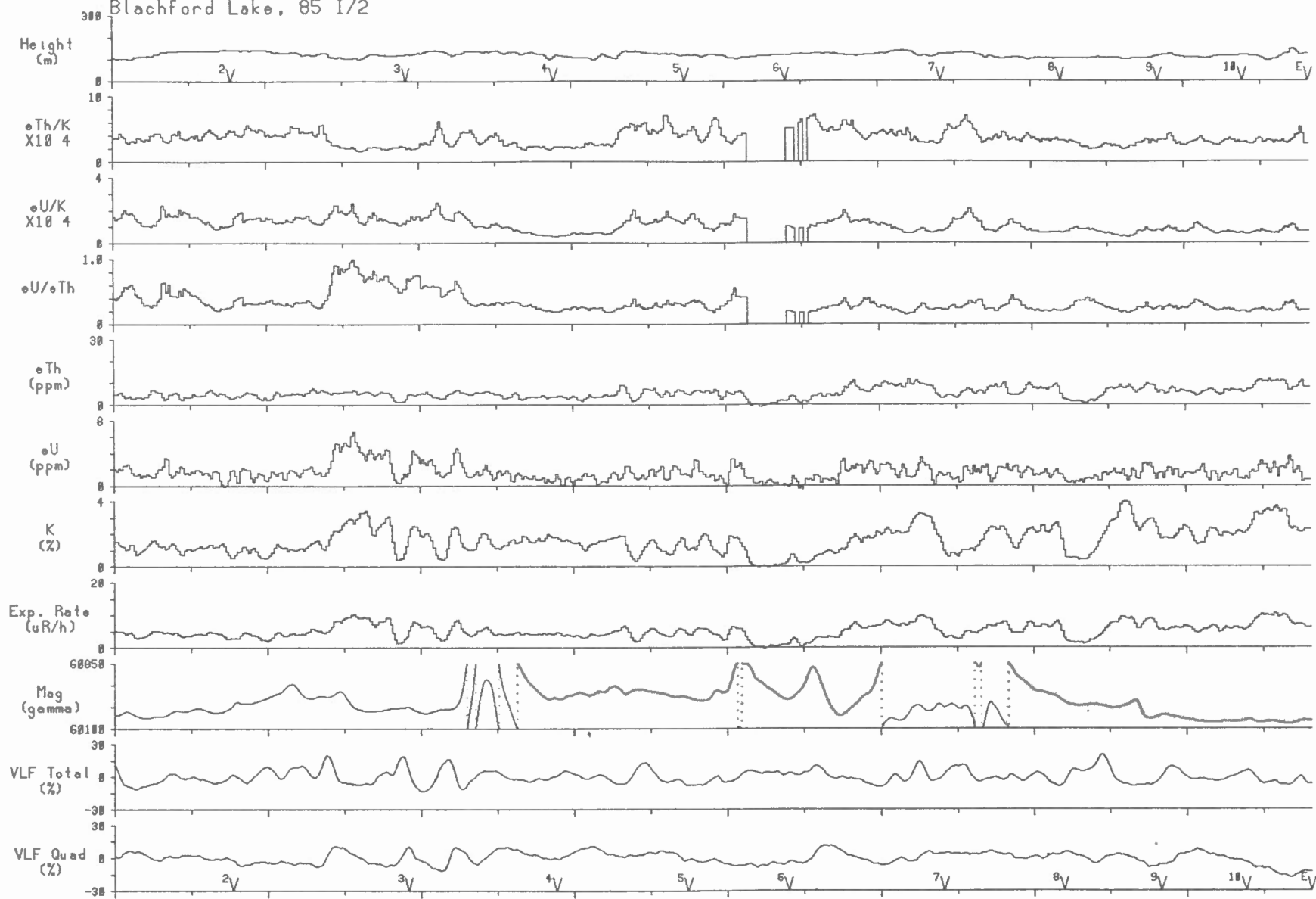
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



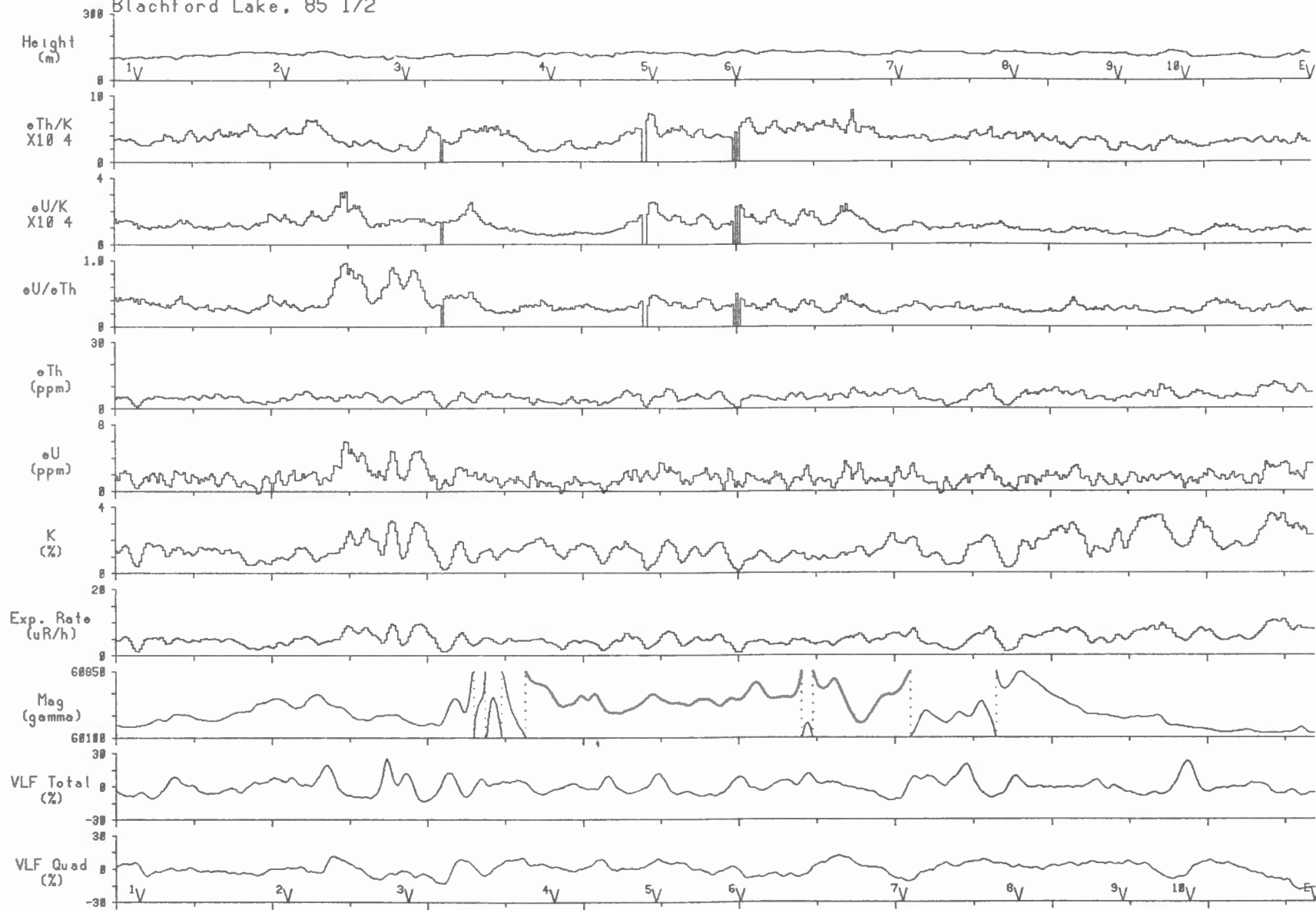
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



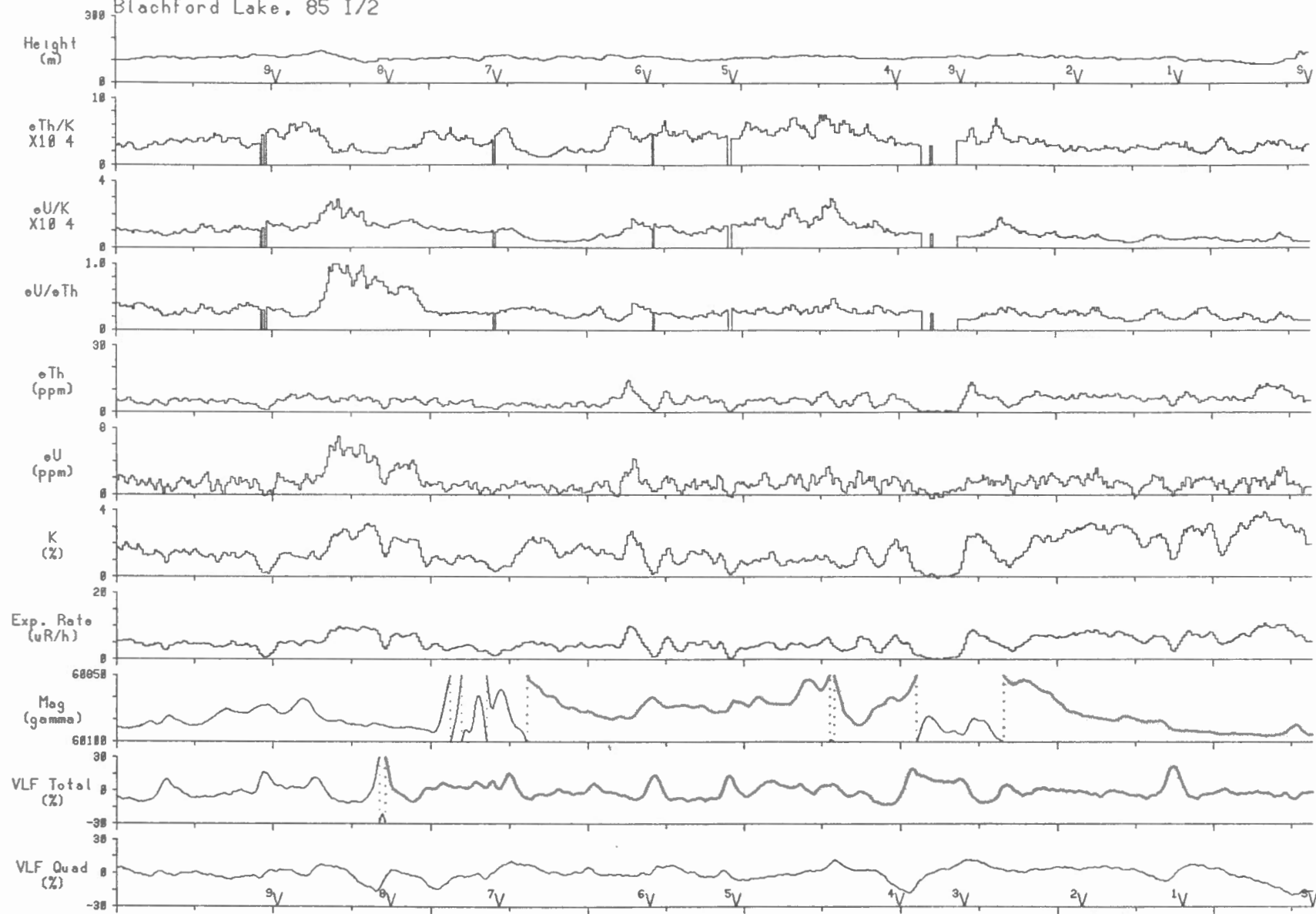
Line 48

2 km

Scale 1:150000

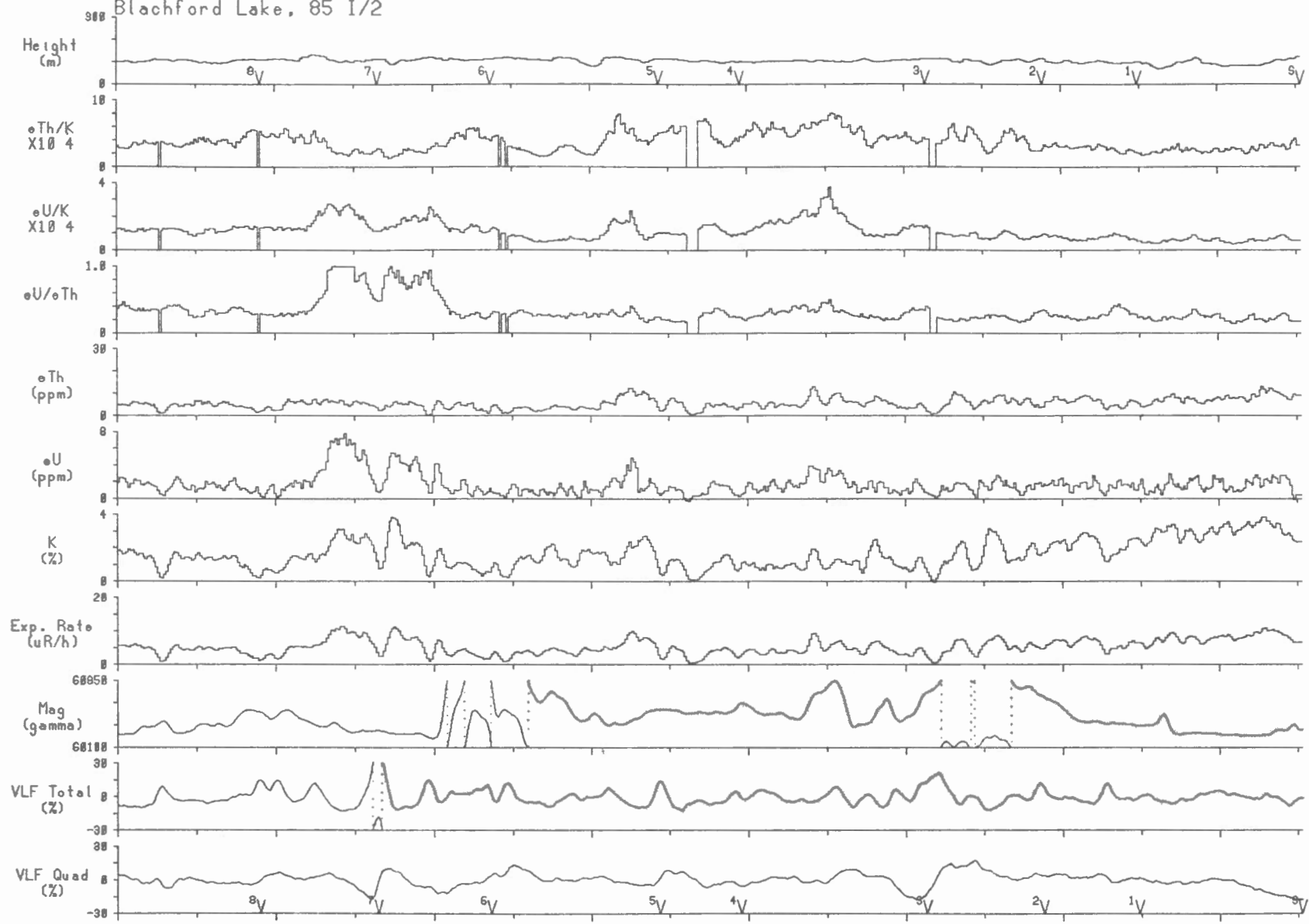
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

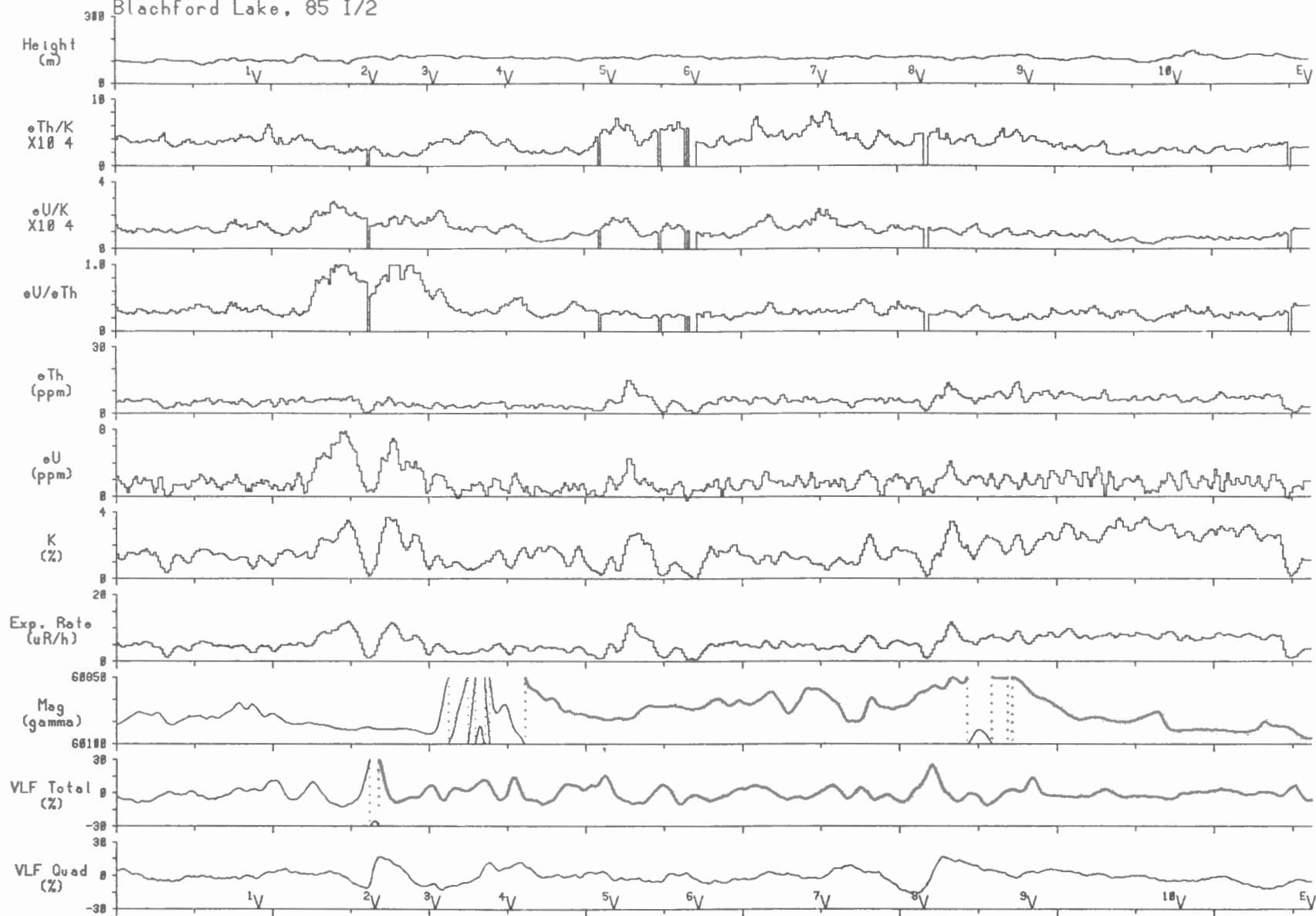
Blachford Lake, 85 I/2



Line 50 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

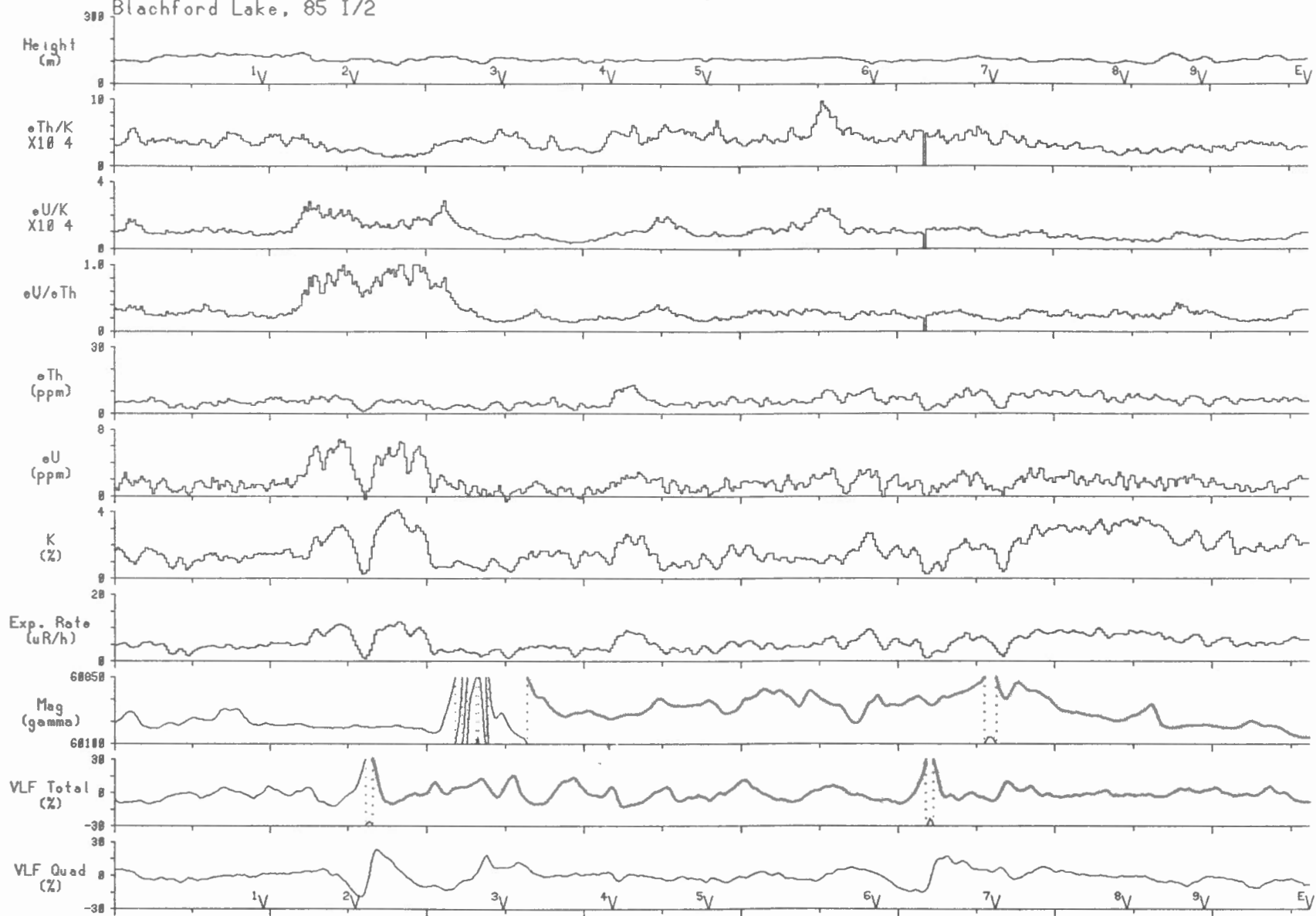
Blachford Lake, 85 I/2



Line 51 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2

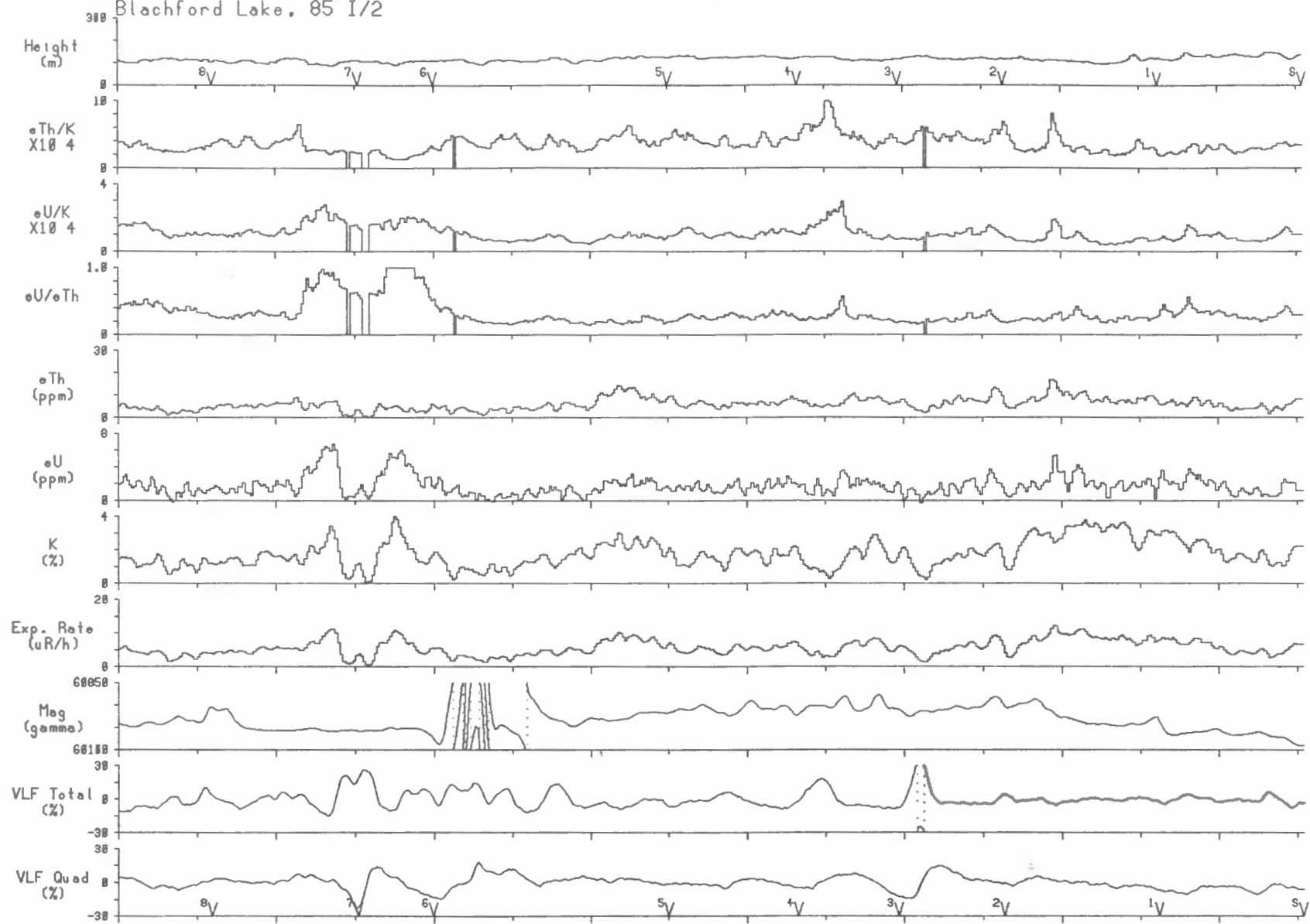


Line 52

2 km

Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
Blachford Lake, 85 I/2



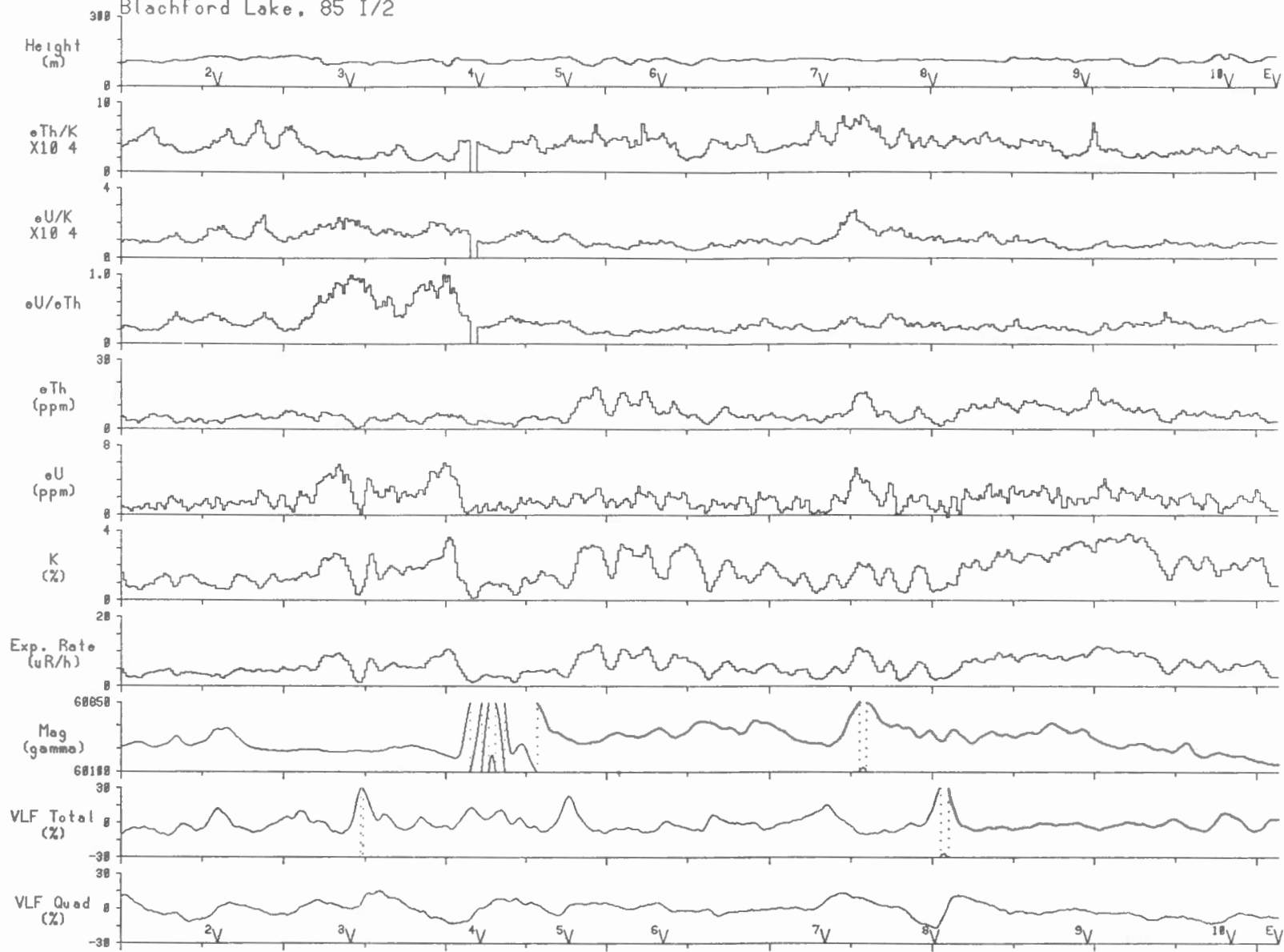
Line 53

2 km

Scale 1:150000

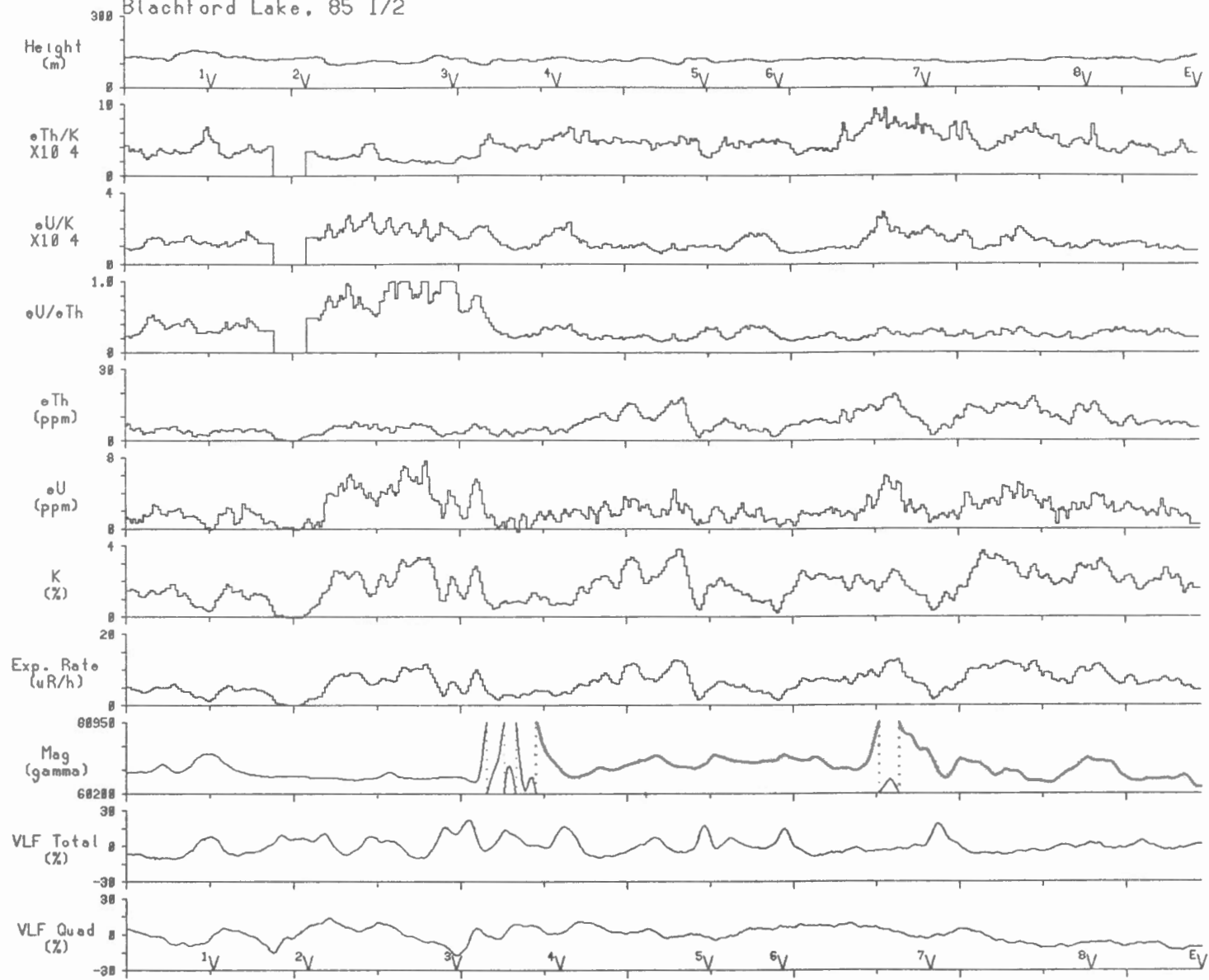
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



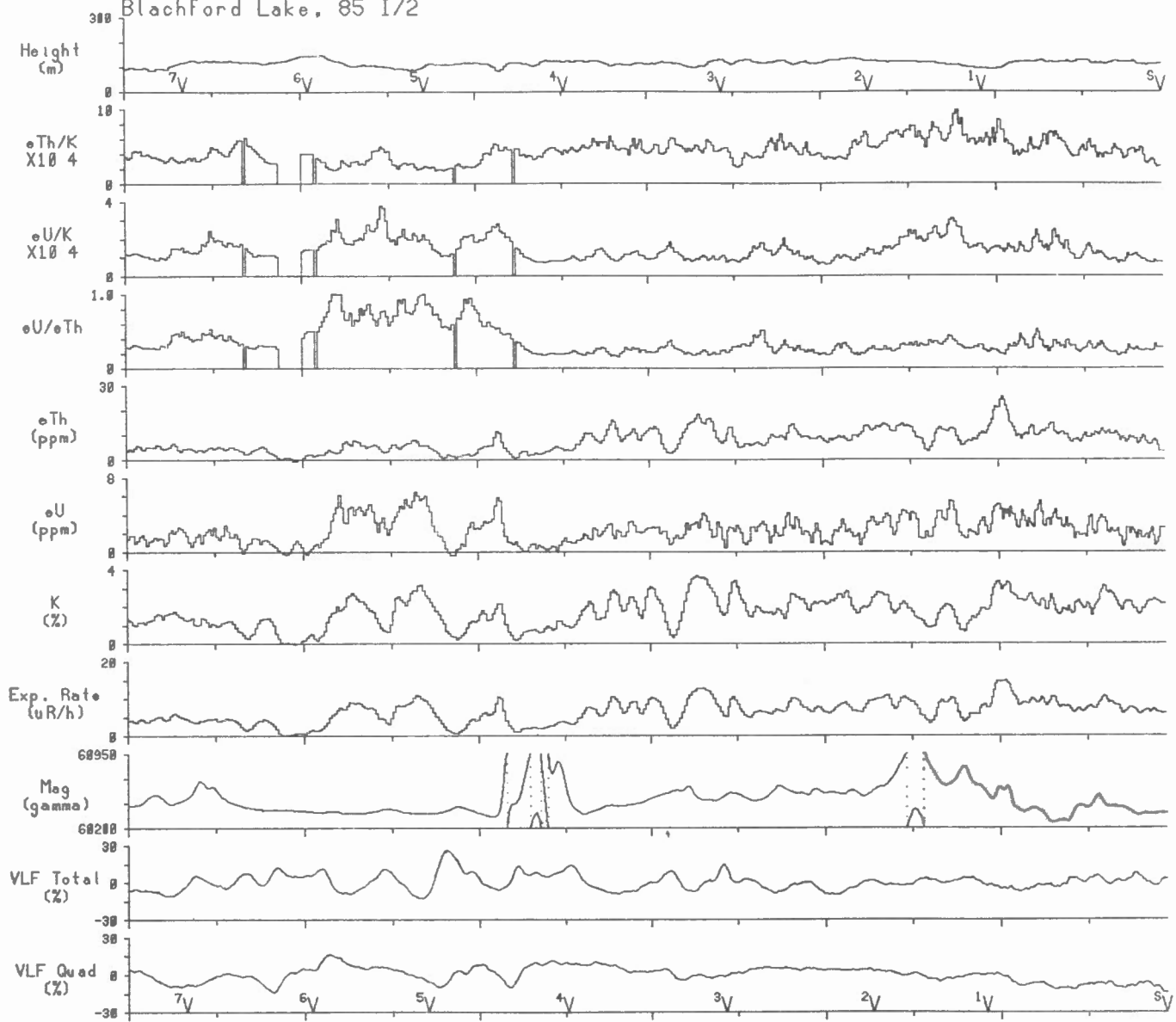
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Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
Blachford Lake, 85 I/2



Line 56 | 2 km | Scale 1:150000

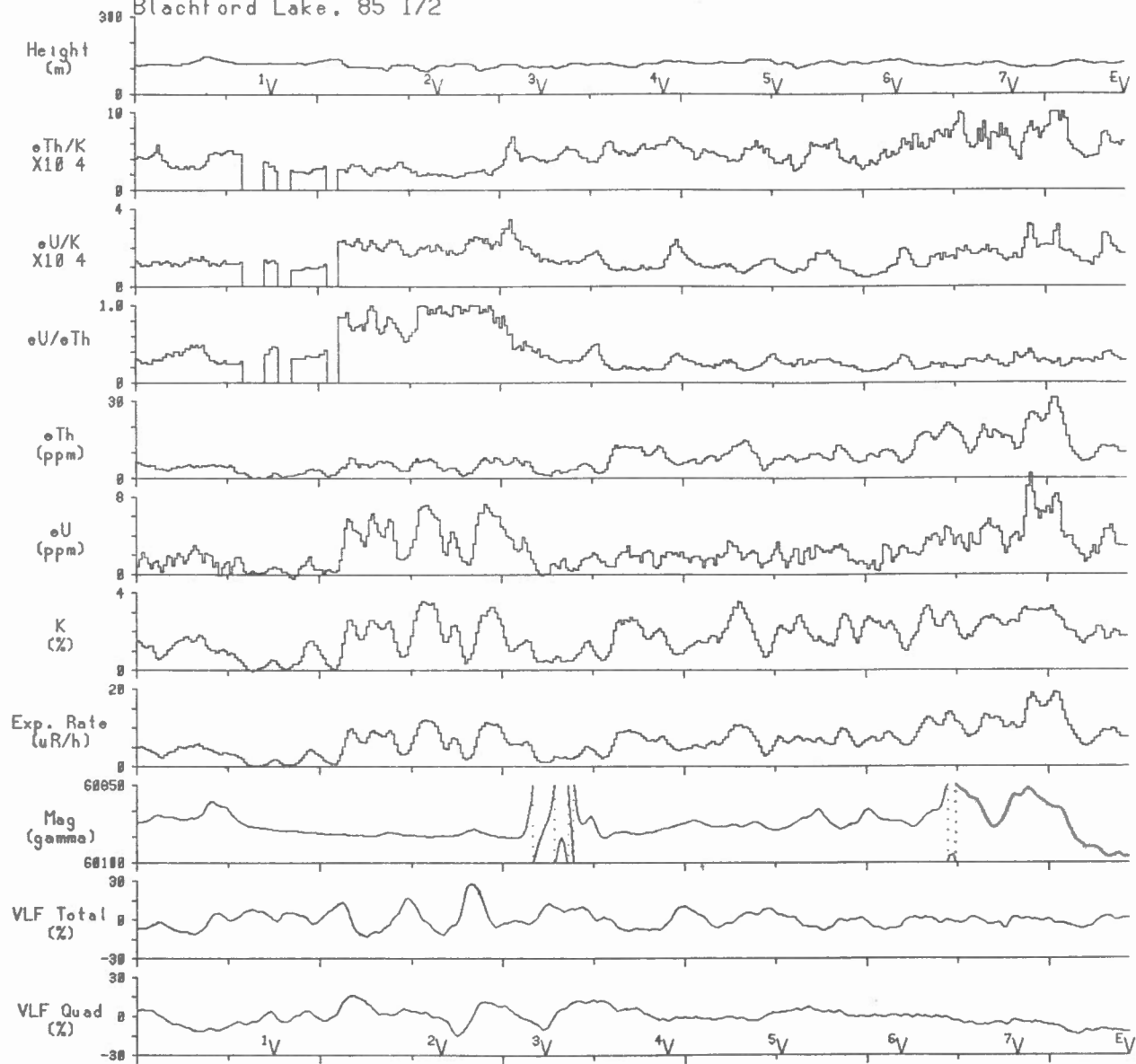
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



Line 57 2 km Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake. 85 1/2



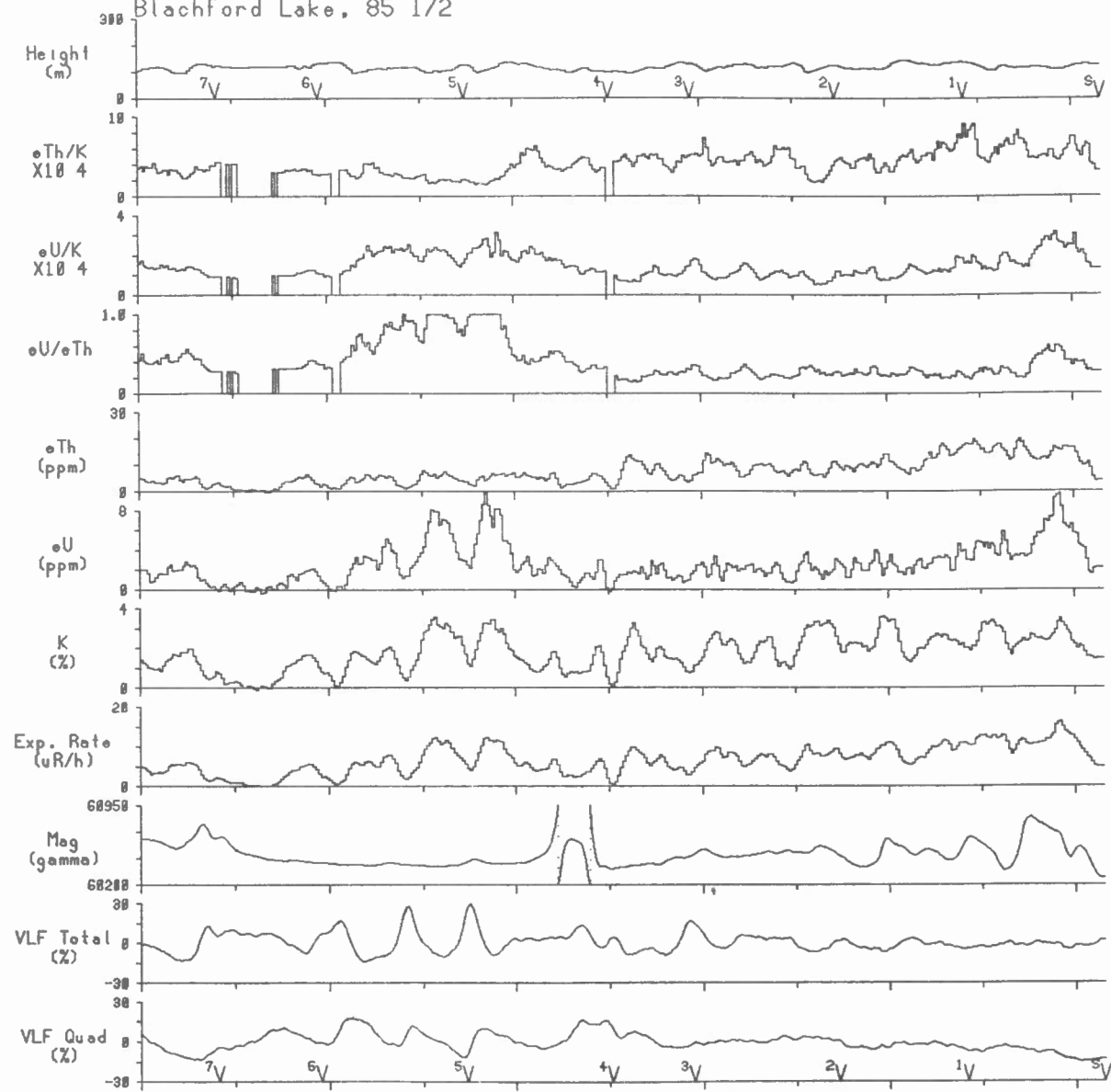
Line 58

2 km

Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2

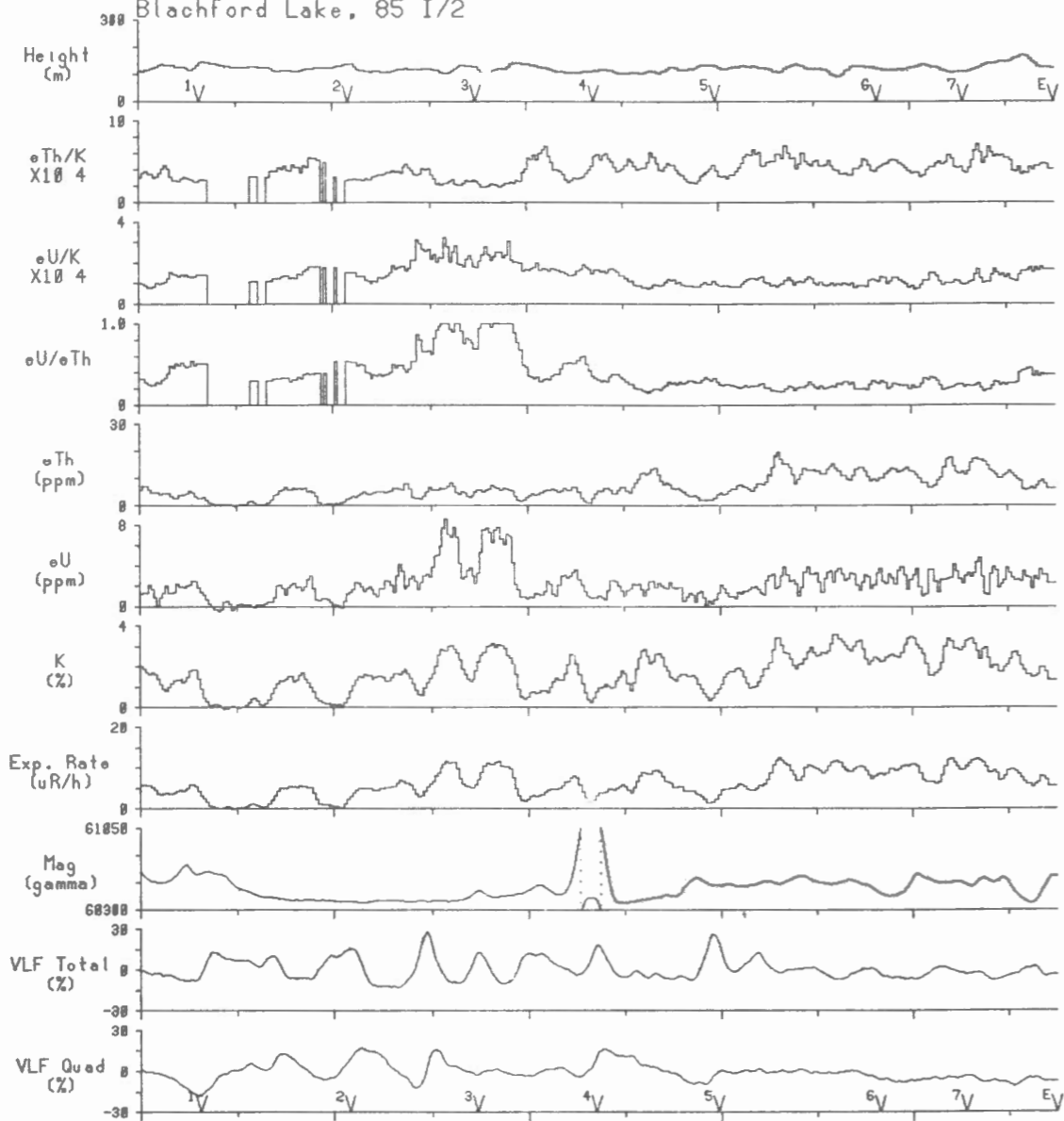


Line 59

2 km

Scale 1:150000

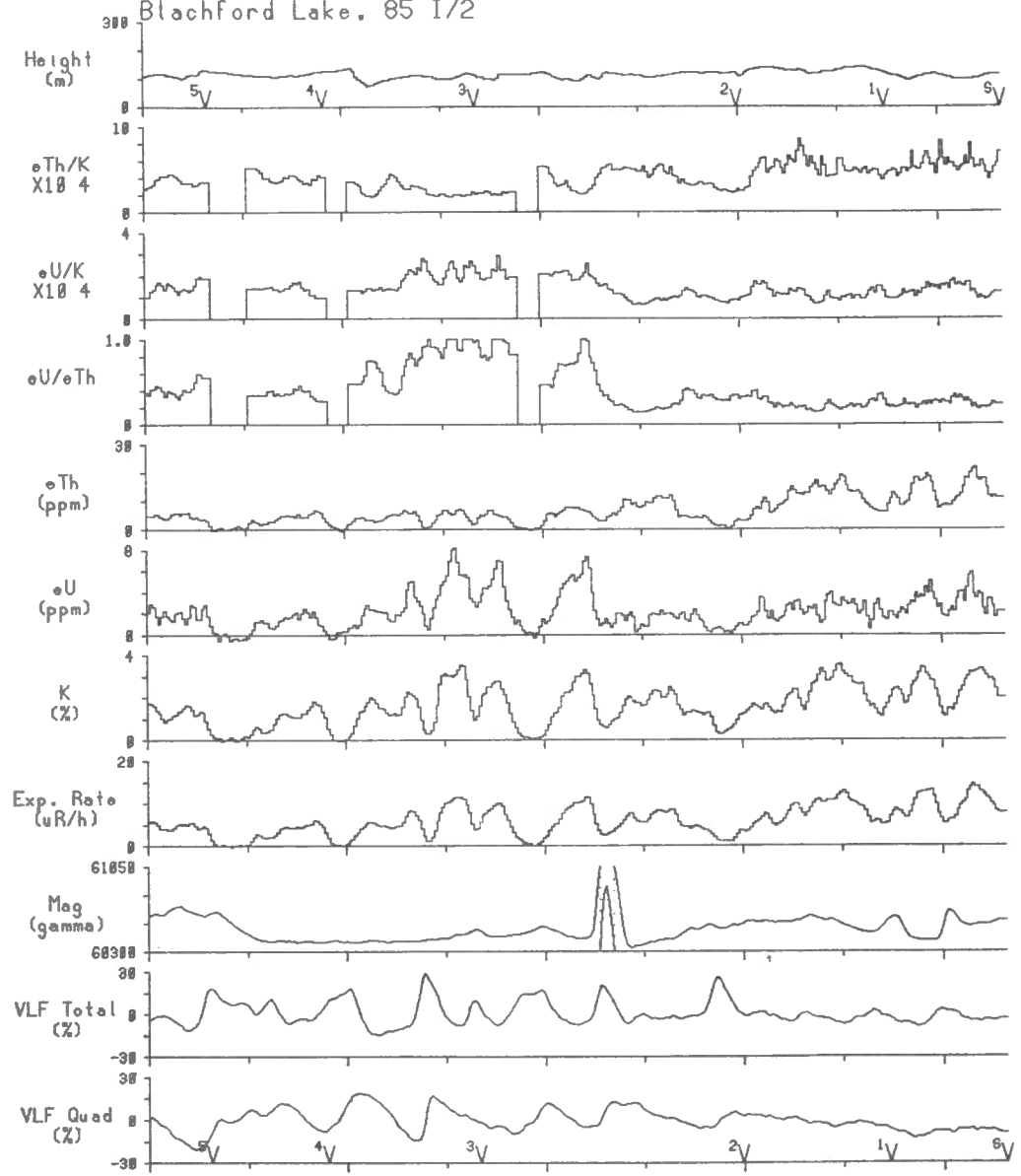
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



Line 60 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2

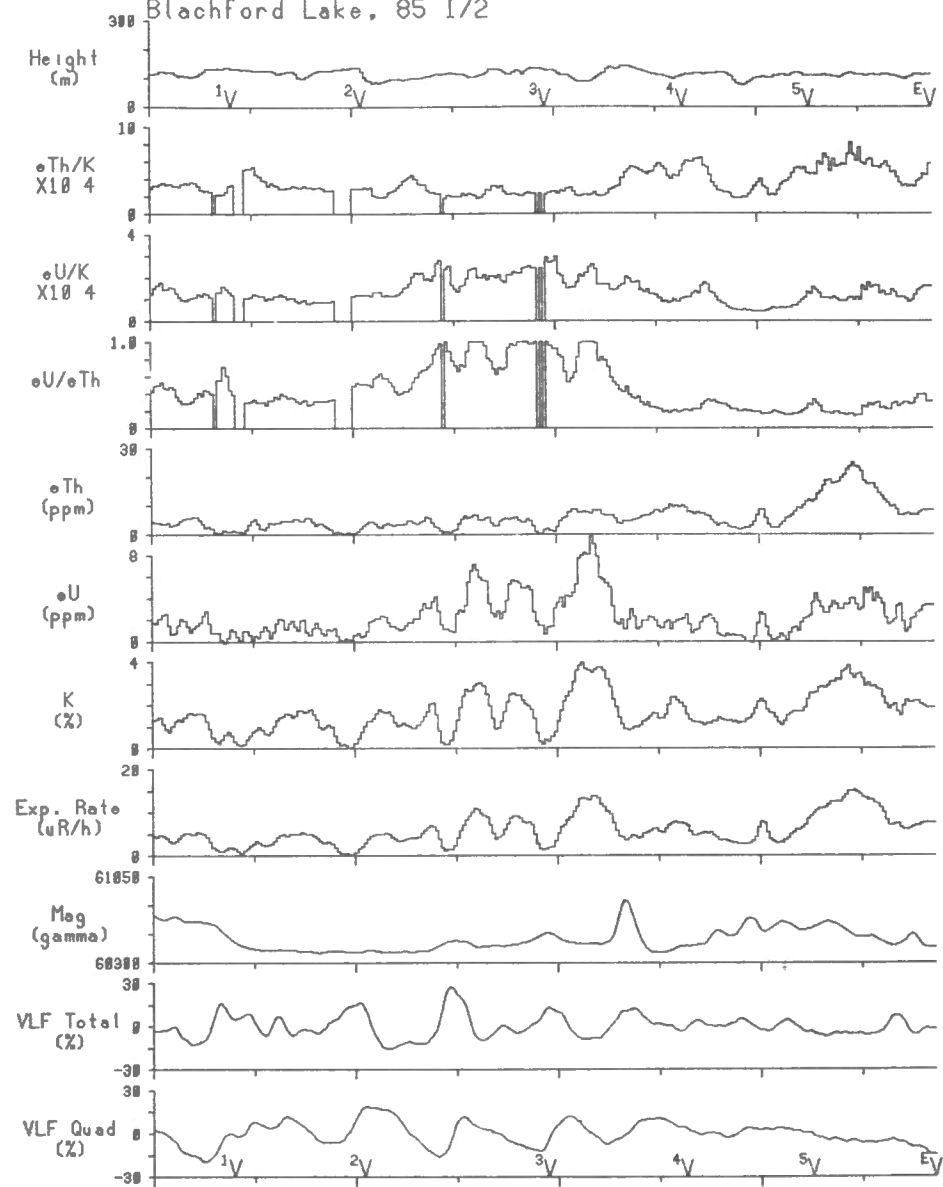


Line 61

2 km

Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
Blachford Lake, 85 I/2



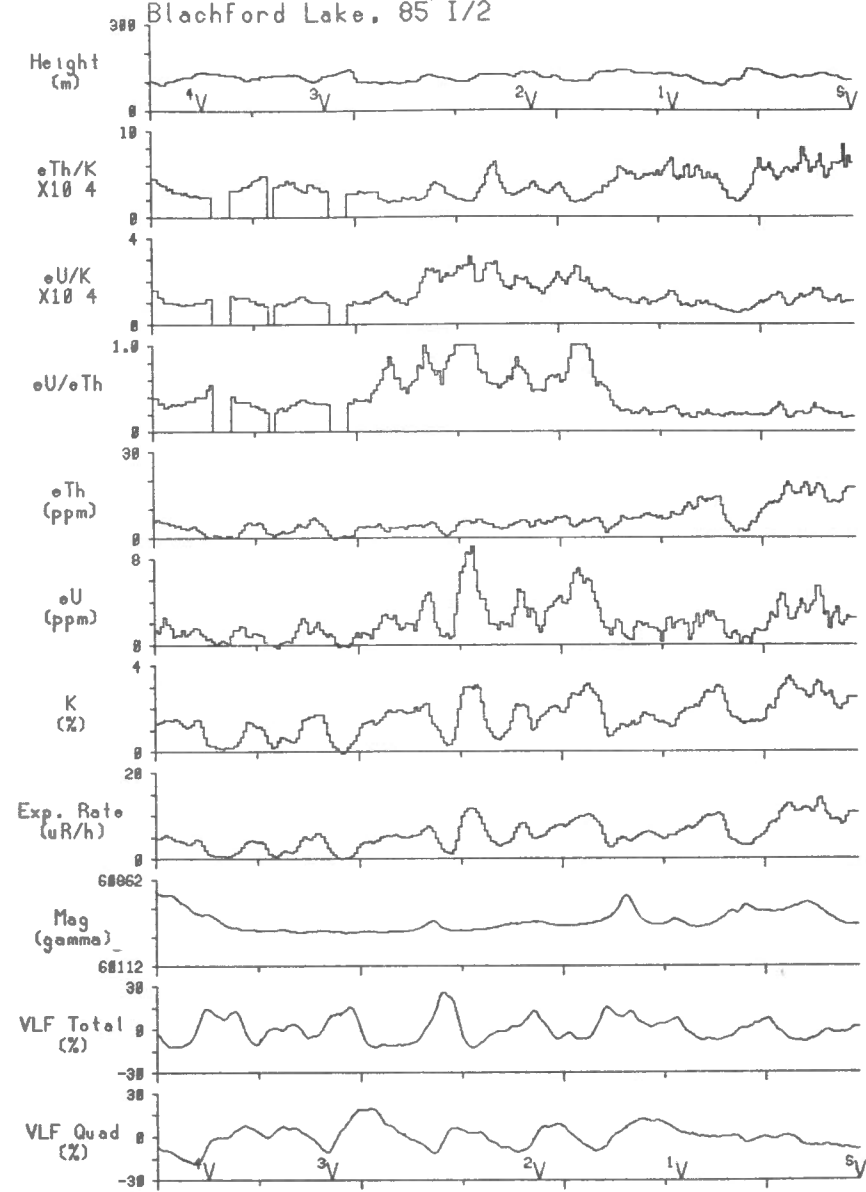
Line 62

2 km

Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2



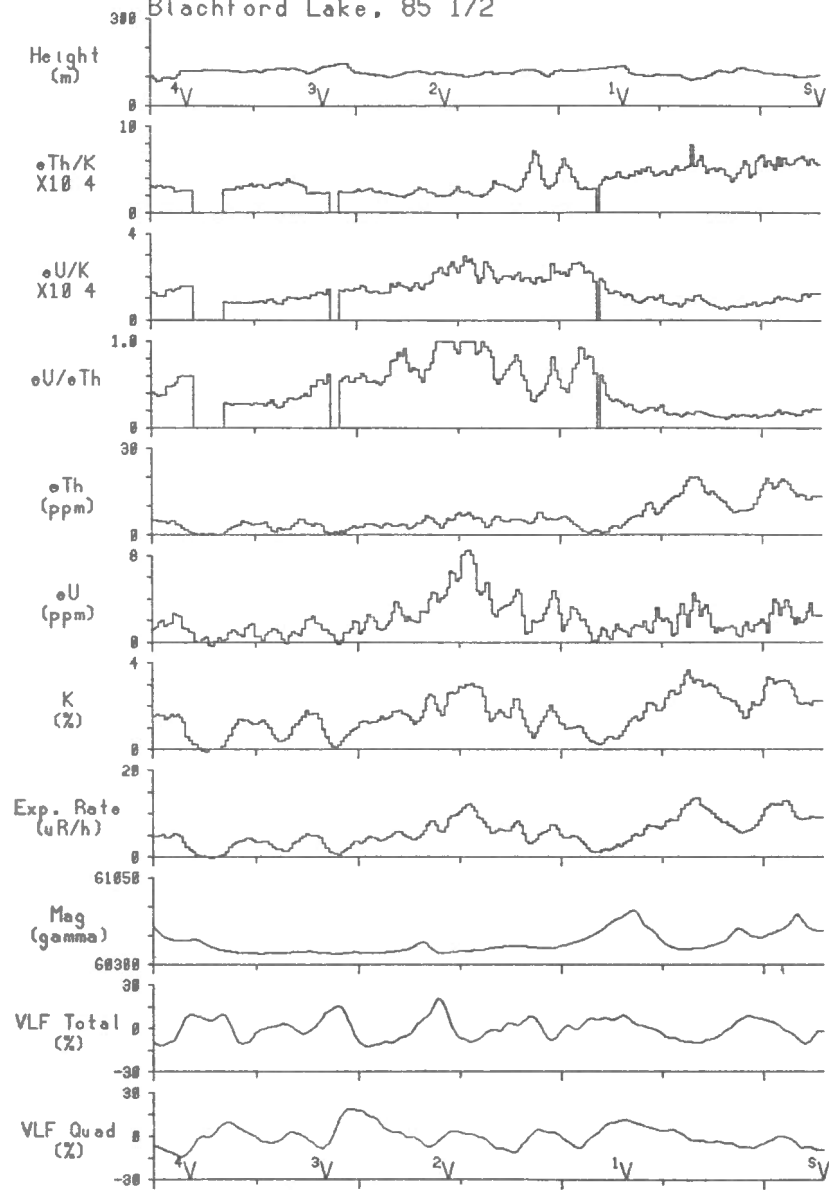
Line 63

2 km

Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

Blachford Lake, 85 I/2

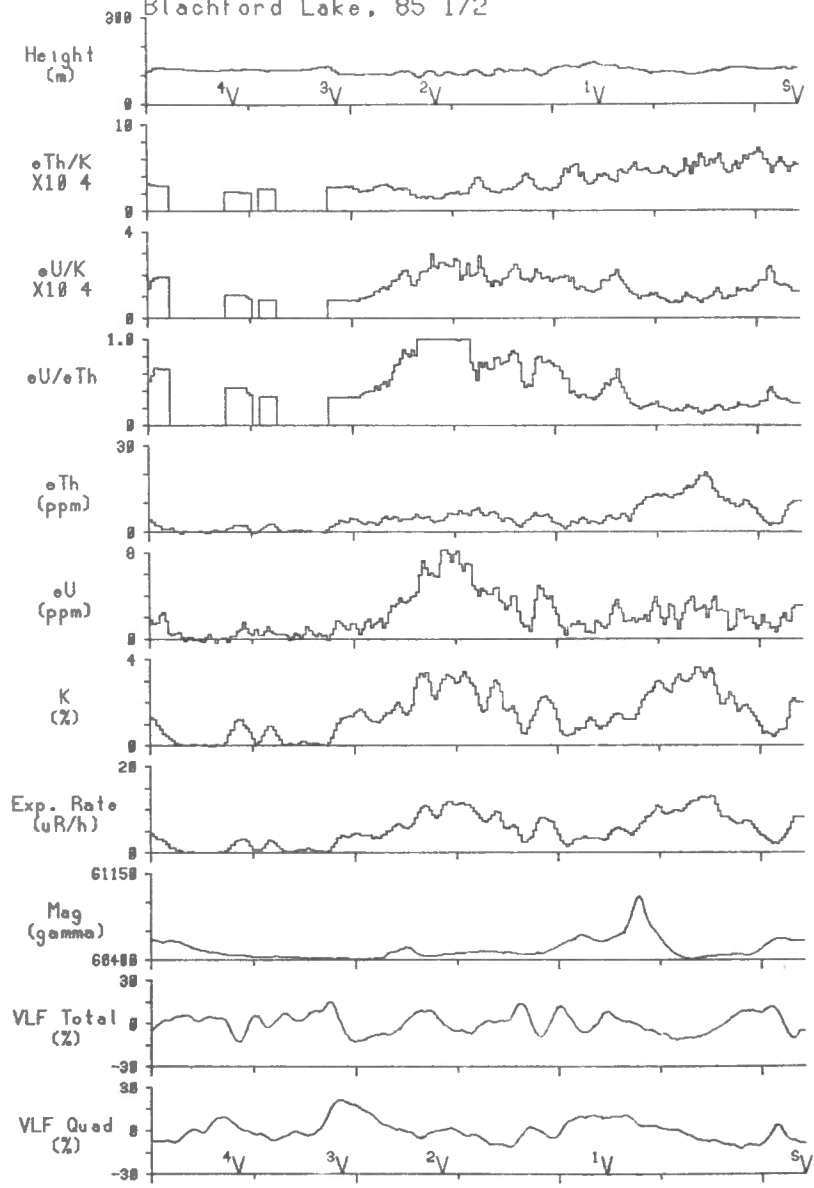


Line 64

2 km

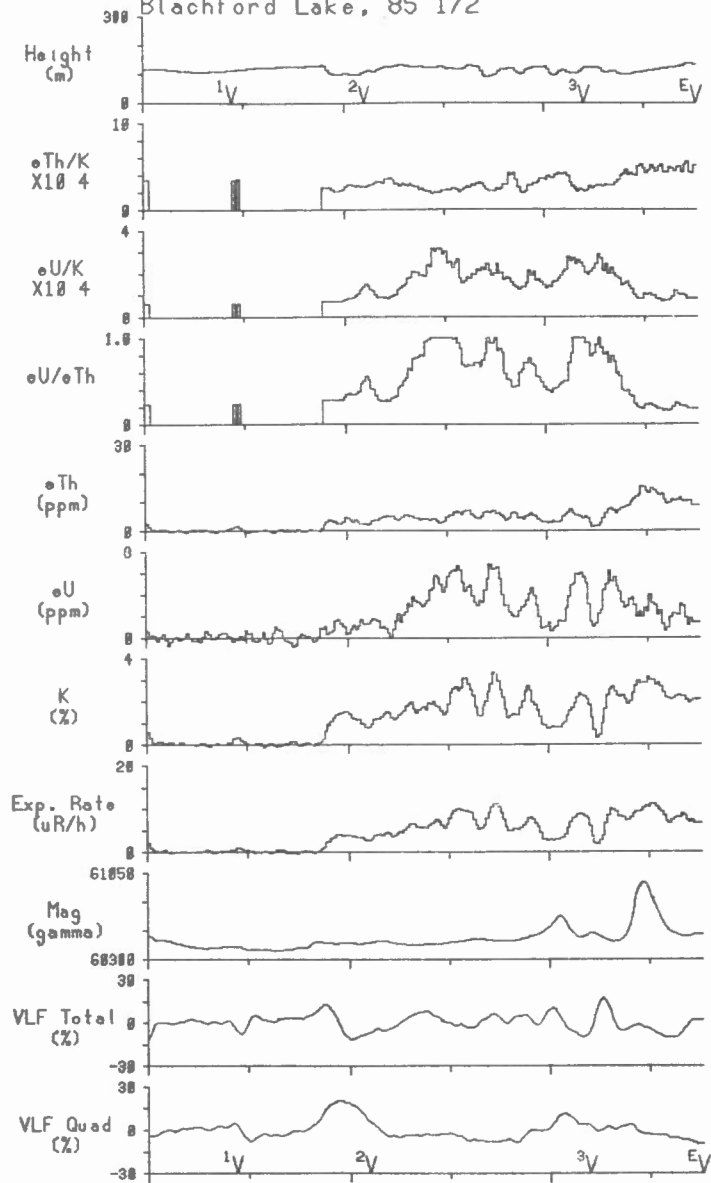
Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



Line 65 2 km Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2

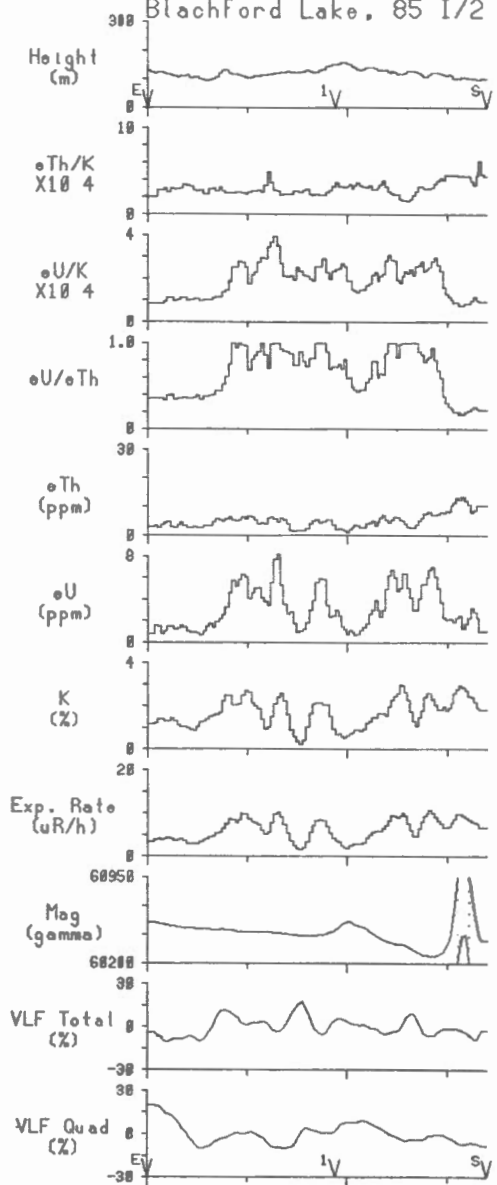


Line 66

2 km

Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



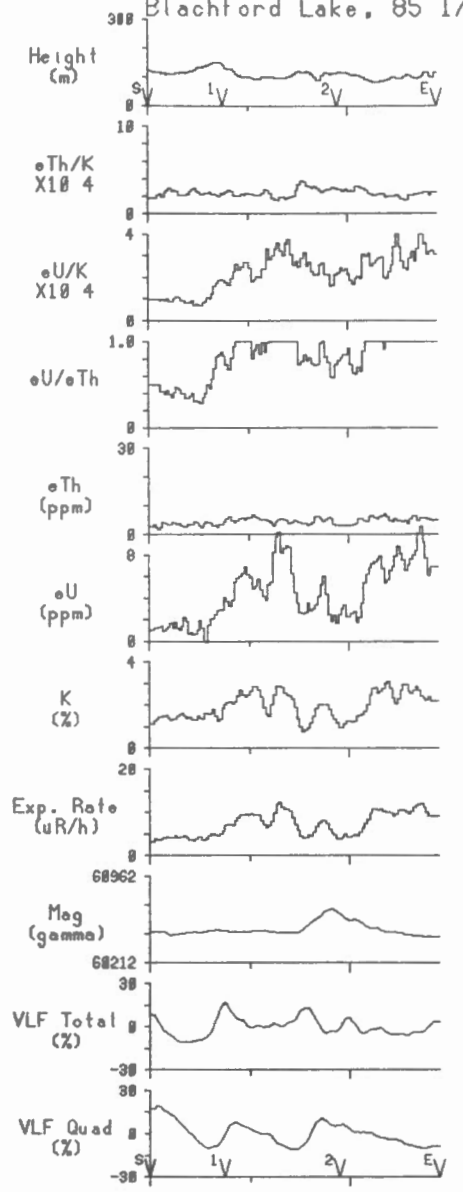
Line 67

2 km

Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)

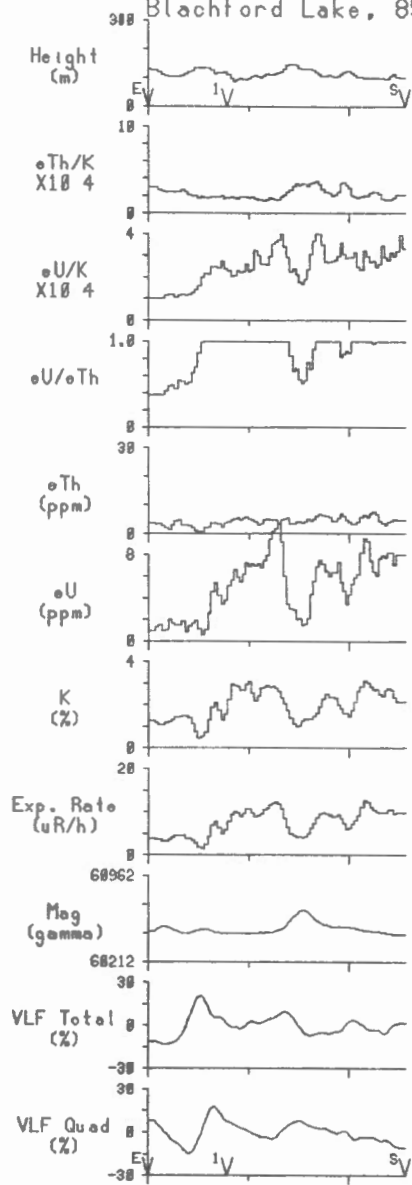
Blachford Lake, 85 I/2



Line 68 | 2 km

Scale 1:150000

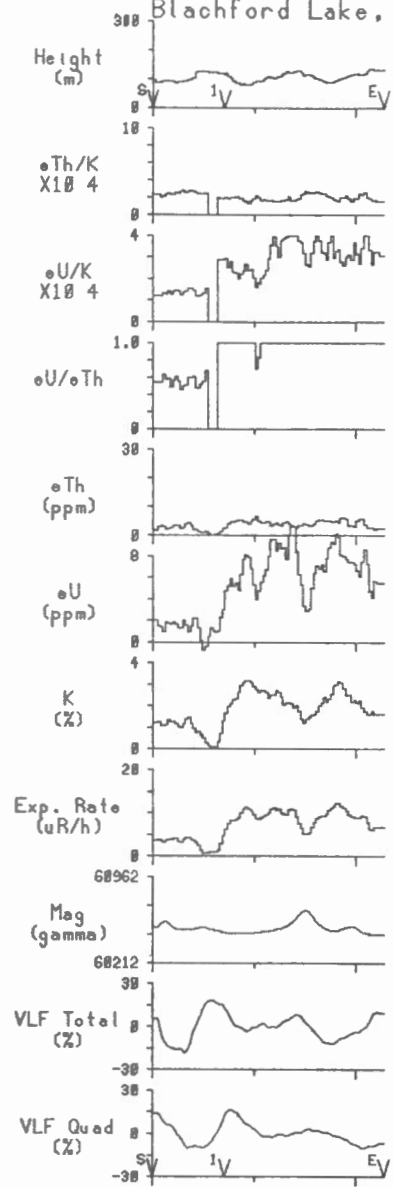
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



Line 69 | 2 km

Scale 1:150000

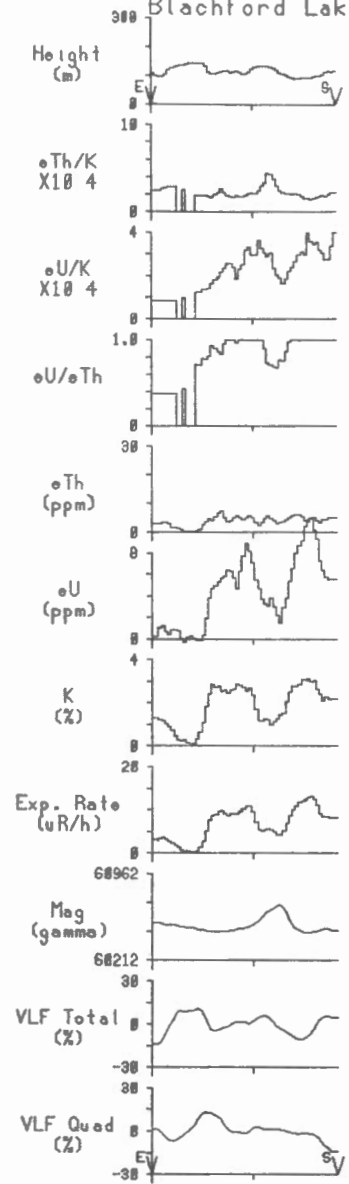
Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



Line 70 |-----| 2 km

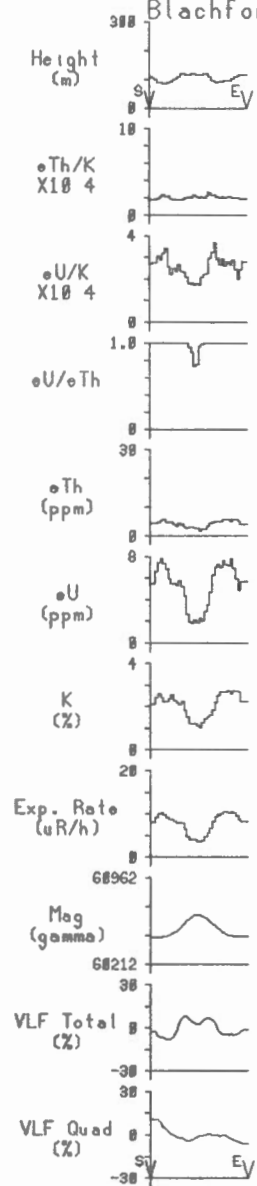
Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



Line 71 | 2 km | Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2

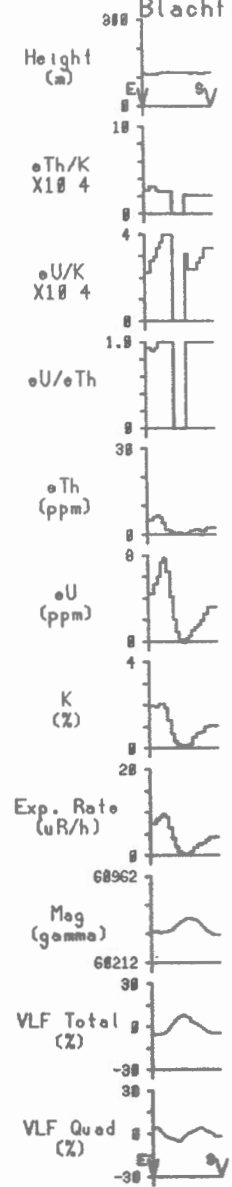


Line 72



Scale 1:150000

Blachford Lake Complex, N.W.T., 1988 (line spacing=250 metres)
 Blachford Lake, 85 I/2



Line 73 2 km Scale 1:150000

AIRBORNE GEOPHYSICAL SURVEY
1988

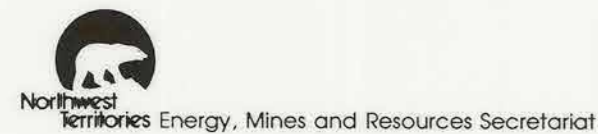
BLATCHFORD LAKE (THOR LAKE) ALKALINE COMPLEX
NORTHWEST TERRITORIES

Blatchford Lake 85I/2 (Part of)
Blanchet Island 85I/1 (Part of)

GAMMA RAY SPECTROMETER, VLF AND MAGNETOMETER
COLOUR MAPS

with accompanying
Profile Map, Stacked Profiles and Geology Map

Scale 1:100 000



Energy, Mines and Resources Canada
Énergie, Mines et Ressources Canada

Canada

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1922

GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA
OTTAWA

1988



Project funded by the Geological Survey of Canada as a contribution to
Canada-Northwest Territories Mineral Development Agreement 1987-91,
a subsidiary agreement under the Economic and Regional Development Agreement.

Ce projet a été subventionné par la CGC comme contribution à
l'Entente auxiliaire Canada/Territoires du Nord-ouest sur l'Exploitation minière 1987-91,
faisant partie de l'Entente sur le développement économique et régional.

LEVÉ GÉOPHYSIQUE AÉRIEN ET
COMPLEXE ALCALIN DU LAC BLATCHFORD (LAC THOR) DANS LES T.N.-O.

La Commission géologique du Canada a effectué en 1987 un levé géophysique aérien multiparamétrique dans la région du lac Blatchford (Territoires du Nord-Ouest). La carte-index montre l'étendue du secteur d'étude. Le levé visait avant tout à obtenir des données spectrométriques quantitatives de rayons gamma. Des données sur le champ électromagnétique VLF et sur le champ magnétique total ont aussi été recueillies.

Les données sont présentées sous forme d'ensemble de dix cartes polychromes à 1/100 000, soit le débit d'exposition, le potassium, les concentrations en équivalent uranium et en équivalent thorium, les rapports eU/eTh, eU/K et eTh/K, la carte des radioéléments ternaires (J. Broome, J.M. Carson, J.A. Grant et K.L. Ford, 1987, A Modified Ternary Radioelement Mapping Technique and its Application to the South Coast of Newfoundland, Étude de la CGC 87-14), la carte du champ magnétique total et la carte du champ EM total à très basse fréquence. Les données EM en quadrature à très basse fréquence sont présentées sous forme de carte de profil à l'échelle de 1/100 000.

Toutes les données ont été recueillies à une seconde d'intervalle. Les mesures ont été effectuées à l'aide d'un spectromètre à 256 canaux comportant 12 détecteurs au NaI (TI) mesurant 102 sur 102 sur 406 mm. L'appareil était opéré à une hauteur moyenne de 125 m au-dessus du sol, à une vitesse de 190 km/h. Les lignes de vol est-ouest respectaient un intervalle de 250 mètres entre elles. Les mesures magnétométriques aériennes ont été faites au moyen d'un magnétomètre aéroporté à proton modèle G-803 de marque Geometrics, selon une résolution de 1 gamma. Les mesures aériennes à très basse fréquence ont été effectuées à l'aide d'un appareil aéroporté VLF Totem 2A des Industries Herz, Ltée. Le champ électromagnétique primaire est produit par la station VLF NLK à Seattle (Washington).

Le potassium est mesuré directement à partir de photons de rayons gamma de 1,46 MeV émis par le ⁴⁰K. Par contre, l'uranium et le thorium sont mesurés indirectement à partir des photons de rayons gamma émis par des produits de filiation propres à leurs chaînes de désintégration respectives: le compte d'uranium est déterminé au moyen de photons d'environ 1,76 MeV émis par le ²¹⁴Bi alors que le compte de thorium est établi à partir de photons de 2,62 MeV provenant du ²⁰⁸Tl. Les fenêtres énergétiques utilisées sont les suivantes:

Potassium	⁴⁰ K	1,36 à 1,56 MeV
Uranium	²¹⁴ Bi	1,66 à 1,86 MeV
Thorium	²⁰⁸ Tl	2,41 à 2,81 MeV

Les comptes d'uranium, de thorium et de potassium ont été corrigés pour tenir compte des temps morts, des changements de température ambiante, du rayonnement de fond, de la diffusion spectrale et des écarts entre l'altitude réelle et l'altitude nominale du levé. Les données cartographiées présentent des concentrations moyennes de surface: la proportion d'affleurements, de mort-terrains, de régions couvertes par de la végétation ou par de l'eau et la quantité d'eau dans le sol peuvent tous influencer sur les résultats. Par conséquent, les concentrations indiquées sur les cartes sont généralement plus faibles que celles du socle rocheux.

Afin de déterminer les facteurs qui permettent de convertir les mesures aériennes en concentrations, on a comparé les taux de comptage obtenus au cours du levé aux taux mesurés au-dessus d'une bande d'essai de la région d'Ottawa pour laquelle les concentrations au sol étaient connues. Les facteurs de conversion utilisés sont les suivants:

1% de K	91,0 cps
1 ppm eU	9,1 cps
1 ppm eTh	7,0 cps

Le taux d'exposition, exprimé en micro-roentgens par heure (μ R/h), a été calculé à partir de concentrations connues de potassium, d'uranium et de thorium (Grasty, R.L., Carson, J.M., Charbonneau, B.W. et Holman, P.B. 1984. Natural Background Radiation in Canada. Commission géologique du Canada, Bulletin 360). On peut comparer ces données à celles exprimées auparavant en unités de concentration de radioélément (Ur) en considérant que 1μ R/h équivaut à environ 1,67 Ur.

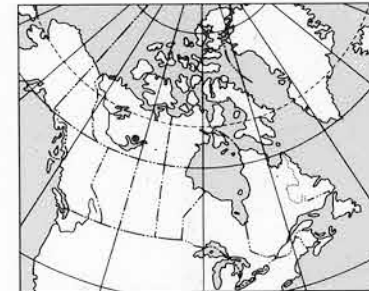
Les présentes copies de cartes spectrométriques de rayons gamma, les cartes de profil VLF et magnétique et les livres qui les accompagnent et qui portent sur les profils empilés sont réservés à l'examen visuel et ne peuvent être touchés ou empruntés. Les données pourront être achetées plus tard (pour tout renseignement, s'adresser à B.W. Charbonneau ou à K.L. Ford au (613) 996-2323).

Le fond de carte provient de la Direction des levés et de la cartographie.

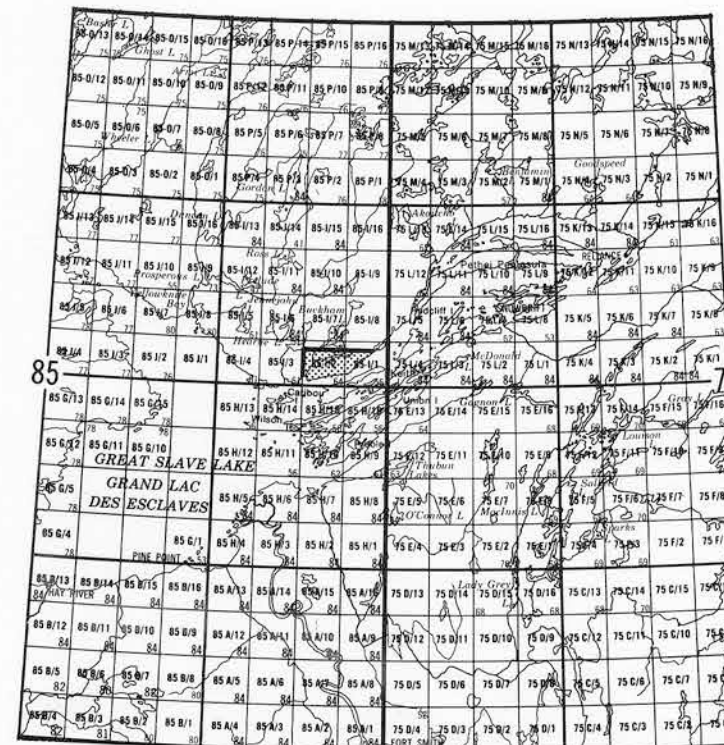
La cartographie a été exécutée par la Commission géologique du Canada.

Le levé aéroporté magnétique, VLF et de spectrométrie par rayons gamma a été effectué, compilé et defrayé par la Commission géologique du Canada comme contribution à

l'Entente auxiliaire Canada/Territoires du Nord-Ouest sur l'Exploitation minière 1987-91, faisant partie de l'Entente sur le développement économique et régional.



INDEX MAP - LIEU DE LA CARTE



AIRBORNE GEOPHYSICAL SURVEY
BLATCHFORD LAKE (THOR LAKE) ALKALINE COMPLEX, N.W.T.

In 1988 a multiparameter geophysical survey was flown by the Geological Survey of Canada in the Blatchford Lake area of the Northwest Territories. The area surveyed is shown on the index map. The main purpose of the survey was to acquire quantitative gamma ray spectrometric information. VLF electromagnetic and total field magnetic data were also recorded.

Data are presented as a set of ten 1:100 000 colour maps (exposure rate, potassium, equivalent uranium and equivalent thorium concentrations, the eU/eTh, eU/K and eTh/K ratios, the ternary radioelement map (J. Broome, J.M. Carson, J.A. Grant and K.L. Ford, 1987 A Modified Ternary Radioelement Mapping Technique and its Application to the South Coast of Newfoundland, GSC Paper 87-14)), the total magnetic field map and the VLF-EM total field map. The VLF-EM quadrature data is presented in profile map form also at 1:100 000 scale.

All data were sampled at 1 second intervals. The airborne radiometric measurements were made using a 256 channel spectrometer, with twelve 102x102x406 mm NaI (TI) detectors, flown at a mean terrain clearance of 125 m at 190 km/h. East-west flight lines were at 250 metre line spacing. The airborne magnetometer measurements were made using a Geometrics Model G-803 Airborne Proton Magnetometer with a 1 gamma resolution. The airborne VLF measurements were obtained using a Herz Industries Ltd. Totem 2A airborne VLF system. The primary electromagnetic field is generated by VLF station NLK at Seattle, Washington.

Potassium is measured directly from the 1.46 MeV gamma ray photons emitted by ⁴⁰K, whereas uranium and thorium are measured indirectly from gamma ray photons emitted by daughter products in their decay chains. Uranium is monitored by means of gamma ray photons at approximately 1.76 MeV from ²¹⁴Bi, and thorium, from 2.62 MeV photons emitted by ²⁰⁸Tl. The energy windows used are as follows:

Potassium	⁴⁰ K	1.36-1.56 MeV
Uranium	²¹⁴ Bi	1.66-1.86 MeV
Thorium	²⁰⁸ Tl	2.41-2.81 MeV

Uranium, thorium and potassium counts have been corrected for dead time, ambient temperature changes, background radiation, spectral scattering and deviations of terrain clearance from the planned survey altitude. The data as presented represent an average surface concentration which is influenced by varying amounts of outcrop, overburden, vegetation, soil moisture and surface waters. As a result, the concentrations as shown are usually lower than the concentrations in the bedrock.

Factors for converting the airborne measurements to concentrations were determined by relating the airborne count rates to the known ground concentrations of a test strip in the Ottawa area. The factors used to convert the airborne measurements to ground concentrations are:

1% K	91.0 cps
1 ppm eU	9.1 cps
1 ppm eTh	7.0 cps

The exposure rate, in micro Roentgens per hour has been computed from the measured concentrations of potassium, uranium and thorium (Grasty, R.L., Carson, J.M., Charbonneau, B.W. and Holman, P.B., 1984, Natural Background Radiation in Canada, Geol. Sur. Can., Bull. 360). To compare these data with earlier total count maps expressed in Units of Radioelement concentrations (Ur), the conversion factor is 1μ R/h=1.67 Ur.

These copies of the gamma ray spectrometer maps, VLF and magnetic profile maps and the accompanying stacked profile books are for viewing only. The data will be made available for purchase at a later date (for information contact B.W. Charbonneau or K. Ford: (613) 996-2323).

Base map material supplied by Surveys and Mapping Branch

Cartography by Geological Survey of Canada

Airborne gamma ray spectrometer, VLF and magnetic survey flown, compiled and funded by Geological Survey of Canada

as a

contribution to Canada-Northwest Territories

Mineral Development Agreement 1987-1991

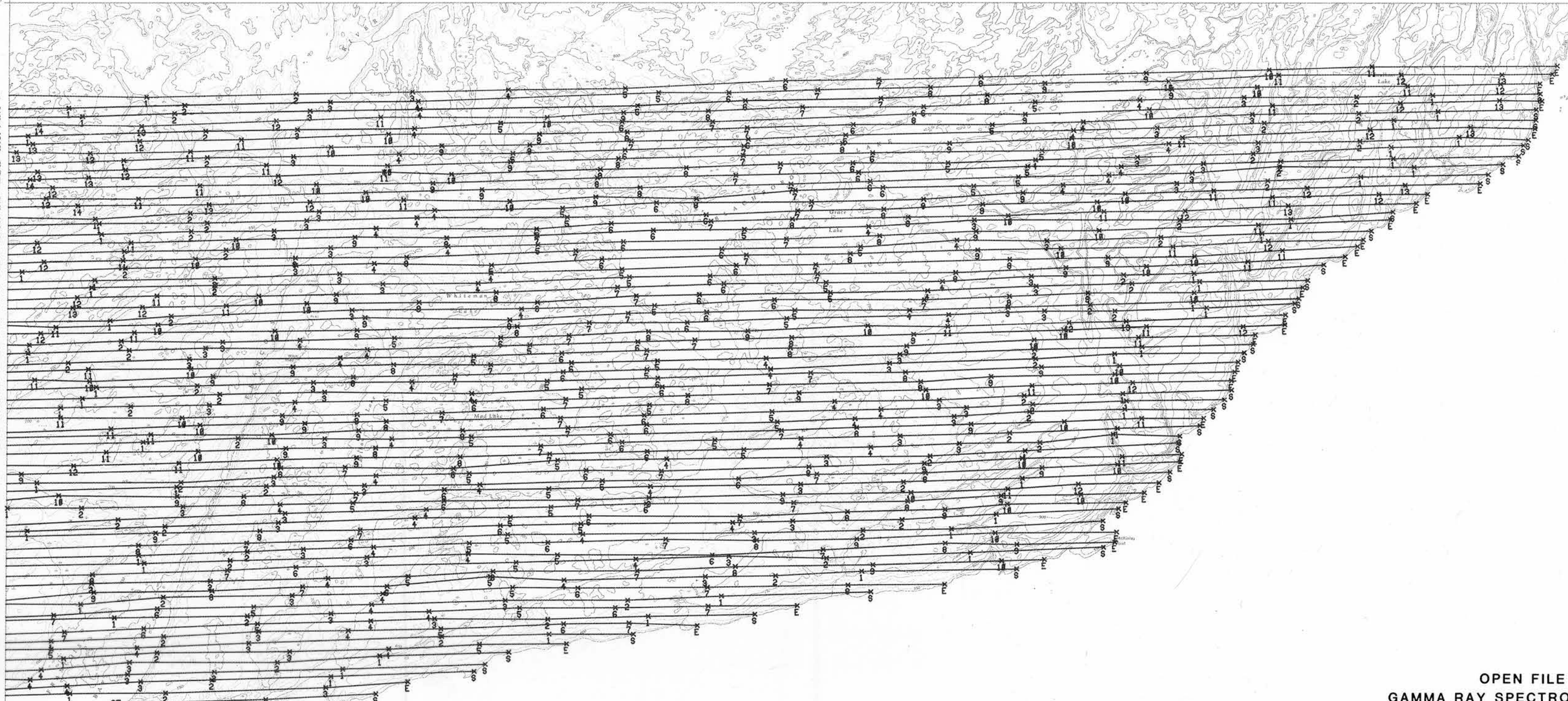
a subsidiary agreement under the

Economic and Regional Development Agreement.

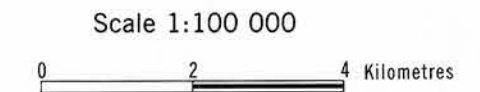
113°00'
62°13'

112°00'
62°13'

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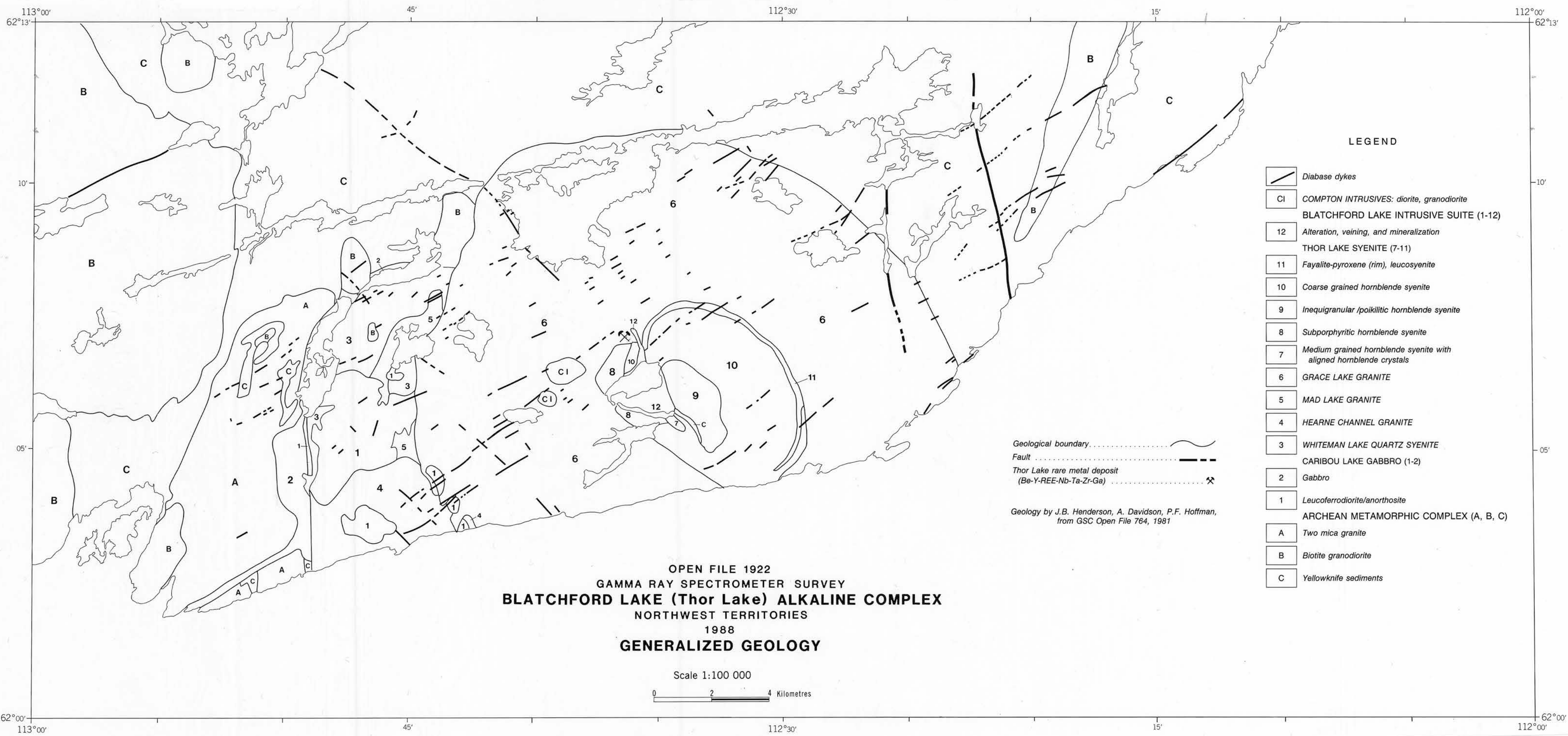


OPEN FILE 1922
GAMMA RAY SPECTROMETER SURVEY
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
NORTHWEST TERRITORIES
1988



62°00'
113°00'

62°00'
112°00'




LEGEND

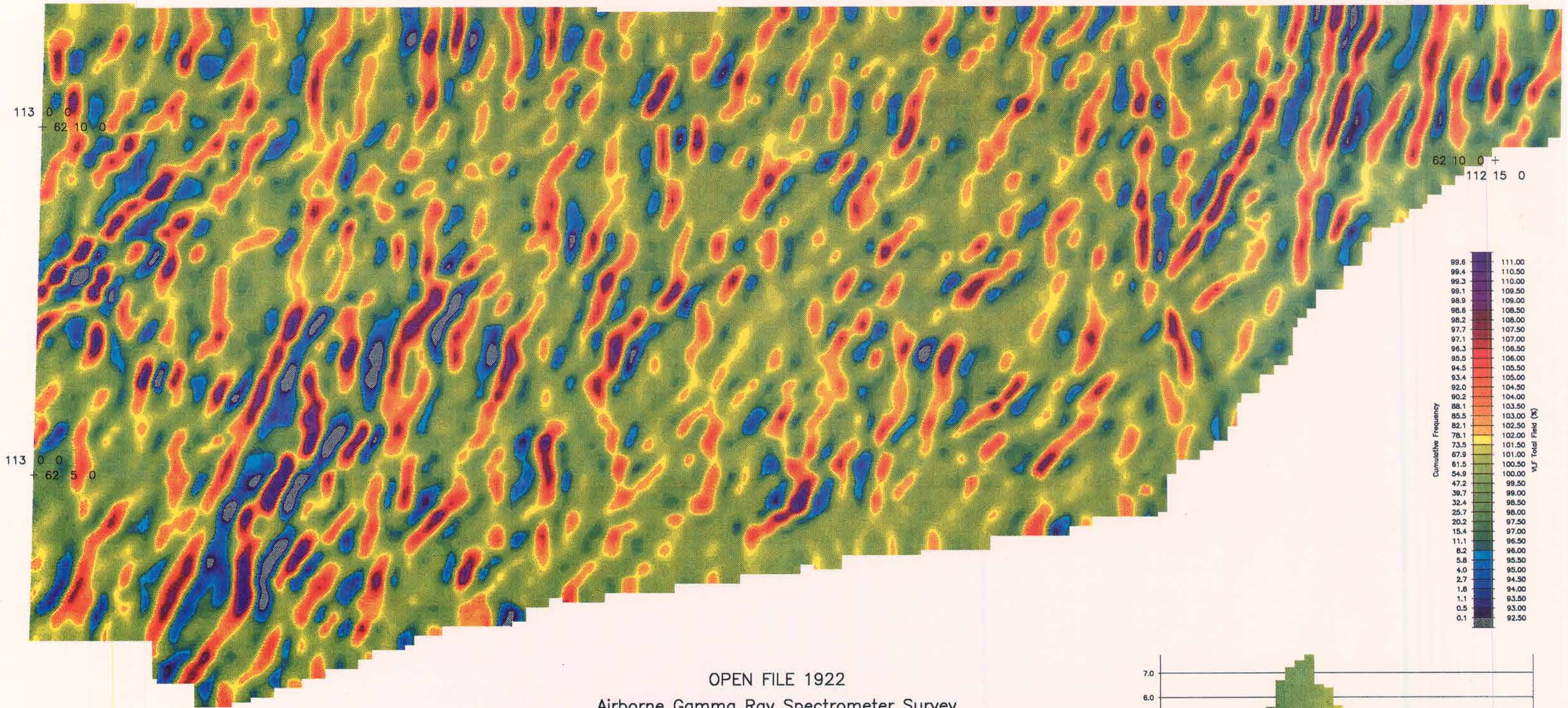
-  Diabase dykes
-  CI COMPTON INTRUSIVES: diorite, granodiorite
- BLATCHFORD LAKE INTRUSIVE SUITE (1-12)**
-  12 Alteration, veining, and mineralization
- THOR LAKE SYENITE (7-11)**
-  11 Fayalite-pyroxene (rim), leucosyenite
-  10 Coarse grained hornblende syenite
-  9 Inequigranular /poikilitic hornblende syenite
-  8 Subporphyritic hornblende syenite
-  7 Medium grained hornblende syenite with aligned hornblende crystals
-  6 GRACE LAKE GRANITE
-  5 MAD LAKE GRANITE
-  4 HEARNE CHANNEL GRANITE
-  3 WHITEMAN LAKE QUARTZ SYENITE
- CARIBOU LAKE GABBRO (1-2)**
-  2 Gabbro
-  1 Leucoferrodiorite/anorthosite
- ARCHEAN METAMORPHIC COMPLEX (A, B, C)**
-  A Two mica granite
-  B Biotite granodiorite
-  C Yellowknife sediments

Geological boundary
 Fault
 Thor Lake rare metal deposit (Be-Y-REE-Nb-Ta-Zr-Ga)

Geology by J.B. Henderson, A. Davidson, P.F. Hoffman, from GSC Open File 764, 1981

OPEN FILE 1922
 GAMMA RAY SPECTROMETER SURVEY
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
 NORTHWEST TERRITORIES
 1988
GENERALIZED GEOLOGY

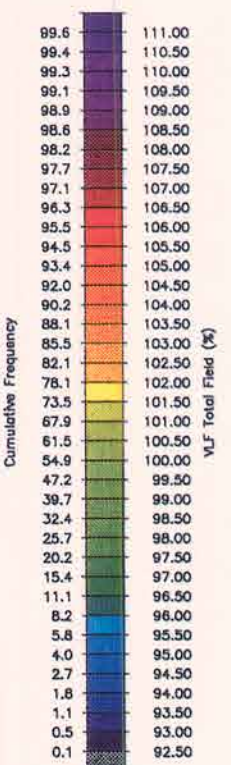
Scale 1:100 000




113 0 0
62 10 0


62 10 0 +
112 15 0

113 0 0
62 5 0



Survey flown, compiled and funded by
Airborne Geophysics Section
Mineral Resources Division
Geological Survey of Canada

A CONTRIBUTION TO THE CANADA-NORTHWEST TERRITORIES
MINERAL DEVELOPMENT AGREEMENT 1987-1991

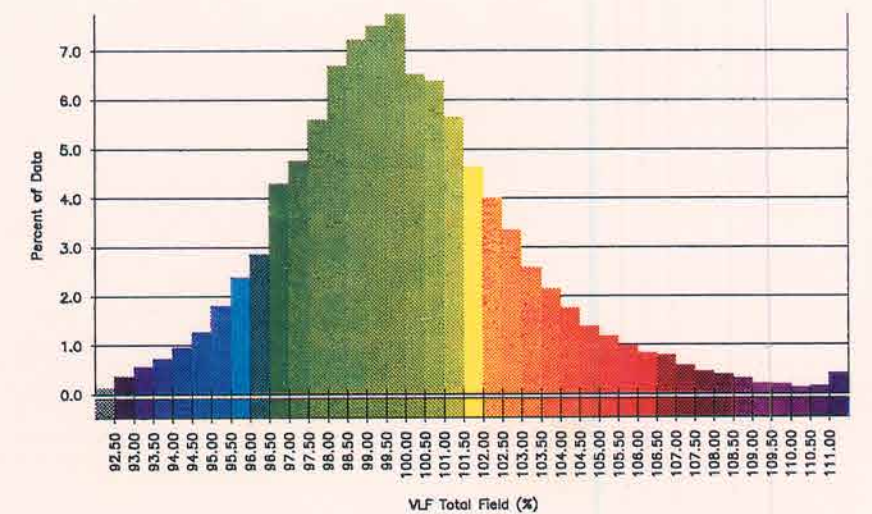
 Energy, Mines and Resources Canada Energie, Mines et Ressources Canada

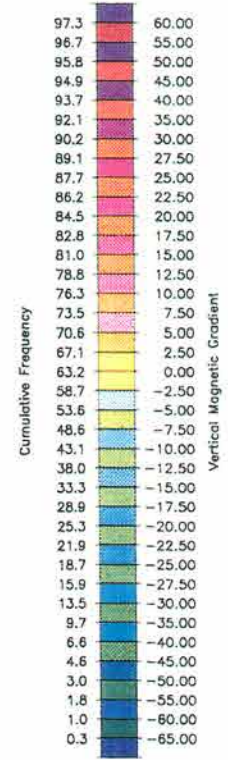
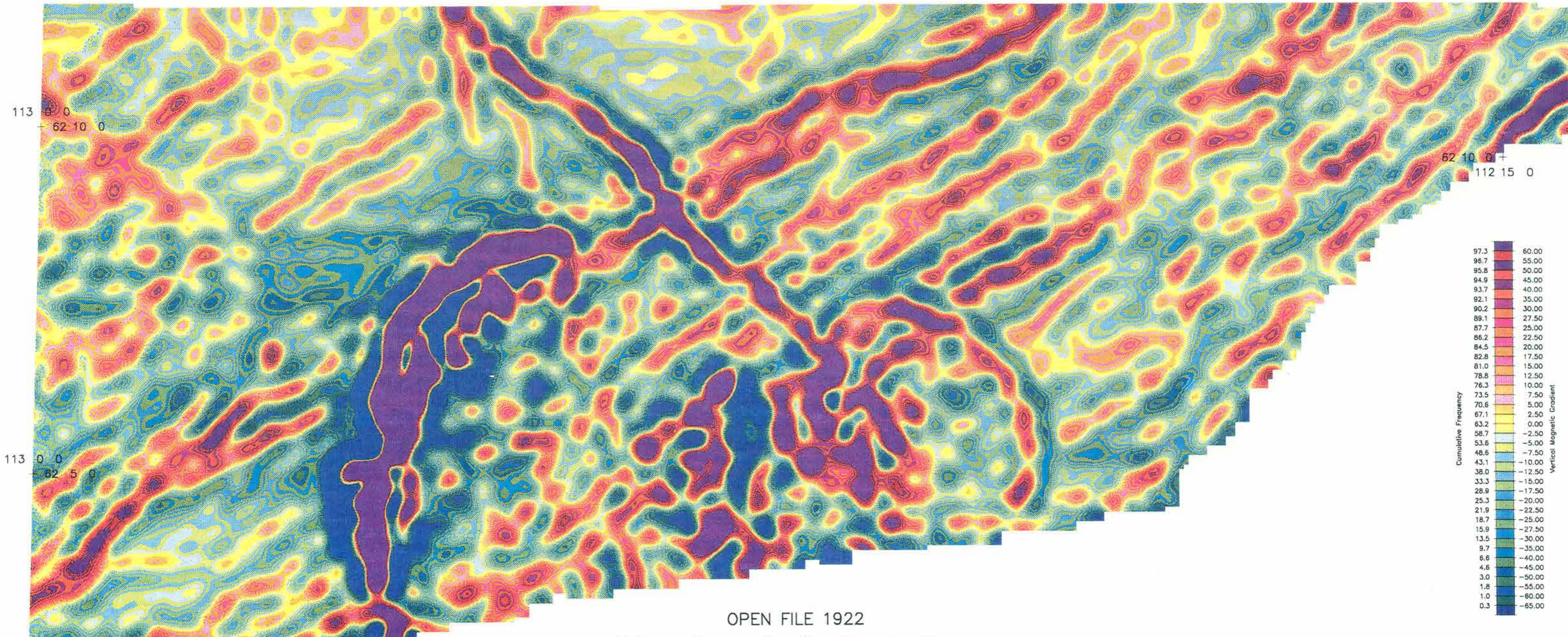
Canada

OPEN FILE 1922
Airborne Gamma Ray Spectrometer Survey
of the
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
Northwest Territories
1988

VLF TOTAL FIELD %

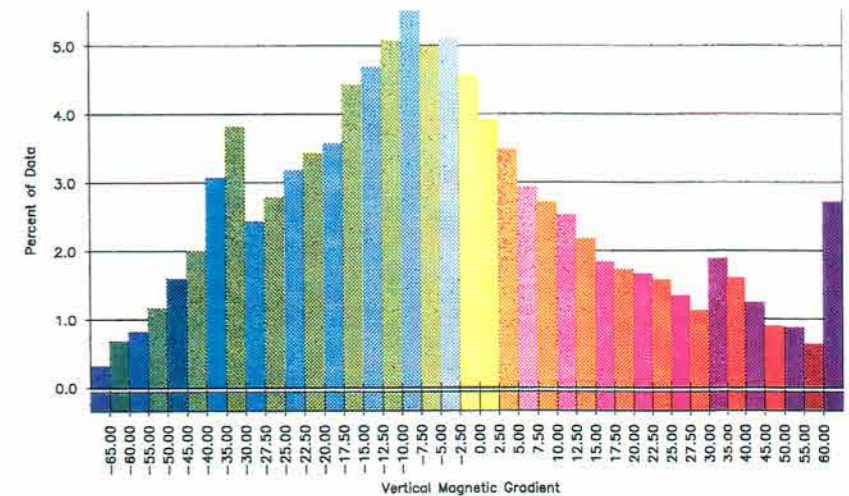
Scale = 1:100 000
Line spacing = 250 metres





OPEN FILE 1922
 Airborne Gamma Ray Spectrometer Survey
 of the
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
 Northwest Territories
 1988

VERTICAL MAGNETIC GRADIENT
 GRADIENT (NT/M) CALCULATED FROM TOTAL FIELD DATA
 OBTAINED WITH A PROTON PRECESSION MAGNETOMETER
 WHICH MEASURED WITH A RESOLUTION OF ONE NANOTESLA



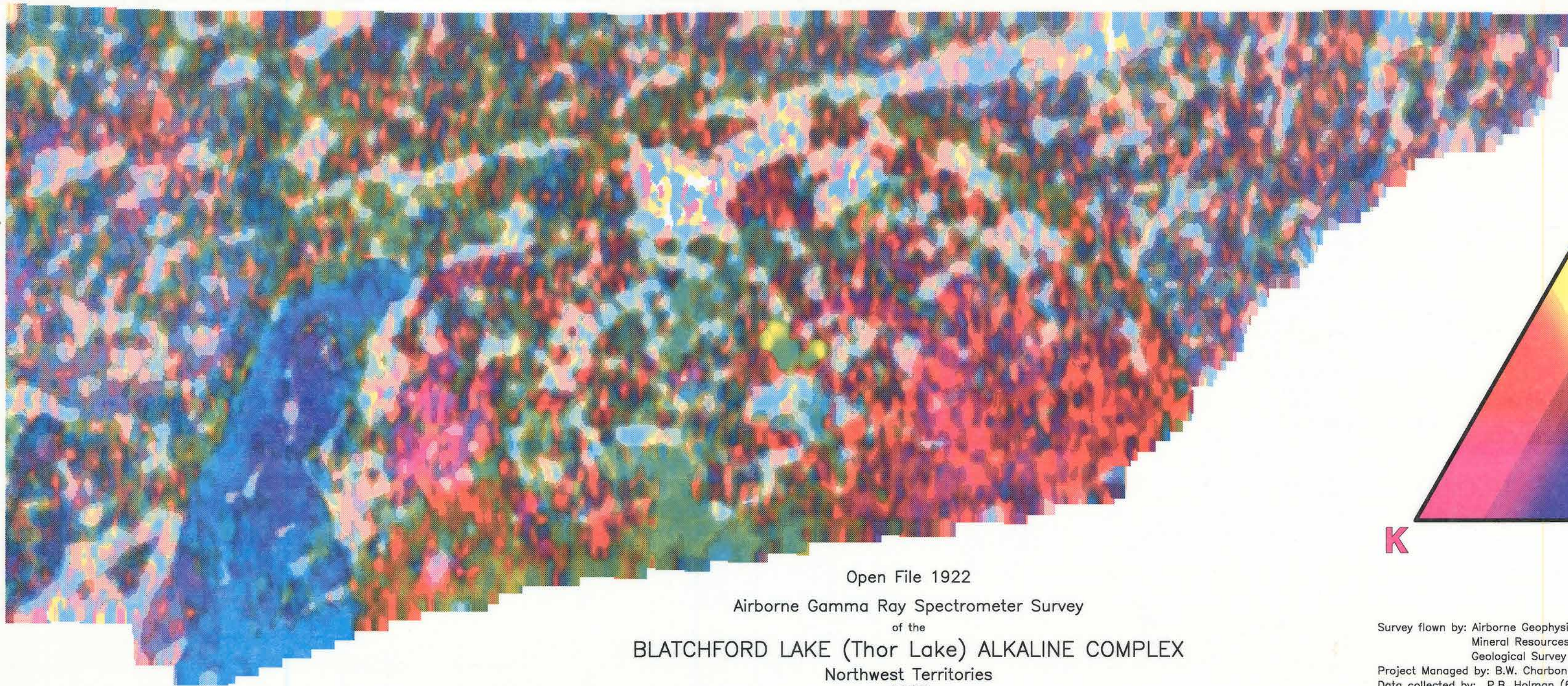
Survey flown, compiled and funded by
 Airborne Geophysics Section
 Mineral Resources Division
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A CONTRIBUTION TO THE CANADA-NORTHWEST TERRITORIES
 MINERAL DEVELOPMENT AGREEMENT 1987-1991

Energy, Mines and Resources Canada Energie, Mines et Ressources Canada

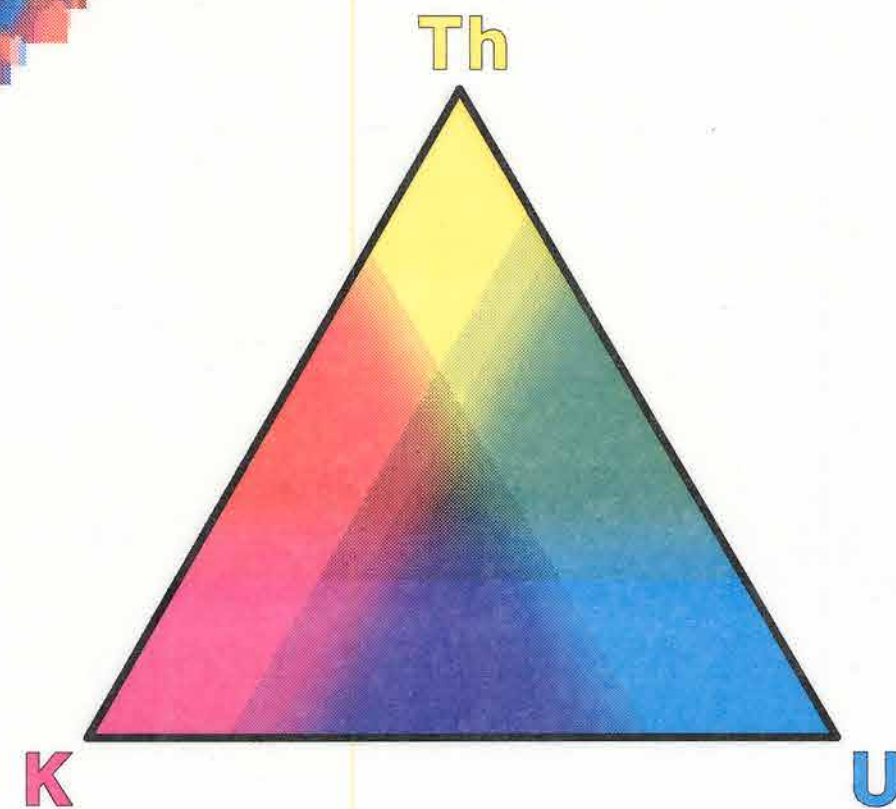
Canada

Scale = 1:100 000
 Line spacing = 250 metres



Open File 1922
 Airborne Gamma Ray Spectrometer Survey
 of the
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
 Northwest Territories
 1988

TERNARY RADIOELEMENT MAP
 MAP SCALE 1:100 000

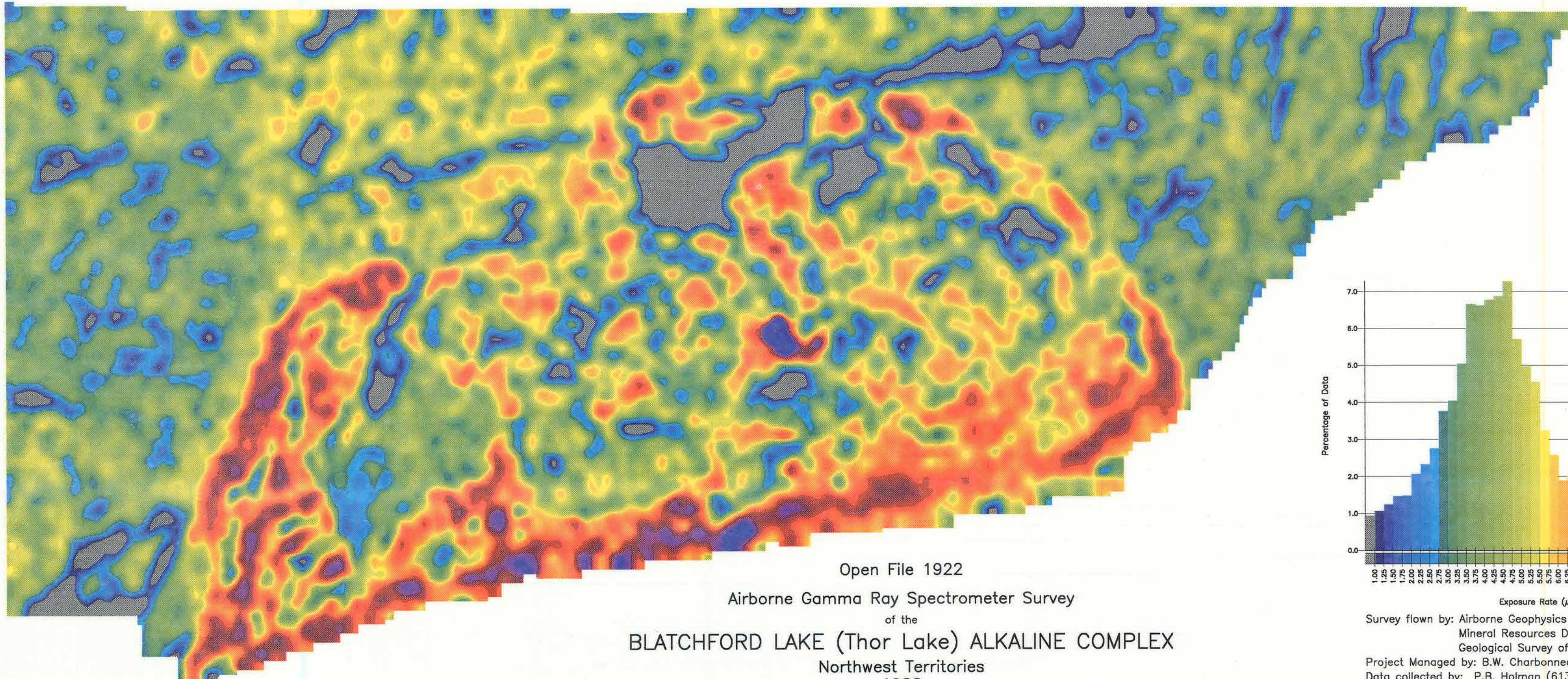


Survey flown by: Airborne Geophysics Section
 Mineral Resources Division
 Geological Survey of Canada
 Project Managed by: B.W. Charbonneau (613) 996-2294
 Data collected by: P.B. Holman (613) 992-1237
 Data compiled by: K.L. Ford (613) 992-1235

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 Mineral Development Agreement 1987-1991

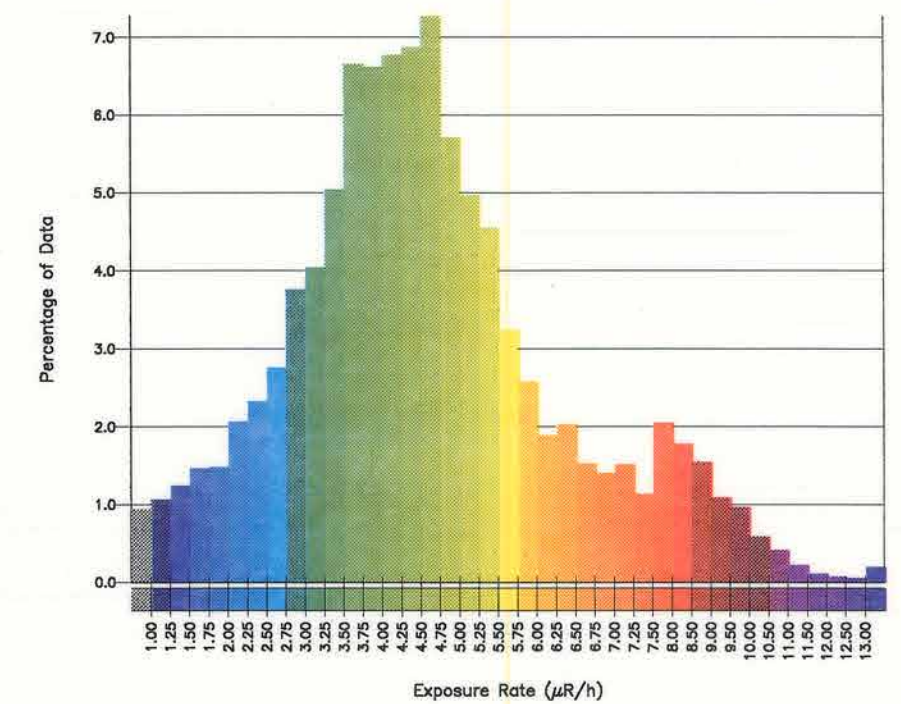
Energy, Mines and Resources Canada Energie, Mines et Ressources Canada

Canada



Open File 1922
 Airborne Gamma Ray Spectrometer Survey
 of the
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
 Northwest Territories
 1988

EXPOSURE RATE
 MAP SCALE 1:100 000

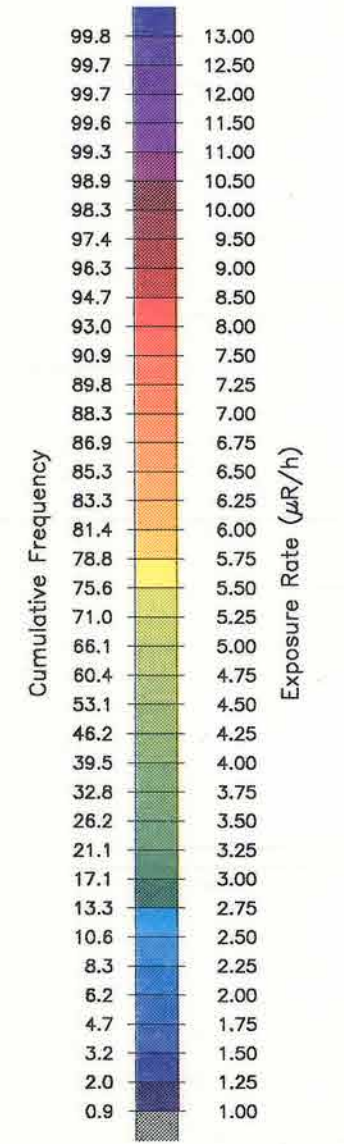


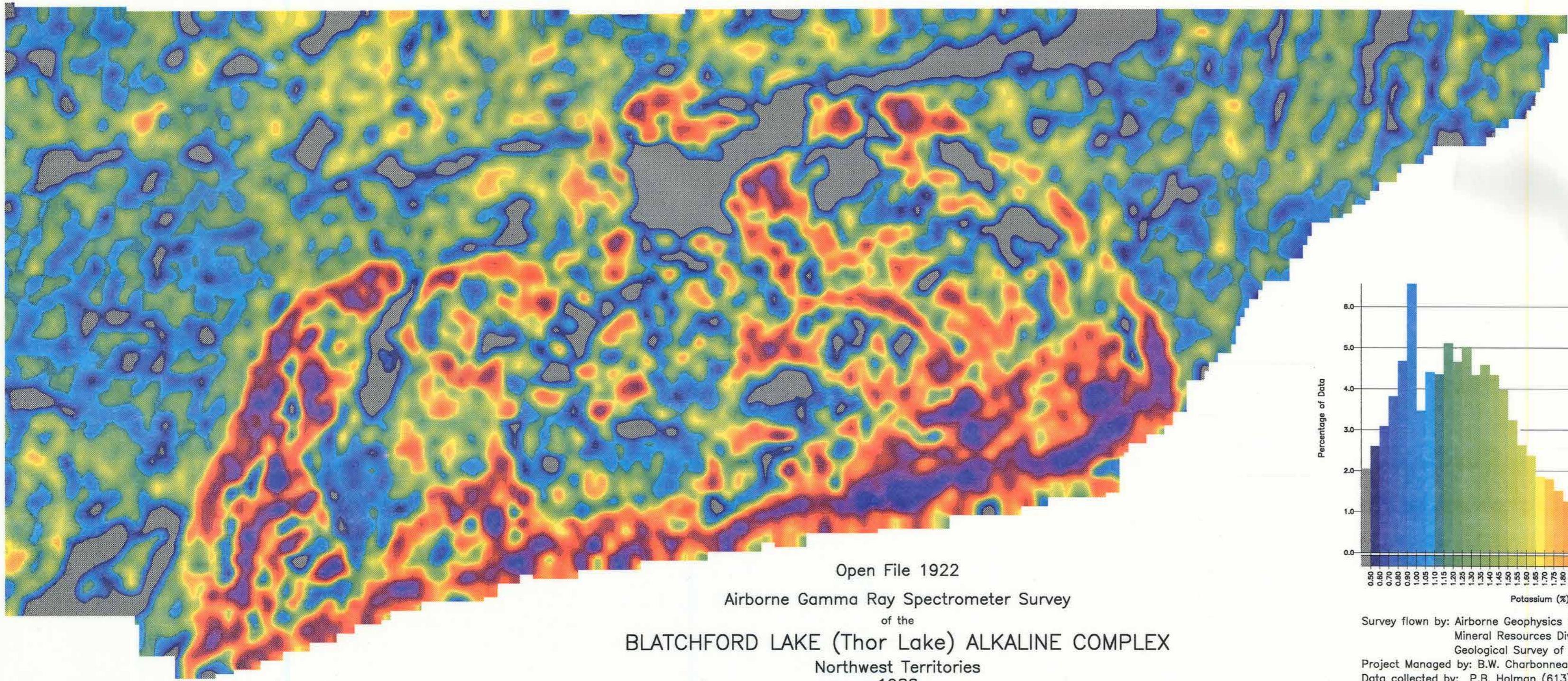
Survey flown by: Airborne Geophysics Section
 Mineral Resources Division
 Geological Survey of Canada
 Project Managed by: B.W. Charbonneau (613) 996-2294
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 Mineral Development Agreement 1987-1991

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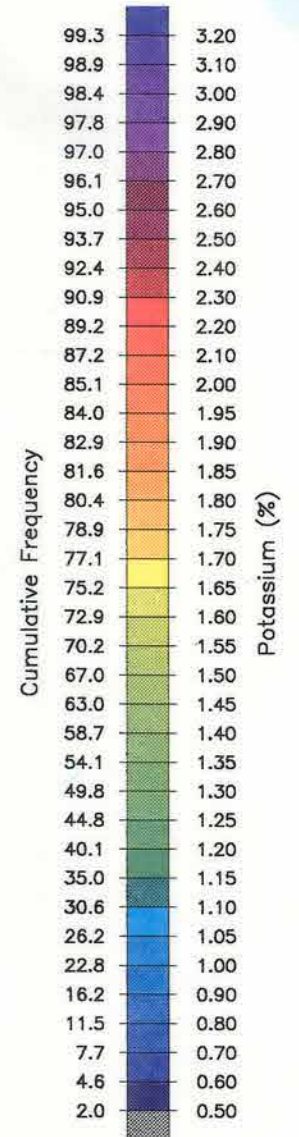
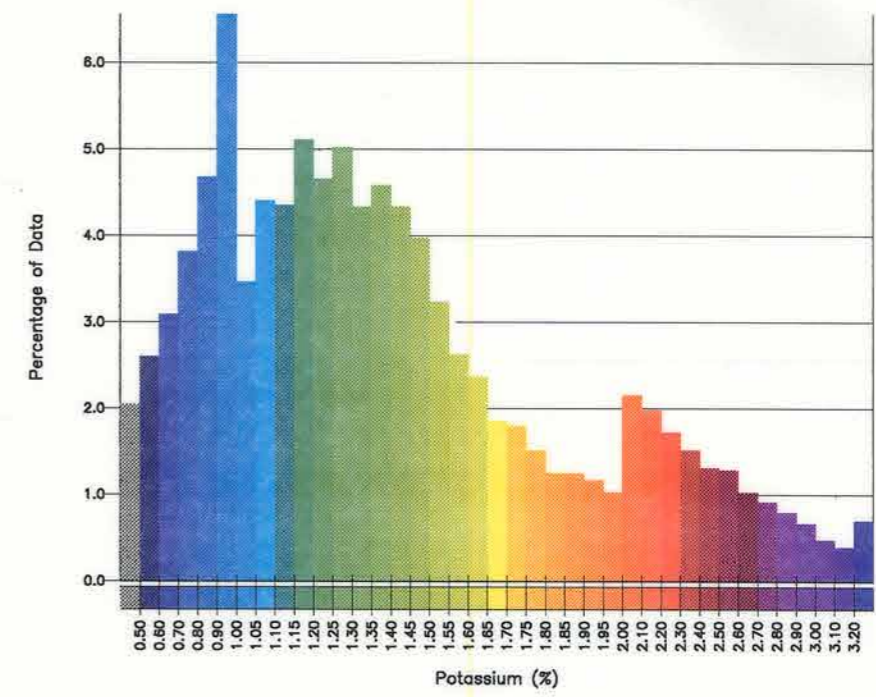
Canada





Open File 1922
 Airborne Gamma Ray Spectrometer Survey
 of the
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
 Northwest Territories
 1988

POTASSIUM
 MAP SCALE 1:100 000

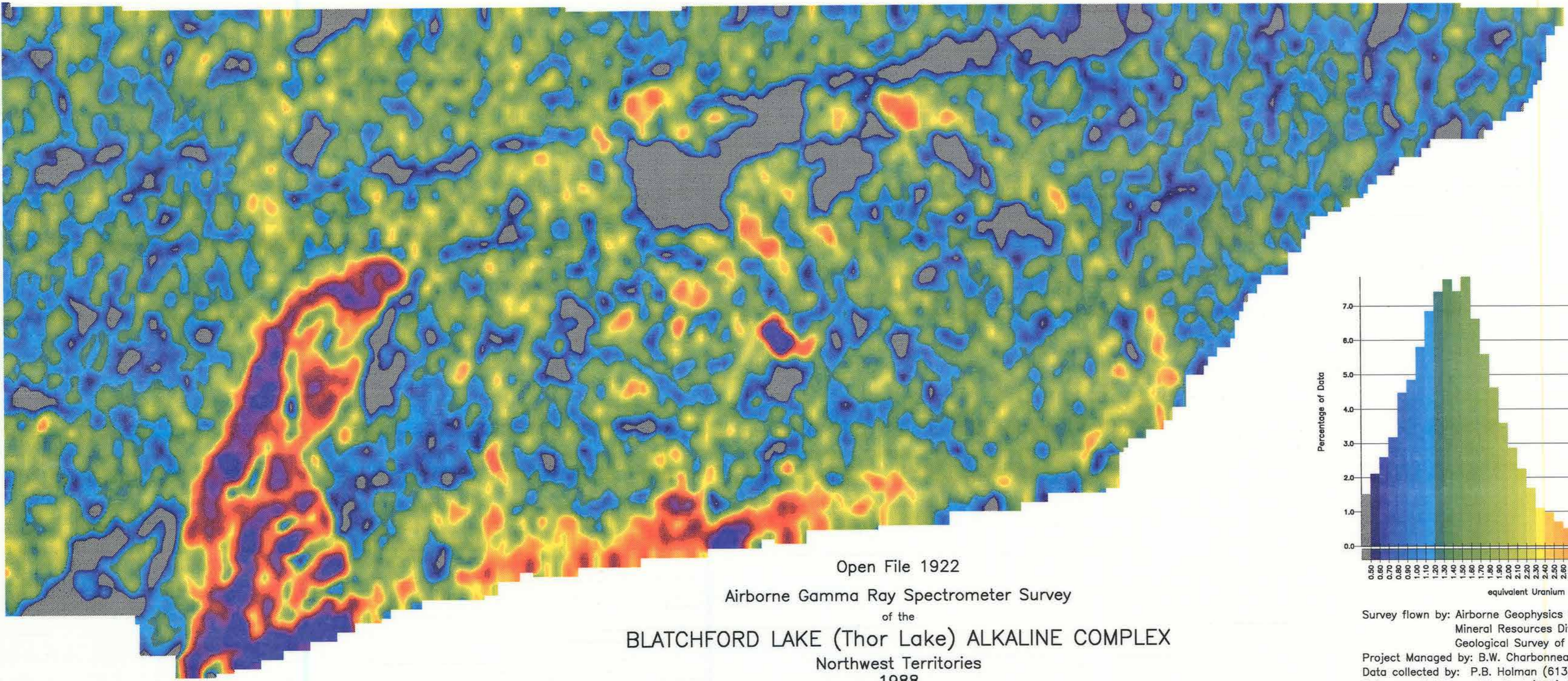


Survey flown by: Airborne Geophysics Section
 Mineral Resources Division
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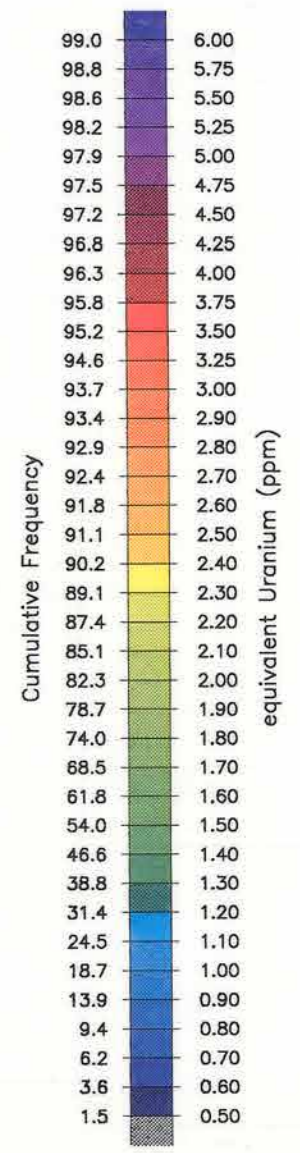
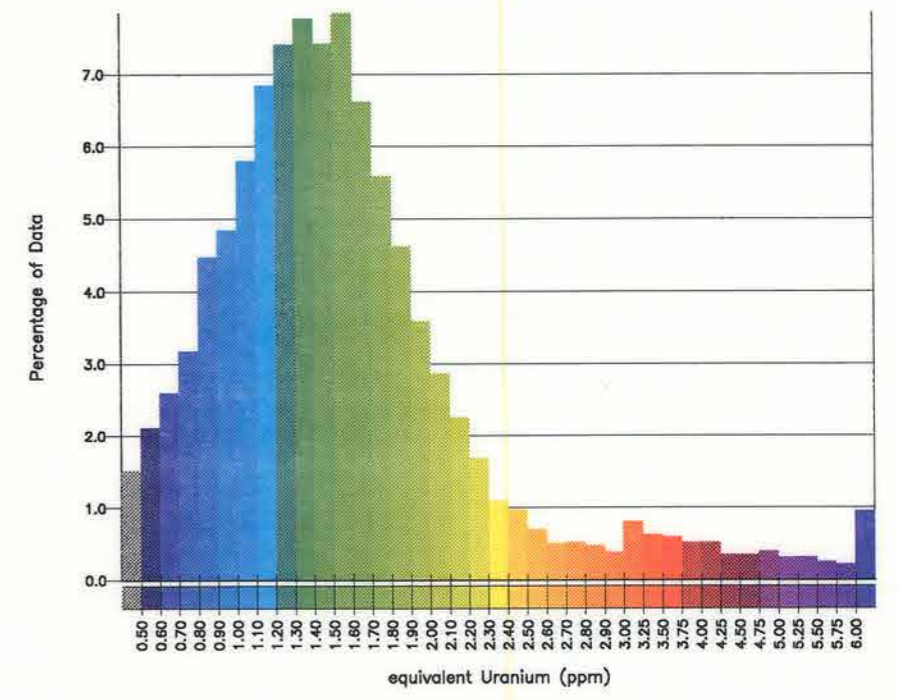
Canada



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 Airborne Gamma Ray Spectrometer Survey
 of the
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
 Northwest Territories
 1988

EQUIVALENT URANIUM

MAP SCALE 1:100 000

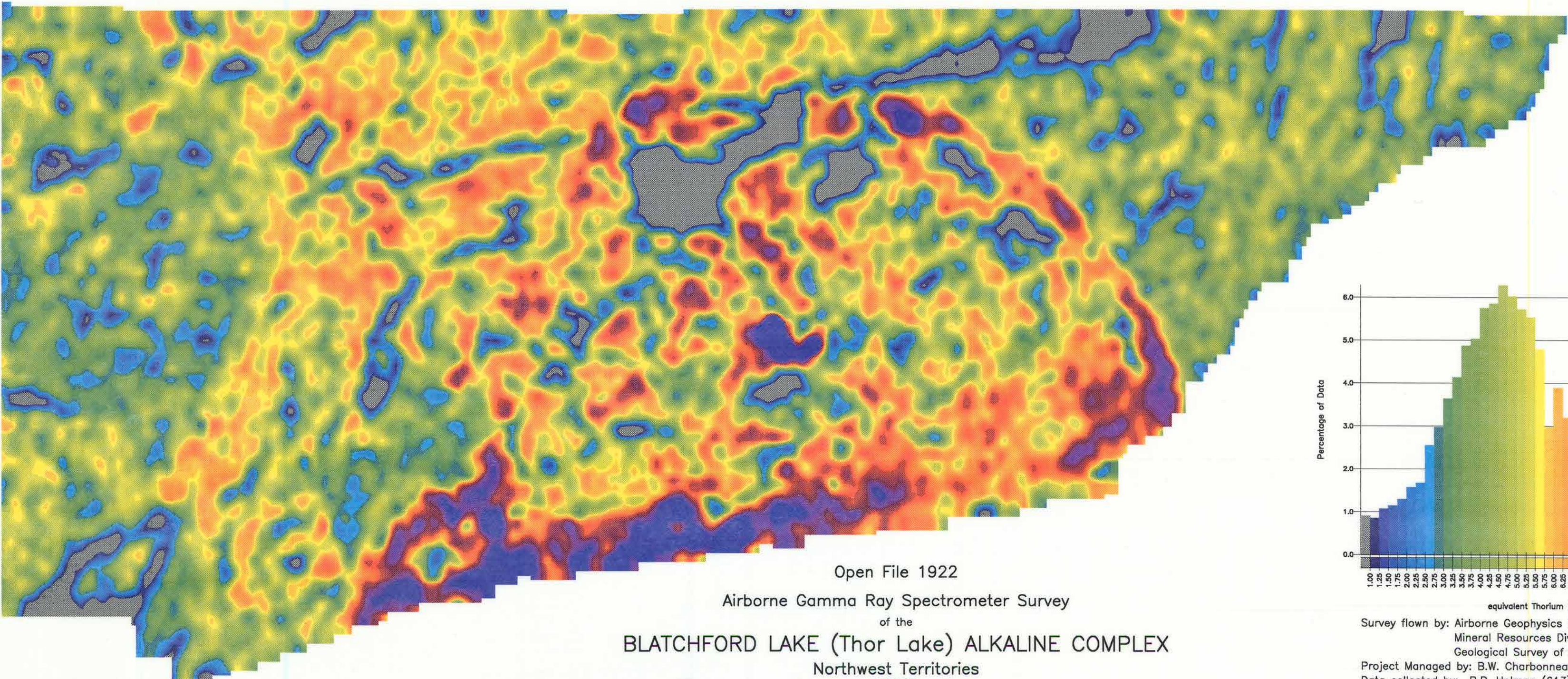


Survey flown by: Airborne Geophysics Section
 Mineral Resources Division
 Geological Survey of Canada
 Project Managed by: B.W. Charbonneau (613) 996-2294
 Data collected by: P.B. Holman (613) 992-1237
 Data compiled by: K.L. Ford (613) 992-1235

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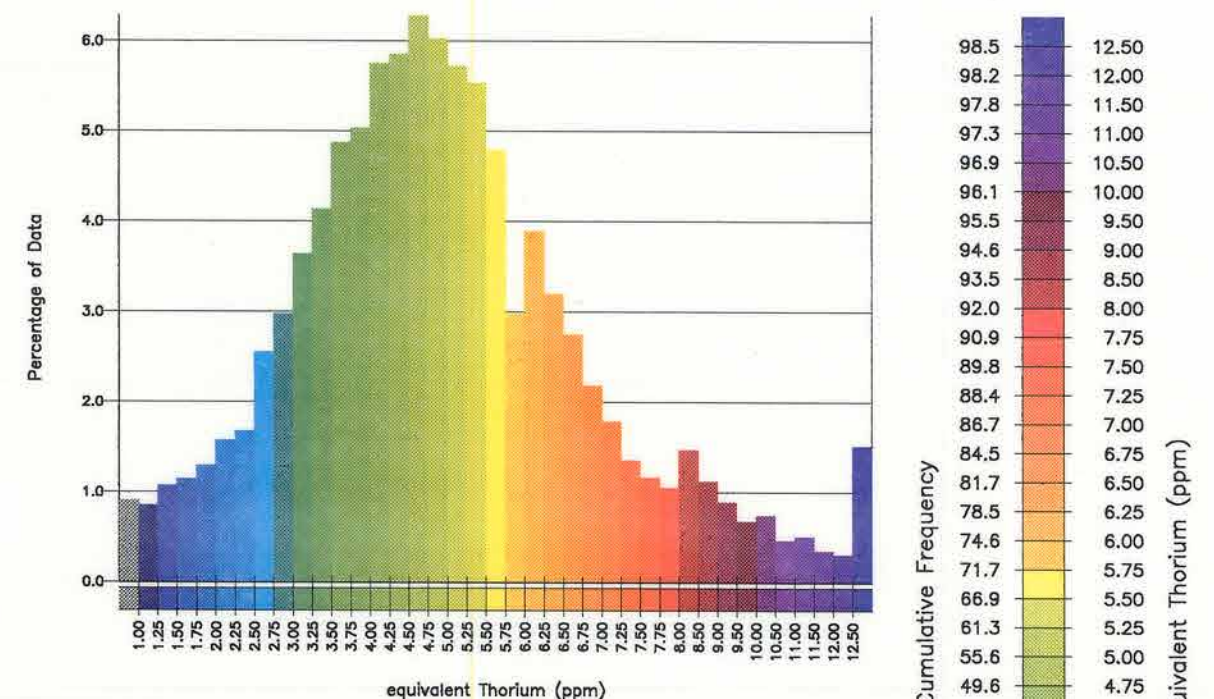
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 Airborne Gamma Ray Spectrometer Survey
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BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
 Northwest Territories
 1988

EQUIVALENT THORIUM
 MAP SCALE 1:100 000

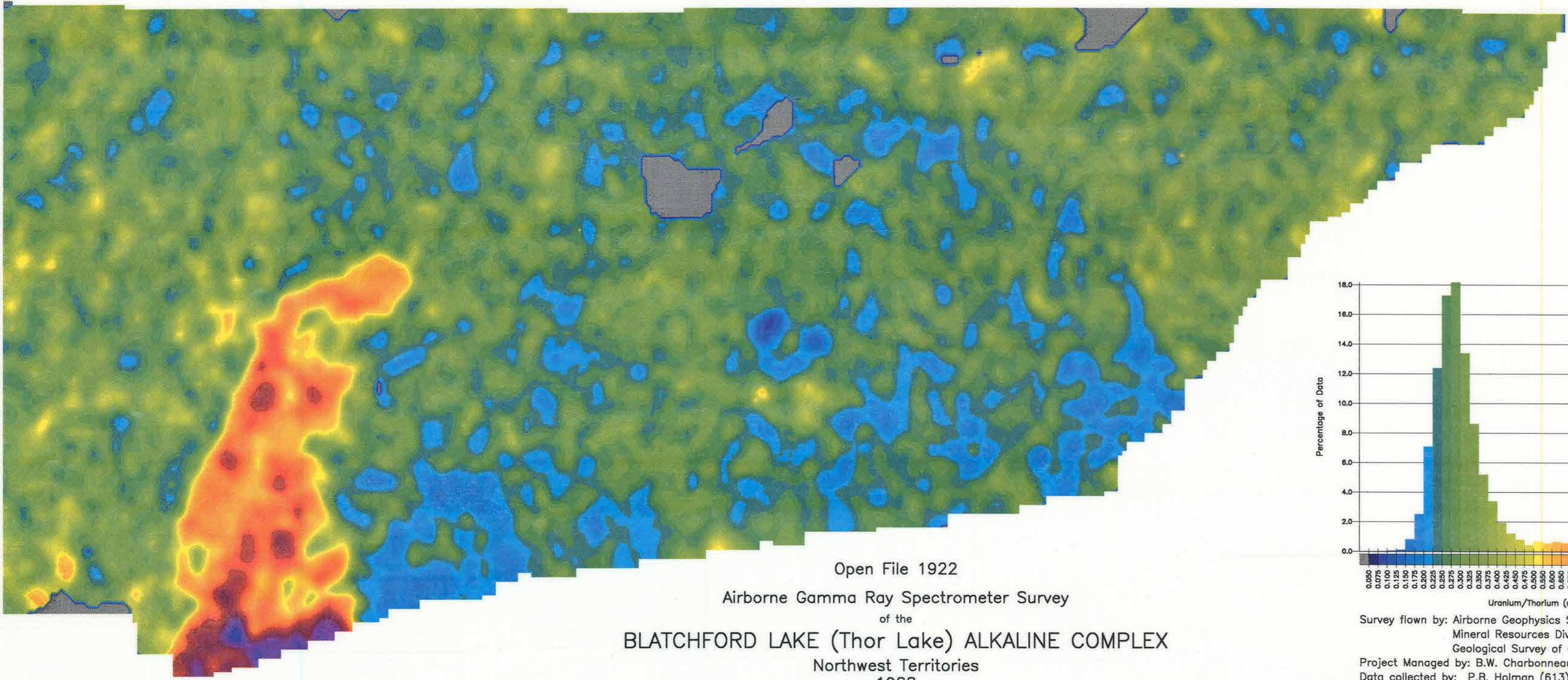


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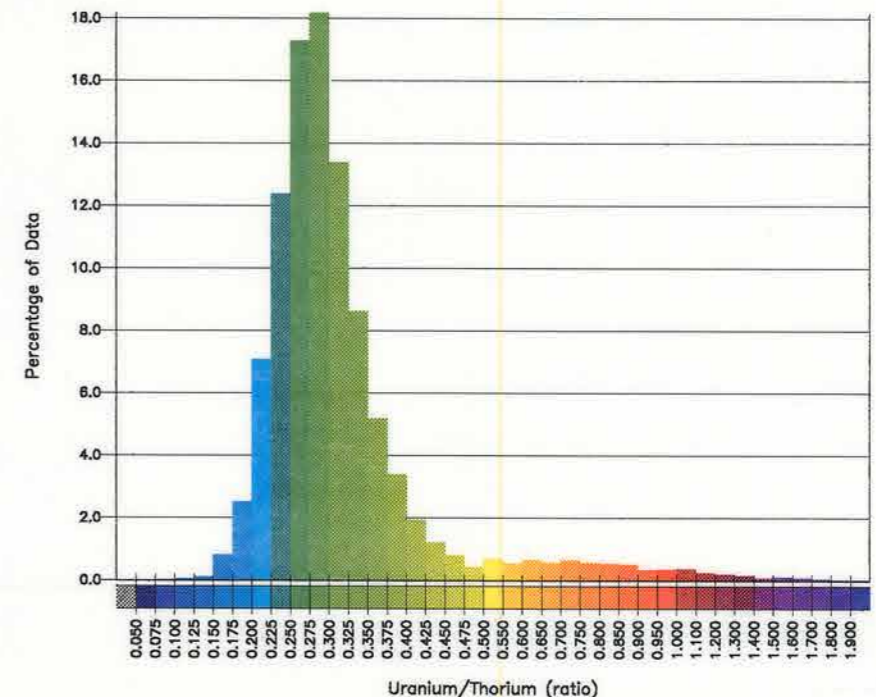
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 Airborne Gamma Ray Spectrometer Survey
 of the
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
 Northwest Territories
 1988

equivalent URANIUM/equivalent THORIUM
 MAP SCALE 1:100 000

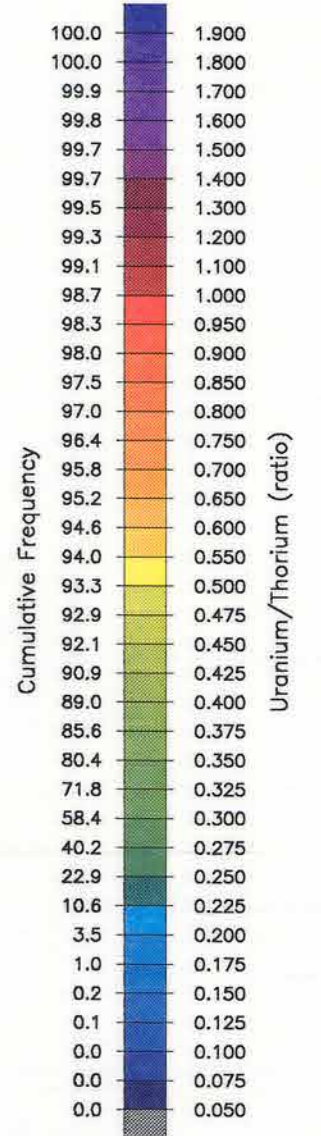


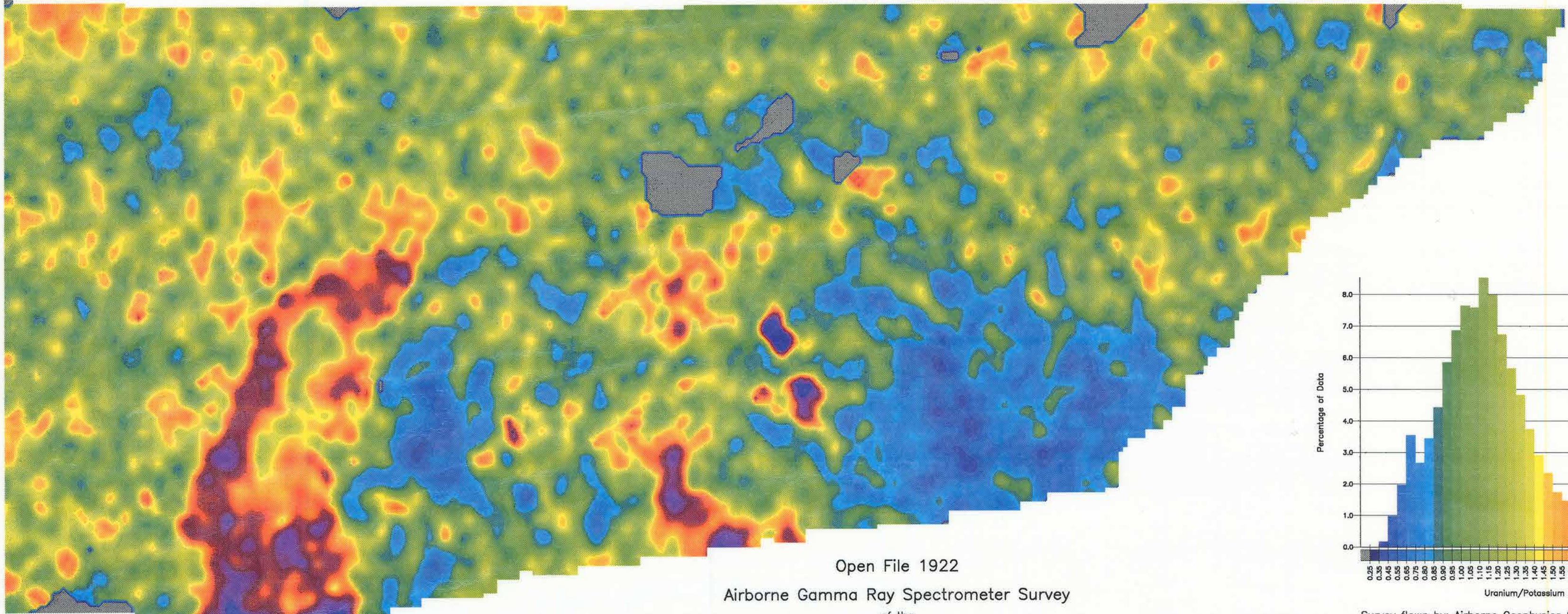
Survey flown by: Airborne Geophysics Section
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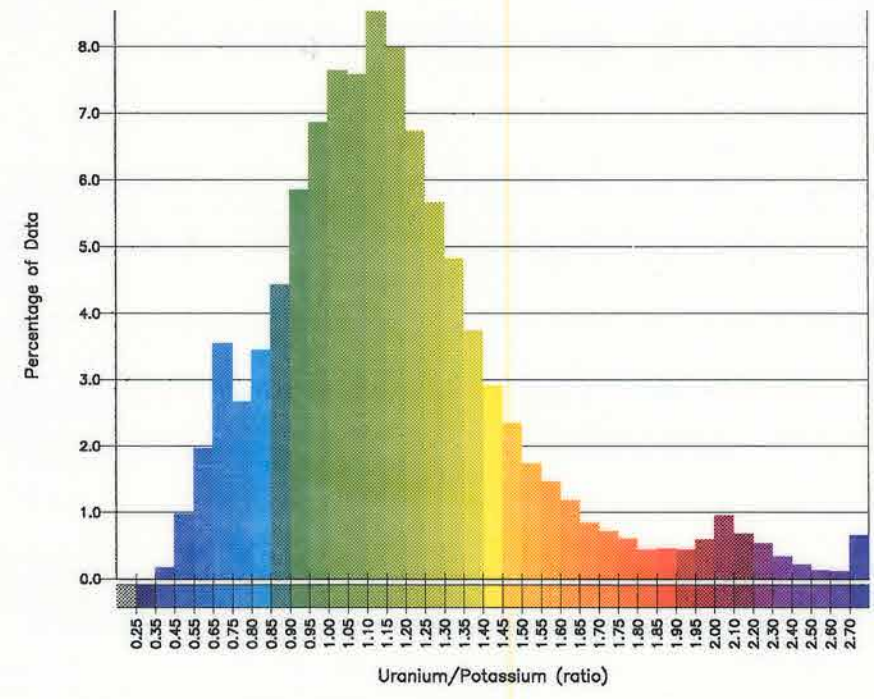
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 Airborne Gamma Ray Spectrometer Survey
 of the
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
 Northwest Territories
 1988

(equivalent URANIUM/POTASSIUM) x 10⁴
 MAP SCALE 1:100 000

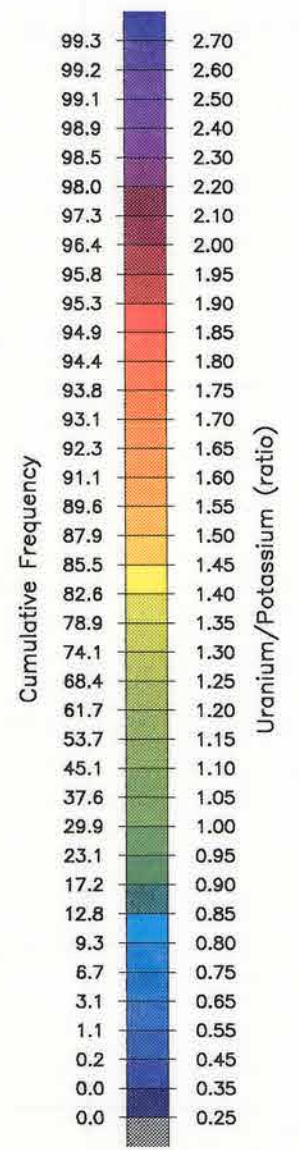


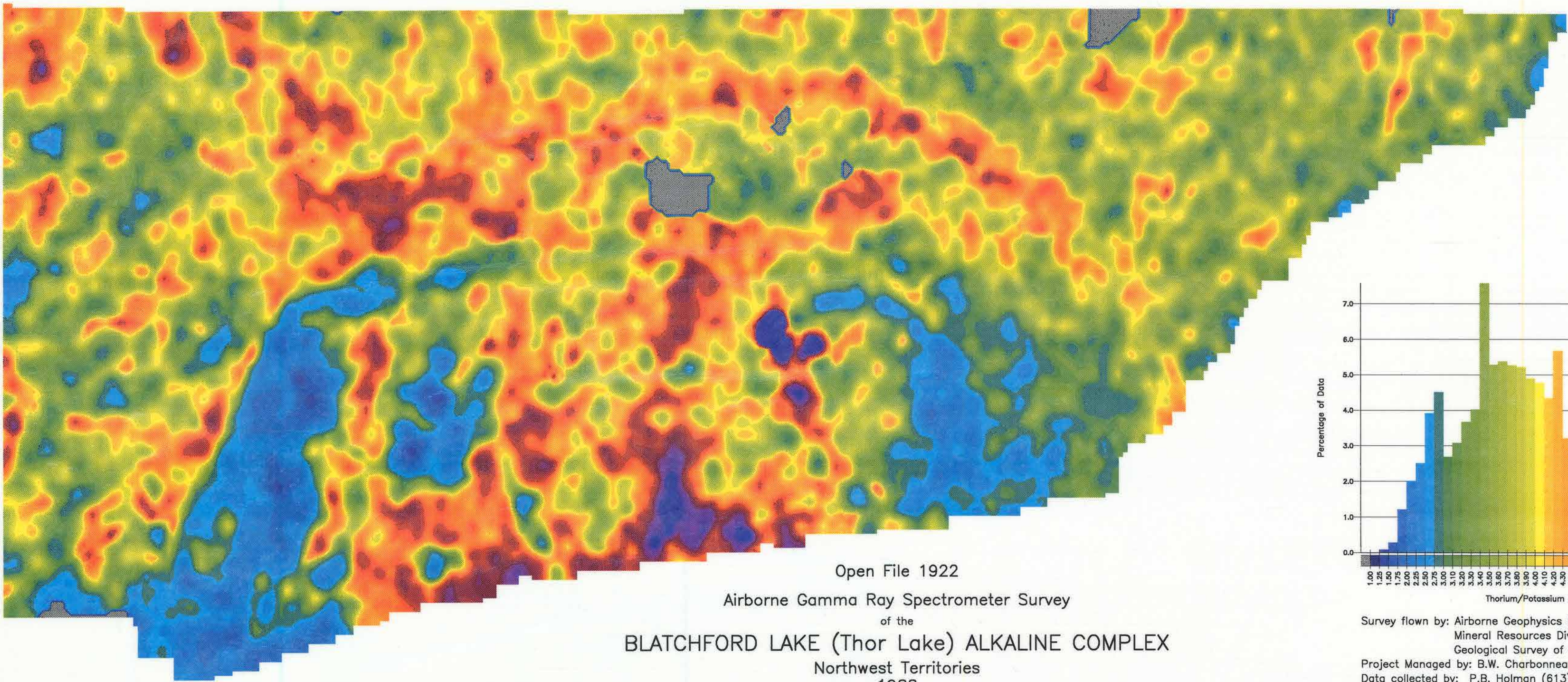
Survey flown by: Airborne Geophysics Section
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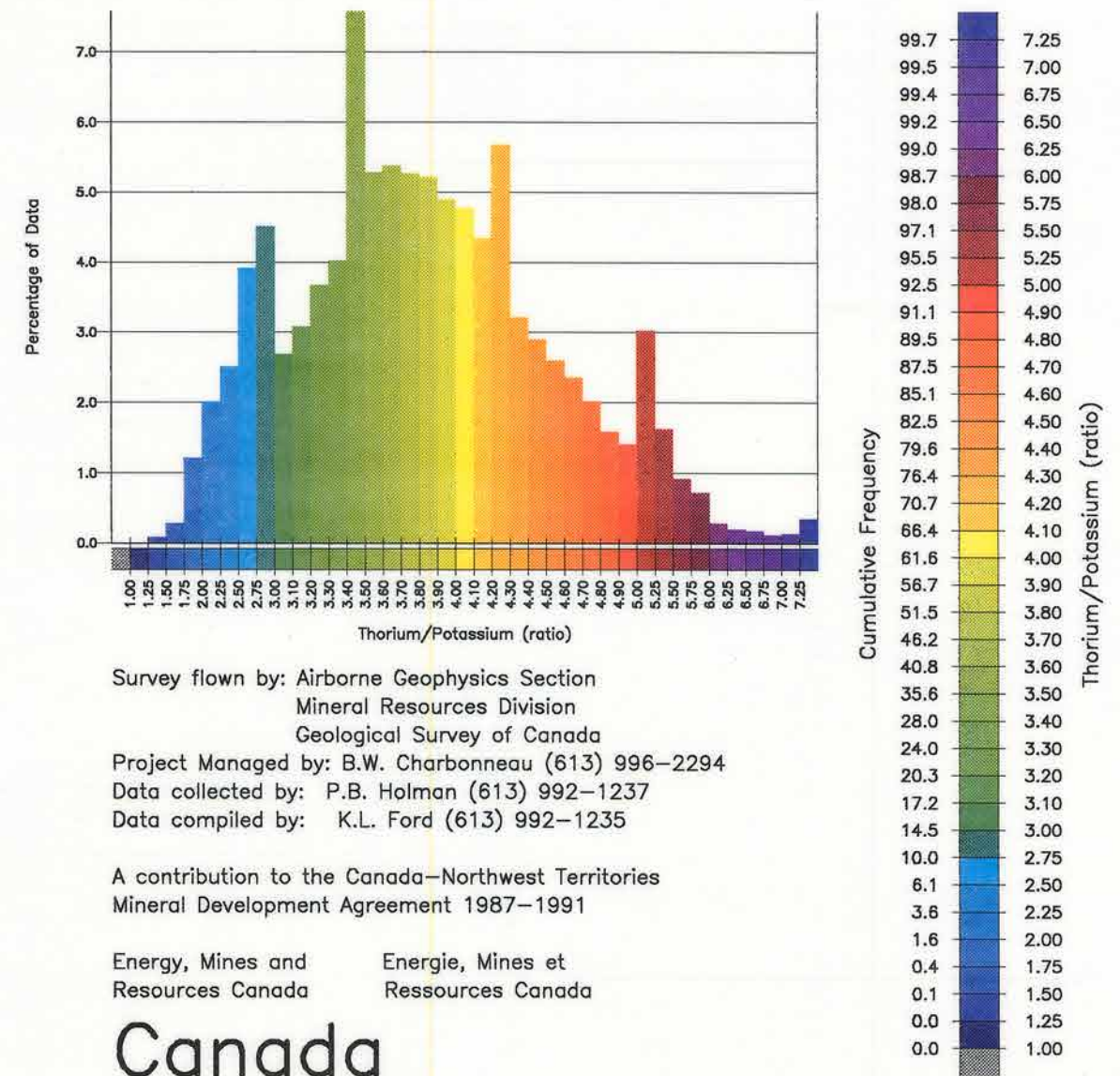
Canada

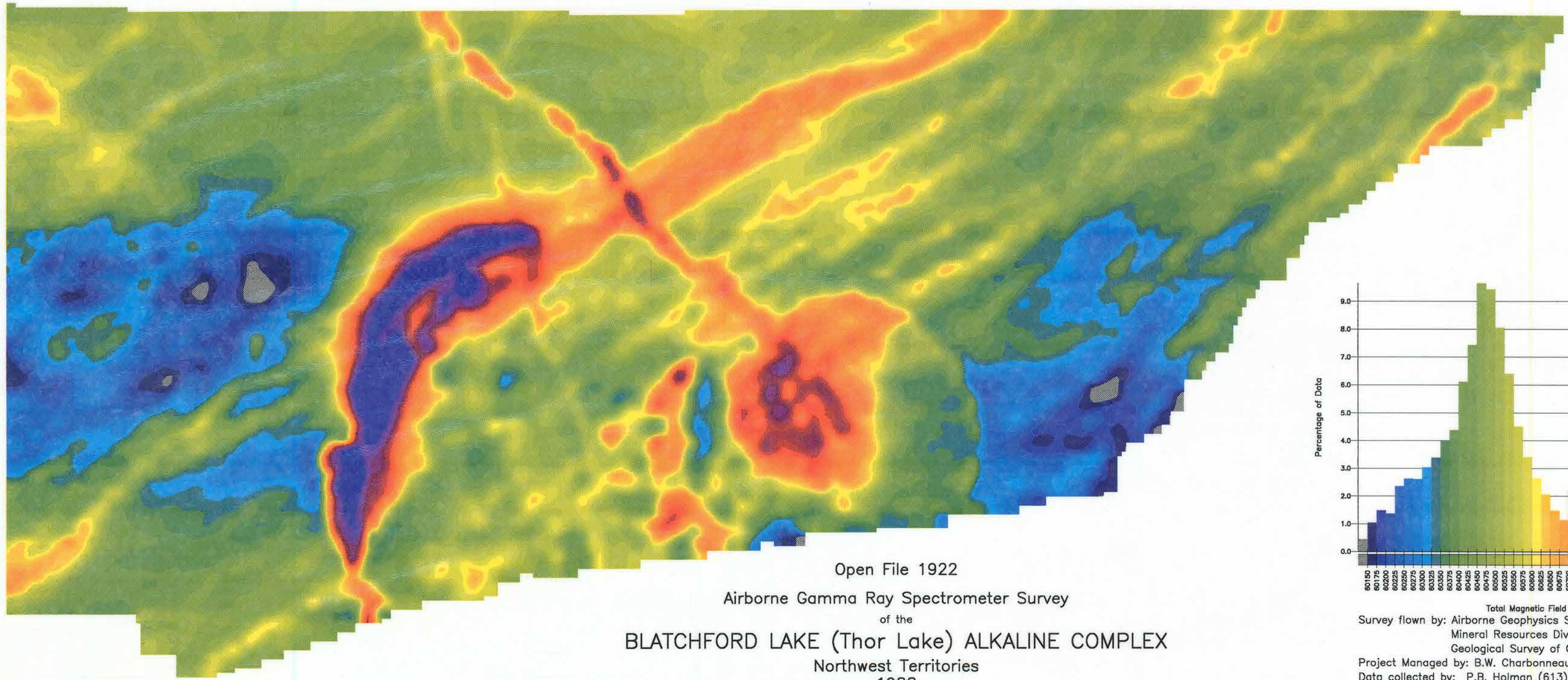




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 Airborne Gamma Ray Spectrometer Survey
 of the
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
 Northwest Territories
 1988

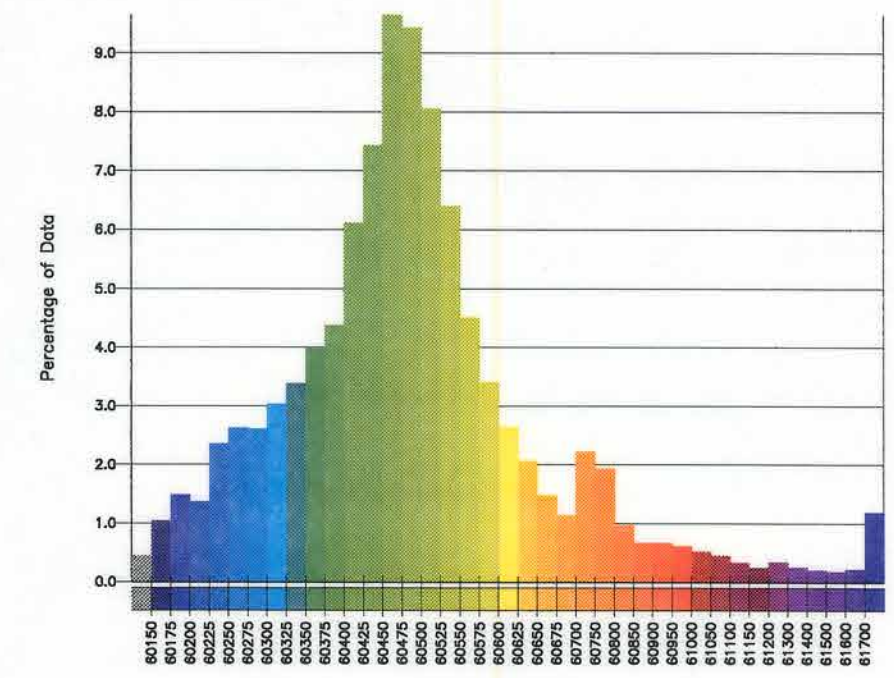
(equivalent THORIUM/POTASSIUM) x 10⁴
 MAP SCALE 1:100 000



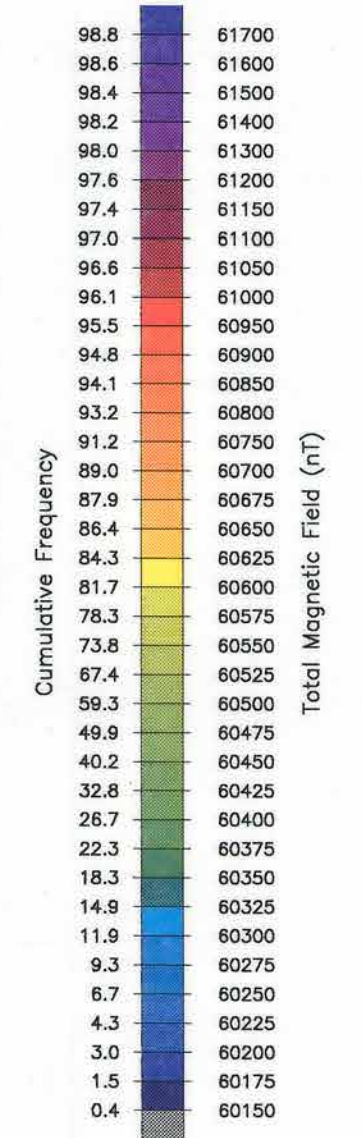


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 Airborne Gamma Ray Spectrometer Survey
 of the
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
 Northwest Territories
 1988

TOTAL MAGNETIC FIELD
 MAP SCALE 1:100 000



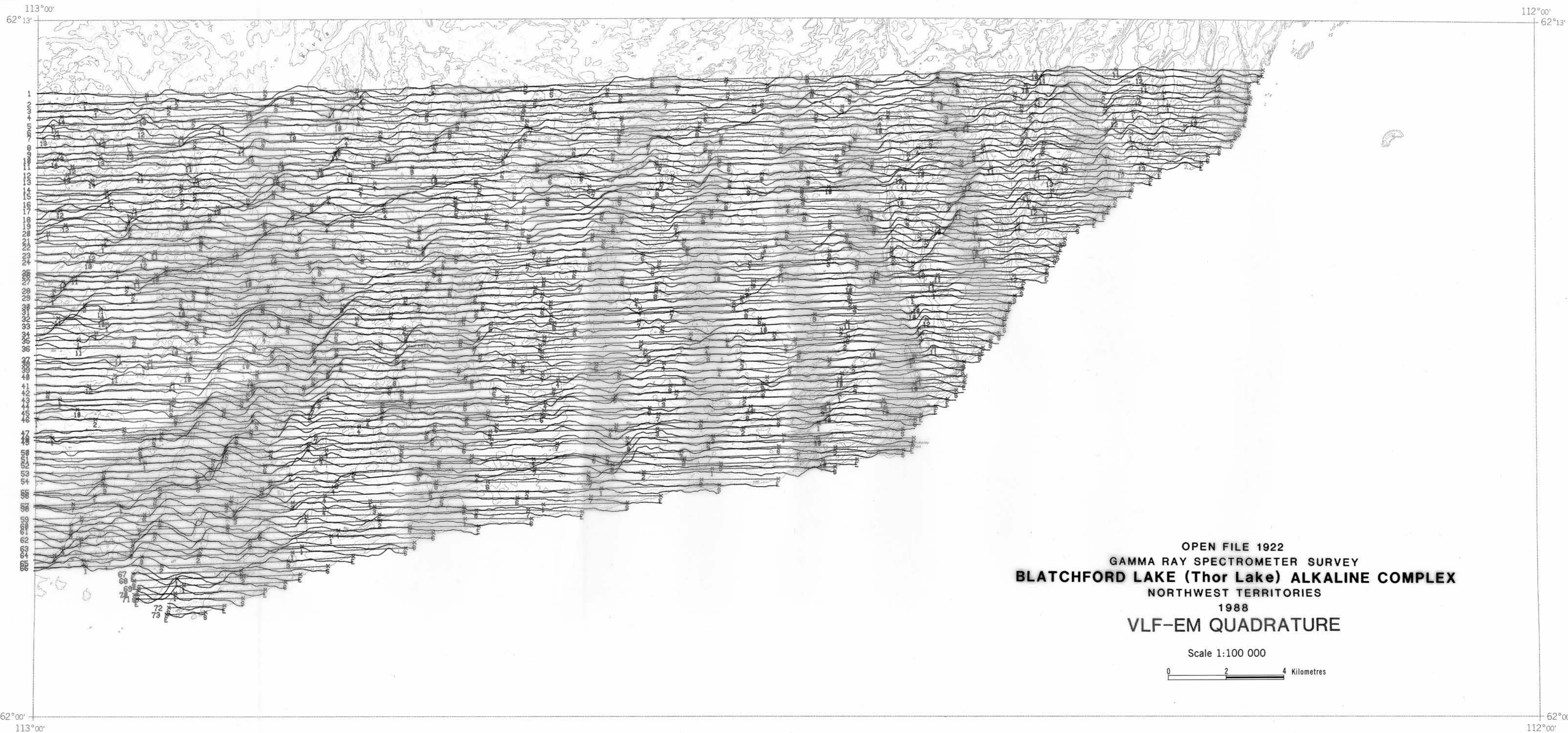
Total Magnetic Field (nT)
 Survey flown by: Airborne Geophysics Section
 Mineral Resources Division
 Geological Survey of Canada
 Project Managed by: B.W. Charbonneau (613) 996-2294
 Data collected by: P.B. Holman (613) 992-1237
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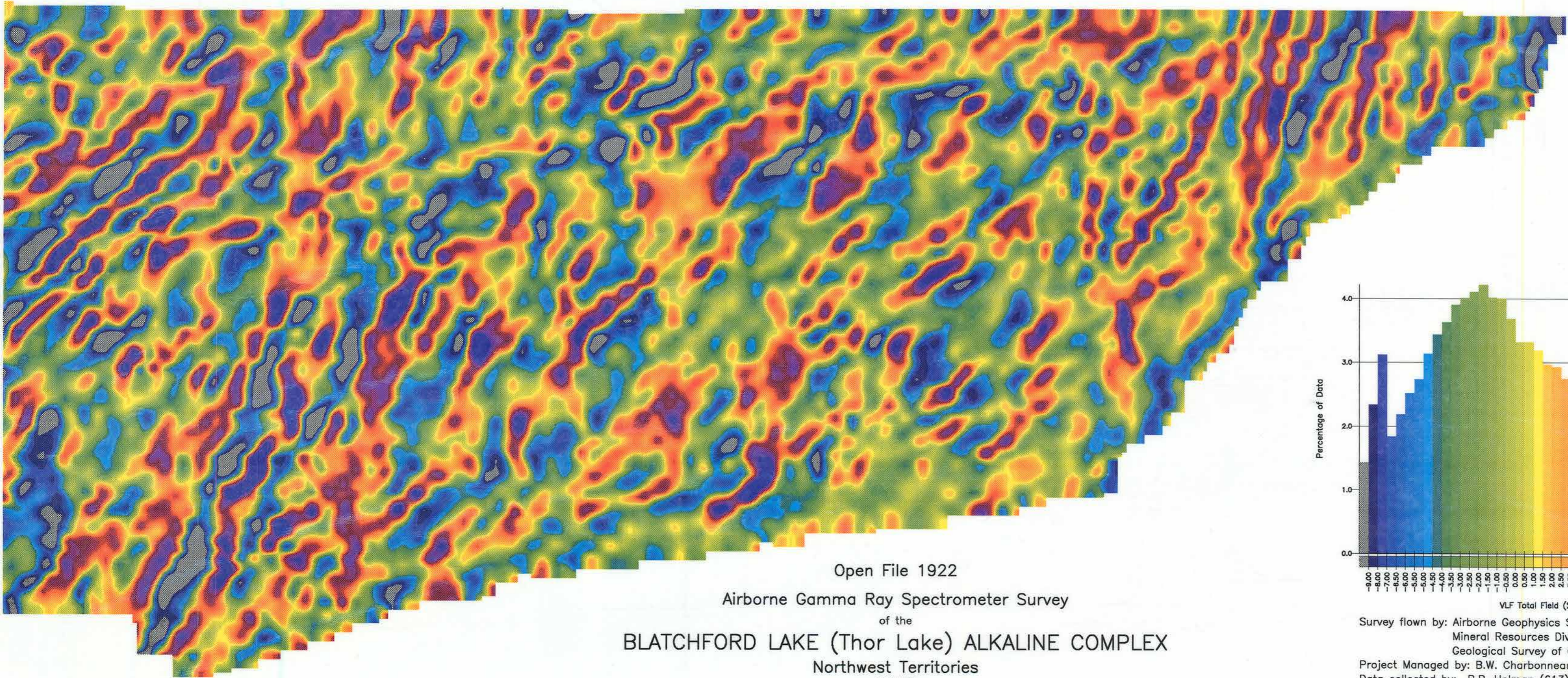
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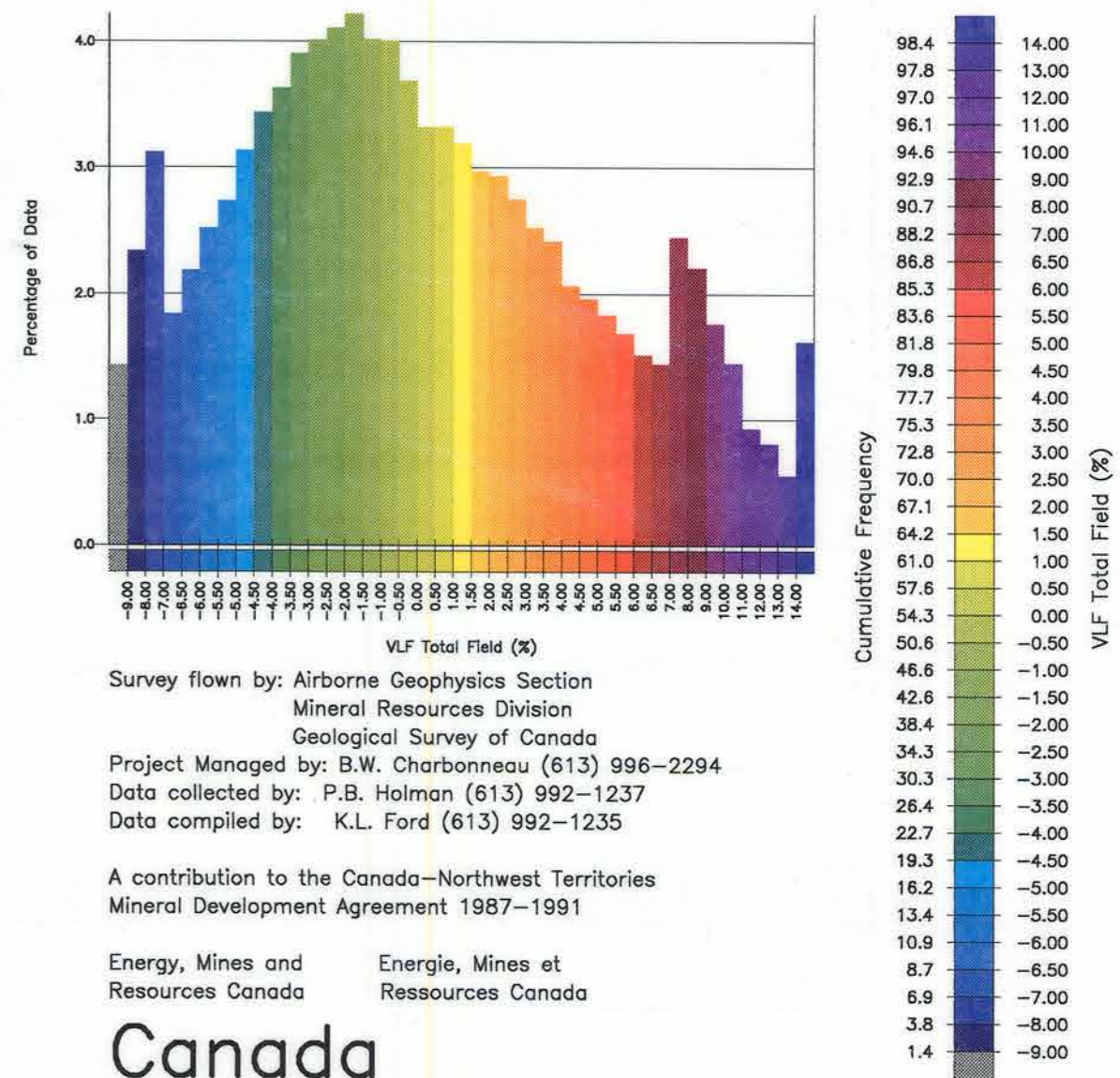
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GAMMA RAY SPECTROMETER SURVEY
BLATCHFORD LAKE (Thor Lake) ALKALINE COMPLEX
NORTHWEST TERRITORIES
1988
VLF-EM QUADRATURE

Scale 1:100 000
0 2 4 Kilometres



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 Northwest Territories
 1988

VLF-EM TOTAL FIELD
 MAP SCALE 1:100 000



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