NGU Report 97.142

Variogram models used for producing the kriged
color surface maps for the Kola Project.

NGU

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REPORT

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Title:

Variogram models used for producing the kriged color surface maps for the Kola Project.

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Summary:

The report documents all graphs of the emprical variograms and all variogram models used for kriging of the Kola Project data. The resulting kriged colour surface maps are presented in «The Environmental Geochemical Atlas of the Central Barents Region».

Keywords: Geostatistics	Kriging	Variogram analyses
Environmental Geochemistry	Kola Project	

Chapter 1

Introduction

This report documents all graphs of the empirical variograms and all variogram models used for kriging of the Kola project data. Journal and Huijbregts (1978)[1].

The empirical variograms have been computed in direction East-West and North-South. Distances between samples vary between 1 and 315000 meters. The finally accepted maximum number of different lags (using necessary tolerance distances) is 20. Angle tolerances are $\pm 45^0$. At least 40 couples of measurements have to be available for the computation of one point of an empirical variogram.

To construct the variogram models the computer program GEOSAN[2] was used. Model fitting was generally started by using 'David's Rule of Thumb' for a spherical variogram

$$\gamma(h) = C_0 + C_1 \left(\frac{3}{2}\frac{h}{a} - \frac{1}{2}\left(\frac{h}{a}\right)^3 \right) \text{ for } h \leq a.$$

This simply means that the entire sill $C_0 + C_1$ is equal to the empirical variance. Nugget effect C_0 and range a are computed from a regression line through the first (10 %) points of the empirical variogram.

The final variogram model has been fitted by hand as an isotropical compromise using the two directional empirical variograms.

Occasionally, outliers had to be removed before starting the computation of the variograms. Where applicable, this is noted as a remark to the right of the variogram.

---

[1]A.G. Journel and Ch.J. Huijbregts (1978): *Mining Geostatistics*. Acad. Press, New York.
[2]R. Dutter (1996): Analysis of Spatial Data Using GEOSAN: Program System for Geostatistical Analysis. Techn. Univ., Vienna, Austria.

Contents

Chapter 2

Estimated Variograms for MOSS (Ln-transformed Data)

2.1   Variable Ag

Direction East-West (*1st semi-variogram*):

```
Date                : 08/17/96
-----------------------------------------------------------------------
Name of file     : Ag-1.mod
-----------------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ag
Dimension: 2. Components:  1. Nugget effect:  0.92372E-01
Model: Spherical    1    . Sill:  0.45392    . Range:  0.21043E+06
```

Direction North-South (*2nd semi-variogram*):

```
Date                : 08/17/96
-----------------------------------------------------------------------
Name of file     : Ag-2.mod
-----------------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ag
Dimension: 2. Components:  1. Nugget effect:  0.12234
Model: Spherical    1    . Sill:  0.42395    . Range:  0.50190E+06
```

Combined (Isotropical) Variogram:

```
Date                : 08/18/96
-----------------------------------------------------------------------
Name of file     : Ag.mod
-----------------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ag
Dimension: 2. Components:  1. Nugget effect:  0.10736
Model: Spherical    1    . Sill:  0.52000    . Range:  0.37000E+06
```


Semi-variogram of Ag

2.2   Variable Al

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
----------------------------------------------------------------------
Name of file      : Al-1.mod
----------------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../lnmoss.txt
----------------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components: 1. Nugget effect:  0.13496
Model: Spherical    1    . Sill:  0.33152    . Range:   94006.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
----------------------------------------------------------------------
Name of file      : Al-2.mod
----------------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../lnmoss.txt
----------------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components: 1. Nugget effect:  0.17479
Model: Spherical    1    . Sill:  0.29169    . Range:  0.12837E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
----------------------------------------------------------------------
Name of file      : Al.mod
----------------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../lnmoss.txt
----------------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components: 1. Nugget effect:  0.17000
Model: Spherical    1    . Sill:  0.25000    . Range:  0.12000E+06
```

Semi-variogram of Al

2.3   Variable As

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : As-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.61748E-01
Model: Spherical    1    . Sill:  0.38767    . Range:  0.12167E+06
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : As-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.99167E-01
Model: Spherical    1    . Sill:  0.35026    . Range:  0.22223E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : As.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.80458E-01
Model: Spherical    1    . Sill:  0.36896    . Range:  0.17195E+06
```


Semi-variogram of As

2.4   Variable B

Direction East-West (*1st semi-variogram*):

```
            Date              : 08/17/96
            ------------------------------------------------------------------------
            Name of file      : B-1.mod
            ------------------------------------------------------------------------
            User              : Dutter / Reimann
            ------------------------------------------------------------------------
            Name of data file: ../lnmoss.txt
            ------------------------------------------------------------------------
            Semi-variogram model of variable: B
            Dimension: 2. Components: 1. Nugget effect:  0.36168
            Model: Spherical    1     . Sill:  0.14252    . Range:  0.21480E+06
```

Direction North-South (*2nd semi-variogram*):

```
            Date              : 08/17/96
            ------------------------------------------------------------------------
            Name of file      : B-2.mod
            ------------------------------------------------------------------------
            User              : Dutter / Reimann
            ------------------------------------------------------------------------
            Name of data file: ../lnmoss.txt
            ------------------------------------------------------------------------
            Semi-variogram model of variable: B
            Dimension: 2. Components: 1. Nugget effect:  0.25038
            Model: Spherical    1     . Sill:  0.25382    . Range:   60719.
```

Combined (Isotropical) Variogram:

```
            Date              : 08/17/96
            ------------------------------------------------------------------------
            Name of file      : B.mod
            ------------------------------------------------------------------------
            User              : Dutter / Reimann
            ------------------------------------------------------------------------
            Name of data file: ../lnmoss.txt
            ------------------------------------------------------------------------
            Semi-variogram model of variable: B
            Dimension: 2. Components: 2. Nugget effect:  0.30603
            Model: Spherical    1     . Sill:  0.15000    . Range:  0.16000E+06
            Model: Linear       3     . Sill:  0.10000    . Range:  0.32000E+06
```

2.5 Variable Ba

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
--------------------------------------------------------------------
Name of file      : Ba-1.mod
--------------------------------------------------------------------
User              : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnmoss.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components: 1. Nugget effect:  0.68500E-01
Model: Spherical    1     . Sill: 0.88219E-01. Range:   40611.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
--------------------------------------------------------------------
Name of file      : Ba-2.mod
--------------------------------------------------------------------
User              : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnmoss.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components: 1. Nugget effect:  0.12322
Model: Spherical    1     . Sill: 0.33497E-01. Range:   93707.
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
--------------------------------------------------------------------
Name of file      : Ba.mod
--------------------------------------------------------------------
User              : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnmoss.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components: 1. Nugget effect:  0.95860E-01
Model: Spherical    1     . Sill: 0.60858E-01. Range:   67159.
```


Semi-variogram of Ba

2.6   Variable Be

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Be-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Be
Dimension: 2. Components: 1. Nugget effect:  0.16617
Model: Spherical    1    . Sill:  0.16531   . Range:   58517.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Be-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Be
Dimension: 2. Components: 1. Nugget effect:  0.18283
Model: Spherical    1    . Sill:  0.14866   . Range:  0.11065E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Be.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Be
Dimension: 2. Components: 1. Nugget effect:  0.17450
Model: Spherical    1    . Sill:  0.13000   . Range:   85000.
```


Semi-variogram of Be

2.7   Variable Bi

Direction East-West (*1st semi-variogram*):

```
        Date            : 08/17/96
        -------------------------------------------------------------------
        Name of file    : Bi-1.mod
        -------------------------------------------------------------------
        User            : Dutter / Reimann
        -------------------------------------------------------------------
        Name of data file: ../lnmoss.txt
        -------------------------------------------------------------------
        Semi-variogram model of variable: Bi
        Dimension: 2. Components: 1. Nugget effect:  0.20865
        Model: Spherical     1     . Sill:  0.52659   . Range:  0.14028E+06
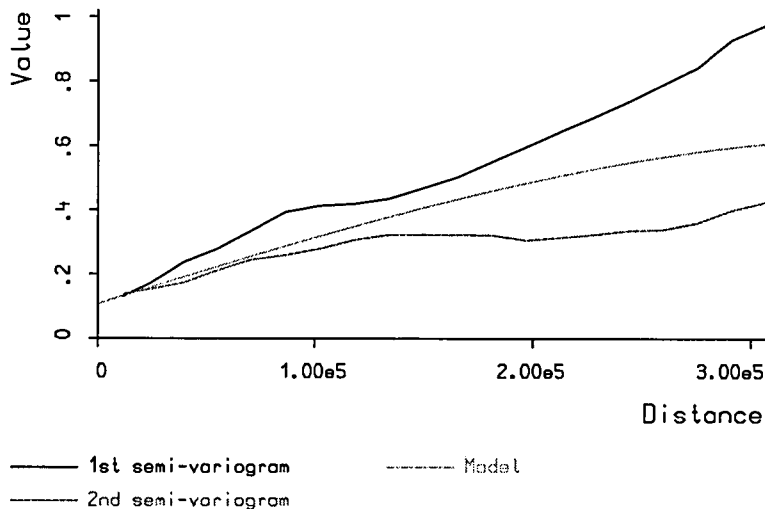```

Direction North-South (*2nd semi-variogram*):

```
        Date            : 08/17/96
        -------------------------------------------------------------------
        Name of file    : Bi-2.mod
        -------------------------------------------------------------------
        User            : Dutter / Reimann
        -------------------------------------------------------------------
        Name of data file: ../lnmoss.txt
        -------------------------------------------------------------------
        Semi-variogram model of variable: Bi
        Dimension: 2. Components: 1. Nugget effect:  0.22550
        Model: Spherical     1     . Sill:  0.50973   . Range:  0.26022E+06
```

Combined (Isotropical) Variogram:

```
        Date            : 08/17/96
        -------------------------------------------------------------------
        Name of file    : Bi.mod
        -------------------------------------------------------------------
        User            : Dutter / Reimann
        -------------------------------------------------------------------
        Name of data file: ../lnmoss.txt
        -------------------------------------------------------------------
        Semi-variogram model of variable: Bi
        Dimension: 2. Components: 2. Nugget effect:  0.21707
        Model: Spherical     1     . Sill:  0.20000   . Range:  0.12000E+06
        Model: Spherical     1     . Sill:  0.36000   . Range:  0.31000E+06
```


Semi-variogram of Bi

2.8   Variable Ca

Direction East-West (*1st semi-variogram*):

```
Date                : 08/17/96
------------------------------------------------------------------------
Name of file     : Ca-1.mod
------------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components:  1. Nugget effect:  0.26065E-01
Model: Spherical     1     . Sill:  0.15655E-01. Range:    37399.
```
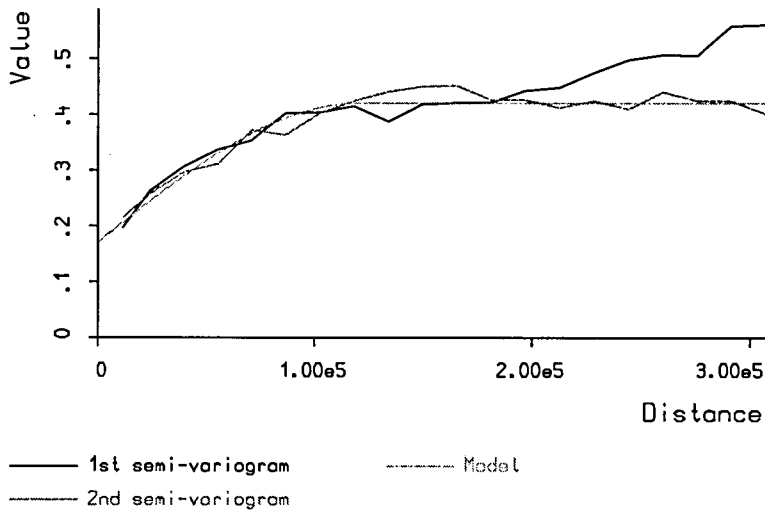
Direction North-South (*2nd semi-variogram*):

```
Date                : 08/17/96
------------------------------------------------------------------------
Name of file     : Ca-2.mod
------------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components:  1. Nugget effect:  0.29902E-01
Model: Spherical     1     . Sill:  0.11819E-01. Range:    44427.
```

Combined (Isotropical) Variogram:

```
Date                : 08/17/96
------------------------------------------------------------------------
Name of file     : Ca.mod
------------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components:  1. Nugget effect:  0.27983E-01
Model: Spherical     1     . Sill:  0.13737E-01. Range:    40913.
```


Semi-variogram of Ca

——— 1st semi-variogram   ————— Model
————— 2nd semi-variogram

2.9 Variable Cd

Direction East-West (*1st semi-variogram*):

```
Date             : 08/17/96
------------------------------------------------------------------
Name of file     : Cd-1.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components:  1. Nugget effect:  0.48369E-01
Model: Spherical    1     . Sill: 0.25407    . Range: 0.12139E+06
```
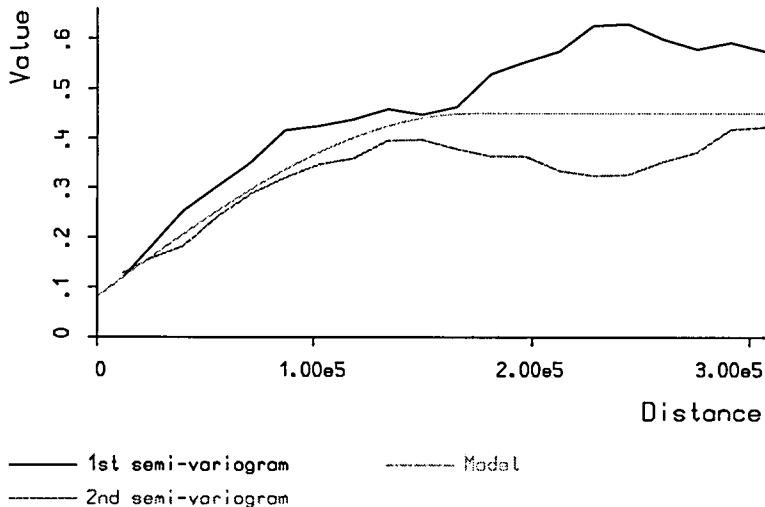
Direction North-South (*2nd semi-variogram*):

```
Date             : 08/17/96
------------------------------------------------------------------
Name of file     : Cd-2.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components:  1. Nugget effect:  0.51503E-01
Model: Spherical    1     . Sill: 0.25094    . Range: 0.18238E+06
```

Combined (Isotropical) Variogram:

```
Date             : 08/17/96
------------------------------------------------------------------
Name of file     : Cd.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components:  2. Nugget effect:  0.62000E-01
Model: Spherical    1     . Sill: 0.10000    . Range: 0.15000E+06
Model: Linear       3     . Sill: 0.15000    . Range: 0.31000E+06
```


Semi-variogram of Cd

2.10   Variable Co

Direction East-West (*1st semi-variogram*):

```
Date             : 08/17/96
------------------------------------------------------------------
Name of file     : Co-1.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.42643E-01
Model: Spherical    1    . Sill:  0.87680    . Range:  0.15932E+06
```
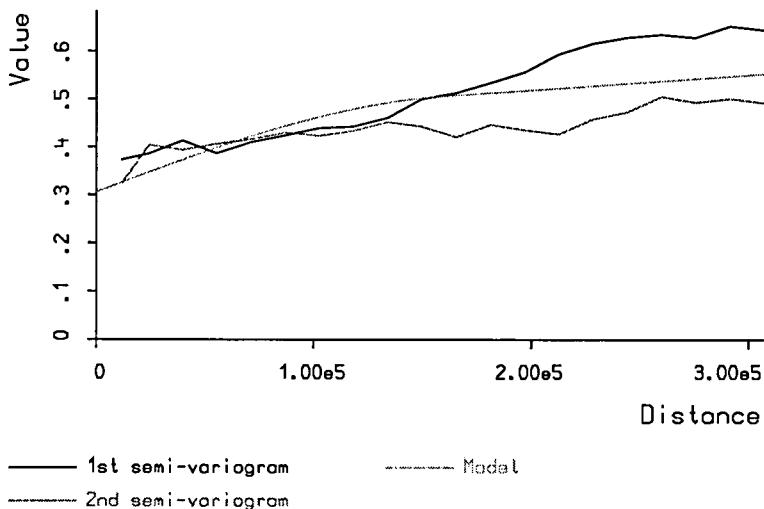
Direction North-South (*2nd semi-variogram*):

```
Date             : 08/17/96
------------------------------------------------------------------
Name of file     : Co-2.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.30219E-01
Model: Spherical    1    . Sill:  0.88922    . Range:  0.19704E+06
```

Combined (Isotropical) Variogram:

```
Date             : 08/17/96
------------------------------------------------------------------
Name of file     : Co.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 2. Nugget effect:  0.86000E-01
Model: Spherical    1    . Sill:  0.48000    . Range:  0.18000E+06
Model: Linear       3    . Sill:  0.50000    . Range:  0.31000E+06
```


Semi-variogram of Co

2.11   Variable Cr

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------
Name of file      : Cr-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components:  1. Nugget effect:  0.11135
Model: Spherical    1    . Sill: 0.41900    . Range:  0.10101E+06
```
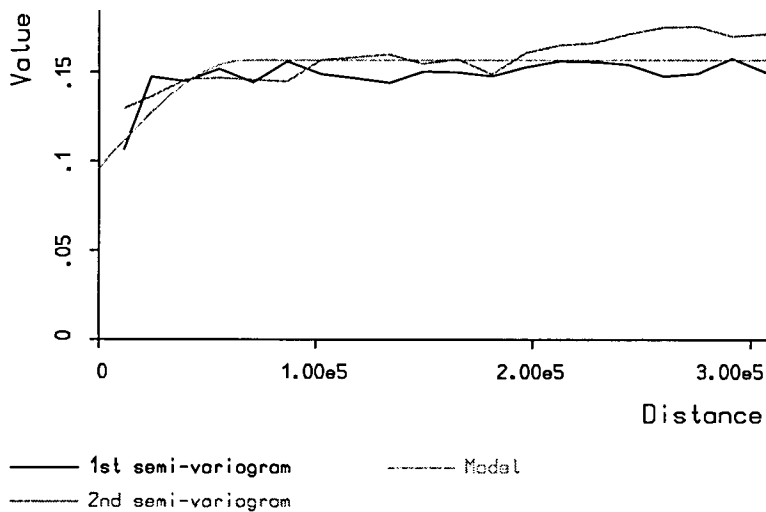
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------
Name of file      : Cr-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components:  1. Nugget effect:  0.72354E-01
Model: Spherical    1    . Sill: 0.45799    . Range:  89437.
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
------------------------------------------------------------------
Name of file      : Cr.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components:  1. Nugget effect:  0.91852E-01
Model: Spherical    1    . Sill: 0.43849    . Range:  95224.
```

2.12   Variable Cu

Direction East-West (*1st semi-variogram*):

```
Date             : 08/17/96
-----------------------------------------------------------------------
Name of file     : Cu-1.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components:  1. Nugget effect:  0.61226E-01
Model: Spherical    1     . Sill:  0.78312    . Range:  0.25143E+06
```
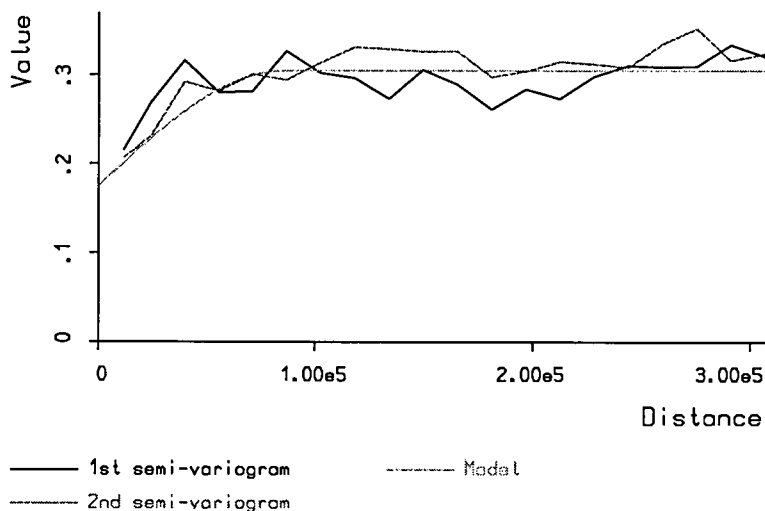
Direction North-South (*2nd semi-variogram*):

```
Date             : 08/17/96
-----------------------------------------------------------------------
Name of file     : Cu-2.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components:  1. Nugget effect:  0.14670E-01
Model: Spherical    1     . Sill:  0.82968    . Range:  0.24560E+06
```

Combined (Isotropical) Variogram:

```
Date             : 08/17/96
-----------------------------------------------------------------------
Name of file     : Cu.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components:  1. Nugget effect:  0.37948E-01
Model: Spherical    1     . Sill:  0.80640    . Range:  0.24852E+06
```

2.13   Variable Fe

Direction East-West (*1st semi-variogram*):

```
Date            : 08/17/96
------------------------------------------------------------------------
Name of file    : Fe-1.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.99312E-01
Model: Spherical    1     . Sill: 0.57205    . Range:   97119.
```

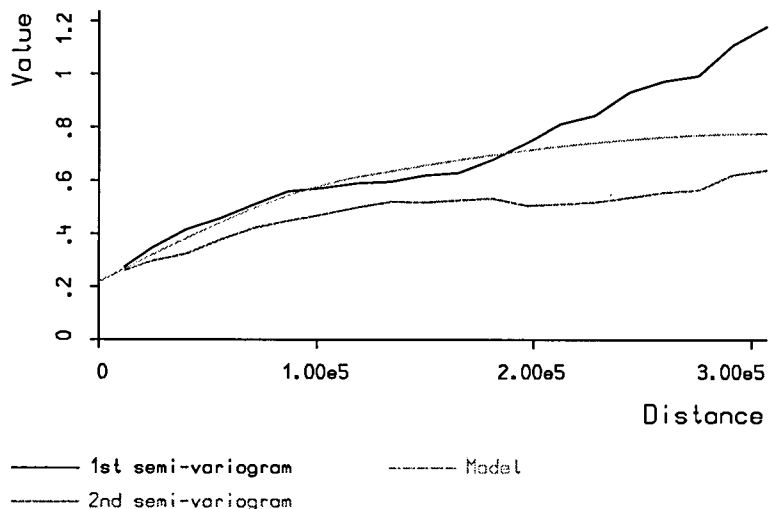Direction North-South (*2nd semi-variogram*):

```
Date            : 08/17/96
------------------------------------------------------------------------
Name of file    : Fe-2.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.16433
Model: Spherical    1     . Sill: 0.50703    . Range:  0.11941E+06
```

Combined (Isotropical) Variogram:

```
Date            : 08/17/96
------------------------------------------------------------------------
Name of file    : Fe.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.15000
Model: Spherical    1     . Sill: 0.52000    . Range:  0.14000E+06
```


Semi-variogram of Fe

2.14   Variable Hg

Direction East-West (*1st semi-variogram*):

```
Date            : 08/17/96
----------------------------------------------------------------
Name of file    : Hg-1.mod
----------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnmoss.txt
----------------------------------------------------------------
Semi-variogram model of variable: Hg
Dimension: 2. Components: 1. Nugget effect:  0.11008
Model: Spherical    1     . Sill: 0.00000    . Range:  0.00000
```

Direction North-South (*2nd semi-variogram*):
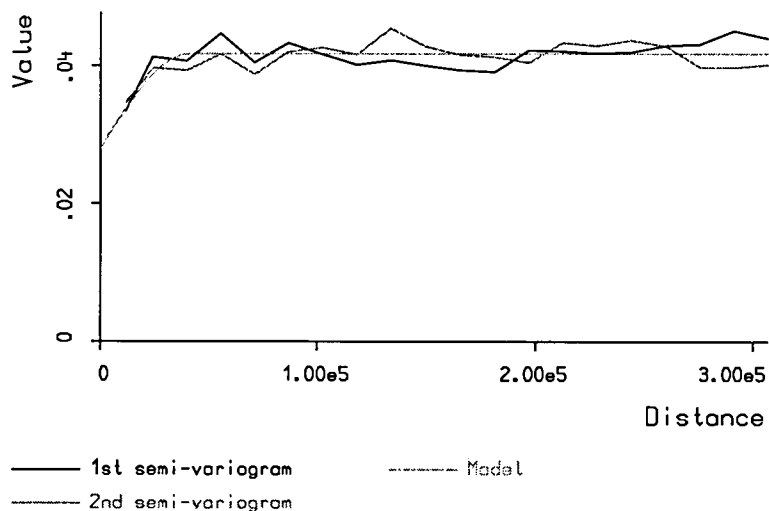
```
Date            : 08/17/96
----------------------------------------------------------------
Name of file    : Hg-2.mod
----------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnmoss.txt
----------------------------------------------------------------
Semi-variogram model of variable: Hg
Dimension: 2. Components: 1. Nugget effect:  0.87909E-01
Model: Spherical    1     . Sill: 0.22172E-01. Range:   50229.
```

Combined (Isotropical) Variogram:

```
Date            : 08/17/96
----------------------------------------------------------------
Name of file    : Hg.mod
----------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnmoss.txt
----------------------------------------------------------------
Semi-variogram model of variable: Hg
Dimension: 2. Components: 1. Nugget effect:  0.90000E-01
Model: Spherical    1     . Sill: 0.20000E-01. Range:   70000.
```


Semi-variogram of Hg

2.15 Variable K

Direction East-West (*1st semi-variogram*):

```
Date            : 08/17/96
------------------------------------------------------------------------
Name of file    : K-1.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components: 1. Nugget effect:  0.19192E-01
Model: Spherical     1    . Sill:  0.19114E-01. Range:   76001.
```

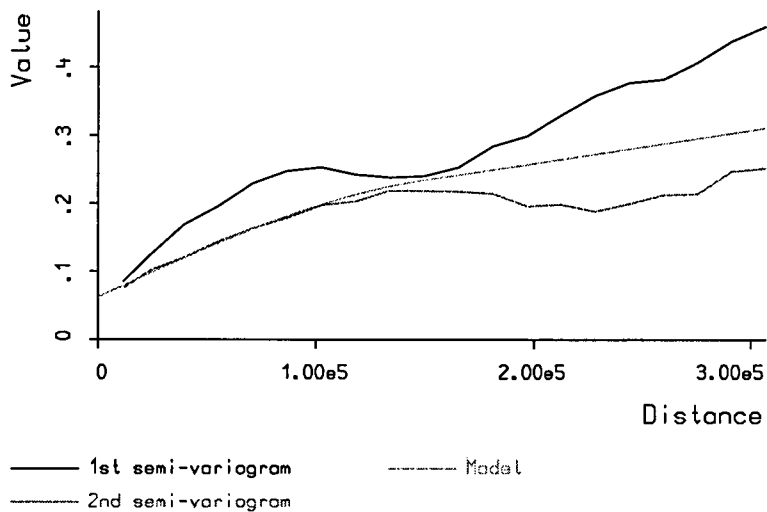Direction North-South (*2nd semi-variogram*):

```
Date            : 08/17/96
------------------------------------------------------------------------
Name of file    : K-2.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components: 1. Nugget effect:  0.21081E-01
Model: Spherical     1    . Sill:  0.17225E-01. Range:  0.14597E+06
```

Combined (Isotropical) Variogram:

```
Date            : 08/17/96
------------------------------------------------------------------------
Name of file    : K.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components: 2. Nugget effect:  0.21000E-01
Model: Spherical     1    . Sill:  0.70000E-02. Range:   70000.
Model: Linear        3    . Sill:  0.15000E-01. Range:  0.31000E+06
```


Semi-variogram of K

2.16   Variable La

Direction East-West (*1st semi-variogram*):

```
Date             : 08/17/96
------------------------------------------------------------------------
Name of file     : La-1.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components: 1. Nugget effect:  0.99357E-01
Model: Spherical     1    . Sill:  0.27364   . Range:    78238.
```
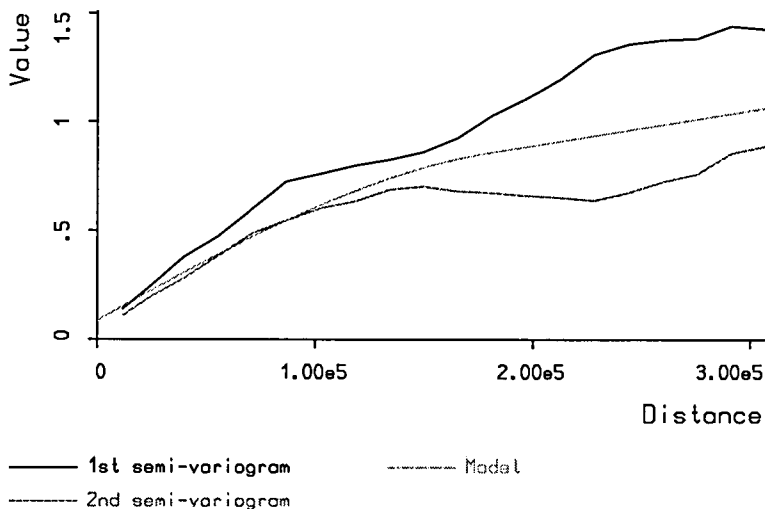
Direction North-South (*2nd semi-variogram*):

```
Date             : 08/17/96
------------------------------------------------------------------------
Name of file     : La-2.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components: 1. Nugget effect:  0.13401
Model: Spherical     1    . Sill:  0.23899   . Range:    77574.
```

Combined (Isotropical) Variogram:

```
Date             : 08/17/96
------------------------------------------------------------------------
Name of file     : La.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components: 1. Nugget effect:  0.11668
Model: Spherical     1    . Sill:  0.22600   . Range:    78000.
```


Semi-variogram of La

2.17 Variable Mg

Direction East-West (*1st semi-variogram*):

```
Date            : 08/17/96
--------------------------------------------------------------------
Name of file    : Mg-1.mod
--------------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnmoss.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components:  1. Nugget effect:  0.88843E-02
Model: Spherical     1    . Sill:  0.48425E-01. Range:   76965.
```
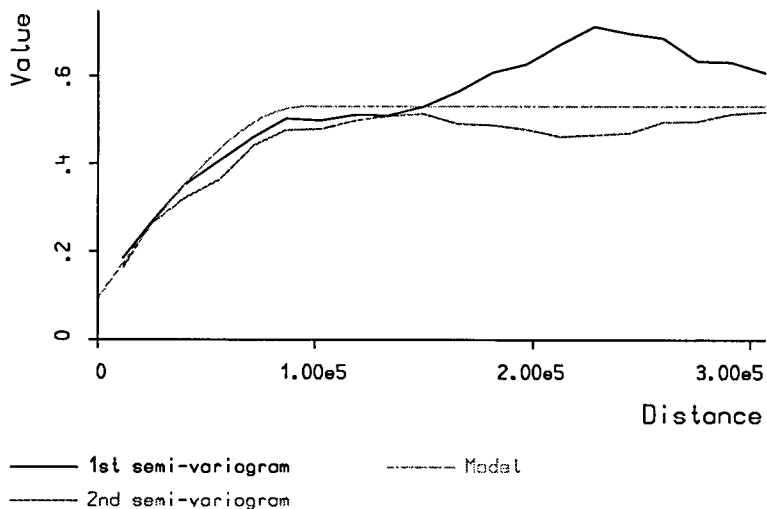
Direction North-South (*2nd semi-variogram*):

```
Date            : 08/17/96
--------------------------------------------------------------------
Name of file    : Mg-2.mod
--------------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnmoss.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components:  1. Nugget effect:  0.18898E-01
Model: Spherical     1    . Sill:  0.38411E-01. Range:  0.14741E+06
```

Combined (Isotropical) Variogram:

```
Date            : 08/17/96
--------------------------------------------------------------------
Name of file    : Mg.mod
--------------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnmoss.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components:  2. Nugget effect:  0.18800E-01
Model: Spherical     1    . Sill:  0.18000E-01. Range:  0.11200E+06
Model: Linear        3    . Sill:  0.20000E-01. Range:  0.31000E+06
```


Semi-variogram of Mg

1st semi-variogram   Model

2nd semi-variogram

2.18   Variable Mn

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
-----------------------------------------------------------------------
Name of file      : Mn-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components:  1. Nugget effect:  0.15476
Model: Spherical     1     . Sill:  0.16509    . Range:  0.15166E+06
```
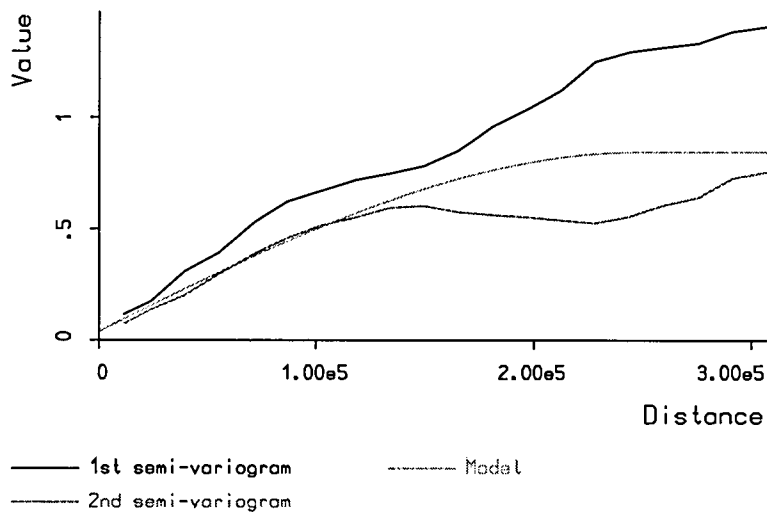
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
-----------------------------------------------------------------------
Name of file      : Mn-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension:  2. Components:  1. Nugget effect:  0.14710
Model: Spherical     1     . Sill:  0.17275    . Range:  0.13569E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
-----------------------------------------------------------------------
Name of file      : Mn.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension:  2. Components:  1. Nugget effect:  0.16000
Model: Spherical     1     . Sill:  0.12900    . Range:  0.14400E+06
```


Semi-variogram of Mn

2.19   Variable Mo

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
-----------------------------------------------------------------
Name of file      : Mo-1.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Mo
Dimension: 2. Components: 1. Nugget effect:  0.79578E-01
Model: Spherical    1    . Sill:  0.26350    . Range:  0.19512E+06
```
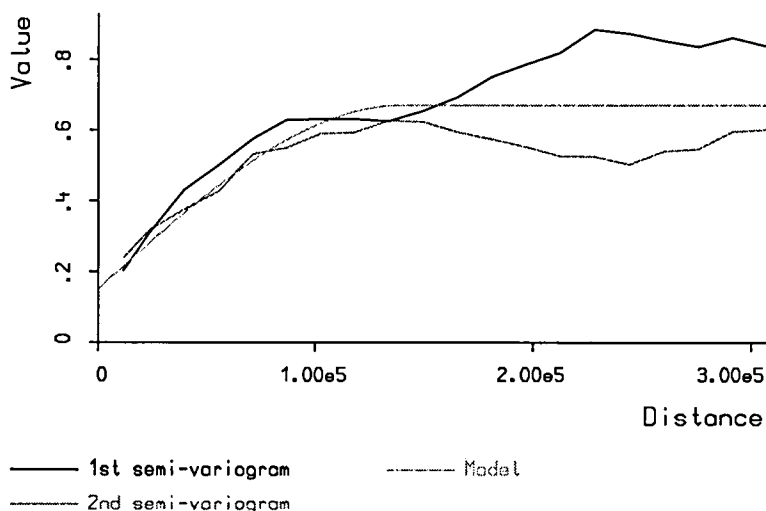
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
-----------------------------------------------------------------
Name of file      : Mo-2.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Mo
Dimension: 2. Components: 1. Nugget effect:  0.98195E-01
Model: Spherical    1    . Sill:  0.24488    . Range:  0.11767E+07
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
-----------------------------------------------------------------
Name of file      : Mo.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Mo
Dimension: 2. Components: 2. Nugget effect:  0.78000E-01
Model: Spherical    1    . Sill:  0.16000    . Range:  0.12000E+06
Model: Linear       3    . Sill:  0.10000    . Range:  0.31000E+06
```


Semi-variogram of Mo

2.20   Variable Na

Direction East-West (*1st semi-variogram*):

```
Date                : 08/17/96
-------------------------------------------------------------------------
Name of file      : Na-1.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.16208
Model: Spherical    1    . Sill:  0.47498   . Range:  0.16553E+06
```
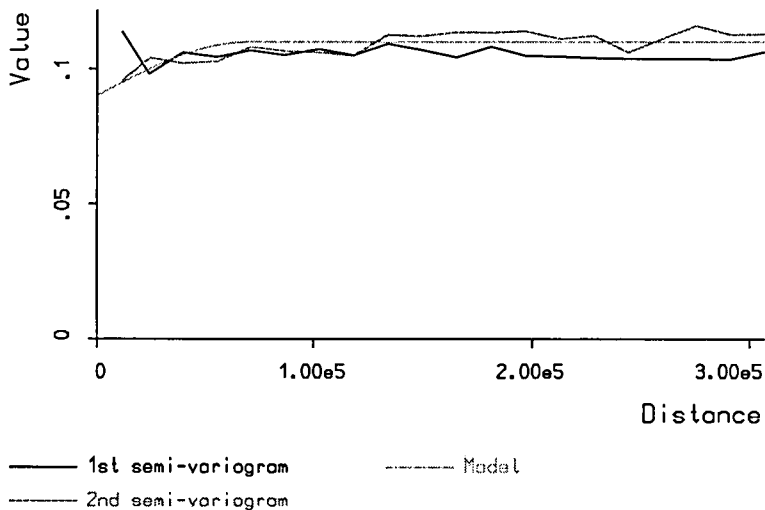
Direction North-South (*2nd semi-variogram*):

```
Date                : 08/17/96
-------------------------------------------------------------------------
Name of file      : Na-2.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.13595
Model: Spherical    1    . Sill:  0.50111   . Range:  0.16190E+06
```

Combined (Isotropical) Variogram:

```
Date                : 08/17/96
-------------------------------------------------------------------------
Name of file      : Na.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.16900
Model: Spherical    1    . Sill:  0.65000   . Range:  0.40000E+06
```

2.21   Variable Ni

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Ni-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components:  1. Nugget effect:  0.46658E-01
Model: Spherical    1     . Sill:   1.6815    . Range:  0.32493E+06
```
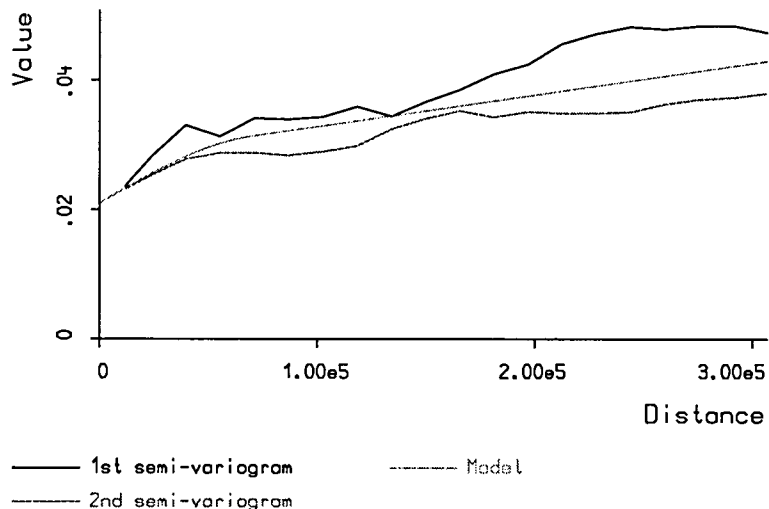
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Ni-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components:  1. Nugget effect:  0.21265E-01
Model: Spherical    1     . Sill:   1.7069    . Range:  0.36129E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Ni.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components:  1. Nugget effect:  0.33962E-01
Model: Spherical    1     . Sill:   2.1900    . Range:  0.34300E+06
```


Semi-variogram of Ni

2.22   Variable P

Direction East-West (*1st semi-variogram*):

```
Date             : 08/17/96
-----------------------------------------------------------------
Name of file     : P-1.mod
-----------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components:  1. Nugget effect:  0.23527E-01
Model: Spherical    1      . Sill:  0.28452E-01. Range:    56125.
```
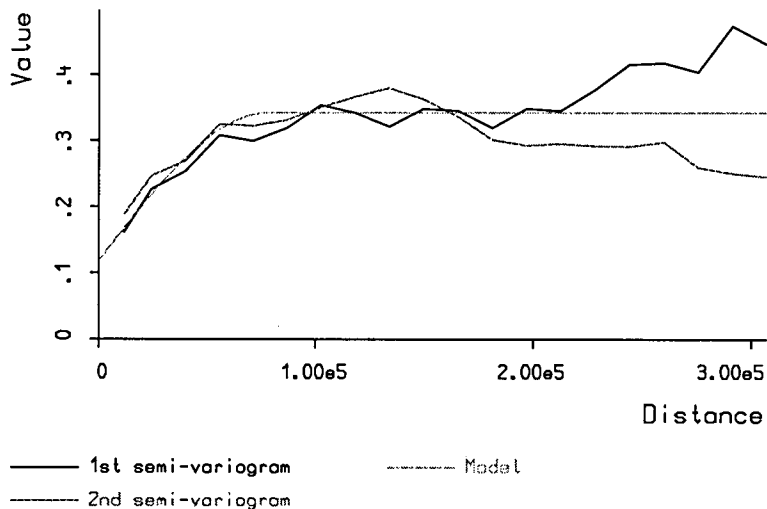
Direction North-South (*2nd semi-variogram*):

```
Date             : 08/17/96
-----------------------------------------------------------------
Name of file     : P-2.mod
-----------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components:  1. Nugget effect:  0.25353E-01
Model: Spherical    1      . Sill:  0.26626E-01. Range:    74345.
```

Combined (Isotropical) Variogram:

```
Date             : 08/17/96
-----------------------------------------------------------------
Name of file     : P.mod
-----------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components:  1. Nugget effect:  0.24440E-01
Model: Spherical    1      . Sill:  0.27539E-01. Range:    65235.
```


Semi-variogram of P

— 1st semi-variogram   ——— Model

——— 2nd semi-variogram

2.23   Variable Pb

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Pb-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Pb
Dimension: 2. Components: 1. Nugget effect:  0.17480
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```
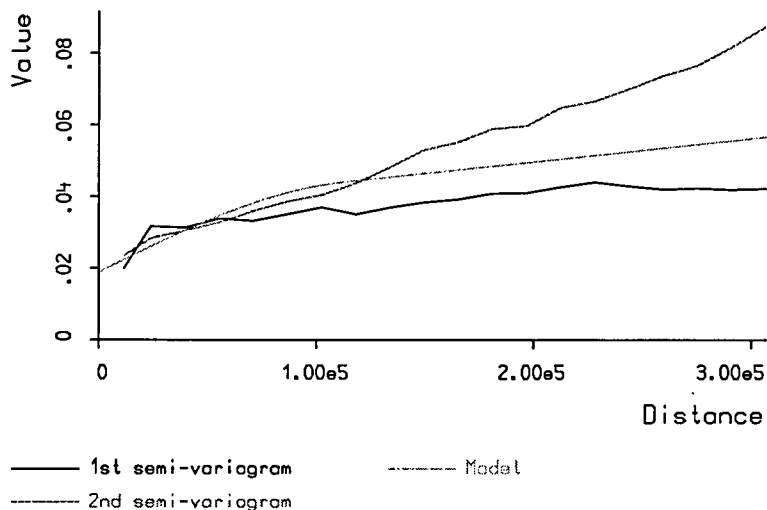
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Pb-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Pb
Dimension: 2. Components: 1. Nugget effect:  0.99416E-01
Model: Spherical     1     . Sill:  0.75384E-01. Range:  0.18414E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Pb.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Pb
Dimension: 2. Components: 1. Nugget effect:  0.10000
Model: Spherical     1     . Sill:  0.74000E-01. Range:  0.12000E+06
```


Semi-variogram of Pb

——— 1st semi-variogram   ——·—— Model

———— 2nd semi-variogram

2.24   Variable Rb

Direction East-West (*1st semi-variogram*):

```
Date               : 08/17/96
-------------------------------------------------------------------------
Name of file      : Rb-1.mod
-------------------------------------------------------------------------
User               : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Rb
Dimension: 2. Components:  1. Nugget effect:  0.74439E-01
Model: Spherical    1     . Sill:  0.20427    . Range:  0.10859E+06
```
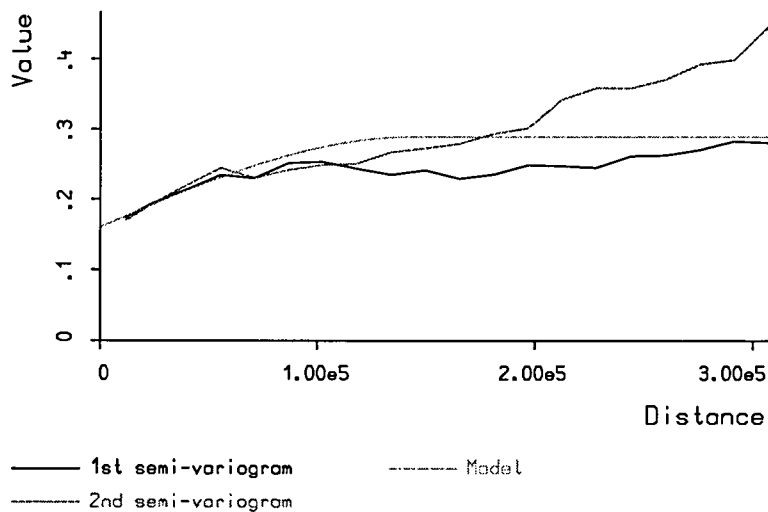
Direction North-South (*2nd semi-variogram*):

```
Date               : 08/17/96
-------------------------------------------------------------------------
Name of file      : Rb-2.mod
-------------------------------------------------------------------------
User               : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Rb
Dimension: 2. Components:  1. Nugget effect:  0.13522
Model: Spherical    1     . Sill:  0.14348    . Range:  0.58792E+06
```

Combined (Isotropical) Variogram:

```
Date               : 08/17/96
-------------------------------------------------------------------------
Name of file      : Rb.mod
-------------------------------------------------------------------------
User               : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Rb
Dimension: 2. Components:  1. Nugget effect:  0.10483
Model: Spherical    1     . Sill:  0.17388    . Range:  0.34826E+06
```


Semi-variogram of Rb

2.25 Variable S

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
-------------------------------------------------------------------
Name of file     : S-1.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components:  1. Nugget effect:  0.11534E-01
Model: Spherical     1      . Sill:  0.12719E-01. Range:  0.14991E+06
```
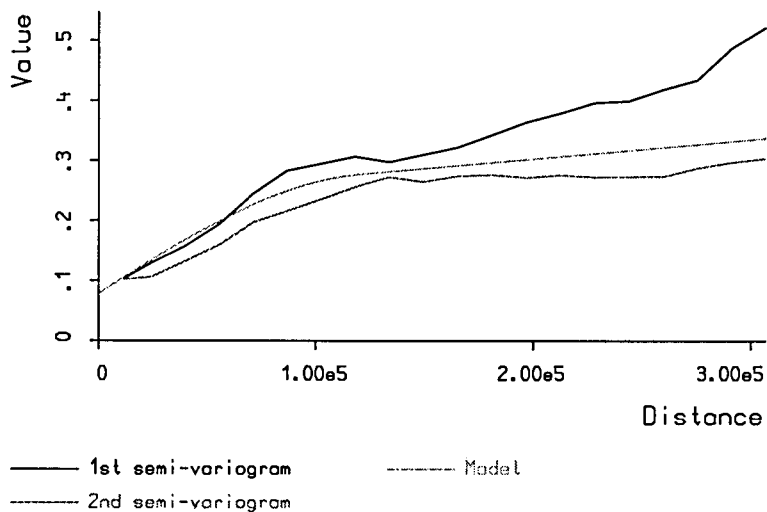
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
-------------------------------------------------------------------
Name of file     : S-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components:  1. Nugget effect:  0.62082E-02
Model: Spherical     1      . Sill:  0.18044E-01. Range:    90203.
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
-------------------------------------------------------------------
Name of file     : S.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components:  1. Nugget effect:  0.88711E-02
Model: Spherical     1      . Sill:  0.15382E-01. Range:  0.12006E+06
```


Semi-variogram of S

——— 1st semi-variogram   – – – – – Model

——— 2nd semi-variogram

2.26 Variable Sb

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
-----------------------------------------------------------------
Name of file      : Sb-1.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components:  1. Nugget effect:  0.29907
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```
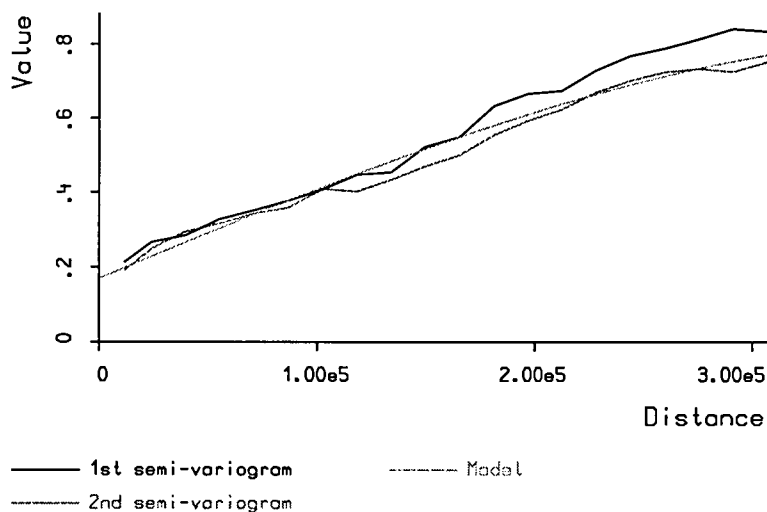
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
-----------------------------------------------------------------
Name of file      : Sb-2.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components:  1. Nugget effect:  0.14634
Model: Spherical     1     . Sill:  0.15274    . Range:  0.13775E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
-----------------------------------------------------------------
Name of file      : Sb.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components:  1. Nugget effect:  0.17000
Model: Spherical     1     . Sill:  0.12600    . Range:  0.20000E+06
```


Semi-variogram of Sb
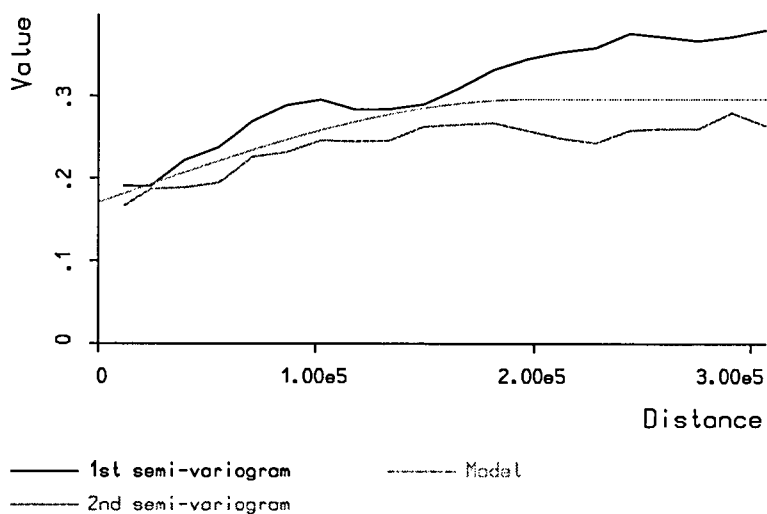
2.27 Variable Sc

Direction East-West (*1st semi-variogram*):

```
Date             : 08/17/96
-----------------------------------------------------------------
Name of file     : Sc-1.mod
-----------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Sc
Dimension: 2. Components:  1. Nugget effect:  0.80120E-01
Model: Spherical     1     . Sill:  0.36885E-01. Range:    38469.
```
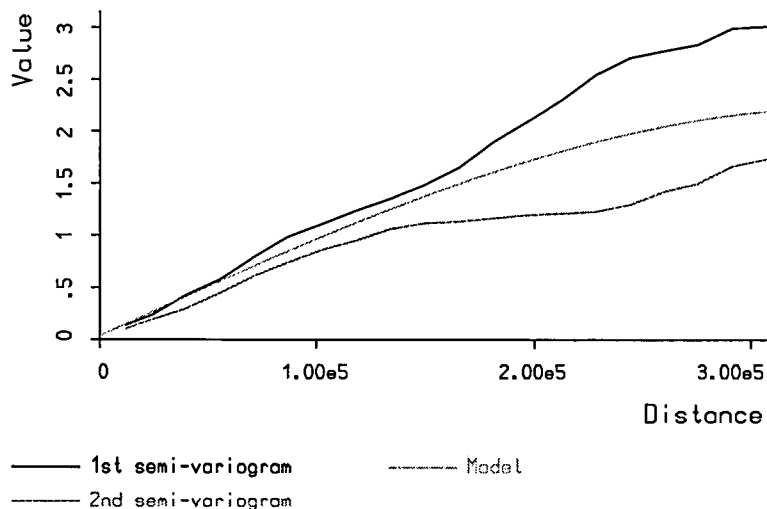
Direction North-South (*2nd semi-variogram*):

```
Date             : 08/17/96
-----------------------------------------------------------------
Name of file     : Sc-2.mod
-----------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Sc
Dimension: 2. Components:  1. Nugget effect:  0.11701
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date             : 08/17/96
-----------------------------------------------------------------
Name of file     : Sc.mod
-----------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Sc
Dimension: 2. Components:  1. Nugget effect:  0.98565E-01
Model: Spherical     1     . Sill:  0.18443E-01. Range:  50000.
```


Semi-variogram of Sc

2.28   Variable Si

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Si-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components: 1. Nugget effect:  0.74017E-01
Model: Spherical     1    . Sill:  0.15790    . Range:   81084.
```
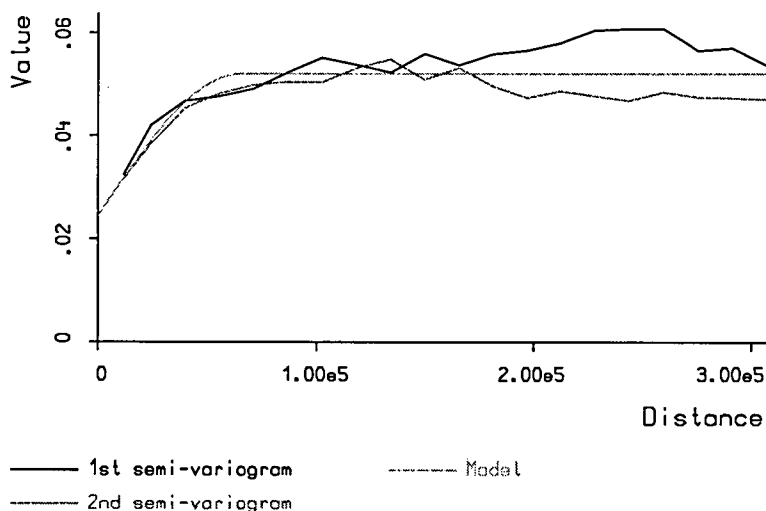
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Si-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components: 1. Nugget effect:  0.69046E-01
Model: Spherical     1    . Sill:  0.16287    . Range:   80877.
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Si.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components: 2. Nugget effect:  0.90000E-01
Model: Spherical     1    . Sill:  0.10000    . Range:  0.10000E+06
Model: Linear        3    . Sill:  0.60000E-01. Range:  0.31000E+06
```

2.29   Variable Sr

Direction East-West (*1st semi-variogram*):

```
Date                : 08/17/96
------------------------------------------------------------------
Name of file      : Sr-1.mod
------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension: 2. Components:  1. Nugget effect:  0.12125
Model: Spherical    1     . Sill:  0.40826    . Range:  0.15523E+06
```
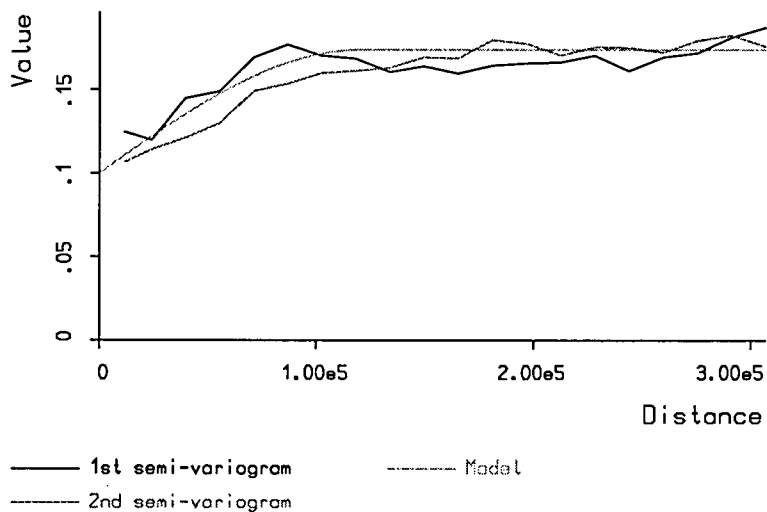
Direction North-South (*2nd semi-variogram*):

```
Date                : 08/17/96
------------------------------------------------------------------
Name of file      : Sr-2.mod
------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension: 2. Components:  1. Nugget effect:  0.12112
Model: Spherical    1     . Sill:  0.40839    . Range:  0.17508E+06
```

Combined (Isotropical) Variogram:

```
Date                : 08/17/96
------------------------------------------------------------------
Name of file      : Sr.mod
------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension: 2. Components:  1. Nugget effect:  0.12119
Model: Spherical    1     . Sill:  0.40832    . Range:  0.21000E+06
```


Semi-variogram of Sr

2.30   Variable Th

Direction East-West (*1st semi-variogram*):

```
Date               : 08/17/96
-----------------------------------------------------------------
Name of file       : Th-1.mod
-----------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components:  1. Nugget effect:  0.33150
Model: Spherical     1     . Sill: 0.32722    . Range:  0.13951E+06
```
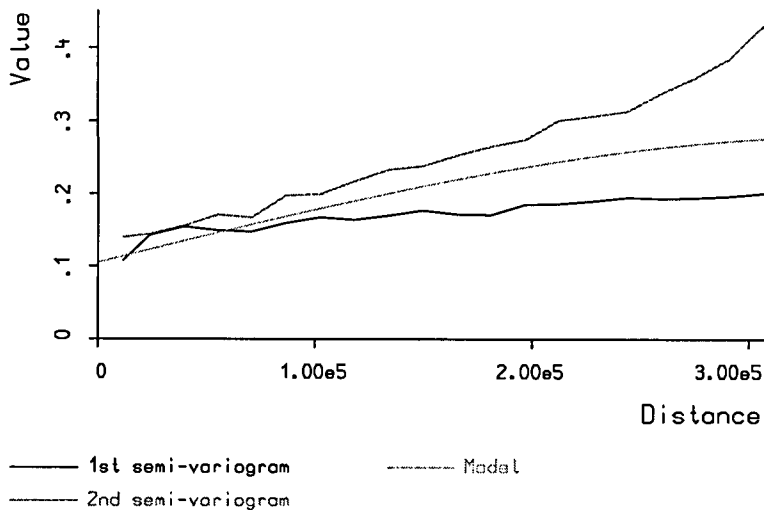
Direction North-South (*2nd semi-variogram*):

```
Date               : 08/17/96
-----------------------------------------------------------------
Name of file       : Th-2.mod
-----------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components:  1. Nugget effect:  0.24189
Model: Spherical     1     . Sill: 0.41683    . Range:    69379.
```

Combined (Isotropical) Variogram:

```
Date               : 08/17/96
-----------------------------------------------------------------
Name of file       : Th.mod
-----------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnmoss.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components:  1. Nugget effect:  0.33000
Model: Spherical     1     . Sill: 0.32000    . Range:  0.20000E+06
```


Semi-variogram of Th
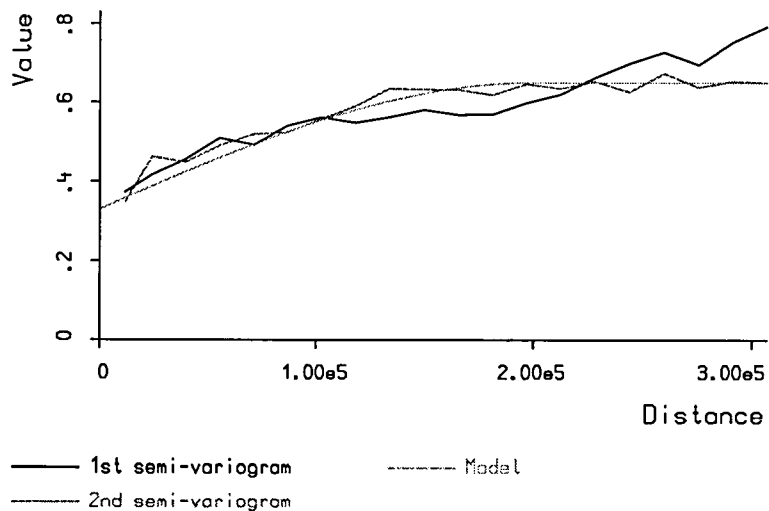
2.31 Variable Tl

Direction East-West (*1st semi-variogram*):

```
Date             : 08/17/96
------------------------------------------------------------------------
Name of file     : Tl-1.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Tl
Dimension: 2. Components: 1. Nugget effect:  0.19845
Model: Spherical    1     . Sill: 0.33836    . Range:  0.14407E+06
```
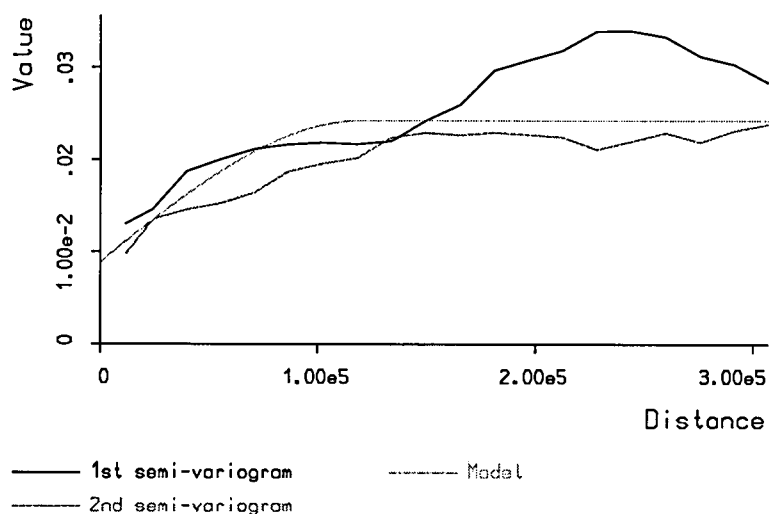
Direction North-South (*2nd semi-variogram*):

```
Date             : 08/17/96
------------------------------------------------------------------------
Name of file     : Tl-2.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Tl
Dimension: 2. Components: 1. Nugget effect:  0.10515
Model: Spherical    1     . Sill: 0.43166    . Range:  86676.
```

Combined (Isotropical) Variogram:

```
Date             : 08/17/96
------------------------------------------------------------------------
Name of file     : Tl.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Tl
Dimension: 2. Components: 1. Nugget effect:  0.19000
Model: Spherical    1     . Sill: 0.34500    . Range:  0.25000E+06
```


Semi-variogram of Tl

——— 1st semi-variogram   —·—·— Model

——— 2nd semi-variogram

2.32   Variable U

Direction East-West (*1st semi-variogram*):

```
Date               : 08/17/96
-------------------------------------------------------------------
Name of file     : U-1.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-------------------------------------------------------------------
Semi-variogram model of variable: U
Dimension: 2. Components: 1. Nugget effect:  0.22078
Model: Spherical    1     . Sill:  0.57788    . Range:    97462.
```

Direction North-South (*2nd semi-variogram*):

```
Date               : 08/17/96
-------------------------------------------------------------------
Name of file     : U-2.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-------------------------------------------------------------------
Semi-variogram model of variable: U
Dimension: 2. Components: 1. Nugget effect:  0.45325
Model: Spherical    1     . Sill:  0.34541    . Range:  0.32011E+07
```

Combined (Isotropical) Variogram:

```
Date               : 08/17/96
-------------------------------------------------------------------
Name of file     : U.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnmoss.txt
-------------------------------------------------------------------
Semi-variogram model of variable: U
Dimension: 2. Components: 1. Nugget effect:  0.36000
Model: Spherical    1     . Sill:  0.46165    . Range:  0.22500E+06
```


Semi-variogram of U

2.33 Variable V

Direction East-West (*1st semi-variogram*):

```
        Date              : 08/17/96
        ------------------------------------------------------------
        Name of file      : V-1.mod
        ------------------------------------------------------------
        User              : Dutter / Reimann
        ------------------------------------------------------------
        Name of data file: ../lnmoss.txt
        ------------------------------------------------------------
        Semi-variogram model of variable: V
        Dimension: 2. Components: 1. Nugget effect:  0.95532E-01
        Model: Spherical    1     . Sill: 0.47305    . Range:  0.14838E+06
```
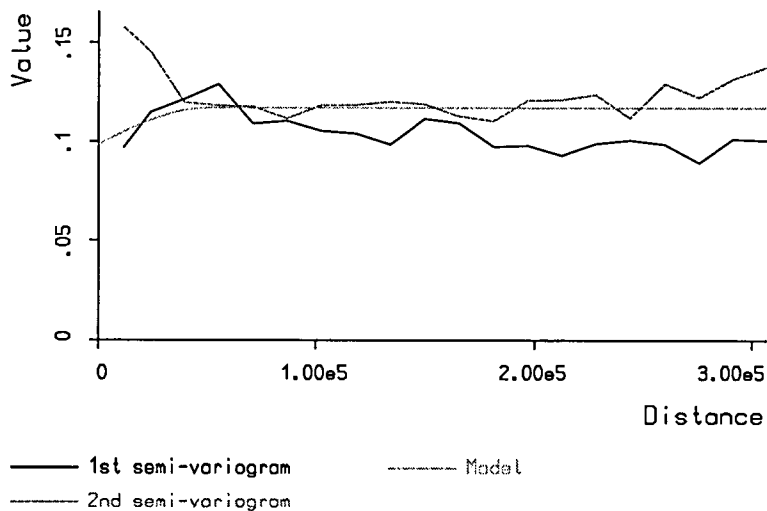
Direction North-South (*2nd semi-variogram*):

```
        Date              : 08/17/96
        ------------------------------------------------------------
        Name of file      : V-2.mod
        ------------------------------------------------------------
        User              : Dutter / Reimann
        ------------------------------------------------------------
        Name of data file: ../lnmoss.txt
        ------------------------------------------------------------
        Semi-variogram model of variable: V
        Dimension: 2. Components: 1. Nugget effect:  0.12178
        Model: Spherical    1     . Sill: 0.44680    . Range:  0.20386E+06
```

Combined (Isotropical) Variogram:

```
        Date              : 08/17/96
        ------------------------------------------------------------
        Name of file      : V.mod
        ------------------------------------------------------------
        User              : Dutter / Reimann
        ------------------------------------------------------------
        Name of data file: ../lnmoss.txt
        ------------------------------------------------------------
        Semi-variogram model of variable: V
        Dimension: 2. Components: 2. Nugget effect:  0.10866
        Model: Spherical    1     . Sill: 0.22000    . Range:  0.11000E+06
        Model: Linear       3     . Sill: 0.25000    . Range:  0.31000E+06
```
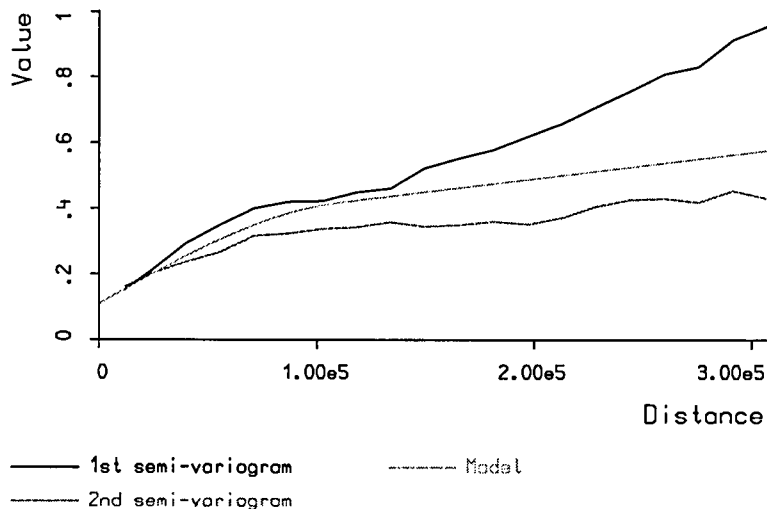

Semi-variogram of V

2.34   Variable Y

Direction East-West (*1st semi-variogram*):

```
        Date            : 08/17/96
        ------------------------------------------------------------------
        Name of file    : Y-1.mod
        ------------------------------------------------------------------
        User            : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lnmoss.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Y
        Dimension: 2. Components: 1. Nugget effect:  0.19563
        Model: Spherical    1     . Sill:  0.48339    . Range:    78930.
```
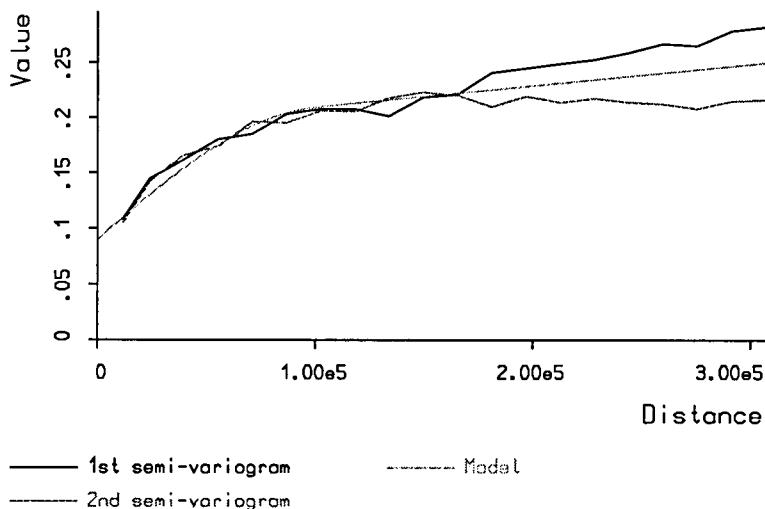
Direction North-South (*2nd semi-variogram*):

```
        Date            : 08/17/96
        ------------------------------------------------------------------
        Name of file    : Y-2.mod
        ------------------------------------------------------------------
        User            : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lnmoss.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Y
        Dimension: 2. Components: 1. Nugget effect:  0.30047
        Model: Spherical    1     . Sill:  0.37855    . Range:    84029.
```

Combined (Isotropical) Variogram:

```
        Date            : 08/17/96
        ------------------------------------------------------------------
        Name of file    : Y.mod
        ------------------------------------------------------------------
        User            : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lnmoss.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Y
        Dimension: 2. Components: 2. Nugget effect:  0.27000
        Model: Spherical    1     . Sill:  0.25000    . Range:    80000.
        Model: Linear       3     . Sill:  0.14000    . Range:    0.32000E+06
```


Semi-variogram of Y

2.35 Variable Zn

Direction East-West (*1st semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Zn-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect: 0.61732E-01
Model: Spherical     1    . Sill: 0.34048E-01. Range:   97498.
```

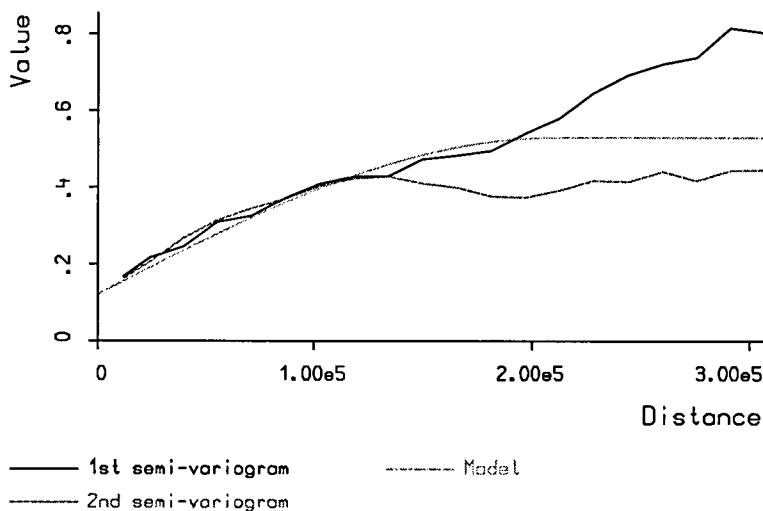Direction North-South (*2nd semi-variogram*):

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Zn-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect: 0.39013E-01
Model: Spherical     1    . Sill: 0.56767E-01. Range:   61537.
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
------------------------------------------------------------------------
Name of file      : Zn.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnmoss.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 2. Nugget effect: 0.55000E-01
Model: Spherical     1    . Sill: 0.20000E-01. Range:   50000.
Model: Linear        3    . Sill: 0.20000E-01. Range:  0.31000E+06
```

Chapter 3

Estimated Variograms for HUMUS (Ln-transformed Data)

3.1   Variable Ag

Direction East-West (*1st semi-variogram*):

```
Date               : 08/13/96
-----------------------------------------------------------------------
Name of file    : Ag-1.mod
-----------------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ag
Dimension: 2. Components: 1. Nugget effect:  0.14431
Model: Spherical     1     . Sill:  0.58484    . Range:    92625.
```

Direction North-South (*2nd semi-variogram*):

```
Date               : 08/13/96
-----------------------------------------------------------------------
Name of file    : Ag-2.mod
-----------------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ag
Dimension: 2. Components: 1. Nugget effect:  0.23454
Model: Spherical     1     . Sill:  0.49461    . Range:  0.14776E+06
```

Combined (Isotropical) Variogram:

```
Date               : 12/24/96
-----------------------------------------------------------------------
Name of file    : Ag.mod
-----------------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ag
Dimension: 2. Components: 2. Nugget effect:  0.21900
Model: Spherical     1     . Sill:  0.17000    . Range:    60000.
Model: Linear        3     . Sill:  0.40000    . Range:  0.31000E+06
```


Semi-variogram of Ag

3.2   Variable Al

Direction East-West (*1st semi-variogram*):

```
Date                : 08/13/96
-----------------------------------------------------------------
Name of file    : Al-1.mod
-----------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension:  2. Components:  1. Nugget effect:  0.25909
Model:  Spherical     1      . Sill:  0.20360    . Range:  0.10202E+06
```
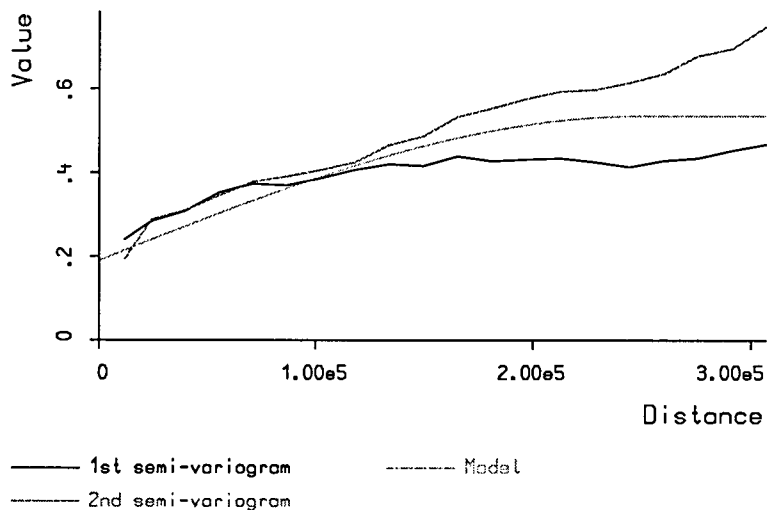
Direction North-South (*2nd semi-variogram*):

```
Date                : 08/13/96
-----------------------------------------------------------------
Name of file    : Al-2.mod
-----------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension:  2. Components:  1. Nugget effect:  0.46269
Model:  Spherical     1      . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date                : 12/24/96
-----------------------------------------------------------------
Name of file    : Al.mod
-----------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension:  2. Components:  1. Nugget effect:  0.26400
Model:  Spherical     1      . Sill:  0.20000    . Range:  0.12000E+06
```


Semi-variogram of Al

3.3 Variable As

Direction East-West (*1st semi-variogram*):

```
Date             : 08/13/96
------------------------------------------------------------------
Name of file     : As-1.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.14297
Model: Spherical    1     . Sill:  0.20844    . Range:   70394.
```
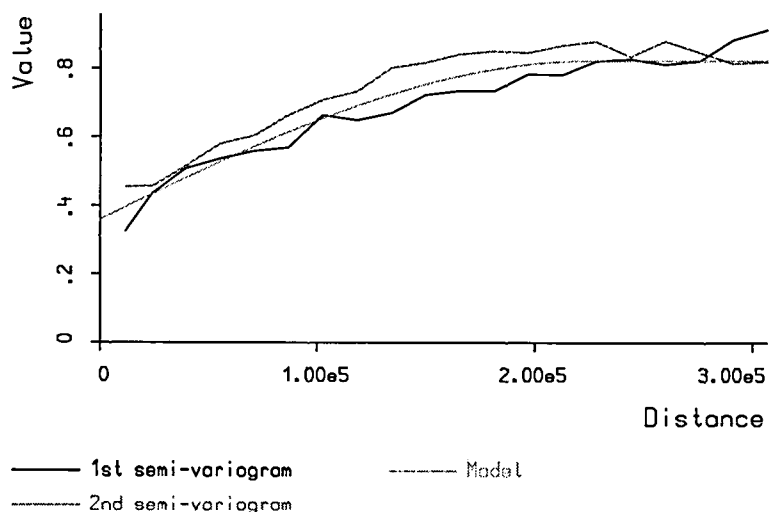
Direction North-South (*2nd semi-variogram*):

```
Date             : 08/13/96
------------------------------------------------------------------
Name of file     : As-2.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.35142
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date             : 12/24/96
------------------------------------------------------------------
Name of file     : As.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.14719
Model: Spherical    1     . Sill:  0.20422    . Range:   70000.
```


Semi-variogram of As

3.4 Variable B

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
-----------------------------------------------------------------------
Name of file      : B-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: B
Dimension: 2. Components: 1. Nugget effect:  0.17918
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
-----------------------------------------------------------------------
Name of file      : B-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: B
Dimension: 2. Components: 1. Nugget effect:  0.17918
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 01/04/97
-----------------------------------------------------------------------
Name of file      : B.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: B
Dimension: 2. Components: 1. Nugget effect:  0.60000E-01
Model: Spherical     1     . Sill:  0.10000    . Range:  0.22000E+06
```


Semi-variogram of B

3.5   Variable Ba

Direction East-West (*1st semi-variogram*):

```
            Date            : 08/13/96
            ------------------------------------------------------------------
            Name of file    : Ba-1.mod
            ------------------------------------------------------------------
            User            : Dutter / Reimann
            ------------------------------------------------------------------
            Name of data file: ../humln.txt
            ------------------------------------------------------------------
            Semi-variogram model of variable: Ba
            Dimension: 2. Components: 1. Nugget effect:  0.10409
            Model: Spherical     1     . Sill:  0.80564E-01. Range:    63643.
```
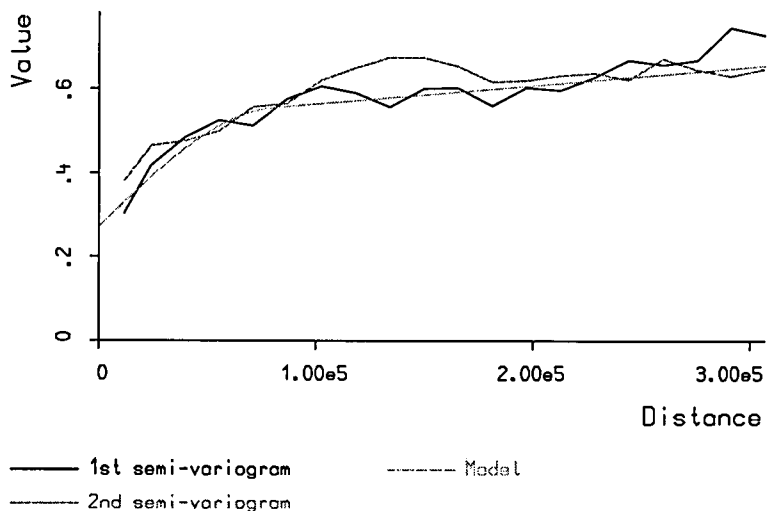
Direction North-South (*2nd semi-variogram*):

```
            Date            : 08/13/96
            ------------------------------------------------------------------
            Name of file    : Ba-2.mod
            ------------------------------------------------------------------
            User            : Dutter / Reimann
            ------------------------------------------------------------------
            Name of data file: ../humln.txt
            ------------------------------------------------------------------
            Semi-variogram model of variable: Ba
            Dimension: 2. Components: 1. Nugget effect:  0.18465
            Model: Spherical     1     . Sill:  0.00000   . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
            Date            : 12/24/96
            ------------------------------------------------------------------
            Name of file    : Ba.mod
            ------------------------------------------------------------------
            User            : Dutter / Reimann
            ------------------------------------------------------------------
            Name of data file: ../humln.txt
            ------------------------------------------------------------------
            Semi-variogram model of variable: Ba
            Dimension: 2. Components: 2. Nugget effect:  0.94370E-01
            Model: Spherical     1     . Sill:  0.51000E-01. Range:    40000.
            Model: Linear        3     . Sill:  0.20000E-01. Range:  0.31000E+06
```


Semi-variogram of Ba

3.6   Variable Be

Direction East-West (*1st semi-variogram*):

```
Date            : 08/13/96
-----------------------------------------------------------------------
Name of file    : Be-1.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Be
Dimension: 2. Components: 1. Nugget effect:  0.51735
Model: Spherical    1     . Sill:  0.66308    . Range:    64389.
```

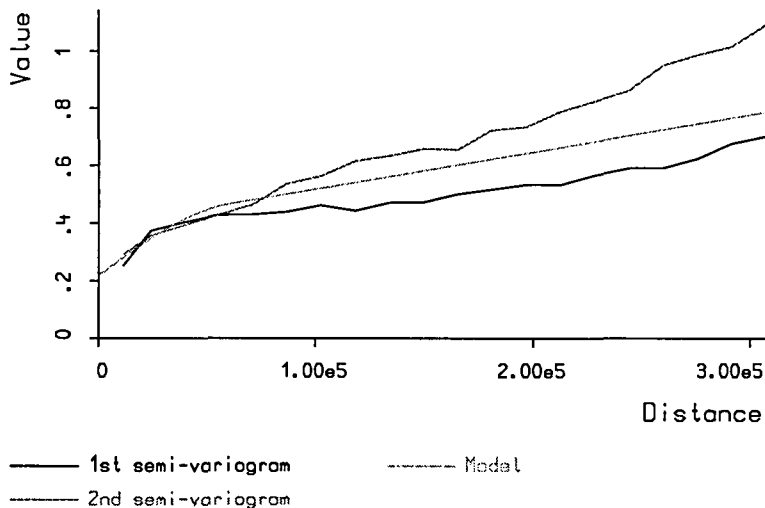Direction North-South (*2nd semi-variogram*):

```
Date            : 08/13/96
-----------------------------------------------------------------------
Name of file    : Be-2.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Be
Dimension: 2. Components: 1. Nugget effect:  0.63821
Model: Spherical    1     . Sill:  0.54222    . Range:    95741.
```

Combined (Isotropical) Variogram:

```
Date            : 12/24/96
-----------------------------------------------------------------------
Name of file    : Be.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Be
Dimension: 2. Components: 1. Nugget effect:  0.57778
Model: Spherical    1     . Sill:  0.60265    . Range:    80065.
```


Semi-variogram of Be

3.7   Variable Bi

Direction East-West (*1st semi-variogram*):

```
Date             : 08/13/96
------------------------------------------------------------------
Name of file     : Bi-1.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: Bi
Dimension: 2. Components: 1. Nugget effect:  0.82987E-01
Model: Spherical    1    . Sill:  0.18913    . Range:  0.20743E+06
```
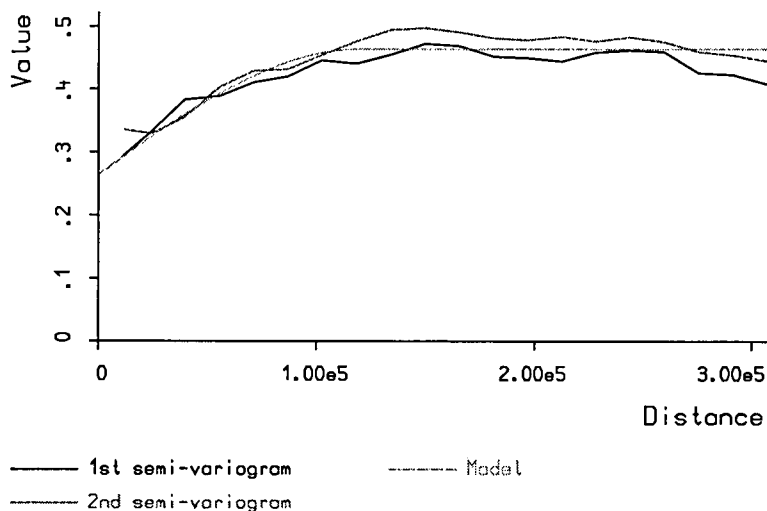
Direction North-South (*2nd semi-variogram*):

```
Date             : 08/13/96
------------------------------------------------------------------
Name of file     : Bi-2.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: Bi
Dimension: 2. Components: 1. Nugget effect:  0.96903E-01
Model: Spherical    1    . Sill:  0.17522    . Range:  0.90848E+06
```

Combined (Isotropical) Variogram:

```
Date             : 12/24/96
------------------------------------------------------------------
Name of file     : Bi.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: Bi
Dimension: 2. Components: 1. Nugget effect:  0.89945E-01
Model: Spherical    1    . Sill:  0.18217    . Range:  0.55796E+06
```


Semi-variogram of Bi

3.8   Variable Ca

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Ca-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.12599
Model: Spherical    1     . Sill: 0.41667E-02. Range:   40199.
```

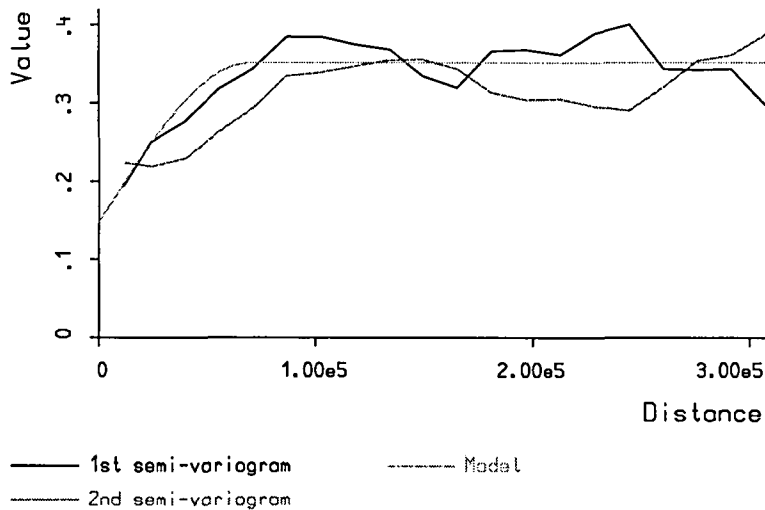Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Ca-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.13016
Model: Spherical    1     . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 12/24/96
------------------------------------------------------------------------
Name of file      : Ca.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.12808
Model: Spherical    1     . Sill: 0.20833E-02. Range:   20100.
```


Semi-variogram of Ca

3.9   Variable Cd

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Cd-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components:  1. Nugget effect:  0.99553E-01
Model: Spherical     1     . Sill:  0.67994E-01. Range:    89249.
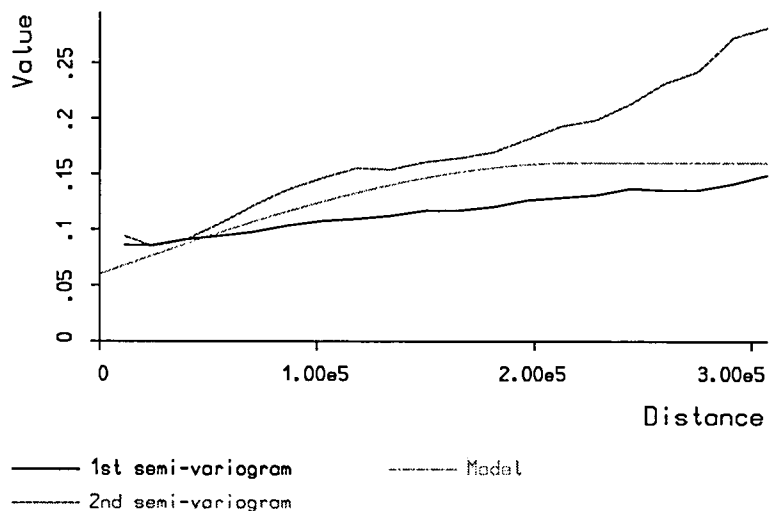```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Cd-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components:  1. Nugget effect:  0.10205
Model: Spherical     1     . Sill:  0.65495E-01. Range:  0.13454E+06
```

Combined (Isotropical) Variogram:

```
Date              : 12/24/96
------------------------------------------------------------------------
Name of file      : Cd.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components:  1. Nugget effect:  0.10080
Model: Spherical     1     . Sill:  0.56670E-01. Range:  0.11189E+06
```


Semi-variogram of Cd

3.10   Variable Cl

Direction East-West (*1st semi-variogram*):

```
Date              : 01/16/97
------------------------------------------------------------------
Name of file      : Cl-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humnew.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cl
Dimension: 2. Components: 1. Nugget effect:  0.24555
Model: Spherical    1    . Sill:  0.82251E-01. Range:    43591.
```
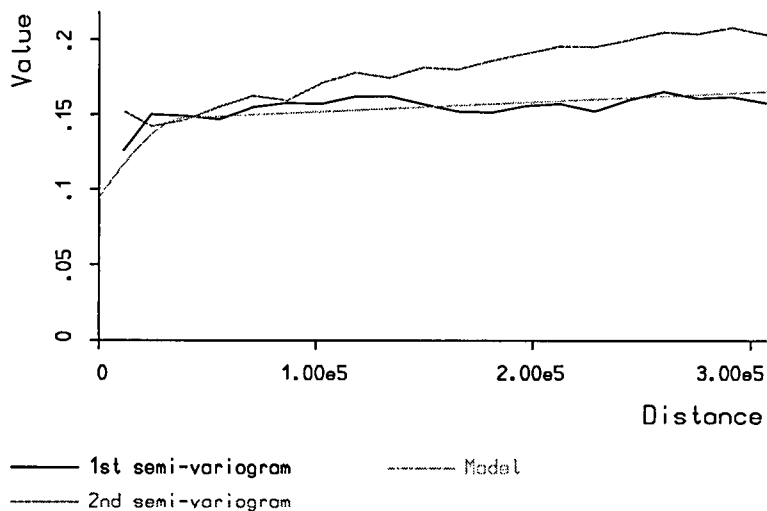
Direction North-South (*2nd semi-variogram*):

```
Date              : 01/16/97
------------------------------------------------------------------
Name of file      : Cl-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humnew.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cl
Dimension: 2. Components: 1. Nugget effect:  0.32780
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 01/16/97
------------------------------------------------------------------
Name of file      : Cl.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humnew.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cl
Dimension: 2. Components: 1. Nugget effect:  0.24000
Model: Spherical    1    . Sill:  0.70000E-01. Range:    50000.
```


Semi-variogram of Cl

Note that 44 extreme outliers have been removed from the data!

3.11   Variable Co

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Co-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components:  1. Nugget effect:  0.21679
Model: Spherical    1     . Sill:  0.66350    . Range:    77056.
```

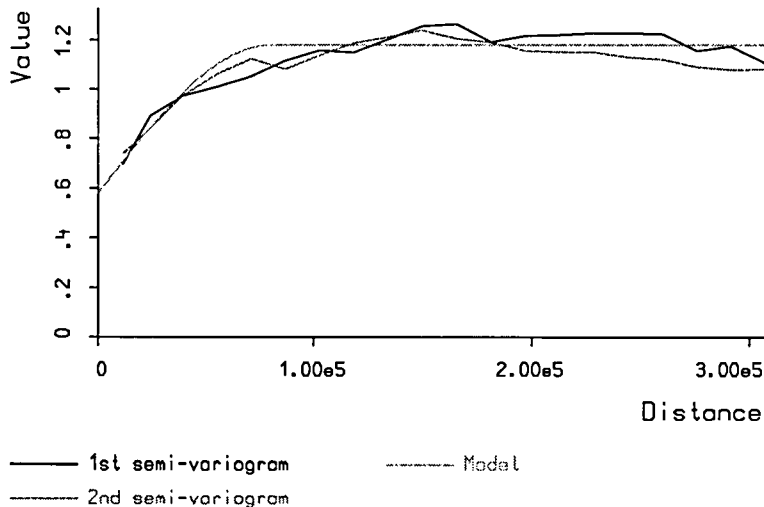Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Co-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components:  1. Nugget effect:  0.36169
Model: Spherical    1     . Sill:  0.51861    . Range:  0.21655E+06
```

Combined (Isotropical) Variogram:

```
Date              : 12/24/96
------------------------------------------------------------------------
Name of file      : Co.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components:  1. Nugget effect:  0.28924
Model: Spherical    1     . Sill:  0.59106    . Range:  0.14680E+06
```

Semi-variogram of Co

3.12   Variable Cr

Direction East-West (*1st semi-variogram*):

```
Date            : 08/13/96
------------------------------------------------------------------
Name of file    : Cr-1.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect:  0.34866
Model: Spherical    1    . Sill:  0.23435    . Range:   65172.
```
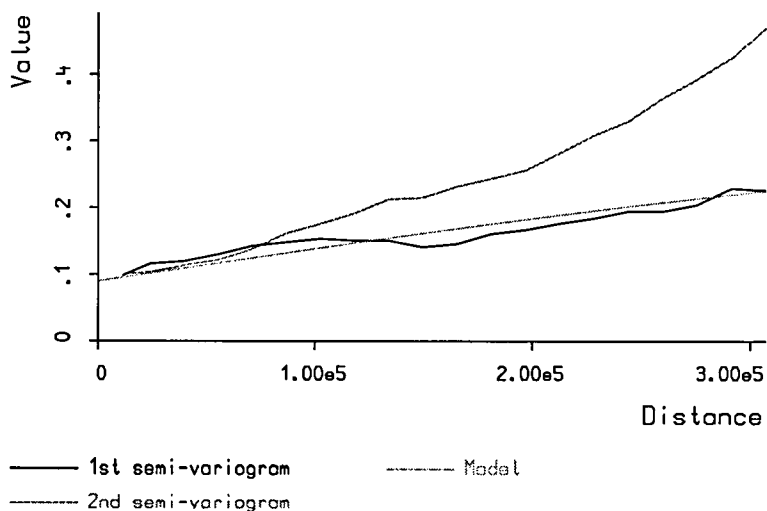
Direction North-South (*2nd semi-variogram*):

```
Date            : 08/13/96
------------------------------------------------------------------
Name of file    : Cr-2.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect:  0.58301
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date            : 12/24/96
------------------------------------------------------------------
Name of file    : Cr.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect:  0.35000
Model: Spherical    1    . Sill:  0.20000    . Range:  70000.
```
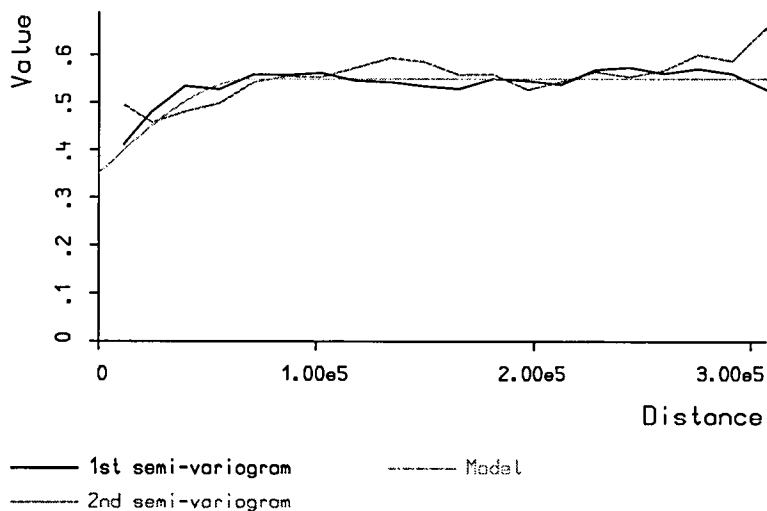
3.13   Variable Cu

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------
Name of file      : Cu-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components:  1. Nugget effect:  0.31294
Model: Spherical    1     . Sill:  0.74455    . Range:  0.10672E+06
```
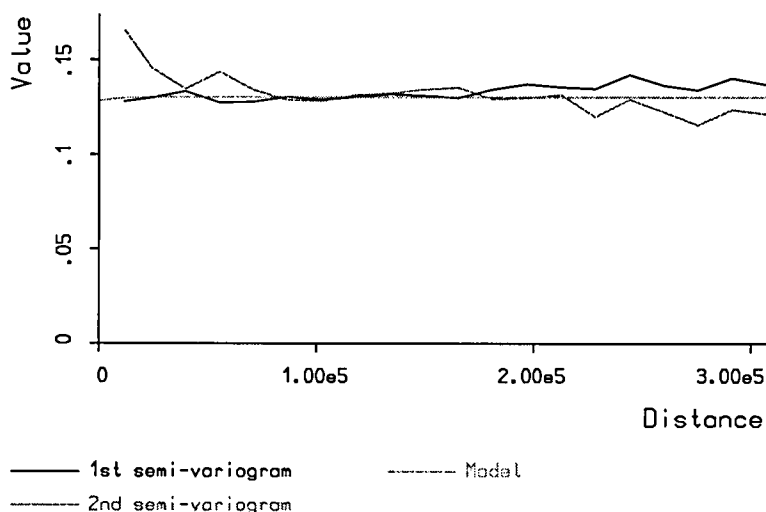
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------
Name of file      : Cu-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components:  1. Nugget effect:  0.41081
Model: Spherical    1     . Sill:  0.64667    . Range:  0.63976E+06
```

Combined (Isotropical) Variogram:

```
Date              : 12/24/96
------------------------------------------------------------------
Name of file      : Cu.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components:  1. Nugget effect:  0.40000
Model: Spherical    1     . Sill:  0.69561    . Range:  0.18000E+06
```


Semi-variogram of Cu

3.14   Variable F

Direction East-West (*1st semi-variogram*):

```
Date               : 01/16/97
------------------------------------------------------------------
Name of file    : F-1.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humnew.txt
------------------------------------------------------------------
Semi-variogram model of variable: F
Dimension: 2. Components:  1. Nugget effect:  0.11072
Model: Spherical     1     . Sill:  0.15610E-01. Range:   54722.
```
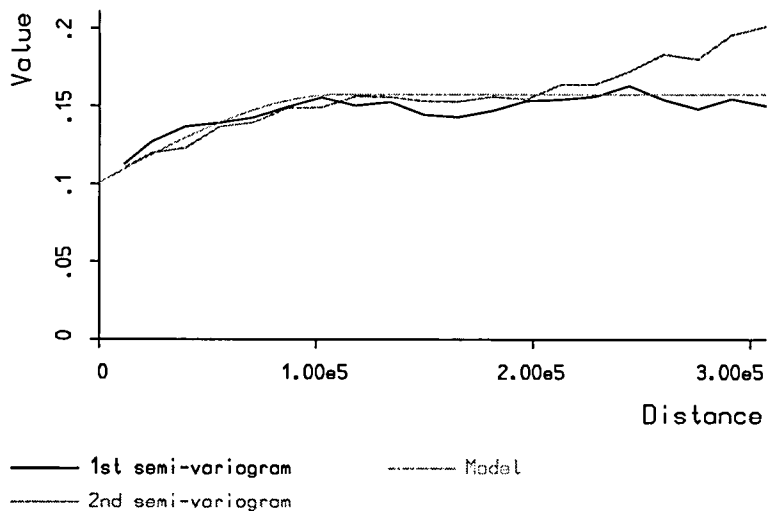
Direction North-South (*2nd semi-variogram*):

```
Date               : 01/16/97
------------------------------------------------------------------
Name of file    : F-2.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humnew.txt
------------------------------------------------------------------
Semi-variogram model of variable: F
Dimension: 2. Components:  1. Nugget effect:  0.93002E-01
Model: Spherical     1     . Sill:  0.33330E-01. Range:   85054.
```

Combined (Isotropical) Variogram:

```
Date               : 01/16/97
------------------------------------------------------------------
Name of file    : F.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humnew.txt
------------------------------------------------------------------
Semi-variogram model of variable: F
Dimension: 2. Components:  1. Nugget effect:  0.10186
Model: Spherical     1     . Sill:  0.24470E-01. Range:   69888.
```


Semi-variogram of F

Note that 44 extreme outliers have been removed from the data!

3.15 Variable Fe

Direction East-West (*1st semi-variogram*):

```
Date            : 08/13/96
----------------------------------------------------------------
Name of file    : Fe-1.mod
----------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../humln.txt
----------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.25811
Model: Spherical    1    . Sill:  0.24388    . Range:   61271.
```
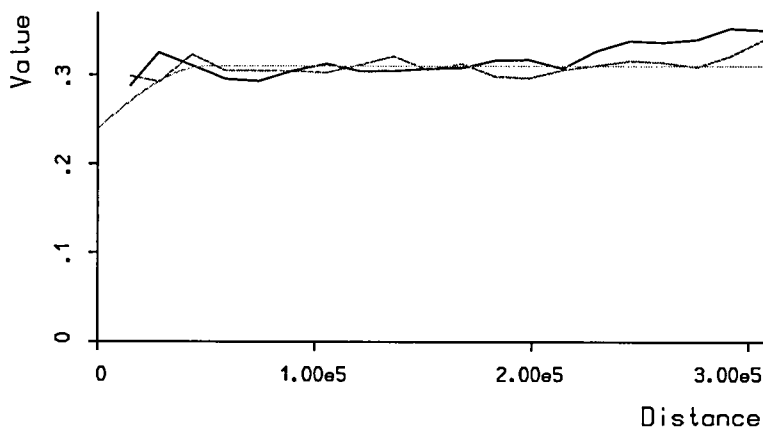
Direction North-South (*2nd semi-variogram*):

```
Date            : 08/13/96
----------------------------------------------------------------
Name of file    : Fe-2.mod
----------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../humln.txt
----------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.50199
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date            : 08/15/96
----------------------------------------------------------------
Name of file    : Fe.mod
----------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../humln.txt
----------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.26000
Model: Spherical    1    . Sill:  0.24200    . Range:  70000.
```


Semi-variogram of Fe

3.16   Variable Hg

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
-------------------------------------------------------------------
Name of file      : Hg-1.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Hg
Dimension: 2. Components: 1. Nugget effect:  0.47927E-01
Model: Spherical    1    . Sill: 0.78488E-02. Range:   30136.
```
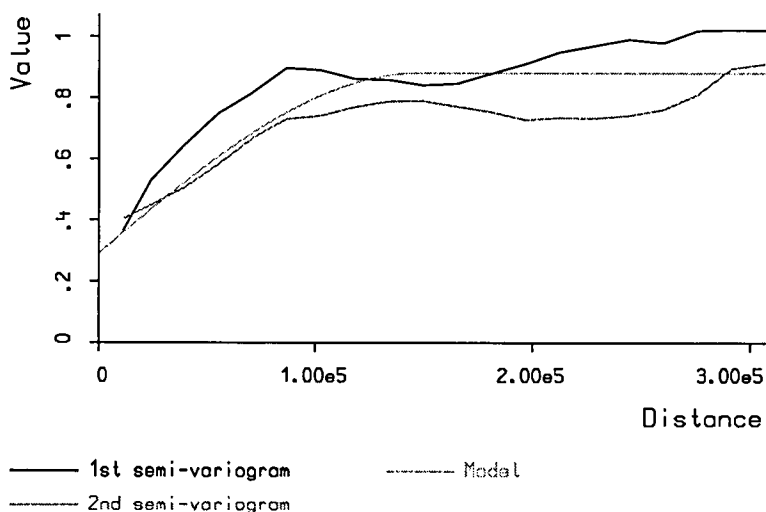
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
-------------------------------------------------------------------
Name of file      : Hg-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Hg
Dimension: 2. Components: 1. Nugget effect:  0.55776E-01
Model: Spherical    1    . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/13/96
-------------------------------------------------------------------
Name of file      : Hg-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Hg
Dimension: 2. Components: 1. Nugget effect:  0.51851E-01
Model: Spherical    1    . Sill: 0.39244E-02. Range:   15068.
```


Semi-variogram of Hg
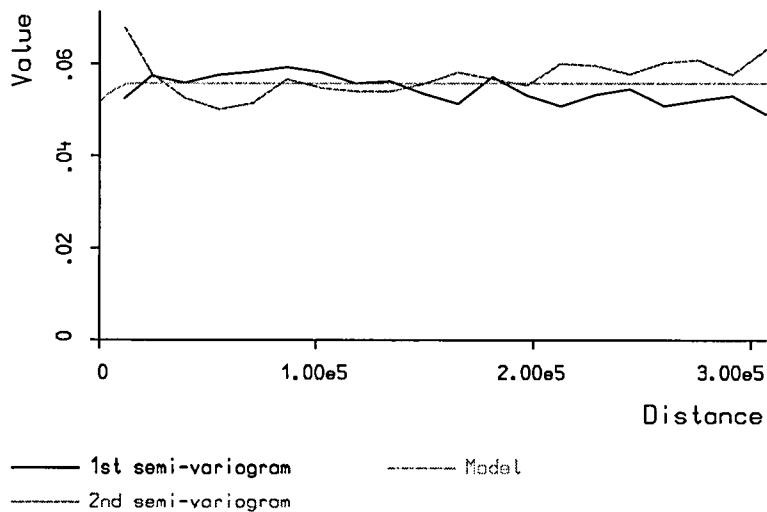
3.17 Variable K

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------
Name of file      : K-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components:  1. Nugget effect:  0.67235E-01
Model: Spherical     1     . Sill:  0.16709E-01. Range:  0.13731E+06
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------
Name of file      : K-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components:  1. Nugget effect:  0.83944E-01
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/15/96
------------------------------------------------------------------
Name of file      : K.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components:  1. Nugget effect:  0.66000E-01
Model: Spherical     1     . Sill:  0.93500E-02. Range:  70000.
```


Semi-variogram of K

3.18   Variable La

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : La-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components:  1. Nugget effect:  0.37250
Model: Spherical    1     . Sill:  0.48204    . Range:    88009.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : La-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components:  1. Nugget effect:  0.85455
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/15/96
------------------------------------------------------------------------
Name of file      : La.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components:  1. Nugget effect:  0.44000
Model: Spherical    1     . Sill:  0.38500    . Range:  0.11000E+06
```
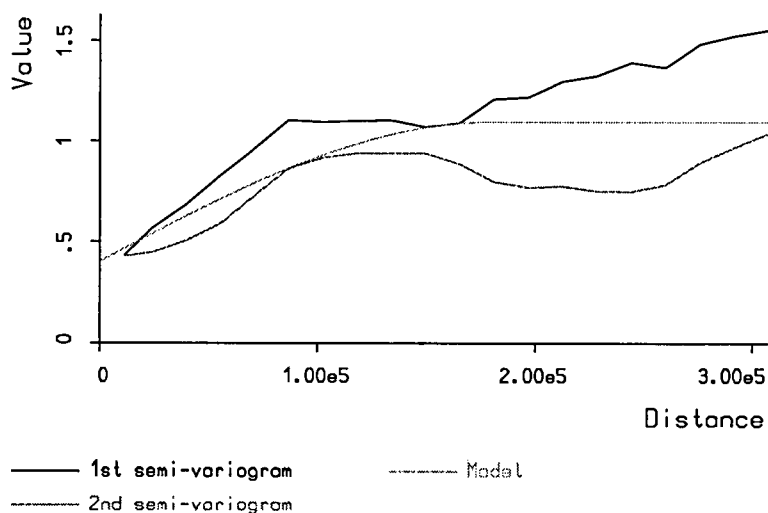

Semi-variogram of La

3.19   Variable Mg

Direction East-West (*1st semi-variogram*):

```
Date               : 08/13/96
-----------------------------------------------------------------
Name of file       : Mg-1.mod
-----------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components:  1. Nugget effect:  0.10016
Model: Spherical     1     . Sill:  0.10575    . Range:  0.29778E+06
```

Direction North-South (*2nd semi-variogram*):

```
Date               : 08/13/96
-----------------------------------------------------------------
Name of file       : Mg-2.mod
-----------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components:  1. Nugget effect:  0.20591
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date               : 08/15/96
-----------------------------------------------------------------
Name of file       : Mg.mod
-----------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components:  1. Nugget effect:  0.90000E-01
Model: Spherical     1     . Sill:  0.92880E-01. Range:  0.25000E+06
```
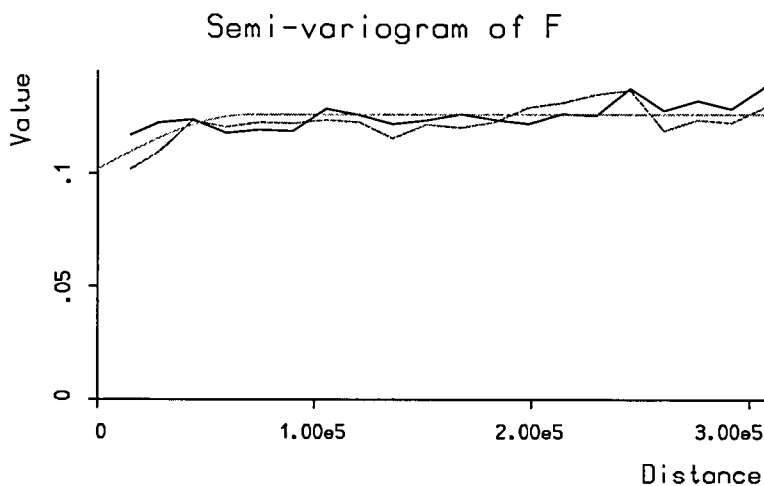

Semi-variogram of Mg

3.20   Variable Mn

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
-----------------------------------------------------------------------
Name of file      : Mn-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components: 1. Nugget effect:  0.91035
Model: Spherical     1      . Sill:  0.00000    . Range:  0.00000
```

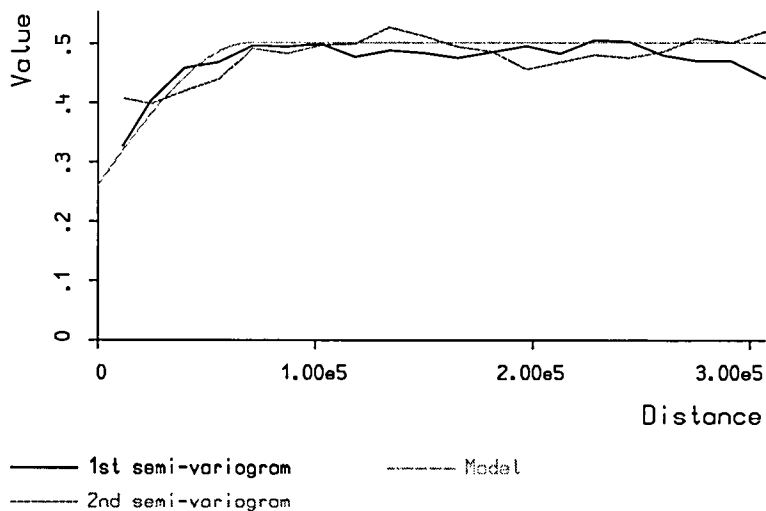Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
-----------------------------------------------------------------------
Name of file      : Mn-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components: 1. Nugget effect:  0.91035
Model: Spherical     1      . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/15/96
-----------------------------------------------------------------------
Name of file      : Mn.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components: 2. Nugget effect:  0.60000
Model: Spherical     1      . Sill:  0.14000    . Range:  80000.
Model: Linear        3      . Sill:  0.18000    . Range:  0.31000E+06
```


Semi-variogram of Mn
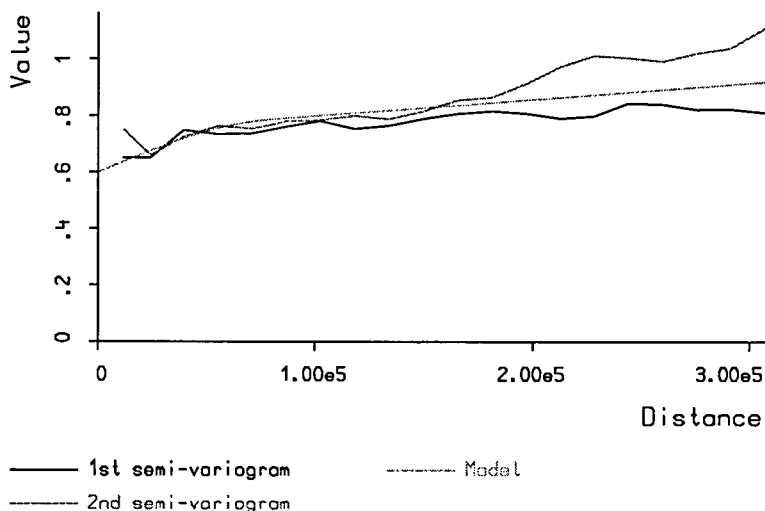
3.21   Variable Mo

Direction East-West (*1st semi-variogram*):

```
Date            : 08/13/96
------------------------------------------------------------------------
Name of file    : Mo-1.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Mo
Dimension: 2. Components: 1. Nugget effect:  0.21278
Model: Spherical    1     . Sill:  0.17087    . Range:    98657.
```

Direction North-South (*2nd semi-variogram*):

```
Date            : 08/13/96
------------------------------------------------------------------------
Name of file    : Mo-2.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Mo
Dimension: 2. Components: 1. Nugget effect:  0.25030
Model: Spherical    1     . Sill:  0.13336    . Range:  0.23482E+07
```

Combined (Isotropical) Variogram:

```
Date            : 08/15/96
------------------------------------------------------------------------
Name of file    : Mo.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Mo
Dimension: 2. Components: 1. Nugget effect:  0.20000
Model: Spherical    1     . Sill:  0.17000    . Range:  0.10000E+06
```


Semi-variogram of Mo

——— 1st semi-variogram   ――――― Model

――――― 2nd semi-variogram

3.22   Variable Na

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Na-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.17186
Model: Spherical     1     . Sill:  0.57736    . Range:  0.11906E+06
```
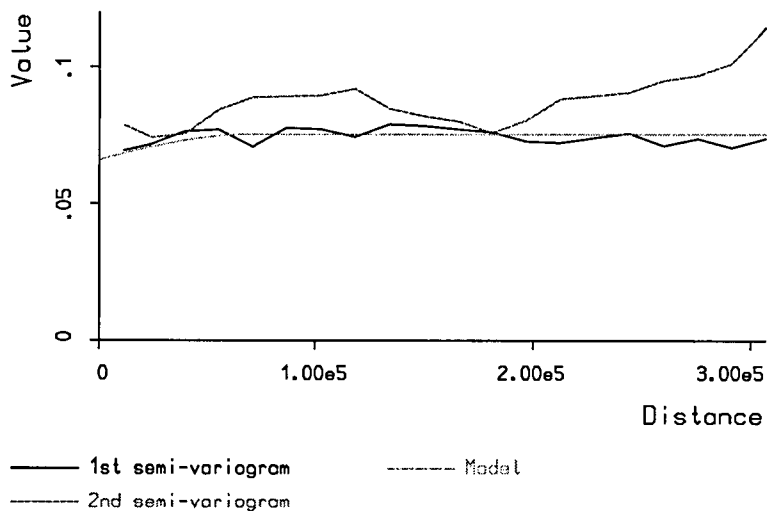
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Na-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.28209
Model: Spherical     1     . Sill:  0.46713    . Range:  0.18941E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/15/96
------------------------------------------------------------------------
Name of file      : Na.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.25000
Model: Spherical     1     . Sill:  0.57000    . Range:  0.28000E+06
```


Semi-variogram of Na

3.23   Variable Ni

Direction East-West (*1st semi-variogram*):

```
Date            : 08/13/96
-----------------------------------------------------------------------
Name of file    : Ni-1.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components: 1. Nugget effect:  0.32645
Model: Spherical    1    . Sill:   1.4368    . Range:  0.20247E+06
```
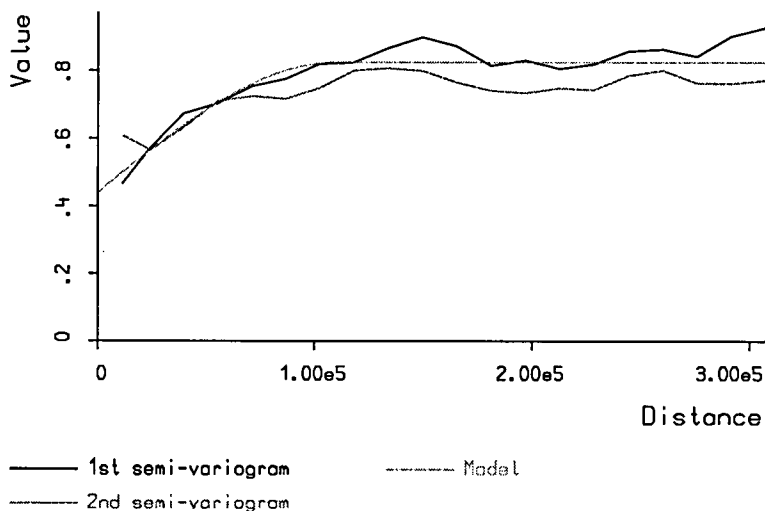
Direction North-South (*2nd semi-variogram*):

```
Date            : 08/13/96
-----------------------------------------------------------------------
Name of file    : Ni-2.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components: 1. Nugget effect:  1.7633
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date            : 08/15/96
-----------------------------------------------------------------------
Name of file    : Ni.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components: 1. Nugget effect:  0.40000
Model: Spherical    1    . Sill:   2.4000    . Range:  0.50000E+06
```


Semi-variogram of Ni

3.24   Variable P

Direction East-West (*1st semi-variogram*):

```
Date                 : 08/13/96
-------------------------------------------------------------------------
Name of file     : P-1.mod
-------------------------------------------------------------------------
User                 : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components:  1. Nugget effect:  0.63167E-01
Model: Spherical     1     . Sill:  0.16632E-01. Range:  0.13054E+06
```
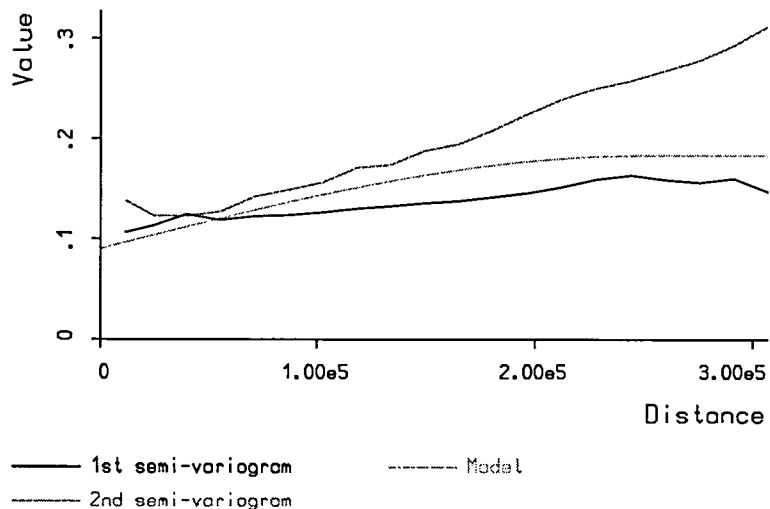
Direction North-South (*2nd semi-variogram*):

```
Date                 : 08/13/96
-------------------------------------------------------------------------
Name of file     : P-2.mod
-------------------------------------------------------------------------
User                 : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components:  1. Nugget effect:  0.79799E-01
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date                 : 08/15/96
-------------------------------------------------------------------------
Name of file     : P.mod
-------------------------------------------------------------------------
User                 : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components:  1. Nugget effect:  0.60000E-01
Model: Spherical     1     . Sill:  0.18300E-01. Range:   65000.
```
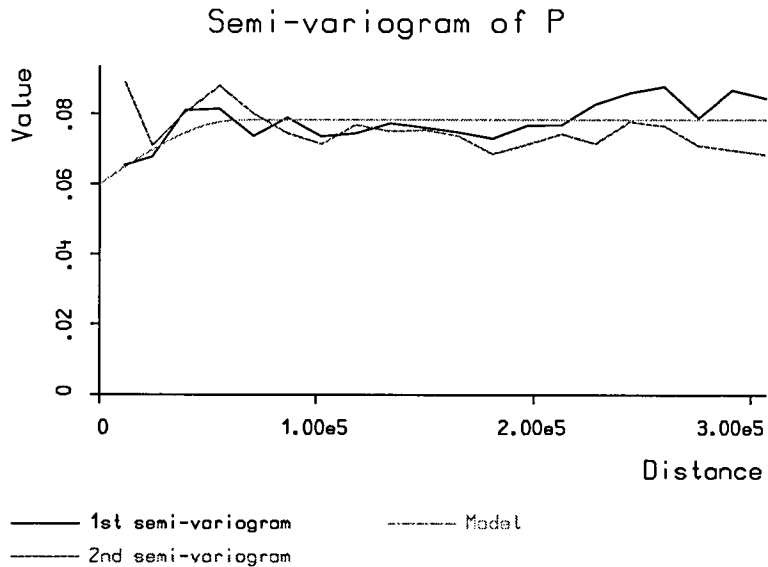

Semi-variogram of P

3.25 Variable Pb

Direction East-West (*1st semi-variogram*):

```
Date              : 08/14/96
-------------------------------------------------------------------
Name of file      : Pb-1.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Pb
Dimension: 2. Components: 1. Nugget effect:  0.39386E-01
Model: Spherical    1     . Sill:  0.13062    . Range:  0.12722E+06
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/14/96
-------------------------------------------------------------------
Name of file      : Pb-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Pb
Dimension: 2. Components: 1. Nugget effect:  0.17000
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/15/96
-------------------------------------------------------------------
Name of file      : Pb.mod (4 outliers removed, for loc. kriging!)
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Pb
Dimension: 2. Components: 2. Nugget effect:  0.30000E-01
Model: Spherical    1     . Sill:  0.40000E-01. Range:   30000.
Model: Linear       3     . Sill:  0.10000    . Range:  0.40000E+06
```


Semi-variogram of Pb

Note that four extreme outliers have been removed from the data!

3.26   Variable PO4

Direction East-West (*1st semi-variogram*):

```
Date            : 01/16/97
-----------------------------------------------------------------------
Name of file    : PO4-1.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humnew.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: PO4
Dimension: 2. Components: 1. Nugget effect:  0.42359
Model: Spherical    1    . Sill:  0.16005    . Range:    51023.
```

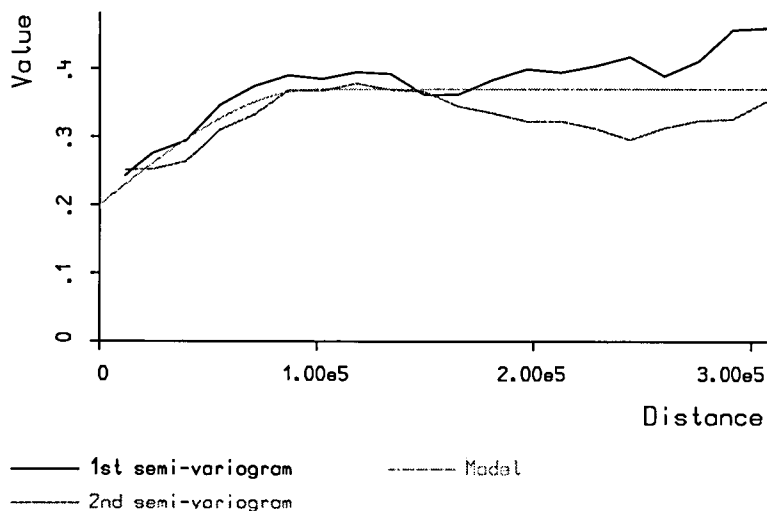Direction North-South (*2nd semi-variogram*):

```
Date            : 01/16/97
-----------------------------------------------------------------------
Name of file    : PO4-2.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humnew.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: PO4
Dimension: 2. Components: 1. Nugget effect:  0.58365
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date            : 01/16/97
-----------------------------------------------------------------------
Name of file    : PO4.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humnew.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: PO4
Dimension: 2. Components: 1. Nugget effect:  0.46000
Model: Spherical    1    . Sill:  0.13000    . Range:    45000.
```


Semi-variogram of PO4

——— 1st semi-variogram   – ·——· – Model

– – – – 2nd semi-variogram

Note that 46 extreme outliers have been removed from the data!

3.27   Variable Rb

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
--------------------------------------------------------------------
Name of file      : Rb-1.mod
--------------------------------------------------------------------
User              : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../humln.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Rb
Dimension: 2. Components: 1. Nugget effect:  0.88945E-01
Model: Spherical    1    . Sill:  0.16890    . Range:  0.11272E+06
```
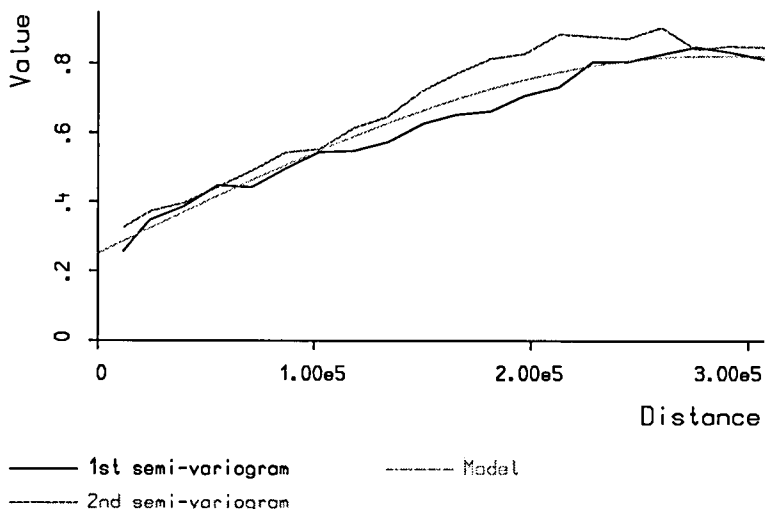
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
--------------------------------------------------------------------
Name of file      : Rb-2.mod
--------------------------------------------------------------------
User              : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../humln.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Rb
Dimension: 2. Components: 1. Nugget effect:  0.15601
Model: Spherical    1    . Sill:  0.10183    . Range:  0.10820E+07
```

Combined (Isotropical) Variogram:

```
Date              : 08/15/96
--------------------------------------------------------------------
Name of file      : Rb.mod
--------------------------------------------------------------------
User              : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../humln.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Rb
Dimension: 2. Components: 1. Nugget effect:  0.90000E-01
Model: Spherical    1    . Sill:  0.12000    . Range:  90000.
```


Semi-variogram of Rb

3.28   Variable S

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
-----------------------------------------------------------------------
Name of file      : S-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components:  1. Nugget effect:  0.54724E-01
Model: Spherical     1    . Sill:  0.00000    . Range:  0.00000
```

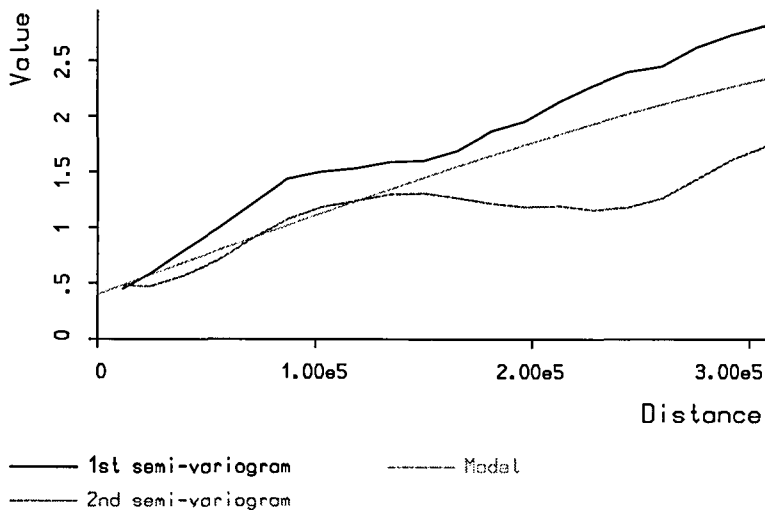Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
-----------------------------------------------------------------------
Name of file      : S-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components:  1. Nugget effect:  0.54724E-01
Model: Spherical     1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/15/96
-----------------------------------------------------------------------
Name of file      : S.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components:  1. Nugget effect:  0.38000E-01
Model: Spherical     1    . Sill:  0.20000E-01. Range:  0.40000E+06
```


Semi-variogram of S

3.29　Variable Sb

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Sb-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components:  1. Nugget effect:  0.20140
Model: Spherical    1    . Sill:  0.13198    . Range:    65218.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Sb-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components:  1. Nugget effect:  0.33338
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/15/96
------------------------------------------------------------------------
Name of file      : Sb.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components:  1. Nugget effect:  0.25500
Model: Spherical    1    . Sill:  0.80000E-01. Range:  0.60000E+06
```

3.30   Variable Sc

Direction East-West (*1st semi-variogram*):

```
Date             : 08/13/96
------------------------------------------------------------------
Name of file     : Sc-1.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sc
Dimension: 2. Components:  1. Nugget effect:  0.23666
Model: Spherical     1     . Sill:  0.24487    . Range:    62847.
```
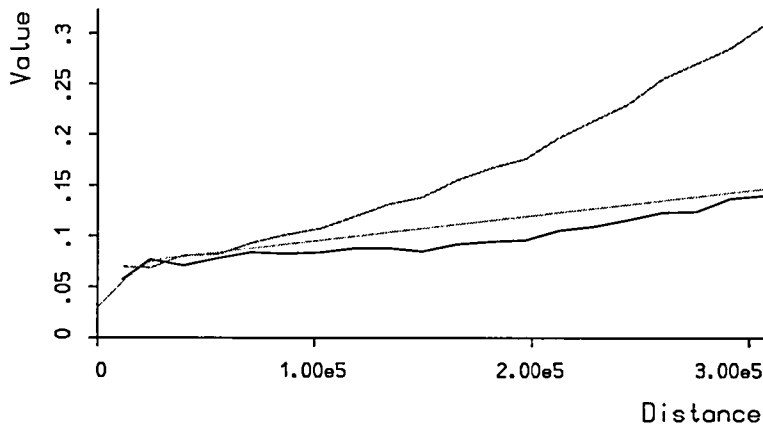
Direction North-South (*2nd semi-variogram*):

```
Date             : 08/13/96
------------------------------------------------------------------
Name of file     : Sc-2.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sc
Dimension: 2. Components:  1. Nugget effect:  0.35043
Model: Spherical     1     . Sill:  0.13110    . Range:  0.11857E+06
```

Combined (Isotropical) Variogram:

```
Date             : 08/15/96
------------------------------------------------------------------
Name of file     : Sc.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sc
Dimension: 2. Components:  1. Nugget effect:  0.27300
Model: Spherical     1     . Sill:  0.18799    . Range:    90709.
```

3.31   Variable Se

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Se-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Se
Dimension: 2. Components:  1. Nugget effect:  0.19185
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

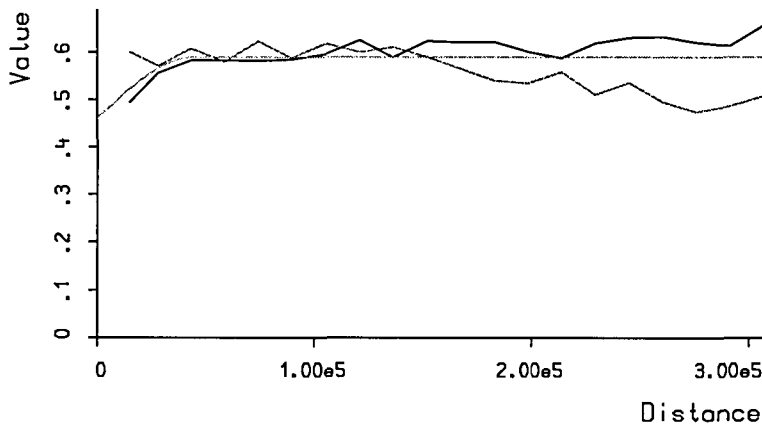Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Se-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Se
Dimension: 2. Components:  1. Nugget effect:  0.19185
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/15/96
------------------------------------------------------------------------
Name of file      : Se.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Se
Dimension: 2. Components:  1. Nugget effect:  0.15000
Model: Spherical    1    . Sill:  0.40000E-01. Range:  50000.
```


Semi-variogram of Se

3.32   Variable Si

Direction East-West (*1st semi-variogram*):

```
Date            : 08/13/96
-----------------------------------------------------------------------
Name of file    : Si-1.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components: 1. Nugget effect:  0.23660E-01
Model: Spherical    1    . Sill:  0.44503E-02. Range:  0.13412E+06
```

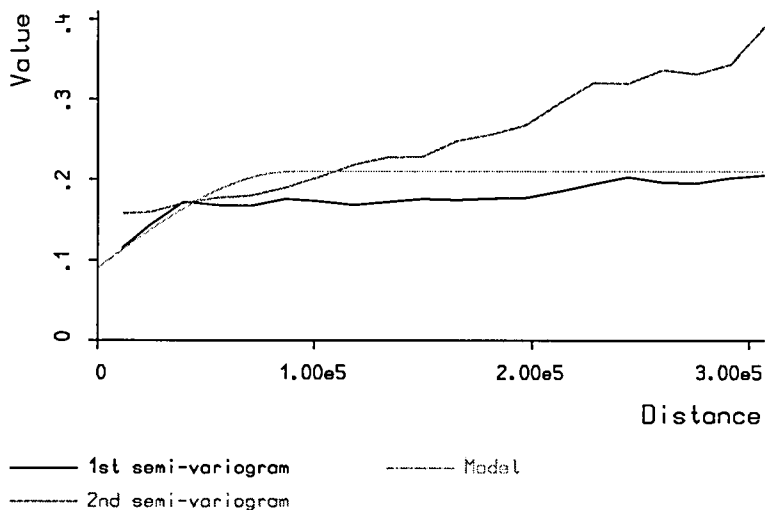Direction North-South (*2nd semi-variogram*):

```
Date            : 08/13/96
-----------------------------------------------------------------------
Name of file    : Si-2.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components: 1. Nugget effect:  0.28110E-01
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date            : 08/15/96
-----------------------------------------------------------------------
Name of file    : Si.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../humln.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components: 1. Nugget effect:  0.23400E-01
Model: Spherical    1    . Sill:  0.22251E-02. Range:  0.10000E+06
```


Semi-variogram of Si

3.33   Variable SO4

Direction East-West (*1st semi-variogram*):

```
Date              : 01/16/97
------------------------------------------------------------------------
Name of file      : SO4-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humnew.txt
------------------------------------------------------------------------
Semi-variogram model of variable: SO4
Dimension: 2. Components: 1. Nugget effect:  0.98845E-01
Model: Spherical    1    . Sill:  0.23914E-01. Range:    82341.
```
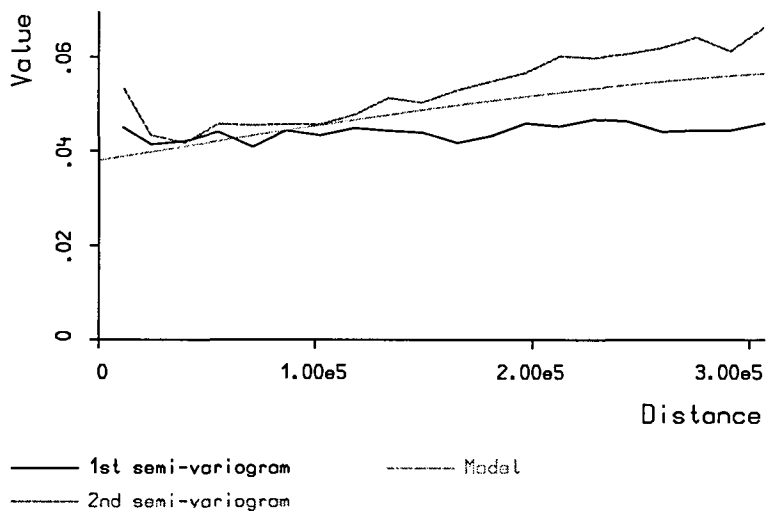
Direction North-South (*2nd semi-variogram*):

```
Date              : 01/16/97
------------------------------------------------------------------------
Name of file      : SO4-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humnew.txt
------------------------------------------------------------------------
Semi-variogram model of variable: SO4
Dimension: 2. Components: 1. Nugget effect:  0.12276
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 01/16/97
------------------------------------------------------------------------
Name of file      : SO4.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humnew.txt
------------------------------------------------------------------------
Semi-variogram model of variable: SO4
Dimension: 2. Components: 1. Nugget effect:  0.10000
Model: Spherical    1    . Sill:  0.17000E-01. Range:    70000.
```


Semi-variogram of SO4

———— 1st semi-variogram   ———— Model

———— 2nd semi-variogram

Note that 44 extreme outliers have been removed from the data!

3.34 Variable Sr

Direction East-West (*1st semi-variogram*):

```
Date            : 08/13/96
--------------------------------------------------------------
Name of file    : Sr-1.mod
--------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------
Name of data file: ../humln.txt
--------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension:  2. Components:  1. Nugget effect:  0.11272
Model:  Spherical     1     . Sill:  0.24666    . Range:     66875.
```

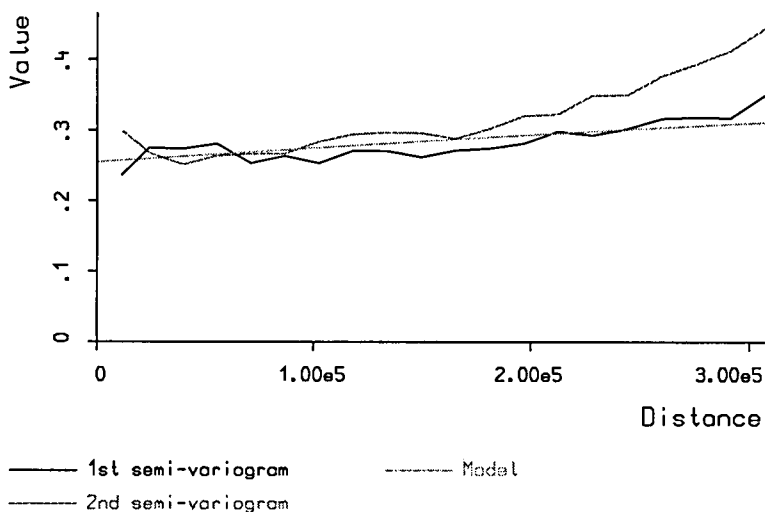Direction North-South (*2nd semi-variogram*):

```
Date            : 08/13/96
--------------------------------------------------------------
Name of file    : Sr-2.mod
--------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------
Name of data file: ../humln.txt
--------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension:  2. Components:  1. Nugget effect:  0.20092
Model:  Spherical     1     . Sill:  0.15846    . Range:  0.15238E+07
```

Combined (Isotropical) Variogram:

```
Date            : 08/15/96
--------------------------------------------------------------
Name of file    : Sr.mod
--------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------
Name of data file: ../humln.txt
--------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension:  2. Components:  2. Nugget effect:  0.11500
Model:  Spherical     1     . Sill:  0.16000    . Range:     60000.
Model:  Linear        3     . Sill:  0.90000E-01. Range:  0.31000E+06
```

3.35 Variable Th

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Th-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.38734
Model: Spherical    1    . Sill:  0.31699    . Range:   68145.
```

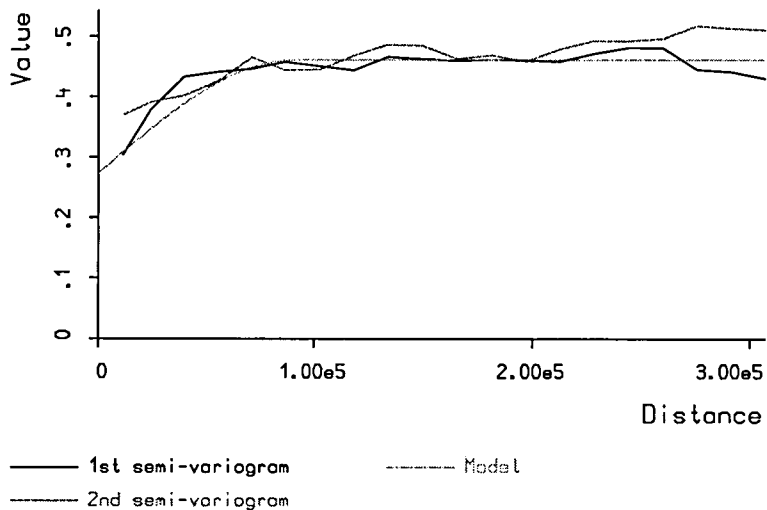Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Th-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.70433
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/15/96
------------------------------------------------------------------------
Name of file      : Th.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.46000
Model: Spherical    1    . Sill:  0.25000    . Range:  0.10000E+06
```


Semi-variogram of Th

3.36　Variable Tl

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
-------------------------------------------------------------------------
Name of file      : Tl-1.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Tl
Dimension: 2. Components: 1. Nugget effect:  0.12399
Model: Spherical    1    . Sill:  0.15948    . Range:  0.45774E+06
```
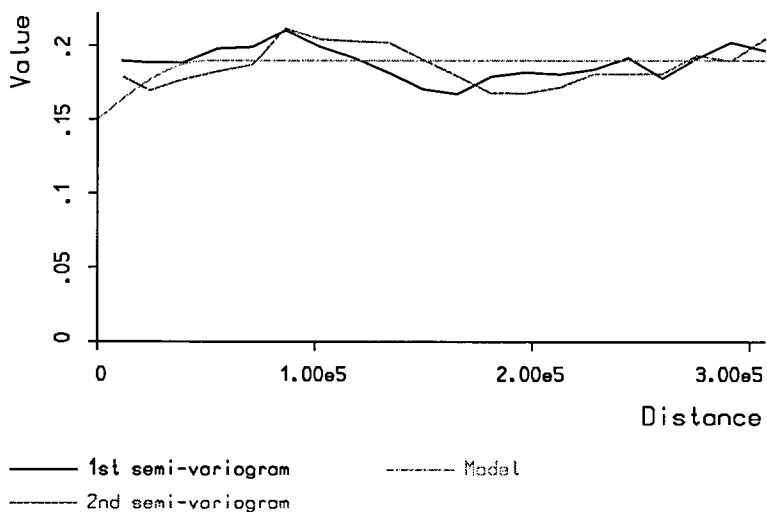
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
-------------------------------------------------------------------------
Name of file      : Tl-2.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Tl
Dimension: 2. Components: 1. Nugget effect:  0.28347
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/15/96
-------------------------------------------------------------------------
Name of file      : Tl.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Tl
Dimension: 2. Components: 1. Nugget effect:  0.12000
Model: Spherical    1    . Sill:  0.15000    . Range:  0.50000E+06
```


Semi-variogram of Tl

————— 1st semi-variogram　　———— Model

————— 2nd semi-variogram

3.37   Variable U

Direction East-West (*1st semi-variogram*):

```
Date             : 08/13/96
---------------------------------------------------------------------
Name of file     : U-1.mod
---------------------------------------------------------------------
User             : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../humln.txt
---------------------------------------------------------------------
Semi-variogram model of variable: U
Dimension: 2. Components: 1. Nugget effect:  0.35135
Model: Spherical     1    . Sill:  0.28655    . Range:    99365.
```
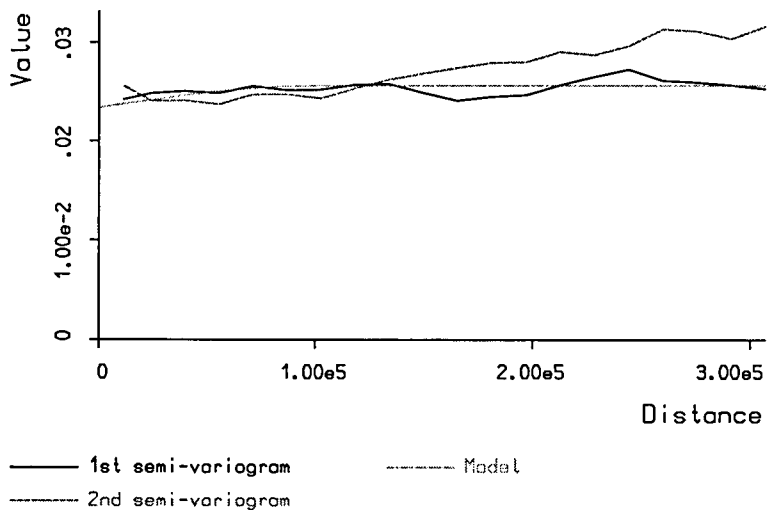
Direction North-South (*2nd semi-variogram*):

```
Date             : 08/13/96
---------------------------------------------------------------------
Name of file     : U-2.mod
---------------------------------------------------------------------
User             : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../humln.txt
---------------------------------------------------------------------
Semi-variogram model of variable: U
Dimension: 2. Components: 1. Nugget effect:  0.63790
Model: Spherical     1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date             : 08/15/96
---------------------------------------------------------------------
Name of file     : U.mod
---------------------------------------------------------------------
User             : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../humln.txt
---------------------------------------------------------------------
Semi-variogram model of variable: U
Dimension: 2. Components: 1. Nugget effect:  0.38000
Model: Spherical     1    . Sill:  0.24000    . Range:  0.15000E+06
```


Semi-variogram of U

3.38   Variable V

Direction East-West (*1st semi-variogram*):

```
Date                : 08/13/96
------------------------------------------------------------------------
Name of file        : V-1.mod
------------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: V
Dimension: 2. Components:  1. Nugget effect:  0.17942
Model: Spherical    1     . Sill:  0.19974    . Range:    74268.
```
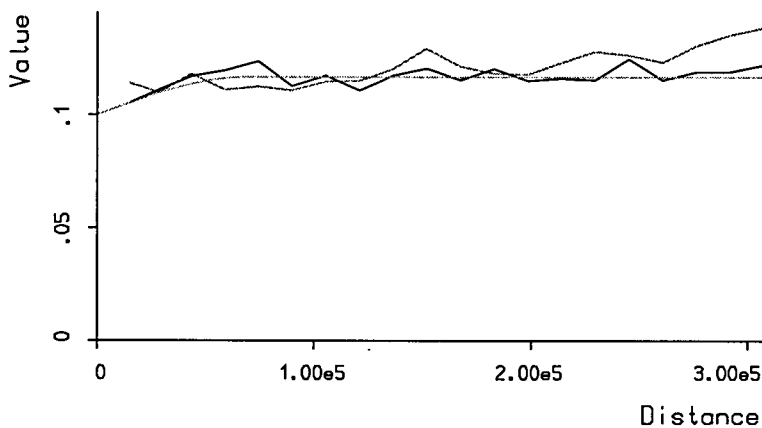
Direction North-South (*2nd semi-variogram*):

```
Date                : 08/13/96
------------------------------------------------------------------------
Name of file        : V-2.mod
------------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: V
Dimension: 2. Components:  1. Nugget effect:  0.37916
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date                : 08/15/96
------------------------------------------------------------------------
Name of file        : V.mod
------------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: V
Dimension:  2. Components:  1. Nugget effect:  0.22000
Model: Spherical    1     . Sill:  0.14000    . Range:  0.10000E+06
```


Semi-variogram of V

3.39   Variable Y

Direction East-West (*1st semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Y-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Y
Dimension: 2. Components: 1. Nugget effect:  0.29794
Model: Spherical    1     . Sill:  0.42226    . Range:    63456.
```

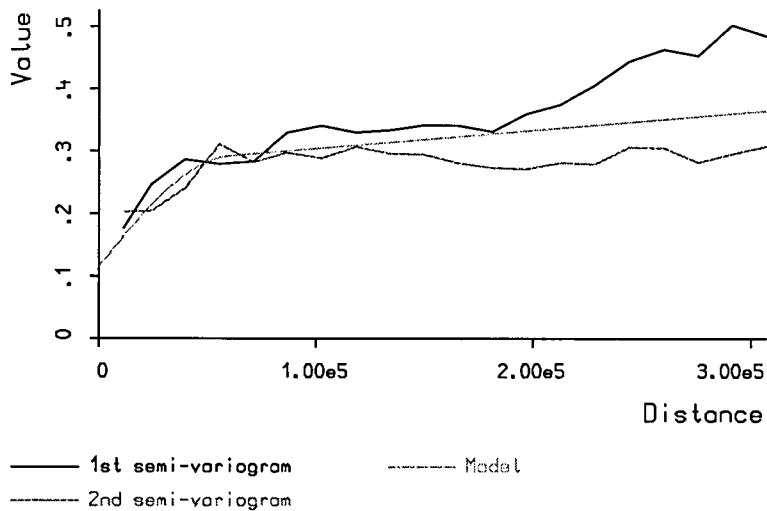Direction North-South (*2nd semi-variogram*):

```
Date              : 08/13/96
------------------------------------------------------------------------
Name of file      : Y-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Y
Dimension: 2. Components: 1. Nugget effect:  0.72019
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/15/96
------------------------------------------------------------------------
Name of file      : Y.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../humln.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Y
Dimension: 2. Components: 1. Nugget effect:  0.39000
Model: Spherical    1     . Sill:  0.32000    . Range:  0.10000E+06
```


Semi-variogram of Y

3.40   Variable Zn

Direction East-West (*1st semi-variogram*):

```
Date                : 08/13/96
-------------------------------------------------------------------------
Name of file        : Zn-1.mod
-------------------------------------------------------------------------
User                : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect:  0.13107
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```
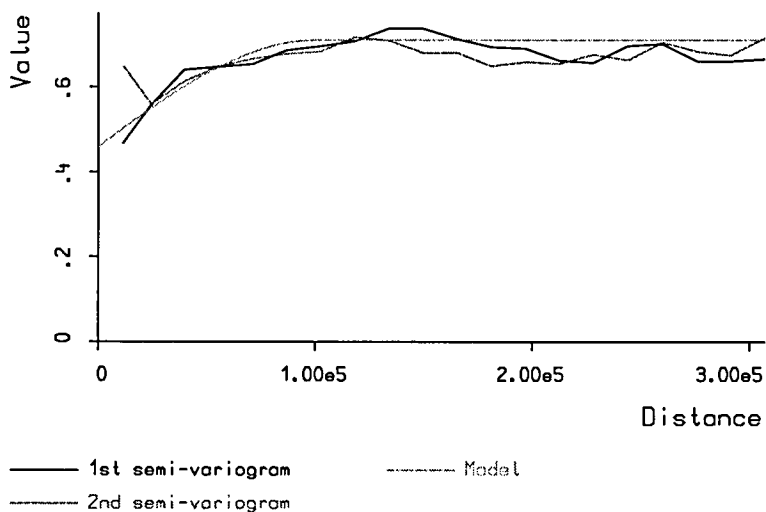
Direction North-South (*2nd semi-variogram*):

```
Date                : 08/13/96
-------------------------------------------------------------------------
Name of file        : Zn-2.mod
-------------------------------------------------------------------------
User                : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect:  0.13107
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date                : 12/20/96
-------------------------------------------------------------------------
Name of file        : Zn.mod
-------------------------------------------------------------------------
User                : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../humln.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect:  0.10000
Model: Spherical    1     . Sill:  0.30000E-01. Range:  0.30000E+06
```

Semi-variogram of Zn

Legend:
——— 1st semi-variogram   ——— Model
——— 2nd semi-variogram

Chapter 4

Estimated Variograms for HUMUS (Ln-transformed, Ammonium Acetate Extraction)

4.1　Variable Al

Direction East-West (*1st semi-variogram*):

```
Date              : 01/07/97
-----------------------------------------------------------------
Name of file     : Al-1.mod
-----------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components: 1. Nugget effect:  0.69279
Model: Spherical    1     . Sill: 0.39324    . Range:  0.12762E+06
```

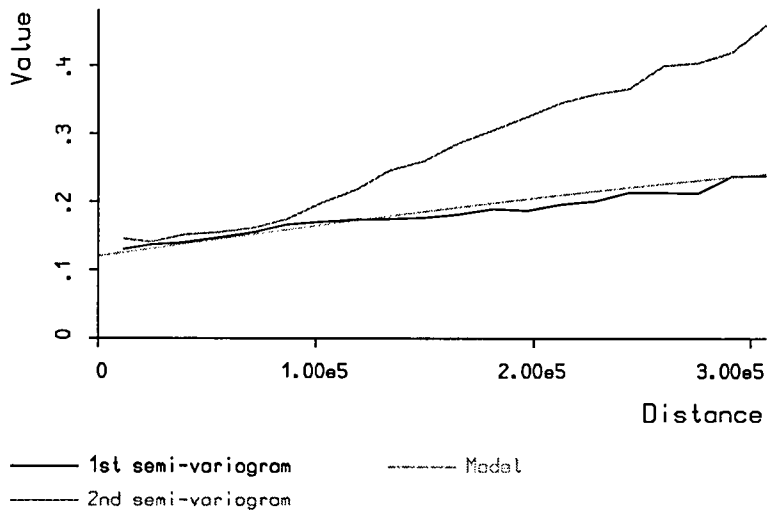Direction North-South (*2nd semi-variogram*):

```
Date              : 01/07/97
-----------------------------------------------------------------
Name of file     : Al-2.mod
-----------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components: 1. Nugget effect:  0.75037
Model: Spherical    1     . Sill: 0.33566    . Range:  0.19684E+06
```

Combined (Isotropical) Variogram:

```
Date              : 01/08/97
-----------------------------------------------------------------
Name of file     : Al.mod
-----------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components: 1. Nugget effect:  0.72158
Model: Spherical    1     . Sill: 0.36445    . Range:  0.16223E+06
```

4.2   Variable Ba

Direction East-West (*1st semi-variogram*):

```
Date              : 01/07/97
-----------------------------------------------------------------------
Name of file      : Ba-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components: 1. Nugget effect:  0.12660
Model: Spherical     1     . Sill:  0.10681    . Range:    97170.
```

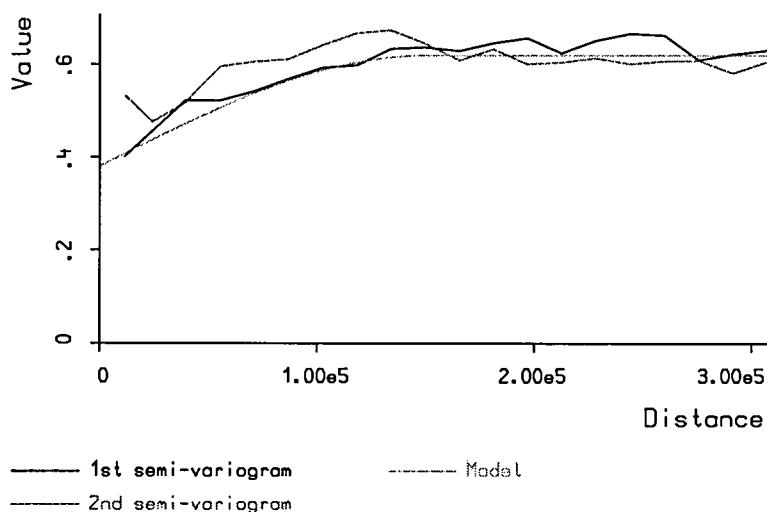Direction North-South (*2nd semi-variogram*):

```
Date              : 01/07/97
-----------------------------------------------------------------------
Name of file      : Ba-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components: 1. Nugget effect:  0.23341
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 01/08/97
-----------------------------------------------------------------------
Name of file      : Ba.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components: 1. Nugget effect:  0.15000
Model: Spherical     1     . Sill:  0.83000E-01. Range:  0.30000E+06
```

Semi-variogram of Ba

4.3 Variable Ca

Direction East-West (*1st semi-variogram*):

```
Date            : 01/07/97
-------------------------------------------------------------------
Name of file    : Ca-1.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.16934
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

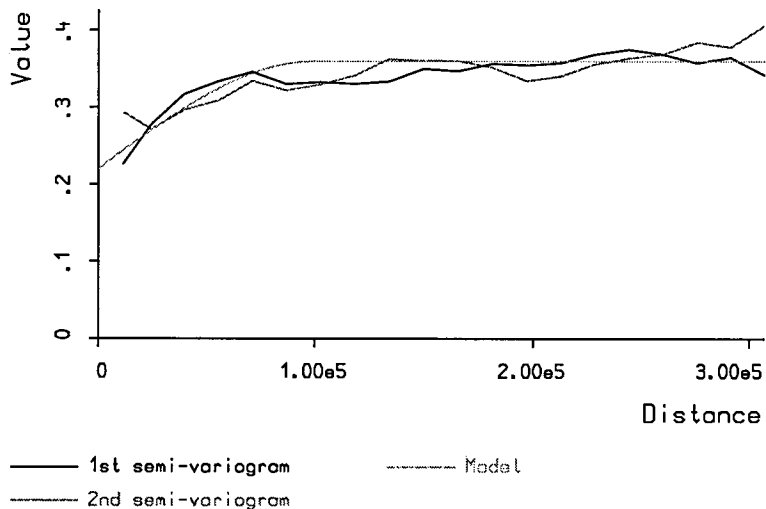Direction North-South (*2nd semi-variogram*):

```
Date            : 01/07/97
-------------------------------------------------------------------
Name of file    : Ca-2.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.16934
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date            : 01/08/97
-------------------------------------------------------------------
Name of file    : Ca.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.15900
Model: Spherical    1     . Sill:  0.10000E-01. Range:   30000.
```

4.4   Variable Cd

Direction East-West (*1st semi-variogram*):

```
Date            : 01/07/97
-----------------------------------------------------------------------
Name of file    : Cd-1.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components: 1. Nugget effect:  0.91474E-01
Model: Spherical     1    . Sill: 0.90267E-01. Range:    77523.
```

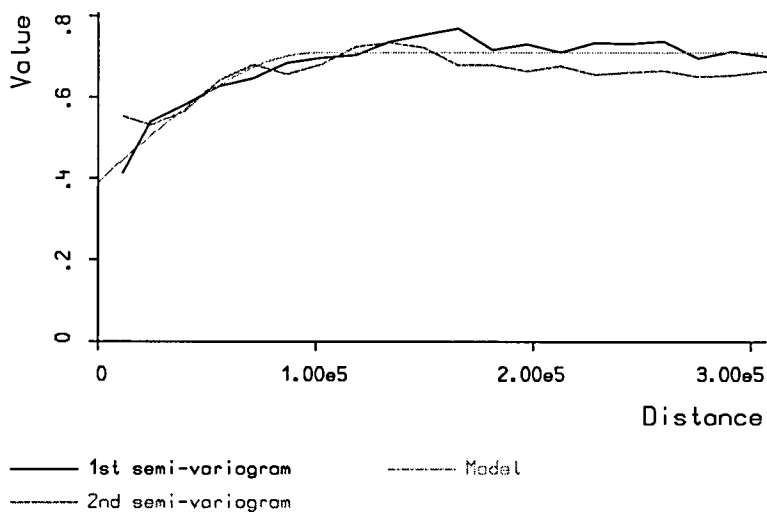Direction North-South (*2nd semi-variogram*):

```
Date            : 01/07/97
-----------------------------------------------------------------------
Name of file    : Cd-2.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components: 1. Nugget effect:  0.10198
Model: Spherical     1    . Sill: 0.79757E-01. Range:  0.12314E+06
```

Combined (Isotropical) Variogram:

```
Date            : 01/08/97
-----------------------------------------------------------------------
Name of file    : Cd.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components: 1. Nugget effect:  0.87000E-01
Model: Spherical     1    . Sill: 0.85012E-01. Range:    80000.
```


Semi-variogram of Cd

4.5 Variable Co

Direction East-West (*1st semi-variogram*):

```
Date              : 01/07/97
-----------------------------------------------------------------------
Name of file      : Co-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.24234
Model: Spherical    1    . Sill: 0.86386    . Range:    76646.
```

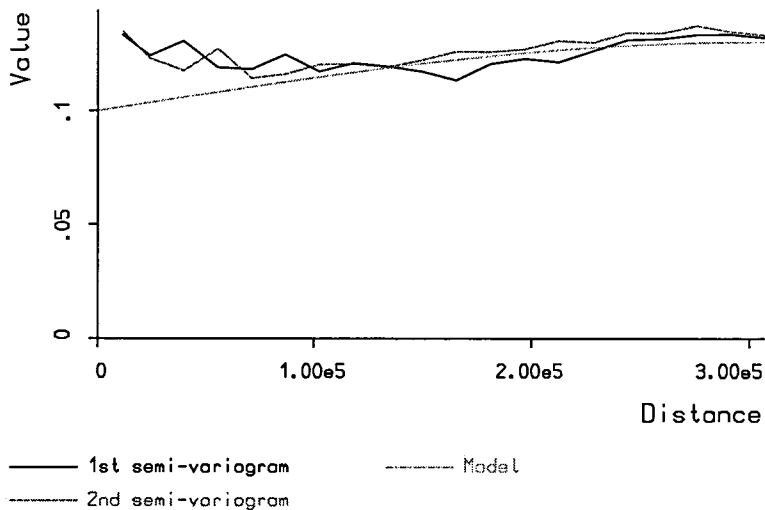Direction North-South (*2nd semi-variogram*):

```
Date              : 01/07/97
-----------------------------------------------------------------------
Name of file      : Co-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.33757
Model: Spherical    1    . Sill: 0.76863    . Range:  0.11708E+06
```

Combined (Isotropical) Variogram:

```
Date              : 01/08/97
-----------------------------------------------------------------------
Name of file      : Co.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.28996
Model: Spherical    1    . Sill: 0.81625    . Range:    96863.
```


Semi-variogram of Co

4.6   Variable Cr

Direction East-West (*1st semi-variogram*):

```
Date             : 01/07/97
------------------------------------------------------------------
Name of file     : Cr-1.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect:  0.29634
Model: Spherical    1     . Sill:  0.40357    . Range:   61714.
```
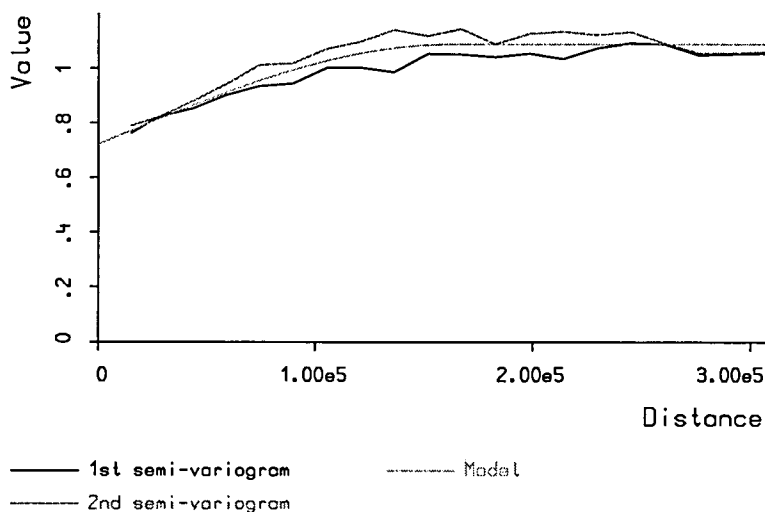
Direction North-South (*2nd semi-variogram*):

```
Date             : 01/07/97
------------------------------------------------------------------
Name of file     : Cr-2.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect:  0.42579
Model: Spherical    1     . Sill:  0.27412    . Range:  0.10066E+06
```

Combined (Isotropical) Variogram:

```
Date             : 01/08/97
------------------------------------------------------------------
Name of file     : Cr.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect:  0.37000
Model: Spherical    1     . Sill:  0.29900    . Range:  0.10000E+06
```


Semi-variogram of Cr

4.7 Variable Cu

Direction East-West (*1st semi-variogram*):

```
Date                : 01/07/97
-----------------------------------------------------------------
Name of file        : Cu-1.mod
-----------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components: 1. Nugget effect:  0.41347
Model: Spherical    1    . Sill:  1.7740   . Range:   93057.
```
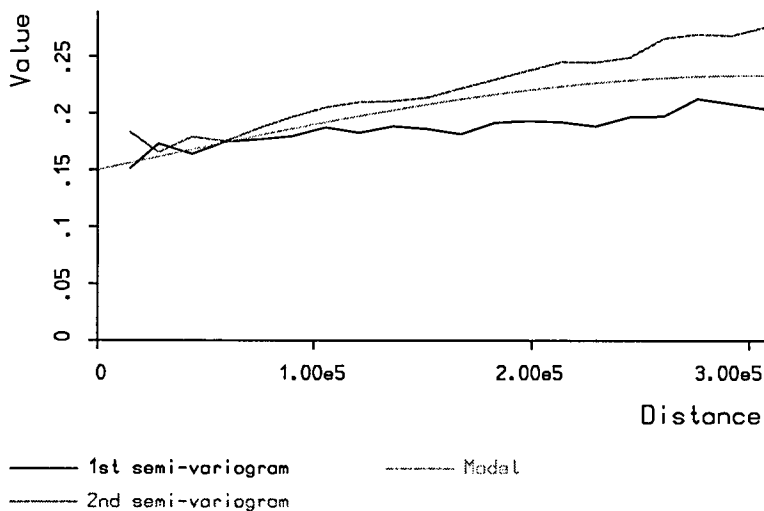
Direction North-South (*2nd semi-variogram*):

```
Date                : 01/07/97
-----------------------------------------------------------------
Name of file        : Cu-2.mod
-----------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components: 1. Nugget effect:  0.43768
Model: Spherical    1    . Sill:  1.7498   . Range:  0.14223E+06
```

Combined (Isotropical) Variogram:

```
Date                : 01/08/97
-----------------------------------------------------------------
Name of file        : Cu.mod
-----------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components: 1. Nugget effect:  0.42558
Model: Spherical    1    . Sill:  1.7619   . Range:  0.11764E+06
```


Semi-variogram of Cu

──────── 1st semi-variogram   ─·─·─·─ Model

──────── 2nd semi-variogram

4.8 Variable Fe

Direction East-West (*1st semi-variogram*):

```
Date              : 01/07/97
-------------------------------------------------------------------
Name of file      : Fe-1.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.73561
Model: Spherical    1     . Sill:  0.56223   . Range:   51719.
```
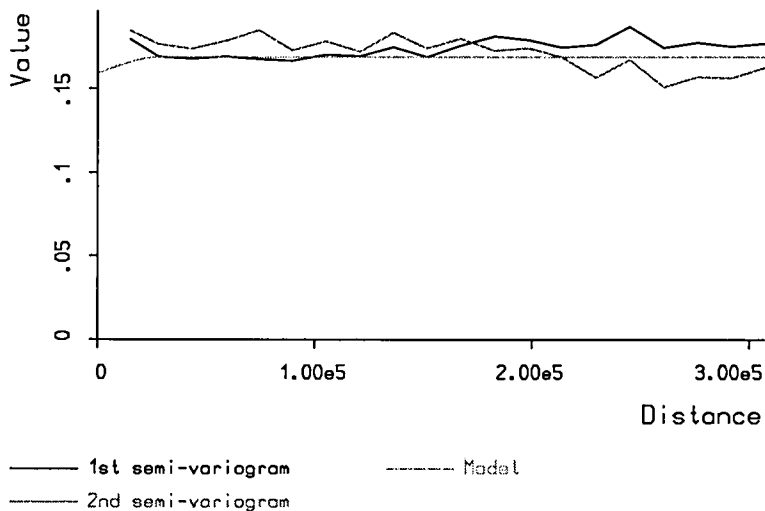
Direction North-South (*2nd semi-variogram*):

```
Date              : 01/07/97
-------------------------------------------------------------------
Name of file      : Fe-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.97158
Model: Spherical    1     . Sill:  0.32625   . Range:   63657.
```

Combined (Isotropical) Variogram:

```
Date              : 01/08/97
-------------------------------------------------------------------
Name of file      : Fe.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.85360
Model: Spherical    1     . Sill:  0.44424   . Range:   57688.
```


Semi-variogram of Fe

4.9   Variable K

Direction East-West (*1st semi-variogram*):

```
Date              : 01/07/97
--------------------------------------------------------------------
Name of file      : K-1.mod
--------------------------------------------------------------------
User              : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
--------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components: 1. Nugget effect:  0.63028E-01
Model: Spherical    1     . Sill: 0.22678E-01. Range:   32500.
```

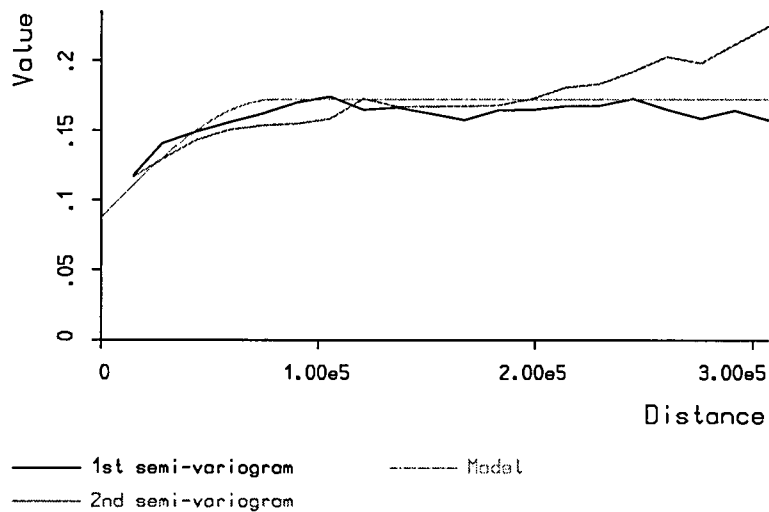Direction North-South (*2nd semi-variogram*):

```
Date              : 01/07/97
--------------------------------------------------------------------
Name of file      : K-2.mod
--------------------------------------------------------------------
User              : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
--------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components: 1. Nugget effect:  0.85706E-01
Model: Spherical    1     . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 01/08/97
--------------------------------------------------------------------
Name of file      : K.mod
--------------------------------------------------------------------
User              : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
--------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components: 1. Nugget effect:  0.74367E-01
Model: Spherical    1     . Sill: 0.11339E-01. Range:   50000.
```

4.10 Variable Mg

Direction East-West (*1st semi-variogram*):

```
Date            : 01/07/97
-------------------------------------------------------------------
Name of file    : Mg-1.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components: 1. Nugget effect:  0.16445
Model: Spherical    1    . Sill:  0.16652    . Range:  0.44180E+07
```
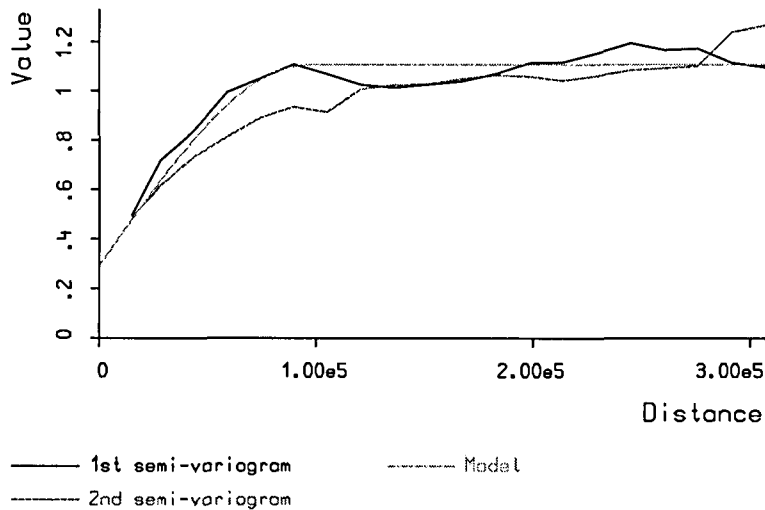
Direction North-South (*2nd semi-variogram*):

```
Date            : 01/07/97
-------------------------------------------------------------------
Name of file    : Mg-2.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components: 1. Nugget effect:  0.14241
Model: Spherical    1    . Sill:  0.18855    . Range:  0.32945E+06
```

Combined (Isotropical) Variogram:

```
Date            : 01/08/97
-------------------------------------------------------------------
Name of file    : Mg.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components: 1. Nugget effect:  0.14000
Model: Spherical    1    . Sill:  0.17000    . Range:  0.25000E+06
```


Semi-variogram of Mg

——— 1st semi-variogram   ———— Model

——— 2nd semi-variogram

4.11   Variable Mn

Direction East-West (*1st semi-variogram*):

```
Date            : 01/07/97
-----------------------------------------------------------------------
Name of file    : Mn-1.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components: 1. Nugget effect:  0.67753
Model: Spherical    1    . Sill:  0.46492    . Range:    89845.
```

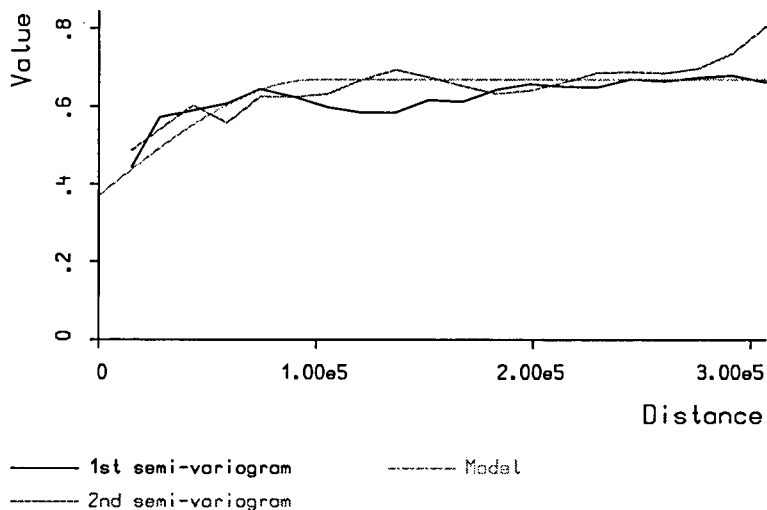Direction North-South (*2nd semi-variogram*):

```
Date            : 01/07/97
-----------------------------------------------------------------------
Name of file    : Mn-2.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components: 1. Nugget effect:  1.1425
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date            : 01/08/97
-----------------------------------------------------------------------
Name of file    : Mn.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components: 1. Nugget effect:  0.75000
Model: Spherical    1    . Sill:  0.28000    . Range:  0.10000E+06
```


Semi-variogram of Mn

4.12 Variable Na

Direction East-West (*1st semi-variogram*):

```
Date              : 01/07/97
-------------------------------------------------------------------
Name of file      : Na-1.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.16193
Model: Spherical    1    . Sill:  0.38384    . Range:  0.92626E+06
```
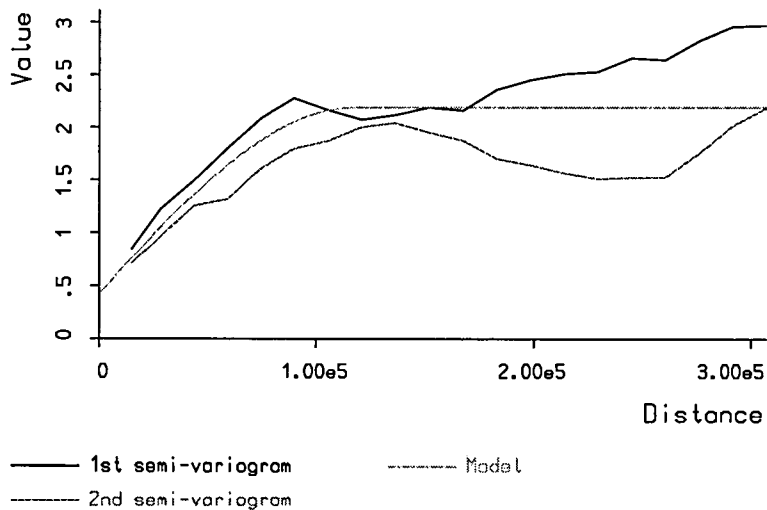
Direction North-South (*2nd semi-variogram*):

```
Date              : 01/07/97
-------------------------------------------------------------------
Name of file      : Na-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.10982
Model: Spherical    1    . Sill:  0.43595    . Range:  0.26240E+06
```

Combined (Isotropical) Variogram:

```
Date              : 01/08/97
-------------------------------------------------------------------
Name of file      : Na.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.13588
Model: Spherical    1    . Sill:  0.33000    . Range:  0.31000E+06
```


Semi-variogram of Na

4.13   Variable Ni

Direction East-West (*1st semi-variogram*):

```
Date              : 01/07/97
-----------------------------------------------------------------------
Name of file      : Ni-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components: 1. Nugget effect:  0.10328
Model: Spherical    1    . Sill:   2.0291   . Range:  0.12435E+06
```
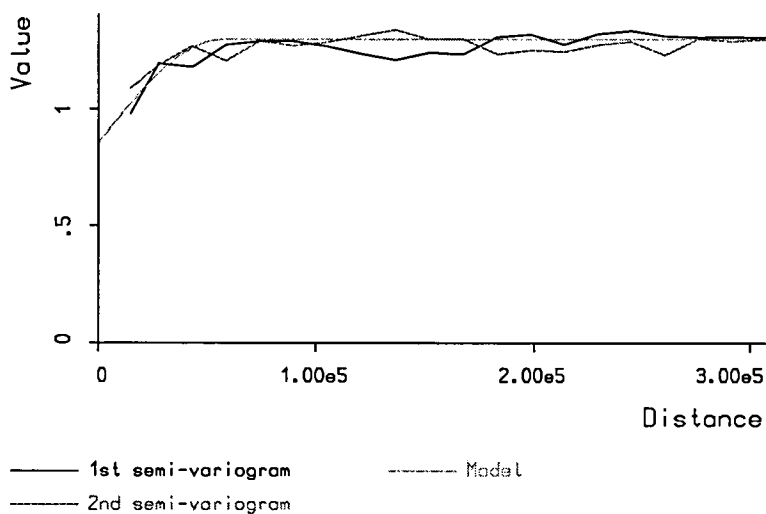
Direction North-South (*2nd semi-variogram*):

```
Date              : 01/07/97
-----------------------------------------------------------------------
Name of file      : Ni-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components: 1. Nugget effect:  0.22117
Model: Spherical    1    . Sill:   1.9112   . Range:  0.22559E+06
```

Combined (Isotropical) Variogram:

```
Date              : 01/08/97
-----------------------------------------------------------------------
Name of file      : Ni.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components: 1. Nugget effect:  0.16222
Model: Spherical    1    . Sill:   1.7700   . Range:  0.13000E+06
```

4.14   Variable P

Direction East-West (*1st semi-variogram*):

```
Date              : 01/07/97
------------------------------------------------------------------------
Name of file      : P-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components: 1. Nugget effect: 0.15407
Model: Spherical    1    . Sill: 0.72658E-01. Range:   65679.
```
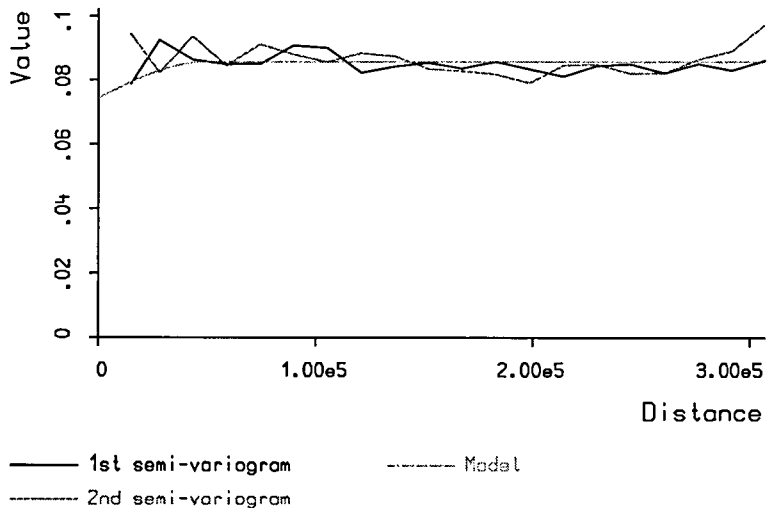
Direction North-South (*2nd semi-variogram*):

```
Date              : 01/07/97
------------------------------------------------------------------------
Name of file      : P-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components: 1. Nugget effect: 0.17348
Model: Spherical    1    . Sill: 0.53246E-01. Range:   84187.
```

Combined (Isotropical) Variogram:

```
Date              : 01/08/97
------------------------------------------------------------------------
Name of file      : P.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components: 1. Nugget effect: 0.16377
Model: Spherical    1    . Sill: 0.73000E-01. Range:   75000.
```

4.15 Variable Pb

Direction East-West (*1st semi-variogram*):

```
Date            : 01/07/97
-------------------------------------------------------------------
Name of file    : Pb-1.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Pb
Dimension: 2. Components: 1. Nugget effect:  0.28813
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```
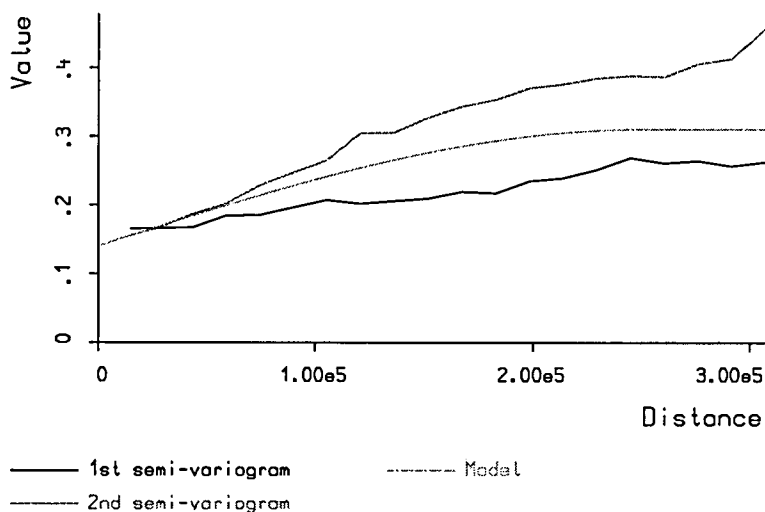
Direction North-South (*2nd semi-variogram*):

```
Date            : 01/07/97
-------------------------------------------------------------------
Name of file    : Pb-2.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Pb
Dimension: 2. Components: 1. Nugget effect:  0.12629
Model: Spherical    1    . Sill:  0.16184    . Range:  0.10916E+06
```

Combined (Isotropical) Variogram:

```
Date            : 01/08/97
-------------------------------------------------------------------
Name of file    : Pb.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Pb
Dimension: 2. Components: 2. Nugget effect:  0.11000
Model: Spherical    1    . Sill:  0.60000E-01. Range:  55000.
Model: Linear       3    . Sill:  0.10000    . Range:  0.31000E+06
```


Semi-variogram of Pb

4.16 Variable S

Direction East-West (*1st semi-variogram*):

```
Date              : 01/07/97
---------------------------------------------------------------------
Name of file      : S-1.mod
---------------------------------------------------------------------
User              : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
---------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components: 1. Nugget effect:  0.42864E-01
Model: Spherical    1    . Sill:  0.15961E-01. Range:    97150.
```
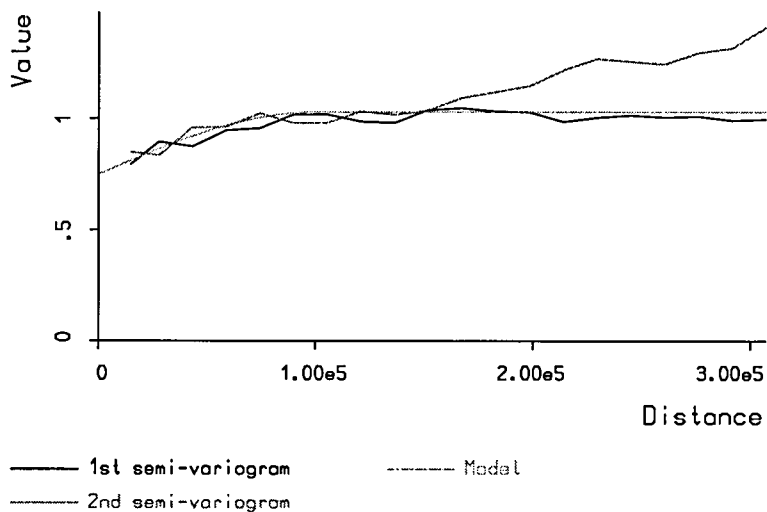
Direction North-South (*2nd semi-variogram*):

```
Date              : 01/07/97
---------------------------------------------------------------------
Name of file      : S-2.mod
---------------------------------------------------------------------
User              : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
---------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components: 1. Nugget effect:  0.58826E-01
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 01/08/97
---------------------------------------------------------------------
Name of file      : S.mod
---------------------------------------------------------------------
User              : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
---------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components: 1. Nugget effect:  0.46000E-01
Model: Spherical    1    . Sill:  0.14000E-01. Range:  0.23000E+06
```


Semi-variogram of S

4.17 Variable Si

Direction East-West (*1st semi-variogram*):

```
Date              : 01/07/97
-----------------------------------------------------------------------
Name of file      : Si-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components: 1. Nugget effect:  0.16050
Model: Spherical     1    . Sill:  0.10192    . Range:  0.10449E+07
```

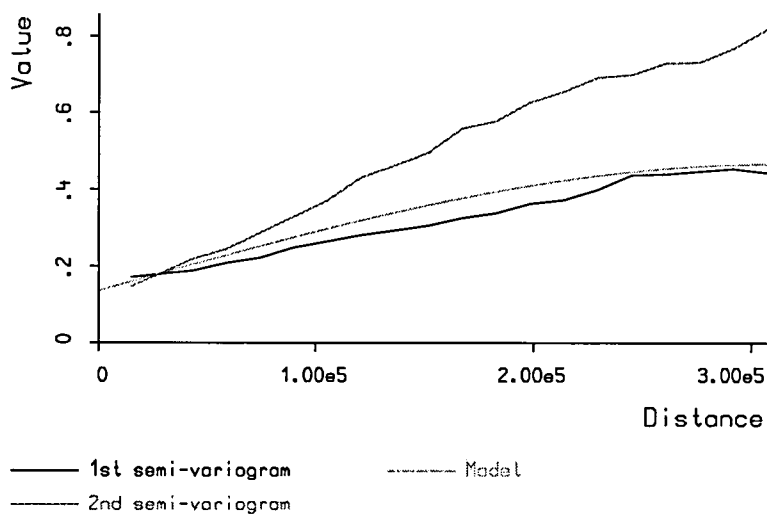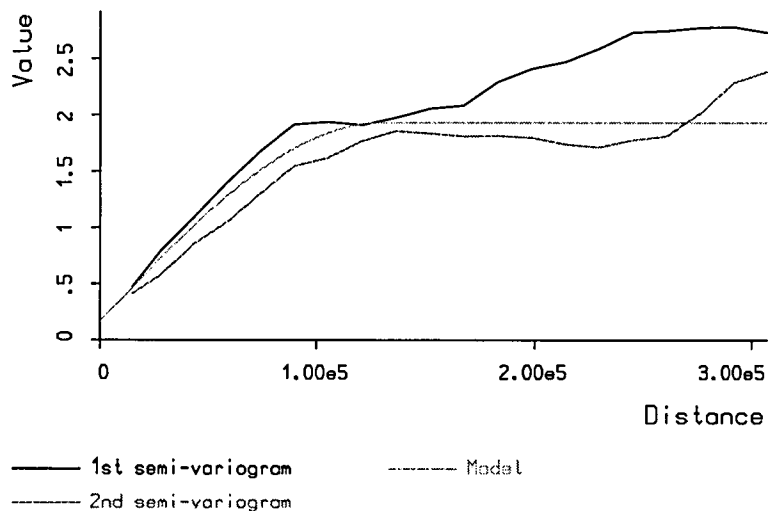Direction North-South (*2nd semi-variogram*):

```
Date              : 01/07/97
-----------------------------------------------------------------------
Name of file      : Si-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components: 1. Nugget effect:  0.14622
Model: Spherical     1    . Sill:  0.11621    . Range:  0.22233E+06
```

Combined (Isotropical) Variogram:

```
Date              : 01/08/97
-----------------------------------------------------------------------
Name of file      : Si.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components: 1. Nugget effect:  0.15336
Model: Spherical     1    . Sill:  0.15900    . Range:  0.60000E+06
```


Semi-variogram of Si
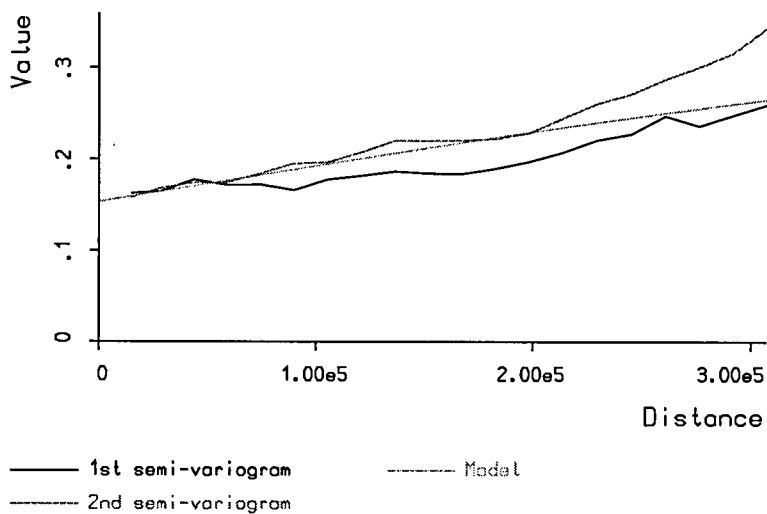
4.18   Variable Sr

Direction East-West (*1st semi-variogram*):

```
Date             : 01/07/97
-------------------------------------------------------------------
Name of file     : Sr-1.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension: 2. Components: 1. Nugget effect:  0.13763
Model: Spherical    1    . Sill: 0.18167    . Range:   81417.
```

Direction North-South (*2nd semi-variogram*):

```
Date             : 01/07/97
-------------------------------------------------------------------
Name of file     : Sr-2.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension: 2. Components: 1. Nugget effect:  0.15638
Model: Spherical    1    . Sill: 0.16292    . Range:  0.16707E+06
```

Combined (Isotropical) Variogram:

```
Date             : 01/08/97
-------------------------------------------------------------------
Name of file     : Sr.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension: 2. Components: 1. Nugget effect:  0.14700
Model: Spherical    1    . Sill: 0.14200    . Range:  0.12400E+06
```

4.19   Variable Ti

Direction East-West (*1st semi-variogram*):

```
Date            : 01/07/97
------------------------------------------------------------------------
Name of file    : Ti-1.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ti
Dimension: 2. Components: 1. Nugget effect:  0.36001
Model: Spherical    1     . Sill: 0.29507    . Range:    90162.
```
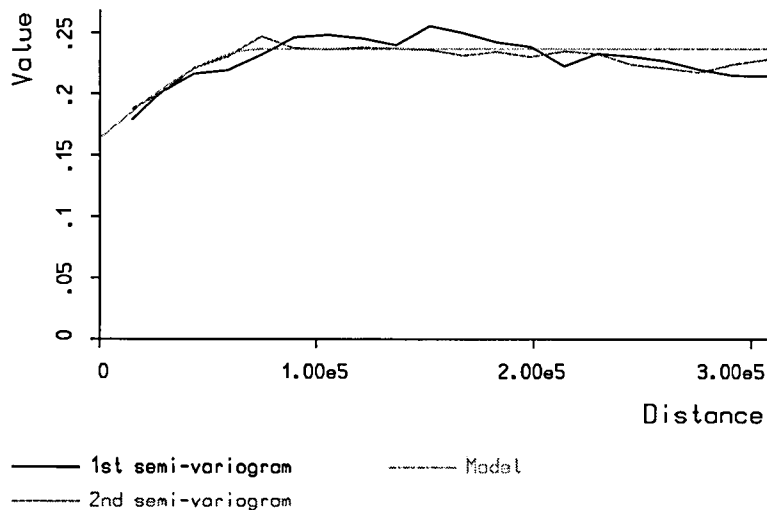
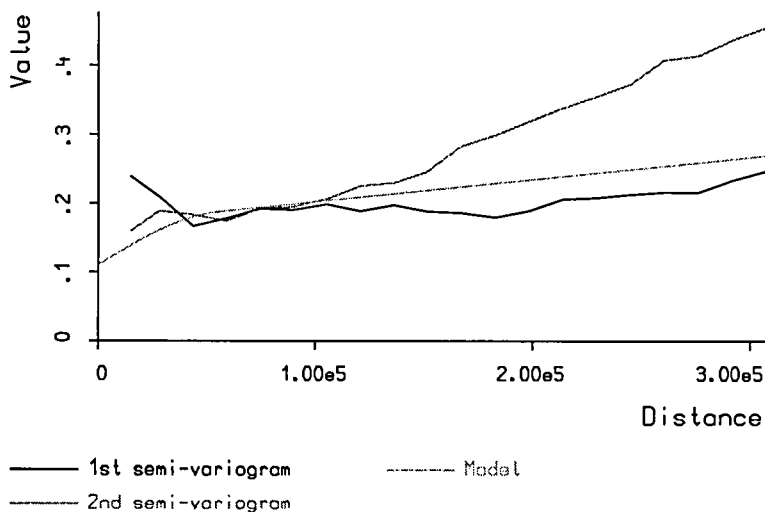Direction North-South (*2nd semi-variogram*):

```
Date            : 01/07/97
------------------------------------------------------------------------
Name of file    : Ti-2.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ti
Dimension: 2. Components: 1. Nugget effect:  0.46169
Model: Spherical    1     . Sill: 0.19339    . Range:  0.22494E+06
```

Combined (Isotropical) Variogram:

```
Date            : 01/08/97
------------------------------------------------------------------------
Name of file    : Ti.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ti
Dimension: 2. Components: 1. Nugget effect:  0.41085
Model: Spherical    1     . Sill: 0.23400    . Range:  0.22000E+06
```

4.20   Variable V

Direction East-West (*1st semi-variogram*):

```
Date              : 01/07/97
------------------------------------------------------------------
Name of file      : V-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: V
Dimension: 2. Components: 1. Nugget effect:  0.15453
Model: Spherical    1    . Sill: 0.19656    . Range:    76551.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 01/07/97
------------------------------------------------------------------
Name of file      : V-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: V
Dimension: 2. Components: 1. Nugget effect:  0.17845
Model: Spherical    1    . Sill: 0.17264    . Range:  0.14137E+06
```

Combined (Isotropical) Variogram:

```
Date              : 01/08/97
------------------------------------------------------------------
Name of file      : V.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: V
Dimension: 2. Components: 1. Nugget effect:  0.16600
Model: Spherical    1    . Sill: 0.14400    . Range:  0.10000E+06
```


Semi-variogram of V

4.21   Variable Zn

Direction East-West (*1st semi-variogram*):

```
Date              : 01/07/97
-----------------------------------------------------------------------
Name of file      : Zn-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect:  0.13377
Model: Spherical    1     . Sill:  0.27579E-01. Range:    49459.
```
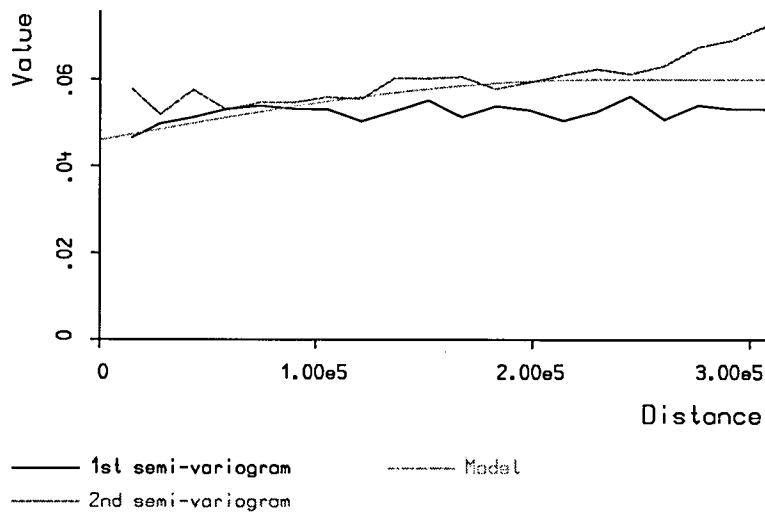
Direction North-South (*2nd semi-variogram*):

```
Date              : 01/07/97
-----------------------------------------------------------------------
Name of file      : Zn-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect:  0.16135
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 01/08/97
-----------------------------------------------------------------------
Name of file      : Zn.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnhuaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect:  0.12000
Model: Spherical    1     . Sill:  0.33800E-01. Range:    50000.
```

Chapter 5

Estimated Variograms for HUMUS (Untransformed Data)

5.1 Variable C

Direction East-West (*1st semi-variogram*):

```
Date              : 11/29/96
------------------------------------------------------------------------
Name of file      : C-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../huph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: C
Dimension: 2. Components: 1. Nugget effect:   23.913
Model: Spherical    1    . Sill:   11.488    . Range:   45092.
```

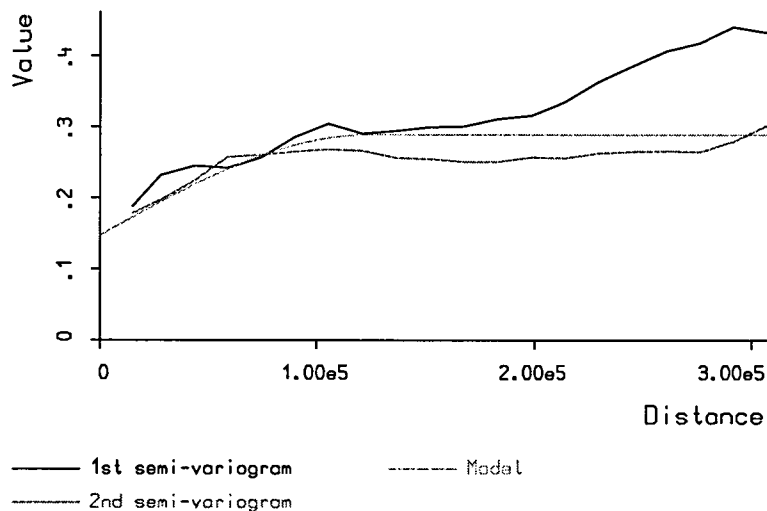Direction North-South (*2nd semi-variogram*):

```
Date              : 11/29/96
------------------------------------------------------------------------
Name of file      : C-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../huph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: C
Dimension: 2. Components: 1. Nugget effect:   35.400
Model: Spherical    1    . Sill:   0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 11/29/96
------------------------------------------------------------------------
Name of file      : C.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../huph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: C
Dimension: 2. Components: 1. Nugget effect:   23.000
Model: Spherical    1    . Sill:   11.300    . Range:   40000.
```
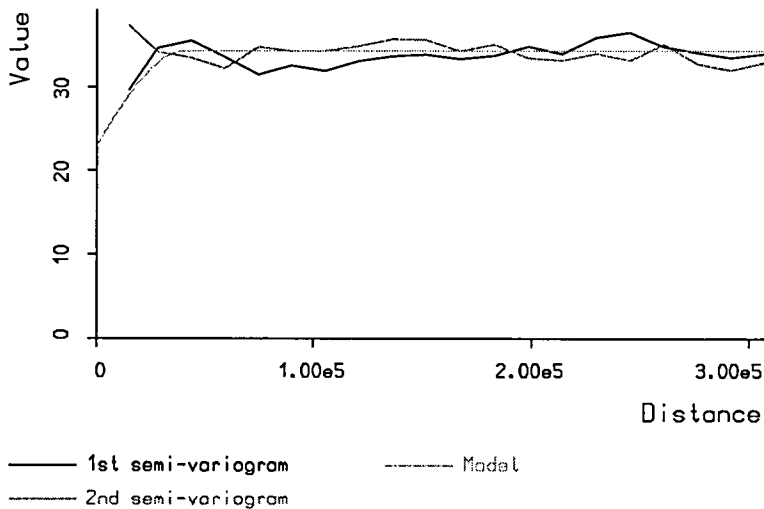
5.2 Variable H

Direction East-West (*1st semi-variogram*):

```
Date              : 11/29/96
-----------------------------------------------------------------------
Name of file      : H-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../huph.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: H
Dimension: 2. Components:  1. Nugget effect:  0.39405
Model: Spherical    1     . Sill:  0.23124    . Range:   45725.
```

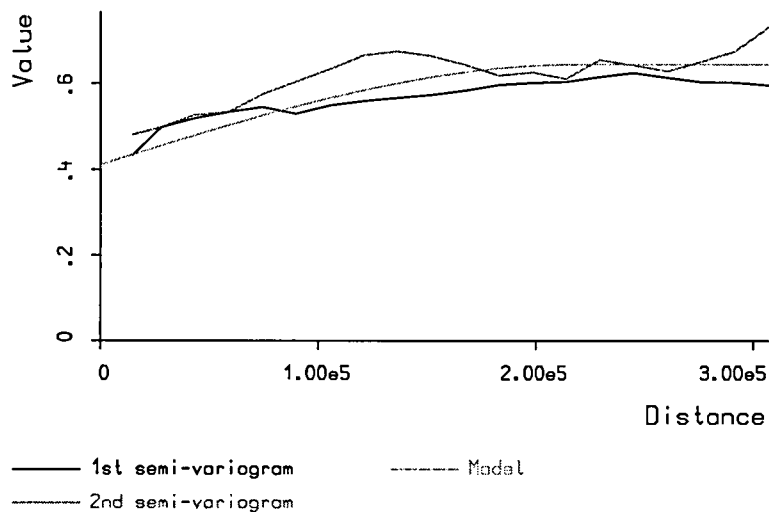Direction North-South (*2nd semi-variogram*):

```
Date              : 11/29/96
-----------------------------------------------------------------------
Name of file      : H-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../huph.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: H
Dimension: 2. Components:  1. Nugget effect:  0.62529
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 11/30/96
-----------------------------------------------------------------------
Name of file      : H.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../huph.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: H
Dimension: 2. Components:  1. Nugget effect:  0.46900
Model: Spherical    1     . Sill:  0.11562    . Range:   40000.
```

Semi-variogram of HH

— 1st semi-variogram   --- Model

--- 2nd semi-variogram

5.3 Variable N

Direction East-West (*1st semi-variogram*):

```
Date                : 11/29/96
------------------------------------------------------------------------
Name of file        : N-1.mod
------------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../huph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: N
Dimension: 2. Components: 1. Nugget effect: 0.35282E-01
Model: Spherical     1      . Sill: 0.16176E-01. Range:    73257.
```
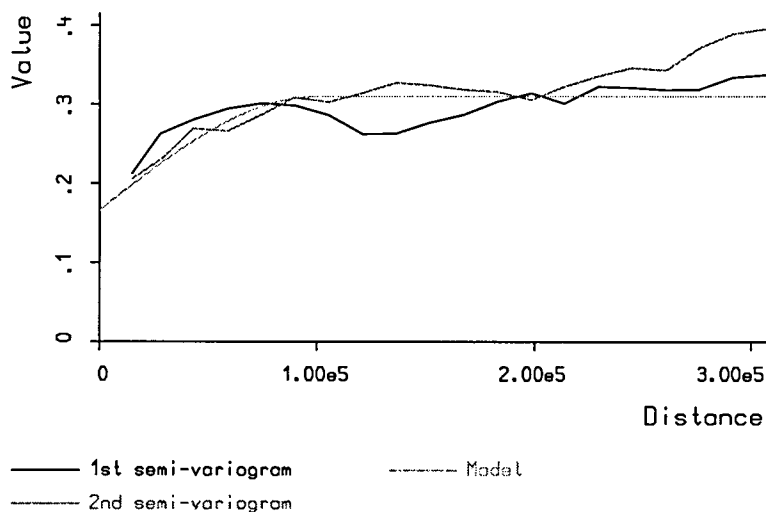
Direction North-South (*2nd semi-variogram*):

```
Date                : 11/29/96
------------------------------------------------------------------------
Name of file        : N-2.mod
------------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../huph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: N
Dimension: 2. Components: 1. Nugget effect: 0.44775E-01
Model: Spherical     1      . Sill: 0.66834E-02. Range:  0.45170E+06
```

Combined (Isotropical) Variogram:

```
Date                : 11/30/96
------------------------------------------------------------------------
Name of file        : N.mod
------------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../huph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: N
Dimension: 2. Components: 1. Nugget effect: 0.42000E-01
Model: Spherical     1      . Sill: 0.94000E-02. Range:  0.17000E+06
```


Semi-variogram of N

5.4   Variable LOI

Direction East-West (*1st semi-variogram*):

```
Date              : 11/29/96
-----------------------------------------------------------------------
Name of file     : LOI-1.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../huph.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: LOI
Dimension: 2. Components: 1. Nugget effect:   65.804
Model: Spherical     1    . Sill:   33.653   . Range:    54831.
```

Direction North-South (*2nd semi-variogram*):
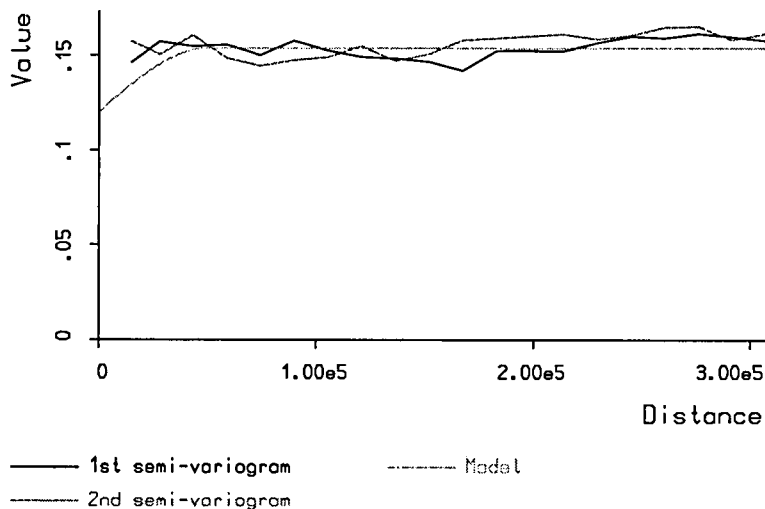
```
Date              : 11/29/96
-----------------------------------------------------------------------
Name of file     : LOI-2.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../huph.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: LOI
Dimension: 2. Components: 1. Nugget effect:   99.457
Model: Spherical     1    . Sill:  0.00000   . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 11/30/96
-----------------------------------------------------------------------
Name of file     : LOI.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../huph.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: LOI
Dimension: 2. Components: 1. Nugget effect:   68.000
Model: Spherical     1    . Sill:   26.000   . Range:    40000.
```


Semi-variogram of LOI

5.5   Variable pH

Direction East-West (*1st semi-variogram*):

```
Date              : 11/29/96
-----------------------------------------------------------------------
Name of file      : pH-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../huph.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: pH
Dimension: 2. Components: 1. Nugget effect:  0.42549E-01
Model: Spherical    1    . Sill:  0.20299E-01. Range:   70644.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 11/29/96
-----------------------------------------------------------------------
Name of file      : pH-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../huph.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: pH
Dimension: 2. Components: 1. Nugget effect:  0.62849E-01
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 11/30/96
-----------------------------------------------------------------------
Name of file      : pH.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../huph.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: pH
Dimension: 2. Components: 1. Nugget effect:  0.47000E-01
Model: Spherical    1    . Sill:  0.12000E-01. Range:   50000.
```

5.6   Variable EC

Direction East-West (*1st semi-variogram*):

```
Date              : 11/29/96
-------------------------------------------------------------------
Name of file      : EC-1.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../huph.txt
-------------------------------------------------------------------
Semi-variogram model of variable: EC
Dimension: 2. Components: 1. Nugget effect:   583.14
Model: Spherical    1    . Sill:   215.62   . Range:  0.13434E+06
```
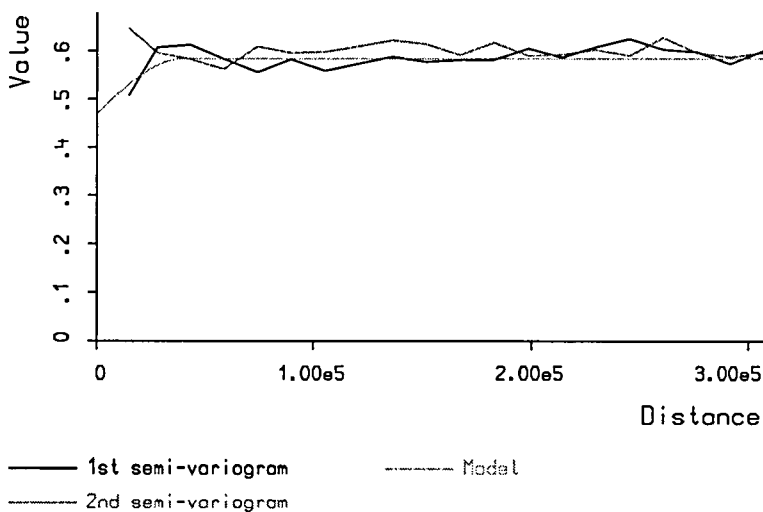
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/29/96
-------------------------------------------------------------------
Name of file      : EC-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../huph.txt
-------------------------------------------------------------------
Semi-variogram model of variable: EC
Dimension: 2. Components: 1. Nugget effect:   597.37
Model: Spherical    1    . Sill:   201.39   . Range:  0.17844E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/30/96
-------------------------------------------------------------------
Name of file      : EC.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../huph.txt
-------------------------------------------------------------------
Semi-variogram model of variable: EC
Dimension: 2. Components: 1. Nugget effect:   580.00
Model: Spherical    1    . Sill:   188.00   . Range:  0.10000E+06
```


Semi-variogram of EC

Chapter 6

Estimated Variograms for the B-HORIZON (Ln-transformed ICP- and AAS-data)

6.1 Variable Ag

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
-----------------------------------------------------------------
Name of file      : Ag-1.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Ag
Dimension: 2. Components: 1. Nugget effect:  0.31161
Model: Spherical     1     . Sill: 0.38871    . Range:    48589.
```
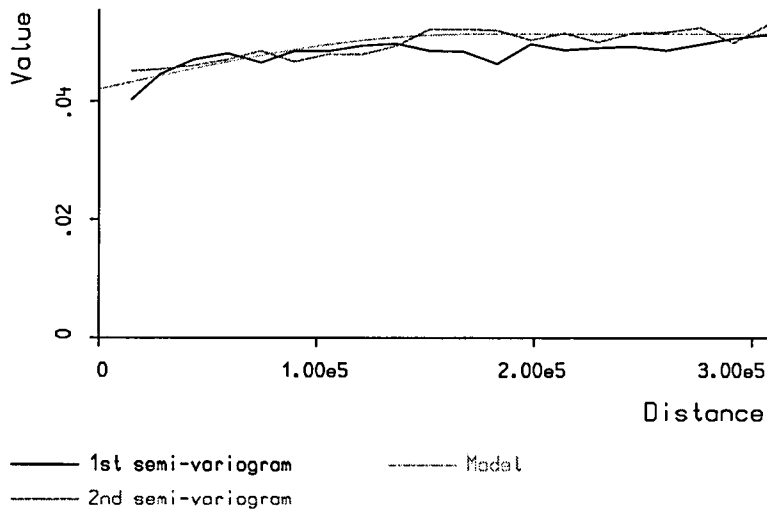
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
-----------------------------------------------------------------
Name of file      : Ag-2.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Ag
Dimension: 2. Components: 1. Nugget effect:  0.70032
Model: Spherical     1     . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
-----------------------------------------------------------------
Name of file      : Ag.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Ag
Dimension: 2. Components: 2. Nugget effect:  0.35000
Model: Spherical     1     . Sill: 0.21400    . Range:    26000.
Model: Linear        3     . Sill: 0.17000    . Range:  0.31000E+06
```


Semi-variogram of Ag

6.2   Variable Al

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Al-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components: 1. Nugget effect:  0.13597
Model: Spherical     1    . Sill: 0.10046    . Range:    83515.
```

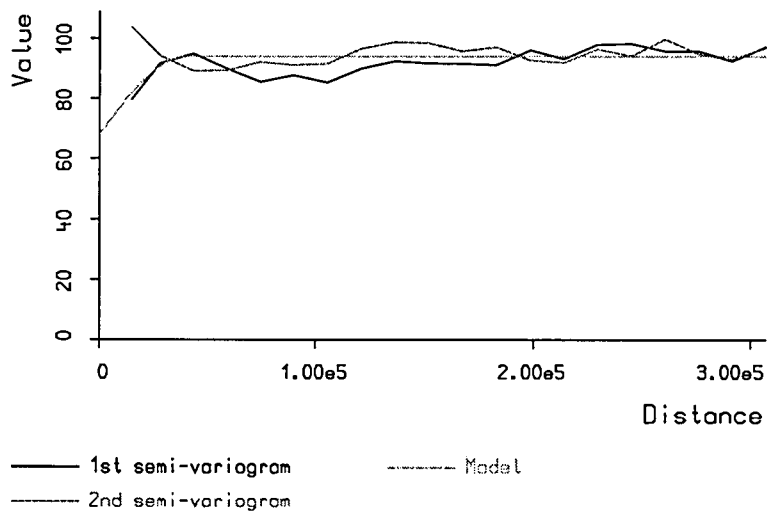Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Al-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components: 1. Nugget effect:  0.16022
Model: Spherical     1    . Sill: 0.76212E-01. Range:  0.14408E+06
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Al.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components: 1. Nugget effect:  0.14809
Model: Spherical     1    . Sill: 0.88336E-01. Range:  0.11380E+06
```

6.3 Variable As

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : As-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components:  1. Nugget effect:  0.23909
Model: Spherical     1     . Sill:  0.56739    . Range:  0.12519E+06
```
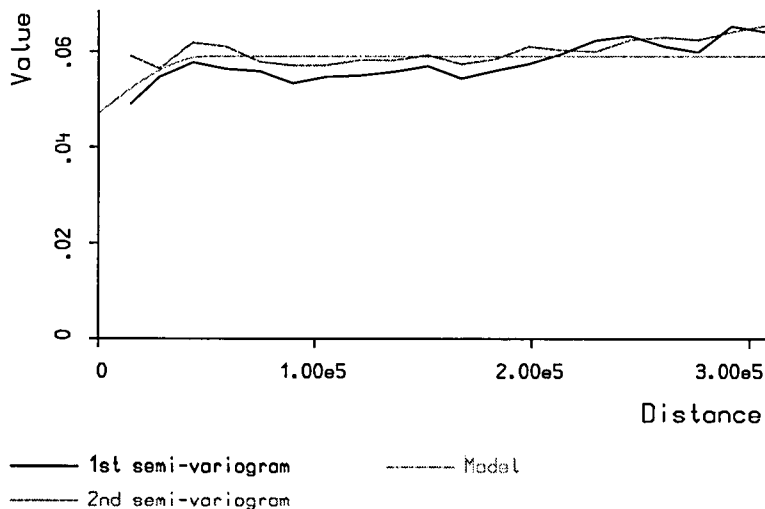
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : As-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components:  1. Nugget effect:  0.33870
Model: Spherical     1     . Sill:  0.46778    . Range:  0.22142E+06
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : As.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components:  1. Nugget effect:  0.32000
Model: Spherical     1     . Sill:  0.56800    . Range:  0.25000E+06
```

6.4   Variable Ba

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
-----------------------------------------------------------------------
Name of file     : Ba-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components:  1. Nugget effect:  0.19078
Model: Spherical     1     . Sill:  0.22851    . Range:    90561.
```
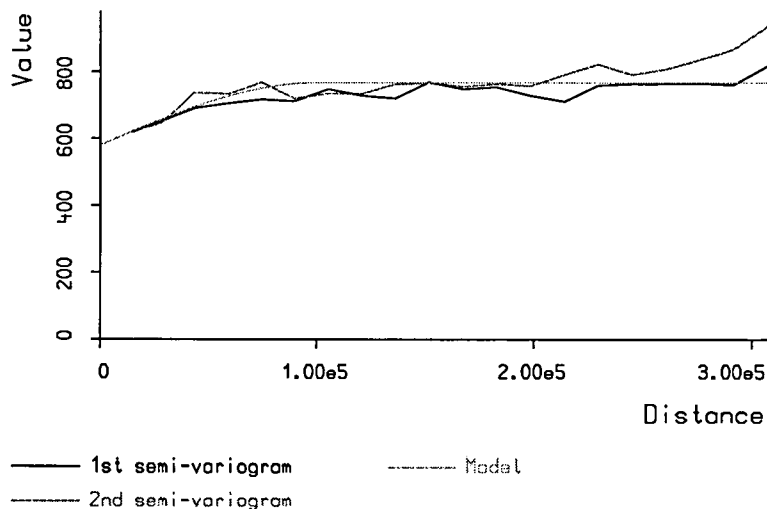
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
-----------------------------------------------------------------------
Name of file     : Ba-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components:  1. Nugget effect:  0.22110
Model: Spherical     1     . Sill:  0.19820    . Range:  0.17268E+06
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
-----------------------------------------------------------------------
Name of file     : Ba.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components:  1. Nugget effect:  0.20594
Model: Spherical     1     . Sill:  0.21336    . Range:  0.10000E+06
```


Semi-variogram of Ba

6.5   Variable Be

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Be-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Be
Dimension: 2. Components:  1. Nugget effect:  0.80280E-01
Model: Spherical     1    . Sill:  0.30320    . Range:   56093.
```
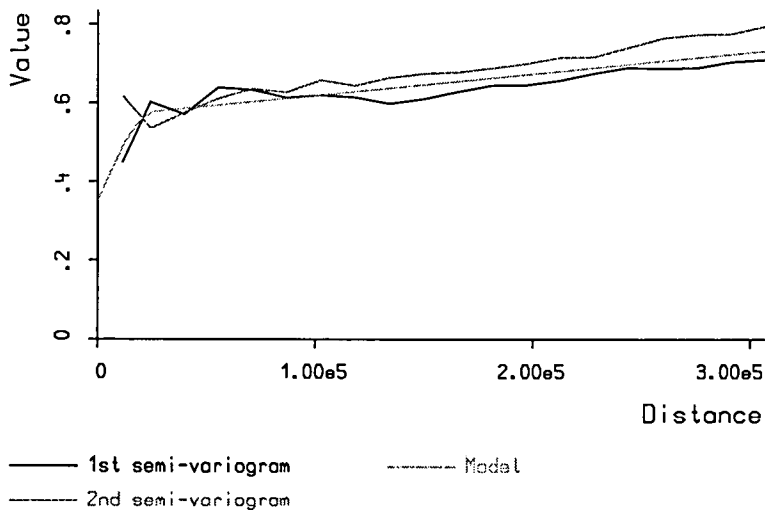
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Be-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Be
Dimension: 2. Components:  1. Nugget effect:  0.12817
Model: Spherical     1    . Sill:  0.25531    . Range:   74991.
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Be.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Be
Dimension: 2. Components:  1. Nugget effect:  0.10422
Model: Spherical     1    . Sill:  0.25900    . Range:   65540.
```


Semi-variogram of Be

6.6 Variable Bi

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
-----------------------------------------------------------------------
Name of file    : Bi-1.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Bi
Dimension: 2. Components: 1. Nugget effect:  0.19467
Model: Spherical   1    . Sill:  0.43077   . Range:  0.18961E+06
```

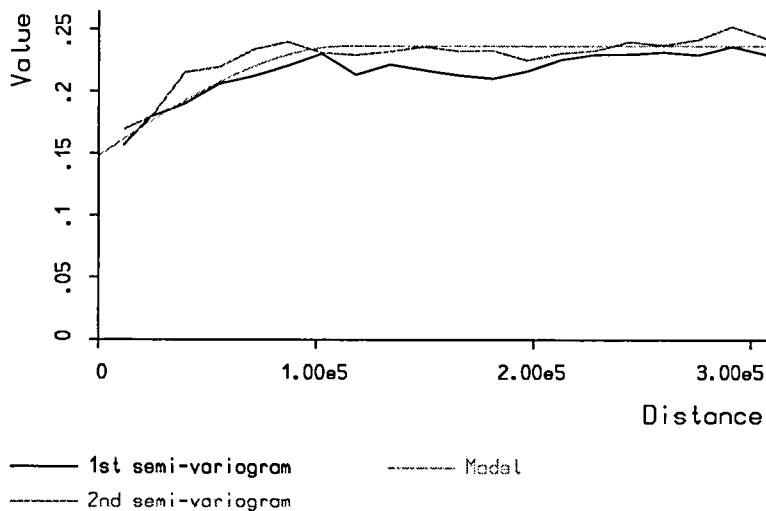Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
-----------------------------------------------------------------------
Name of file    : Bi-2.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Bi
Dimension: 2. Components: 1. Nugget effect:  0.88304E-01
Model: Spherical   1    . Sill:  0.53714   . Range:  90486.
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
-----------------------------------------------------------------------
Name of file    : Bi.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Bi
Dimension: 2. Components: 1. Nugget effect:  0.14149
Model: Spherical   1    . Sill:  0.48396   . Range:  0.14005E+06
```


Semi-variogram of Bi

6.7   Variable Ca

Direction East-West (*1st semi-variogram*):

```
Date             : 10/20/96
------------------------------------------------------------------------
Name of file     : Ca-1.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.58147E-01
Model: Spherical    1     . Sill: 0.39487   . Range:   76064.
```

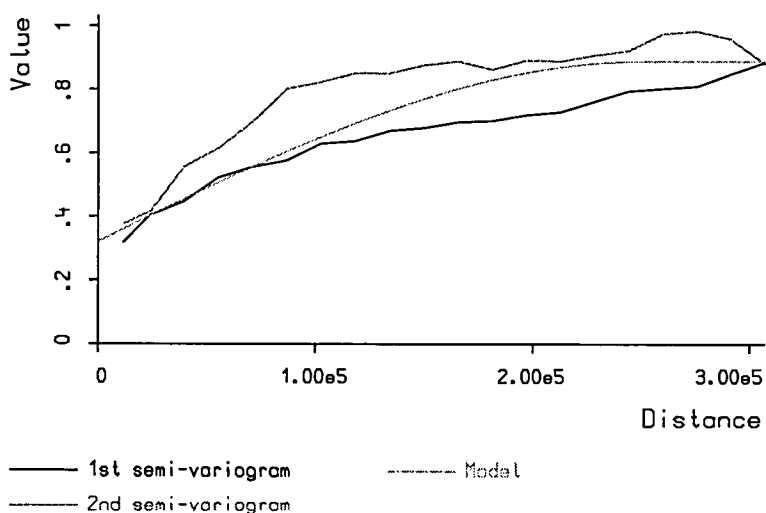Direction North-South (*2nd semi-variogram*):

```
Date             : 10/20/96
------------------------------------------------------------------------
Name of file     : Ca-2.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.15168
Model: Spherical    1     . Sill: 0.30133   . Range:  0.18356E+06
```

Combined (Isotropical) Variogram:

```
Date             : 10/20/96
------------------------------------------------------------------------
Name of file     : Ca.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.10491
Model: Spherical    1     . Sill: 0.34810   . Range:  0.12981E+06
```

6.8 Variable Cd

Direction East-West (*1st semi-variogram*):

```
Date                : 10/20/96
---------------------------------------------------------------------
Name of file       : Cd-1.mod
---------------------------------------------------------------------
User               : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
---------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components: 1. Nugget effect:  0.15909
Model: Spherical   1     . Sill:  0.13613   . Range:   62267.
```

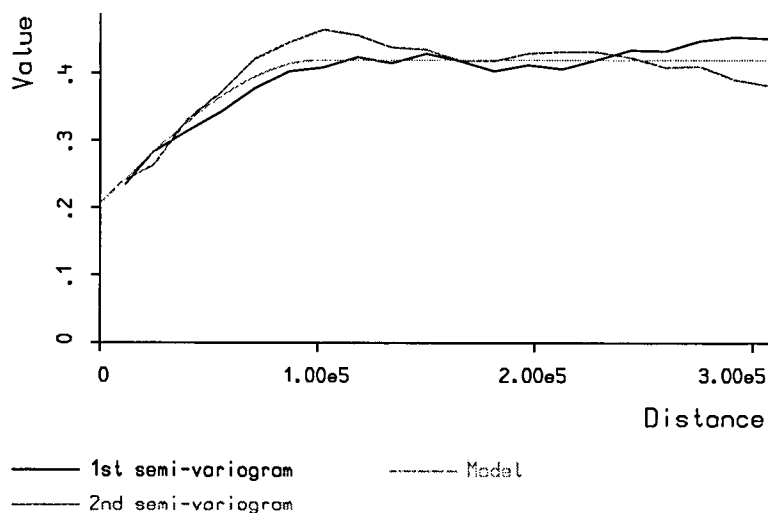Direction North-South (*2nd semi-variogram*):

```
Date                : 10/20/96
---------------------------------------------------------------------
Name of file       : Cd-2.mod
---------------------------------------------------------------------
User               : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
---------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components: 1. Nugget effect:  0.29522
Model: Spherical   1     . Sill:  0.00000   . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date                : 10/20/96
---------------------------------------------------------------------
Name of file       : Cd.mod
---------------------------------------------------------------------
User               : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
---------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components: 2. Nugget effect:  0.16700
Model: Spherical   1     . Sill:  0.68065E-01. Range:   31134.
Model: Linear      3     . Sill:  0.70000E-01. Range:  0.31000E+06
```


Semi-variogram of Cd

6.9   Variable Co

Direction East-West (*1st semi-variogram*):

```
Date             : 10/20/96
-----------------------------------------------------------------------
Name of file     : Co-1.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.17002
Model: Spherical    1    . Sill: 0.11667 .   . Range:   75533.
```

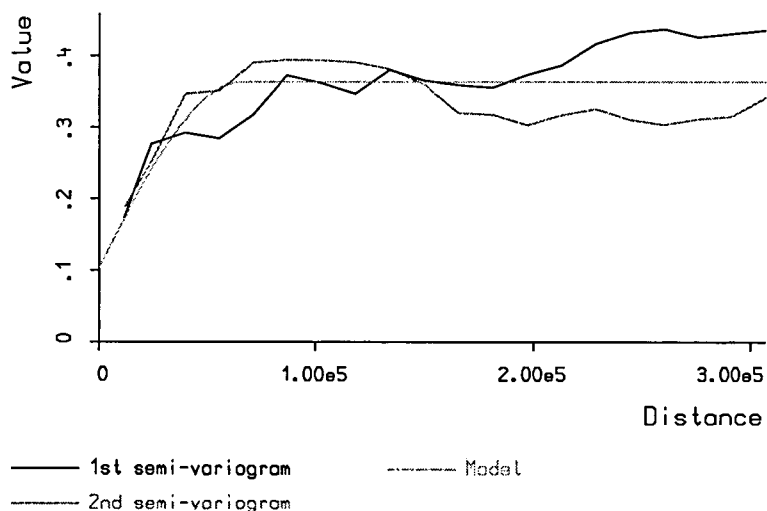Direction North-South (*2nd semi-variogram*):

```
Date             : 10/20/96
-----------------------------------------------------------------------
Name of file     : Co-2.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.17832
Model: Spherical    1    . Sill: 0.10837    . Range:   90929.
```

Combined (Isotropical) Variogram:

```
Date             : 10/20/96
-----------------------------------------------------------------------
Name of file     : Co.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.17417
Model: Spherical    1    . Sill: 0.11252    . Range:   83231.
```


Semi-variogram of Co

6.10 Variable Cr

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : Cr-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect:  0.15733
Model: Spherical    1     . Sill: 0.16944   . Range:    72131.
```
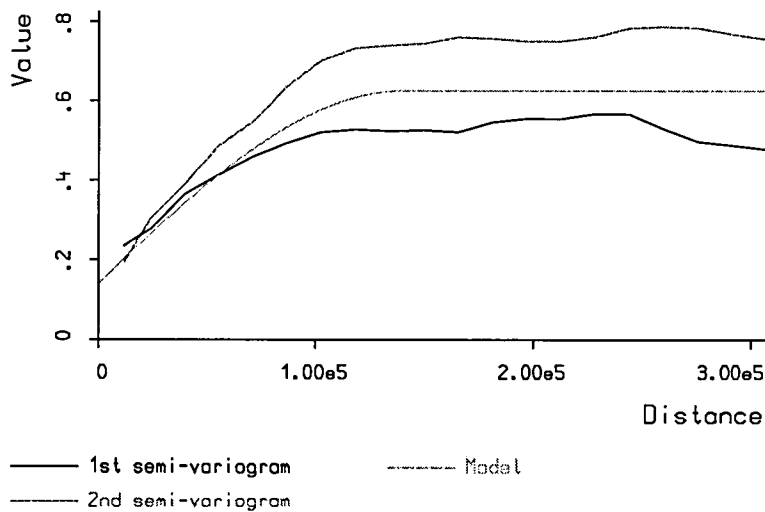
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : Cr-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect:  0.17086
Model: Spherical    1     . Sill: 0.15591   . Range:  0.10983E+06
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : Cr.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 2. Nugget effect:  0.16410
Model: Spherical    1     . Sill: 0.90000E-01. Range:    60000.
Model: Linear       3     . Sill: 0.12000   . Range:  0.31000E+06
```


Semi-variogram of Cr

6.11   Variable Cu

Direction East-West (*1st semi-variogram*):

```
Date             : 10/20/96
-------------------------------------------------------------------------
Name of file     : Cu-1.mod
-------------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components:  1. Nugget effect:  0.22515
Model: Spherical     1     . Sill:  0.26781    . Range:   62925.
```
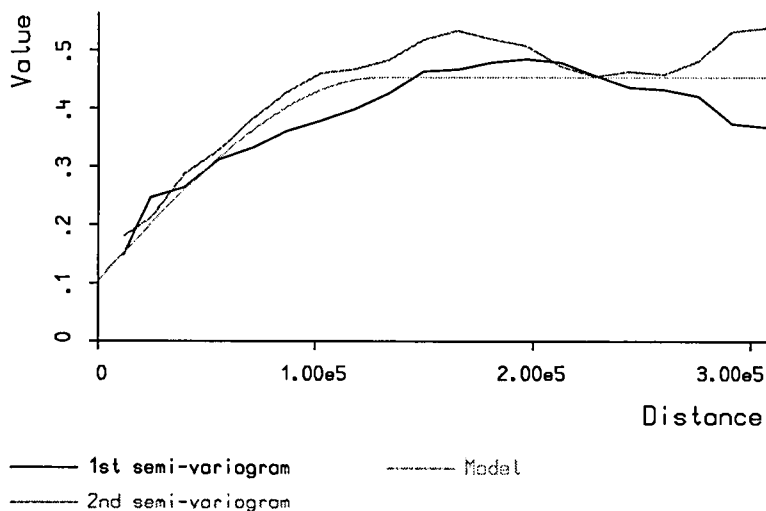
Direction North-South (*2nd semi-variogram*):

```
Date             : 10/20/96
-------------------------------------------------------------------------
Name of file     : Cu-2.mod
-------------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components:  1. Nugget effect:  0.27711
Model: Spherical     1     . Sill:  0.21585    . Range:  0.14294E+06
```

Combined (Isotropical) Variogram:

```
Date             : 10/20/96
-------------------------------------------------------------------------
Name of file     : Cu.mod
-------------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components:  1. Nugget effect:  0.24000
Model: Spherical     1     . Sill:  0.26000    . Range:   80000.
```

6.12 Variable Fe

Direction East-West (*1st semi-variogram*):

```
Date            : 10/20/96
--------------------------------------------------------------------
Name of file    : Fe-1.mod
--------------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect: 0.14558
Model: Spherical     1     . Sill: 0.79908E-01. Range:  0.18289E+06
```
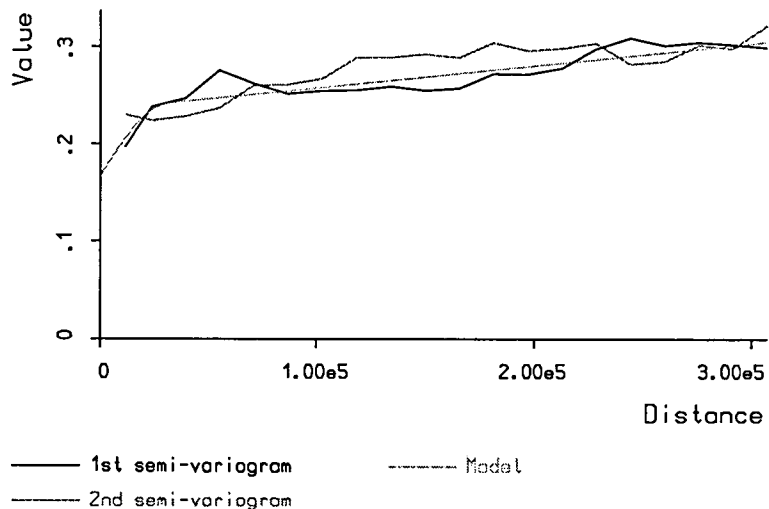
Direction North-South (*2nd semi-variogram*):

```
Date            : 10/20/96
--------------------------------------------------------------------
Name of file    : Fe-2.mod
--------------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect: 0.22549
Model: Spherical     1     . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date            : 10/20/96
--------------------------------------------------------------------
Name of file    : Fe.mod
--------------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 2. Nugget effect: 0.14000
Model: Spherical     1     . Sill: 0.50000E-01. Range:   80000.
Model: Linear        3     . Sill: 0.50000E-01. Range:  0.31000E+06
```


Semi-variogram of Fe

6.13 Variable K

Direction East-West (*1st semi-variogram*):

```
Date             : 10/20/96
---------------------------------------------------------------------
Name of file     : K-1.mod
---------------------------------------------------------------------
User             : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
---------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components:  1. Nugget effect:  0.27129
Model: Spherical    1    . Sill:  0.25240    . Range:  0.15203E+06
```
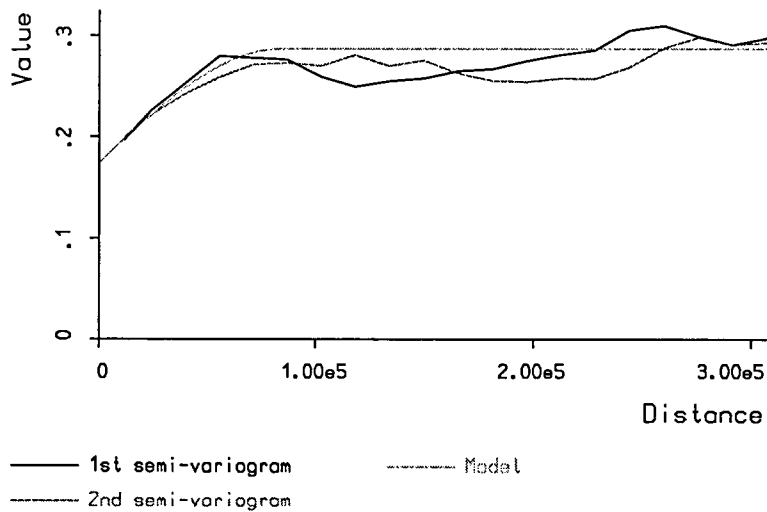
Direction North-South (*2nd semi-variogram*):

```
Date             : 10/20/96
---------------------------------------------------------------------
Name of file     : K-2.mod
---------------------------------------------------------------------
User             : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
---------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components:  1. Nugget effect:  0.29459
Model: Spherical    1    . Sill:  0.22910    . Range:  0.18683E+06
```

Combined (Isotropical) Variogram:

```
Date             : 10/20/96
---------------------------------------------------------------------
Name of file     : K.mod
---------------------------------------------------------------------
User             : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
---------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components:  1. Nugget effect:  0.28294
Model: Spherical    1    . Sill:  0.24075    . Range:  0.16943E+06
```
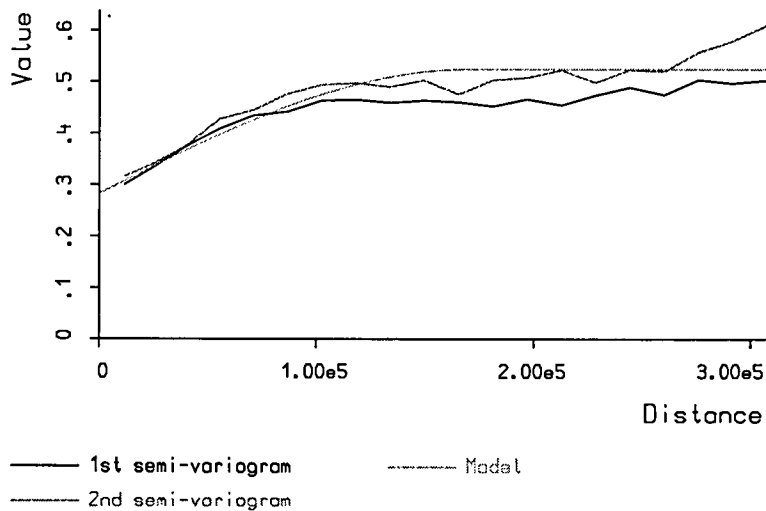
6.14 Variable La

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file     : La-1.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components: 1. Nugget effect:  0.93217E-01
Model: Spherical    1     . Sill: 0.25410    . Range:   65498.
```
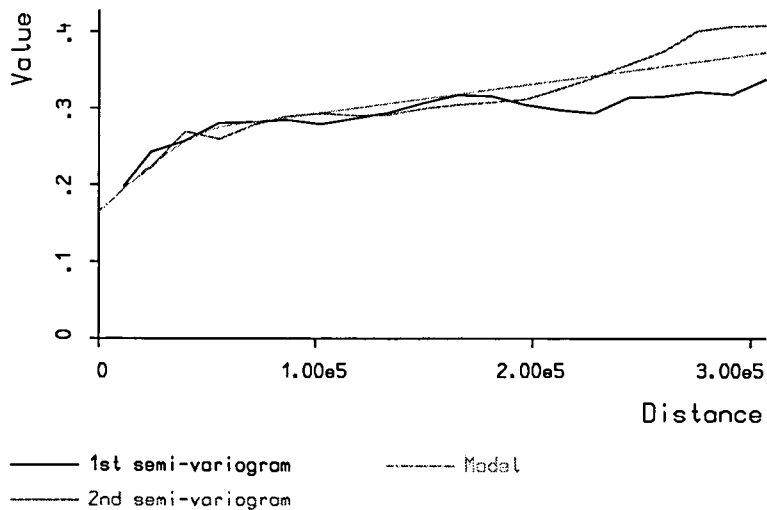
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file     : La-2.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components: 1. Nugget effect:  0.14504
Model: Spherical    1     . Sill: 0.20227    . Range:   94635.
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file     : La.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components: 1. Nugget effect:  0.11913
Model: Spherical    1     . Sill: 0.22818    . Range:   80067.
```

6.15   Variable Li

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
-------------------------------------------------------------------
Name of file      : Li-1.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Li
Dimension: 2. Components: 1. Nugget effect:  0.16469
Model: Spherical     1     . Sill:  0.22889    . Range:    95479.
```
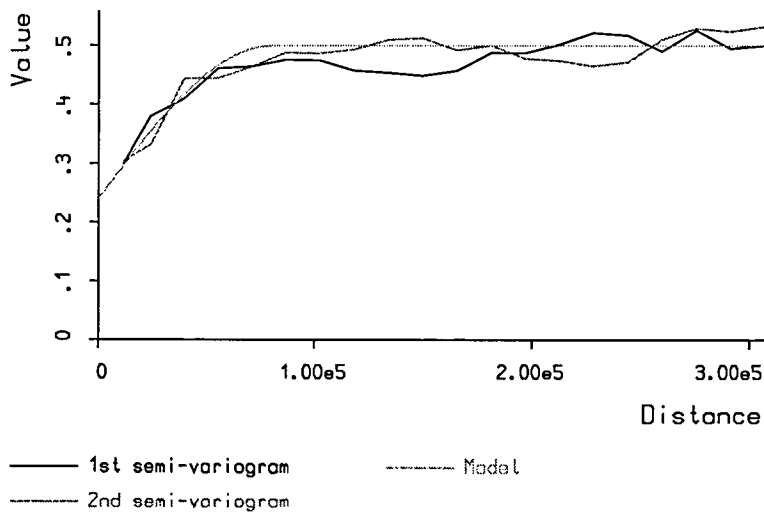
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
-------------------------------------------------------------------
Name of file      : Li-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Li
Dimension: 2. Components: 1. Nugget effect:  0.19724
Model: Spherical     1     . Sill:  0.19634    . Range:    98140.
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
-------------------------------------------------------------------
Name of file      : Li.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Li
Dimension: 2. Components: 2. Nugget effect:  0.18097
Model: Spherical     1     . Sill:  0.17000    . Range:    97000.
Model: Linear        3     . Sill:  0.50000E-01. Range:  0.31000E+06
```


Semi-variogram of Li

```
——— 1st semi-variogram        ------- Model
------- 2nd semi-variogram
```

6.16 Variable Mg

Direction East-West (*1st semi-variogram*):

```
Date               : 10/20/96
----------------------------------------------------------------
Name of file     : Mg-1.mod
----------------------------------------------------------------
User               : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnb2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components: 1. Nugget effect:  0.16926
Model: Spherical    1    . Sill: 0.18396    . Range:   69753.
```
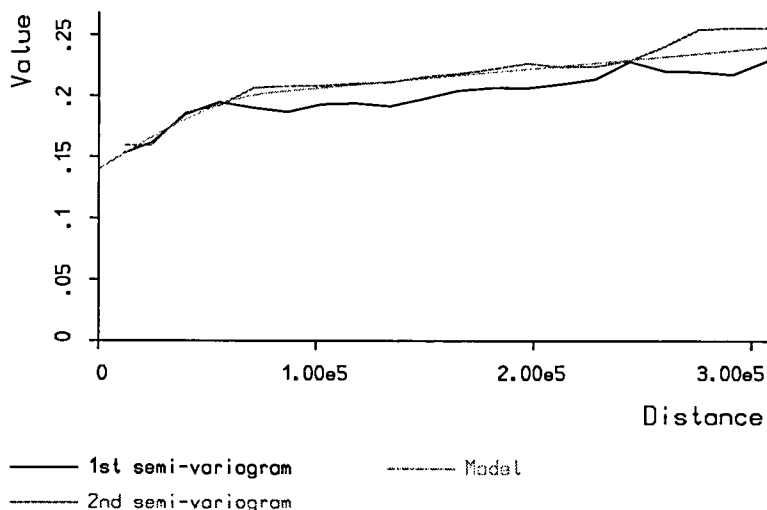
Direction North-South (*2nd semi-variogram*):

```
Date               : 10/20/96
----------------------------------------------------------------
Name of file     : Mg-2.mod
----------------------------------------------------------------
User               : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnb2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components: 1. Nugget effect:  0.23303
Model: Spherical    1    . Sill: 0.12019    . Range:  0.15325E+06
```

Combined (Isotropical) Variogram:

```
Date               : 10/20/96
----------------------------------------------------------------
Name of file     : Mg.mod
----------------------------------------------------------------
User               : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnb2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components: 1. Nugget effect:  0.20114
Model: Spherical    1    . Sill: 0.15208    . Range:  0.11150E+06
```


Semi-variogram of Mg

6.17 Variable Mn

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
-----------------------------------------------------------------------
Name of file      : Mn-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components: 1. Nugget effect:  0.15761
Model: Spherical    1    . Sill:  0.21369    . Range:    78306.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
-----------------------------------------------------------------------
Name of file      : Mn-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components: 1. Nugget effect:  0.21284
Model: Spherical    1    . Sill:  0.15846    . Range:  0.15270E+06
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
-----------------------------------------------------------------------
Name of file      : Mn.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components: 1. Nugget effect:  0.18523
Model: Spherical    1    . Sill:  0.18608    . Range:  0.11550E+06
```
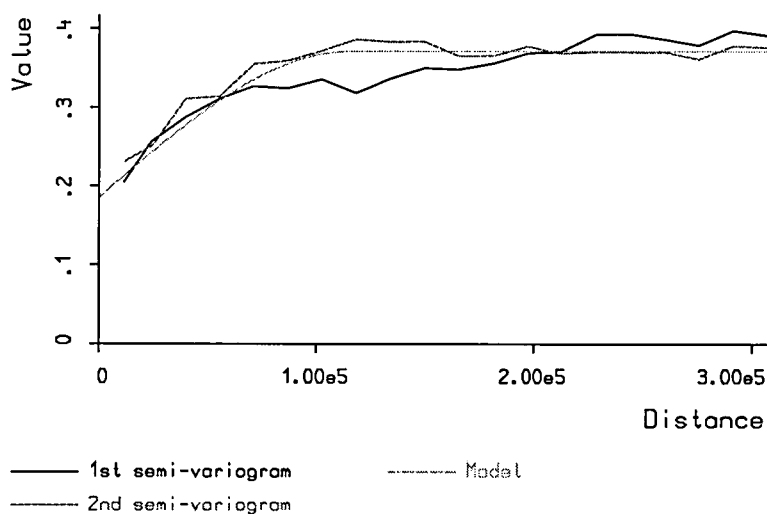
6.18 Variable Mo

Direction East-West (*1st semi-variogram*):

```
Date            : 10/20/96
-----------------------------------------------------------------
Name of file    : Mo-1.mod
-----------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Mo
Dimension: 2. Components: 1. Nugget effect:  0.45466
Model: Spherical    1    . Sill: 0.18471    . Range:   62578.
```

Direction North-South (*2nd semi-variogram*):
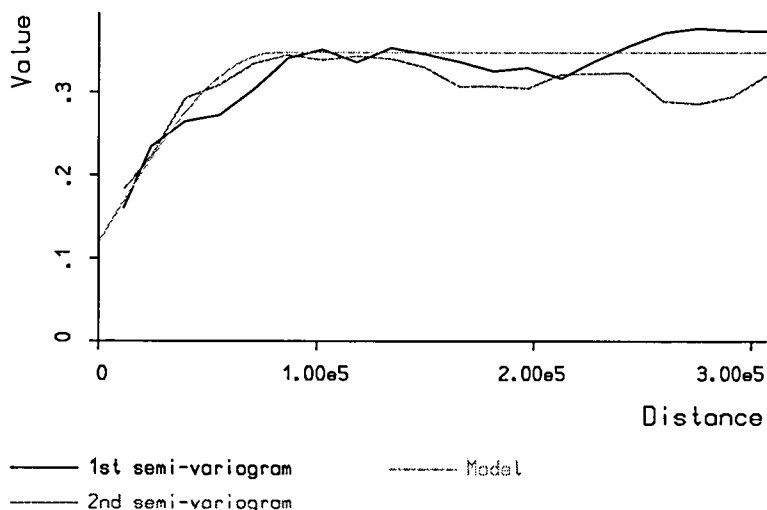
```
Date            : 10/20/96
-----------------------------------------------------------------
Name of file    : Mo-2.mod
-----------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Mo
Dimension: 2. Components: 1. Nugget effect:  0.41788
Model: Spherical    1    . Sill: 0.22149    . Range:   57334.
```

Combined (Isotropical) Variogram:

```
Date            : 10/20/96
-----------------------------------------------------------------
Name of file    : Mo.mod
-----------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Mo
Dimension: 2. Components: 1. Nugget effect:  0.43627
Model: Spherical    1    . Sill: 0.20310    . Range:   59956.
```

6.19   Variable Na

Direction East-West (*1st semi-variogram*):

```
Date                : 10/20/96
------------------------------------------------------------------------
Name of file     : Na-1.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.91436E-01
Model: Spherical    1     . Sill: 0.43878    . Range: 0.10228E+06
```
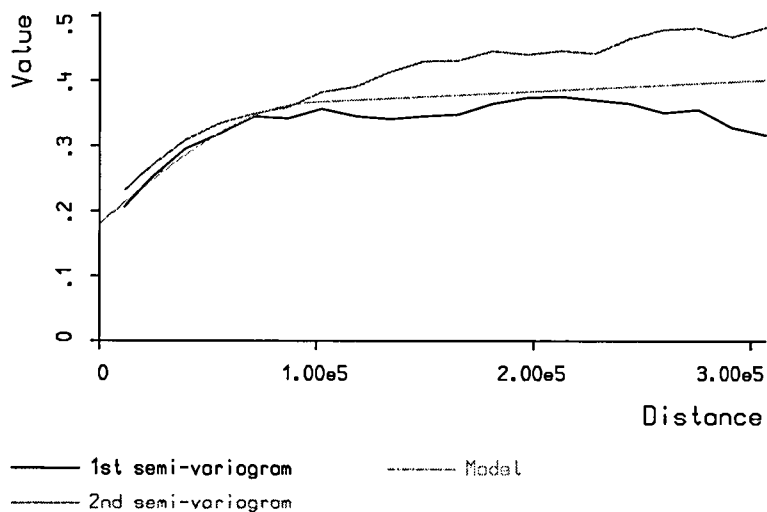
Direction North-South (*2nd semi-variogram*):

```
Date                : 10/20/96
------------------------------------------------------------------------
Name of file     : Na-2.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.12345
Model: Spherical    1     . Sill: 0.40677    . Range: 0.11163E+06
```

Combined (Isotropical) Variogram:

```
Date                : 10/20/96
------------------------------------------------------------------------
Name of file     : Na.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 2. Nugget effect:  0.13700
Model: Spherical    1     . Sill: 0.29200    . Range: 0.13000E+06
Model: Linear       3     . Sill: 0.10000    . Range: 0.31000E+06
```


Semi-variogram of Na

— 1st semi-variogram   ----- Model

---- 2nd semi-variogram

6.20 Variable Ni

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Ni-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components: 1. Nugget effect:  0.16826
Model: Spherical     1    . Sill: 0.26382    . Range:    62553.
```

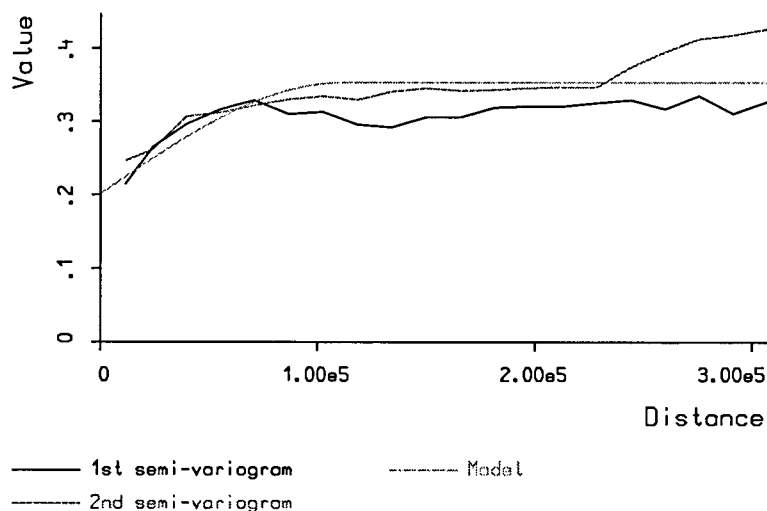Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Ni-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components: 1. Nugget effect:  0.19020
Model: Spherical     1    . Sill: 0.24189    . Range:    77886.
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Ni.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components: 2. Nugget effect:  0.19900
Model: Spherical     1    . Sill: 0.19200    . Range:    70000.
Model: Linear        3    . Sill: 0.50000E-01. Range:  0.31000E+06
```


Semi-variogram of Ni

6.21   Variable P

Direction East-West (*1st semi-variogram*):

```
Date             : 10/20/96
----------------------------------------------------------------
Name of file     : P-1.mod
----------------------------------------------------------------
User             : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnb2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components:  1. Nugget effect:  0.14912
Model: Spherical    1     . Sill:  0.13404    . Range:   58755.
```

Direction North-South (*2nd semi-variogram*):

```
Date             : 10/20/96
----------------------------------------------------------------
Name of file     : P-2.mod
----------------------------------------------------------------
User             : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnb2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components:  1. Nugget effect:  0.15775
Model: Spherical    1     . Sill:  0.12541    . Range:   69725.
```

Combined (Isotropical) Variogram:

```
Date             : 10/20/96
----------------------------------------------------------------
Name of file     : P.mod
----------------------------------------------------------------
User             : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnb2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components:  1. Nugget effect:  0.15343
Model: Spherical    1     . Sill:  0.12973    . Range:   64240.
```


Semi-variogram of P

6.22   Variable Pb

Direction East-West (*1st semi-variogram*):

```
        Date              : 10/20/96
        ----------------------------------------------------------------
        Name of file      : Pb-1.mod
        ----------------------------------------------------------------
        User              : Dutter / Reimann
        ----------------------------------------------------------------
        Name of data file: ../lnb2mm.txt
        ----------------------------------------------------------------
        Semi-variogram model of variable: Pb
        Dimension: 2. Components: 1. Nugget effect:  0.12029
        Model: Spherical    1    . Sill:  0.18294    . Range:  0.11948E+06
```

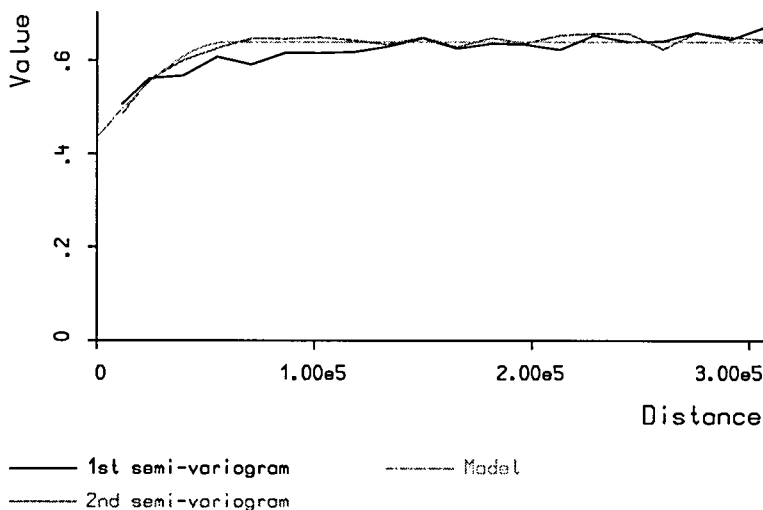Direction North-South (*2nd semi-variogram*):

```
        Date              : 10/20/96
        ----------------------------------------------------------------
        Name of file      : Pb-2.mod
        ----------------------------------------------------------------
        User              : Dutter / Reimann
        ----------------------------------------------------------------
        Name of data file: ../lnb2mm.txt
        ----------------------------------------------------------------
        Semi-variogram model of variable: Pb
        Dimension: 2. Components: 1. Nugget effect:  0.97638E-01
        Model: Spherical    1    . Sill:  0.20559    . Range:   86671.
```

Combined (Isotropical) Variogram:

```
        Date              : 10/20/96
        ----------------------------------------------------------------
        Name of file      : Pb.mod
        ----------------------------------------------------------------
        User              : Dutter / Reimann
        ----------------------------------------------------------------
        Name of data file: ../lnb2mm.txt
        ----------------------------------------------------------------
        Semi-variogram model of variable: Pb
        Dimension: 2. Components: 2. Nugget effect:  0.11900
        Model: Spherical    1    . Sill:  0.13400    . Range:  0.10000E+06
        Model: Linear       3    . Sill:  0.40000E-01. Range:  0.31000E+06
```


Semi-variogram of Pb

6.23   Variable S

Direction East-West (*1st semi-variogram*):

```
Date             : 10/20/96
------------------------------------------------------------------
Name of file     : S-1.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components: 1. Nugget effect:  0.22193
Model: Spherical    1    . Sill: 0.71476E-01. Range:   87213.
```
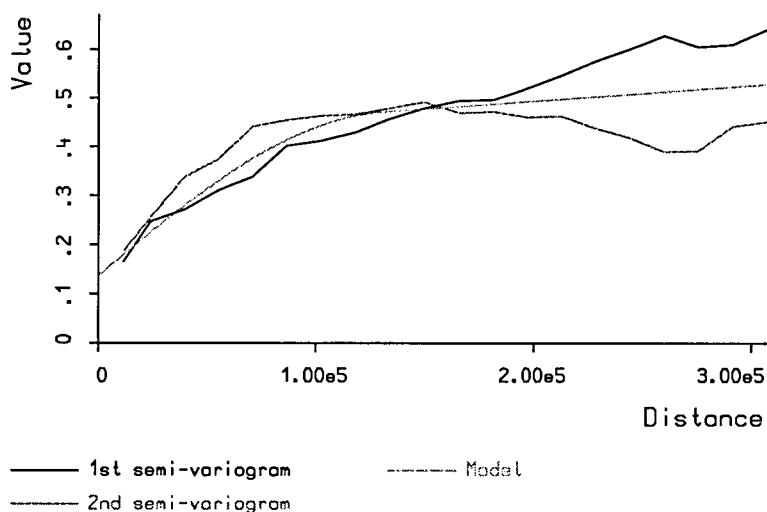
Direction North-South (*2nd semi-variogram*):

```
Date             : 10/20/96
------------------------------------------------------------------
Name of file     : S-2.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components: 1. Nugget effect:  0.29340
Model: Spherical    1    . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date             : 10/20/96
------------------------------------------------------------------
Name of file     : S.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components: 1. Nugget effect:  0.22800
Model: Spherical    1    . Sill: 0.66000E-01. Range:  0.10000E+06
```


Semi-variogram of S

1st semi-variogram
2nd semi-variogram
Model

6.24   Variable Sb

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Sb-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components:  1. Nugget effect:  0.13918
Model: Spherical    1     . Sill:  0.86975    . Range:  0.13973E+06
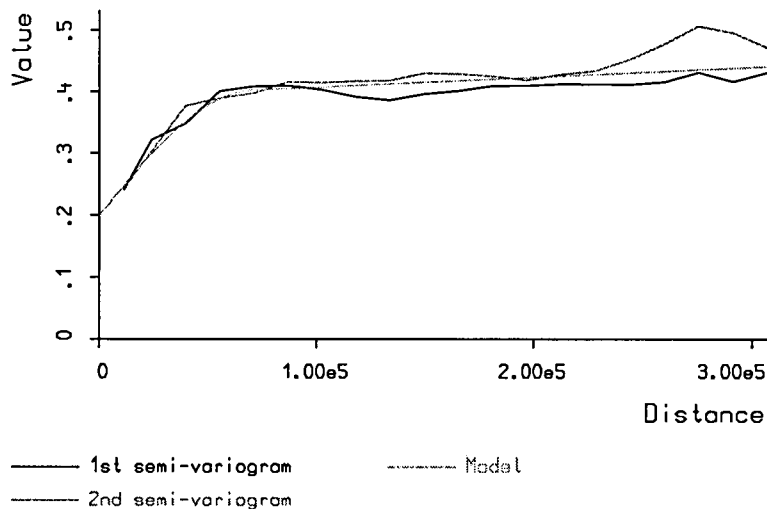```

Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Sb-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components:  1. Nugget effect:  0.18022
Model: Spherical    1     . Sill:  0.82871    . Range:  0.14639E+06
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Sb.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components:  1. Nugget effect:  0.26000
Model: Spherical    1     . Sill:  1.0000    . Range:  0.30000E+06
```


Semi-variogram of Sb
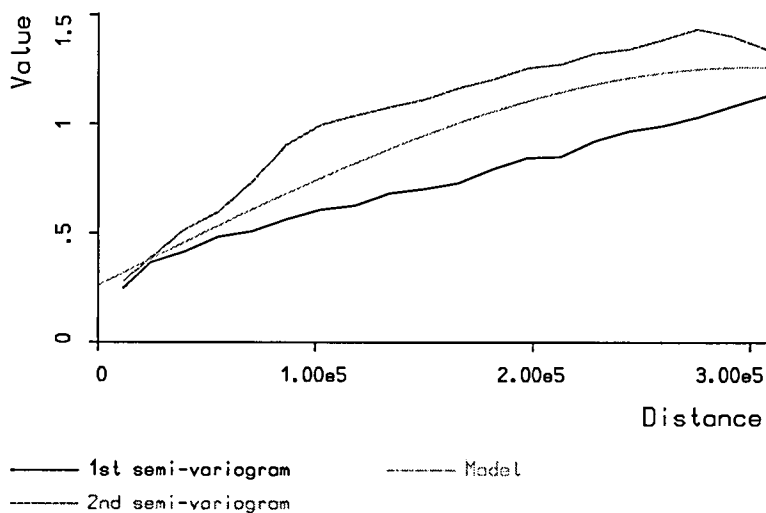
6.25   Variable Sc

Direction East-West (*1st semi-variogram*):

```
             Date            : 10/20/96
             ------------------------------------------------------------------
             Name of file    : Sc-1.mod
             ------------------------------------------------------------------
             User            : Dutter / Reimann
             ------------------------------------------------------------------
             Name of data file: ../lnb2mm.txt
             ------------------------------------------------------------------
             Semi-variogram model of variable: Sc
             Dimension: 2. Components: 1. Nugget effect: 0.13283
             Model: Spherical    1     . Sill: 0.95324E-01. Range:   80177.
```

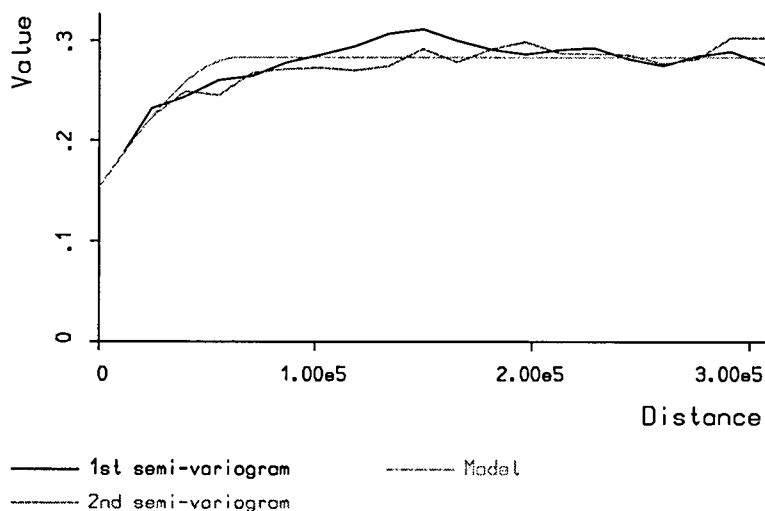Direction North-South (*2nd semi-variogram*):

```
             Date            : 10/20/96
             ------------------------------------------------------------------
             Name of file    : Sc-2.mod
             ------------------------------------------------------------------
             User            : Dutter / Reimann
             ------------------------------------------------------------------
             Name of data file: ../lnb2mm.txt
             ------------------------------------------------------------------
             Semi-variogram model of variable: Sc
             Dimension: 2. Components: 1. Nugget effect: 0.22816
             Model: Spherical    1     . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
             Date            : 10/20/96
             ------------------------------------------------------------------
             Name of file    : Sc.mod
             ------------------------------------------------------------------
             User            : Dutter / Reimann
             ------------------------------------------------------------------
             Name of data file: ../lnb2mm.txt
             ------------------------------------------------------------------
             Semi-variogram model of variable: Sc
             Dimension: 2. Components: 2. Nugget effect: 0.14000
             Model: Spherical    1     . Sill: 0.47662E-01. Range:   40089.
             Model: Linear       3     . Sill: 0.50000E-01. Range: 0.31000E+06
```


Semi-variogram of Sc

6.26   Variable Se

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
-------------------------------------------------------------------
Name of file     : Se-1.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Se
Dimension: 2. Components: 1. Nugget effect:  0.14598
Model: Spherical    1    . Sill: 0.28438    . Range:   65814.
```
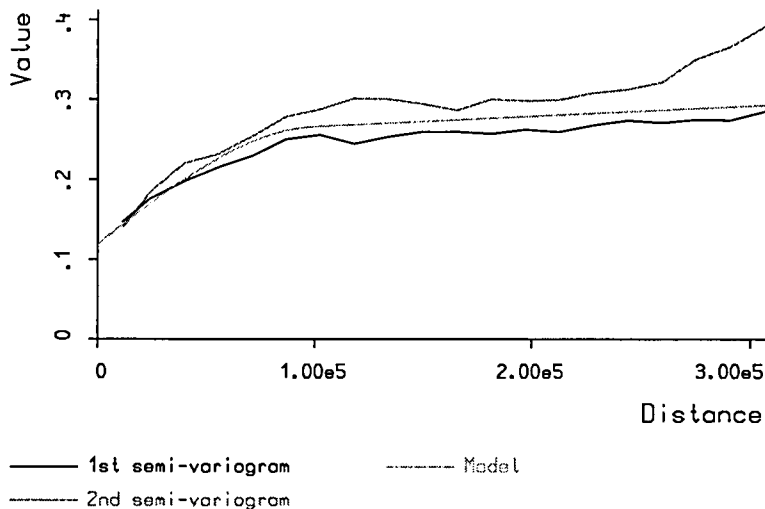
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
-------------------------------------------------------------------
Name of file     : Se-2.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Se
Dimension: 2. Components: 1. Nugget effect:  0.43036
Model: Spherical    1    . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
-------------------------------------------------------------------
Name of file     : Se.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Se
Dimension: 2. Components: 1. Nugget effect:  0.21000
Model: Spherical    1    . Sill: 0.19000    . Range:  0.10000E+06
```


Semi-variogram of Se

6.27   Variable Si

Direction East-West (*1st semi-variogram*):

```
Date               : 10/20/96
------------------------------------------------------------------
Name of file       : Si-1.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components: 1. Nugget effect: 0.63795E-01
Model: Spherical    1    . Sill: 0.32641E-01. Range:   42706.
```
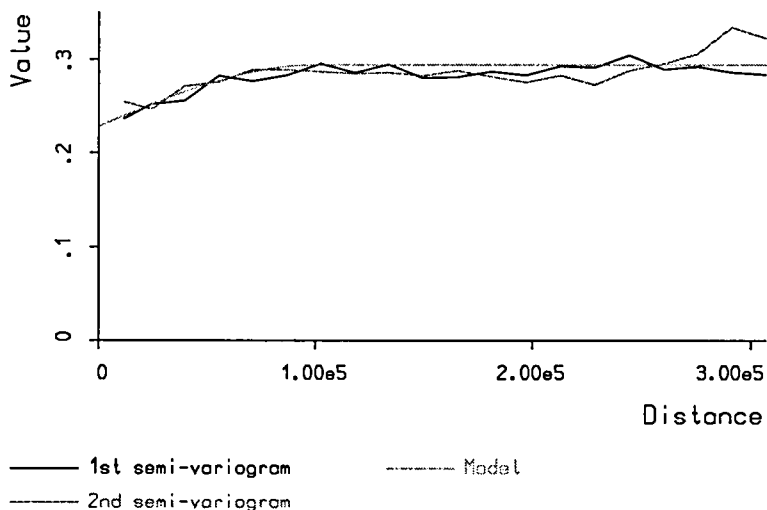
Direction North-South (*2nd semi-variogram*):

```
Date               : 10/20/96
------------------------------------------------------------------
Name of file       : Si-2.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components: 1. Nugget effect: 0.96437E-01
Model: Spherical    1    . Sill: 0.00000    . Range: 0.00000
```

Combined (Isotropical) Variogram:

```
Date               : 10/20/96
------------------------------------------------------------------
Name of file       : Si.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components: 2. Nugget effect: 0.74000E-01
Model: Spherical    1    . Sill: 0.16321E-01. Range:   30000.
Model: Linear       3    . Sill: 0.60000E-02. Range: 0.31000E+06
```

6.28 Variable Sr

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
-----------------------------------------------------------------------
Name of file      : Sr-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension: 2. Components: 1. Nugget effect:  0.00000
Model: Spherical     1     . Sill: 0.67488    . Range:    60345.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
-----------------------------------------------------------------------
Name of file      : Sr-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension: 2. Components: 1. Nugget effect:  0.88350E-01
Model: Spherical     1     . Sill: 0.58653    . Range:    93841.
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
-----------------------------------------------------------------------
Name of file      : Sr.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension: 2. Components: 1. Nugget effect:  0.64000E-01
Model: Spherical     1     . Sill: 0.53000    . Range:    77000.
```


Semi-variogram of Sr

6.29   Variable Te

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Te-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Te
Dimension: 2. Components:  1. Nugget effect:  0.47918
Model: Spherical     1     . Sill:  0.28679    . Range:  0.11579E+06
```
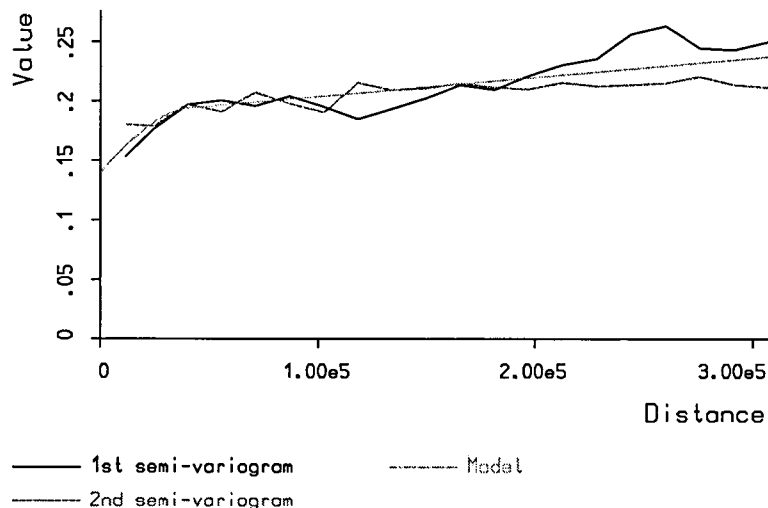
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Te-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Te
Dimension: 2. Components: ·1. Nugget effect:  0.38973
Model: Spherical     1     . Sill:  0.37623    . Range:  91372.
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
------------------------------------------------------------------------
Name of file      : Te.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Te
Dimension: 2. Components:  1. Nugget effect:  0.43446
Model: Spherical     1     . Sill:  0.33151    . Range:  0.10358E+06
```


Semi-variogram of Te

6.30   Variable Th

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : Th-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.17918
Model: Spherical    1     . Sill:  0.17549    . Range:  0.10417E+06
```
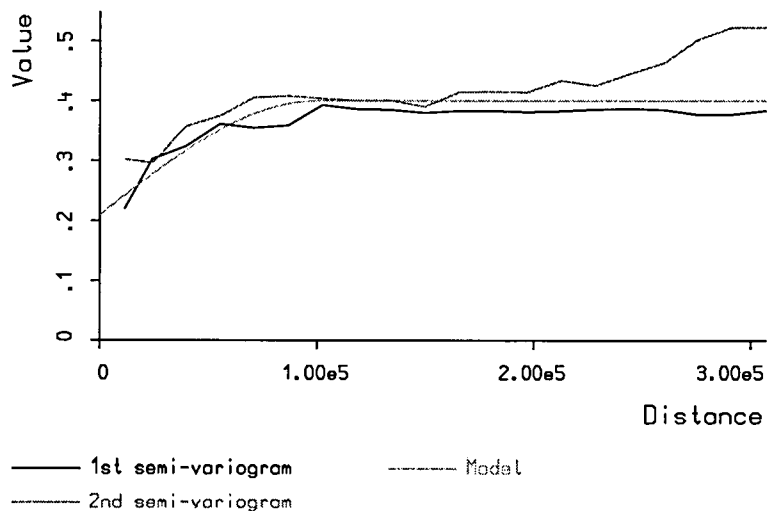
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : Th-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.13063
Model: Spherical    1     . Sill:  0.22404    . Range:  64455.
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : Th.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.15490
Model: Spherical    1     . Sill:  0.19976    . Range:  84313.
```


Semi-variogram of Th

6.31   Variable Ti

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : Ti-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ti
Dimension: 2. Components: 1. Nugget effect:  0.10276
Model: Spherical     1     . Sill:  0.23276    . Range:    70083.
```
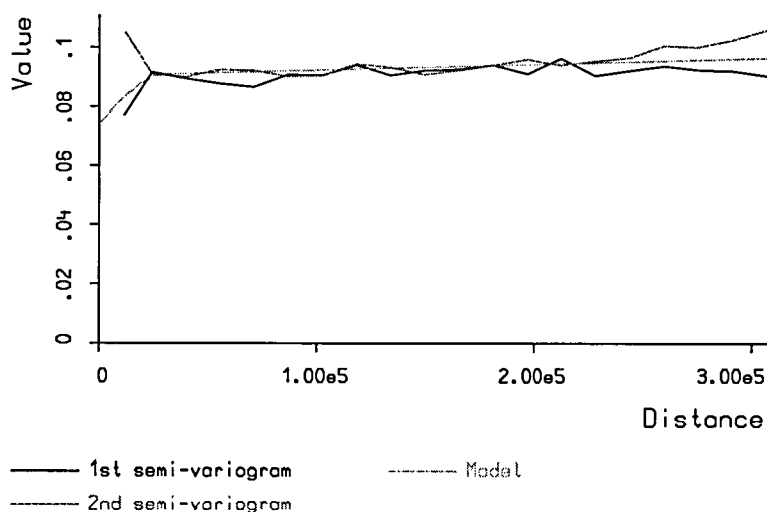
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : Ti-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ti
Dimension: 2. Components: 1. Nugget effect:  0.14723
Model: Spherical     1     . Sill:  0.18830    . Range:    99583.
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : Ti.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ti
Dimension: 2. Components: 1. Nugget effect:  0.15500
Model: Spherical     1     . Sill:  0.17000    . Range:  0.12000E+06
```


Semi-variogram of Ti

6.32   Variable V

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : V-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: V
Dimension: 2. Components:  1. Nugget effect:  0.13417
Model: Spherical     1     . Sill:  0.80615E-01. Range:    85508.
```
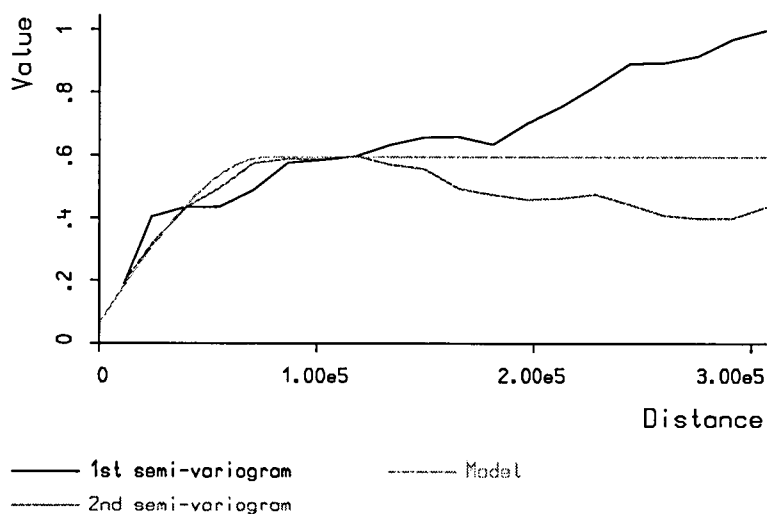
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : V-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: V
Dimension: 2. Components:  1. Nugget effect:  0.14105
Model: Spherical     1     . Sill:  0.73741E-01. Range:  0.19964E+06
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
------------------------------------------------------------------
Name of file      : V.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: V
Dimension: 2. Components:  1. Nugget effect:  0.13761
Model: Spherical     1     . Sill:  0.77178E-01. Range:  0.14257E+06
```


Semi-variogram of V

6.33 Variable Y

Direction East-West (*1st semi-variogram*):

```
Date            : 10/20/96
-------------------------------------------------------------------
Name of file    : Y-1.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Y
Dimension: 2. Components: 1. Nugget effect:  0.72557E-01
Model: Spherical    1    . Sill: 0.22905    . Range:   80235.
```

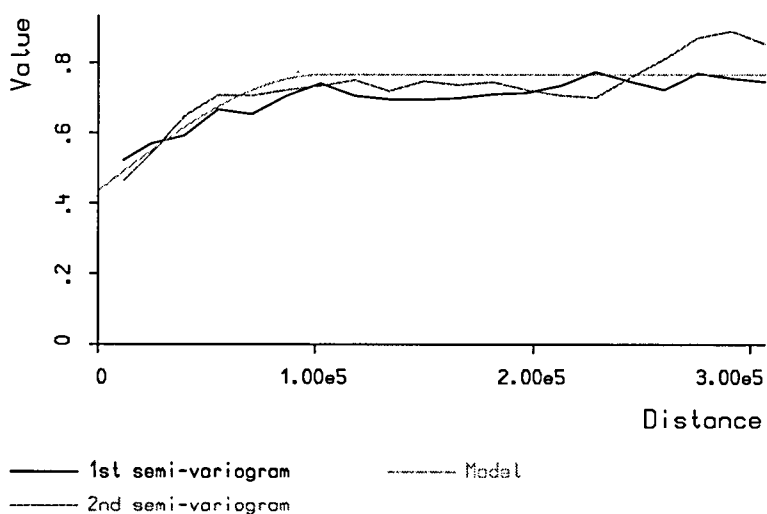Direction North-South (*2nd semi-variogram*):

```
Date            : 10/20/96
-------------------------------------------------------------------
Name of file    : Y-2.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Y
Dimension: 2. Components: 1. Nugget effect:  0.16872
Model: Spherical    1    . Sill: 0.13289    . Range:  0.47642E+06
```

Combined (Isotropical) Variogram:

```
Date            : 10/20/96
-------------------------------------------------------------------
Name of file    : Y.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Y
Dimension: 2. Components: 1. Nugget effect:  0.15000
Model: Spherical    1    . Sill: 0.14000    . Range:  0.18000E+06
```


Semi-variogram of Y

1st semi-variogram ——— Model
——— 2nd semi-variogram

6.34   Variable Zn

Direction East-West (*1st semi-variogram*):

```
Date              : 10/20/96
-------------------------------------------------------------------
Name of file      : Zn-1.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect:  0.12489
Model: Spherical     1     . Sill:  0.25850    . Range:   71720.
```
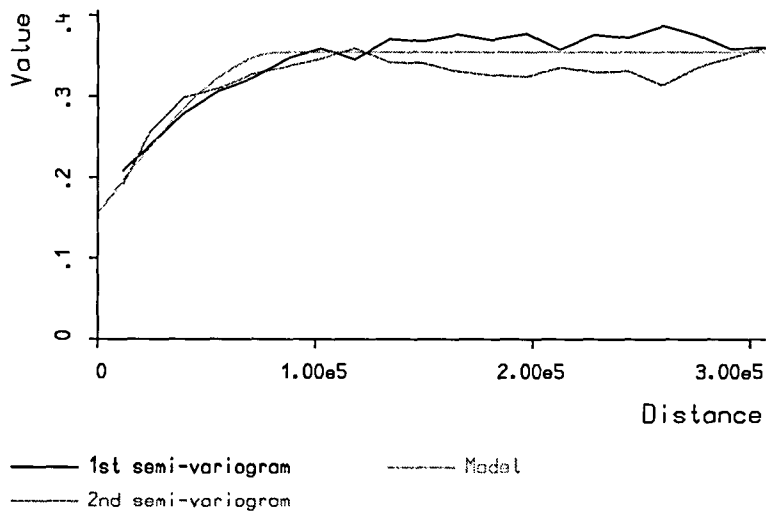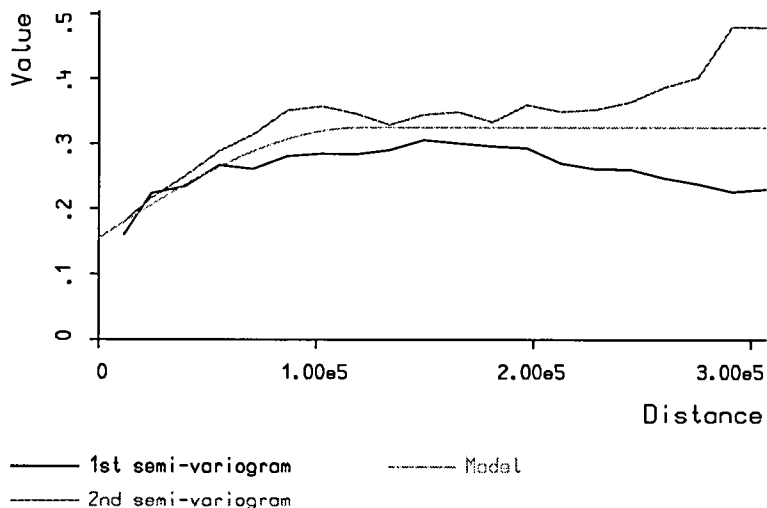
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/20/96
-------------------------------------------------------------------
Name of file      : Zn-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect:  0.38339
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 10/20/96
-------------------------------------------------------------------
Name of file      : Zn.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnb2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 2. Nugget effect:  0.14000
Model: Spherical     1     . Sill:  0.18000    . Range:   80000.
Model: Linear        3     . Sill:  0.80000E-01. Range:  0.31000E+06
```


Semi-variogram of Zn

Chapter 7

Estimated Variograms for the B-HORIZON (Ln-transformed XRF-data)

7.1   Variable Al

Direction East-West (*1st semi-variogram*):

```
Date            : 08/21/96
----------------------------------------------------------------
Name of file    : Al-1.mod
----------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnbxrf.txt
----------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components: 1. Nugget effect:  0.64855E-02
Model: Spherical     1     . Sill:  0.12235E-01. Range:  0.18058E+06
```

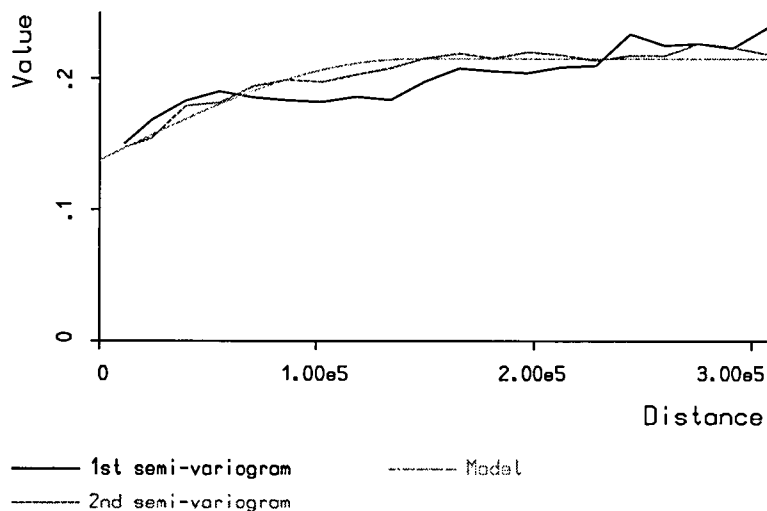Direction North-South (*2nd semi-variogram*):

```
Date            : 08/21/96
----------------------------------------------------------------
Name of file    : Al-2.mod
----------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnbxrf.txt
----------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components: 1. Nugget effect:  0.71891E-02
Model: Spherical     1     . Sill:  0.11531E-01. Range:  0.29108E+06
```

Combined (Isotropical) Variogram:

```
Date            : 08/21/96
----------------------------------------------------------------
Name of file    : Al.mod
----------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnbxrf.txt
----------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components: 1. Nugget effect:  0.68373E-02
Model: Spherical     1     . Sill:  0.13900E-01. Range:  0.32000E+06
```


Semi-variogram of Al

7.2 Variable Ca

Direction East-West (*1st semi-variogram*):

```
Date              : 08/21/96
------------------------------------------------------------------------
Name of file      : Ca-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.21674E-01
Model: Spherical    1    . Sill: 0.36119    . Range:  0.16271E+06
```
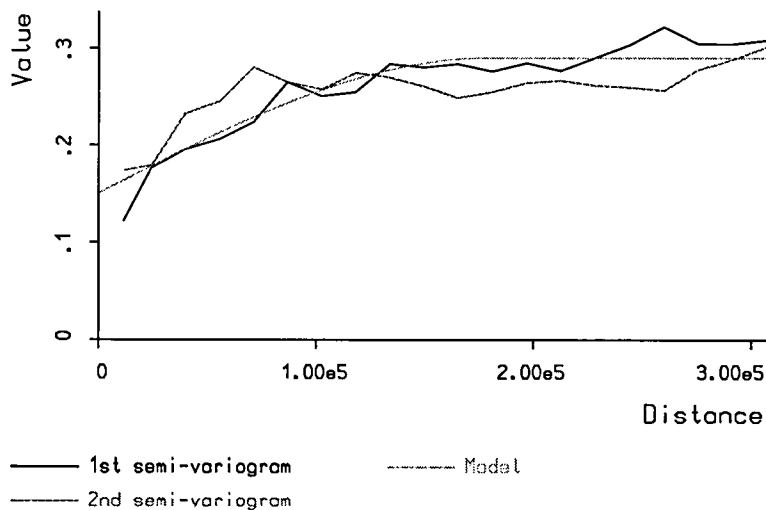
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/21/96
------------------------------------------------------------------------
Name of file      : Ca-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.46991E-01
Model: Spherical    1    . Sill: 0.33587    . Range:  0.18423E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/21/96
------------------------------------------------------------------------
Name of file      : Ca.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.34332E-01
Model: Spherical    1    . Sill: 0.34853    . Range:  0.17347E+06
```


Semi-variogram of Ca

7.3 Variable Fe

Direction East-West (*1st semi-variogram*):

```
Date               : 08/21/96
-------------------------------------------------------------------
Name of file       : Fe-1.mod
-------------------------------------------------------------------
User               : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components:  1. Nugget effect:  0.41208E-01
Model: Spherical    1     . Sill: 0.85360E-01. Range:   73396.
```
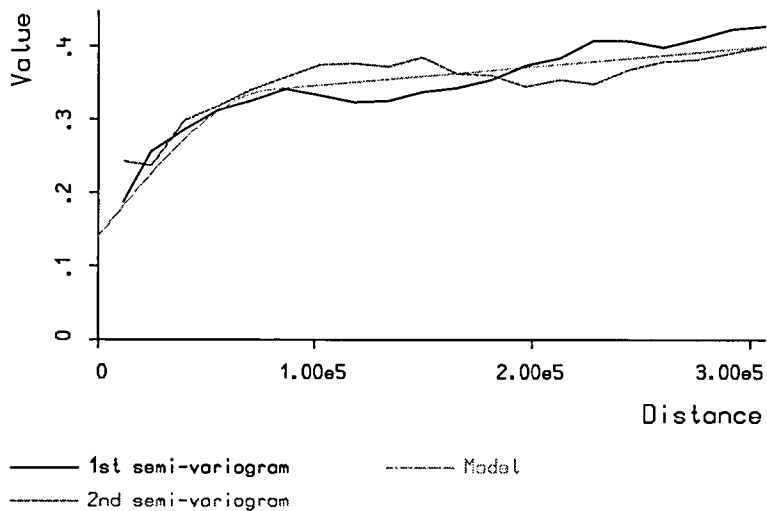
Direction North-South (*2nd semi-variogram*):

```
Date               : 08/21/96
-------------------------------------------------------------------
Name of file       : Fe-2.mod
-------------------------------------------------------------------
User               : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components:  1. Nugget effect:  0.12657
Model: Spherical    1     . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date               : 08/21/96
-------------------------------------------------------------------
Name of file       : Fe.mod
-------------------------------------------------------------------
User               : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components:  1. Nugget effect:  0.60000E-01
Model: Spherical    1     . Sill:  0.68700E-01. Range:  0.14000E+06
```

7.4   Variable K

Direction East-West (*1st semi-variogram*):

```
Date             : 08/21/96
--------------------------------------------------------------
Name of file     : K-1.mod
--------------------------------------------------------------
User             : Dutter / Reimann
--------------------------------------------------------------
Name of data file: ../lnbxrf.txt
--------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components: 1. Nugget effect: 0.32862E-01
Model: Spherical   1     . Sill: 0.85464E-01. Range: 0.12094E+06
```

Direction North-South (*2nd semi-variogram*):

```
Date             : 08/21/96
--------------------------------------------------------------
Name of file     : K-2.mod
--------------------------------------------------------------
User             : Dutter / Reimann
--------------------------------------------------------------
Name of data file: ../lnbxrf.txt
--------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components: 1. Nugget effect: 0.23077E-01
Model: Spherical   1     . Sill: 0.95249E-01. Range:   78707.
```

Combined (Isotropical) Variogram:

```
Date             : 08/21/96
--------------------------------------------------------------
Name of file     : K.mod
--------------------------------------------------------------
User             : Dutter / Reimann
--------------------------------------------------------------
Name of data file: ../lnbxrf.txt
--------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components: 2. Nugget effect: 0.32970E-01
Model: Spherical   1     . Sill: 0.70000E-01. Range: 0.10000E+06
Model: Linear      3     . Sill: 0.25000E-01. Range: 0.32000E+06
```


Semi-variogram of K

7.5   Variable Mg

Direction East-West (*1st semi-variogram*):

```
Date              : 08/21/96
------------------------------------------------------------------------
Name of file      : Mg-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components: 1. Nugget effect:  0.35766E-01
Model: Spherical    1     . Sill:  0.18523    . Range:    70636.
```
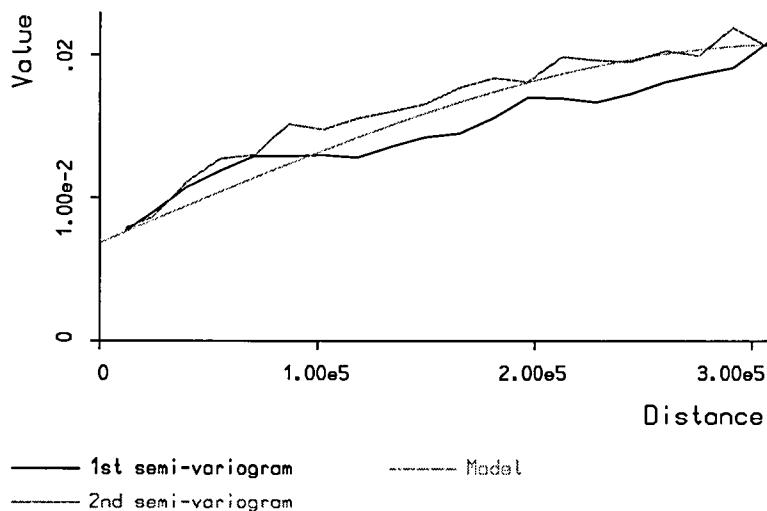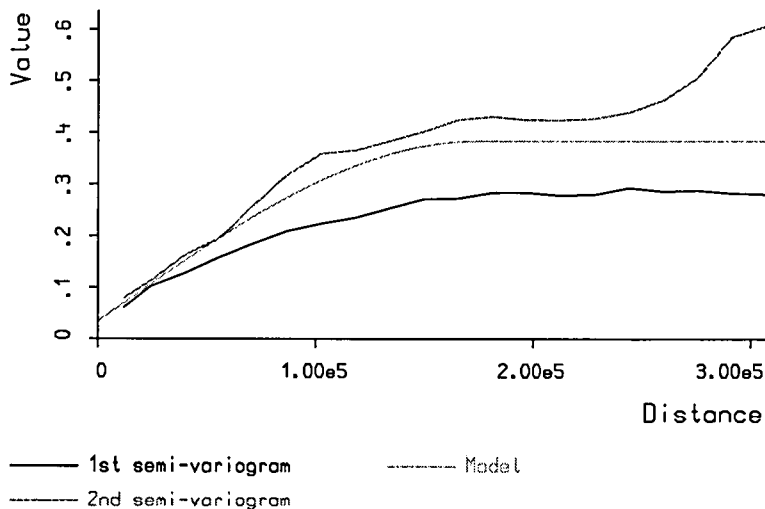
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/21/96
------------------------------------------------------------------------
Name of file      : Mg-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components: 1. Nugget effect:  0.88666E-01
Model: Spherical    1     . Sill:  0.13233    . Range:  0.12455E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/21/96
------------------------------------------------------------------------
Name of file      : Mg.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components: 2. Nugget effect:  0.80000E-01
Model: Spherical    1     . Sill:  0.11900    . Range:  0.10000E+06
Model: Linear       3     . Sill:  0.20000E-01. Range:  0.32000E+06
```


Semi-variogram of Mg

7.6   Variable Mn

Direction East-West (*1st semi-variogram*):

```
        Date             : 08/21/96
        ------------------------------------------------------------------
        Name of file     : Mn-1.mod
        ------------------------------------------------------------------
        User             : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lnbxrf.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Mn
        Dimension: 2. Components:  1. Nugget effect:  0.31710E-01
        Model: Spherical    1     . Sill:  0.13068    . Range:   74681.
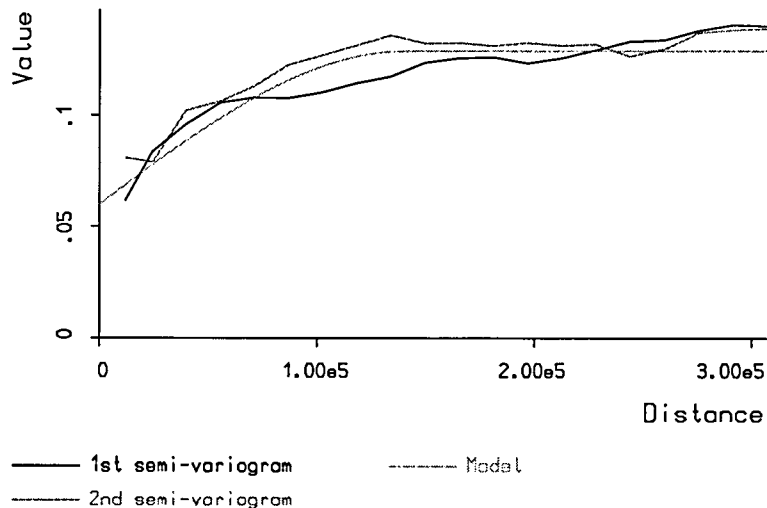```

Direction North-South (*2nd semi-variogram*):

```
        Date             : 08/21/96
        ------------------------------------------------------------------
        Name of file     : Mn-2.mod
        ------------------------------------------------------------------
        User             : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lnbxrf.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Mn
        Dimension: 2. Components:  1. Nugget effect:  0.81727E-01
        Model: Spherical    1     . Sill:  0.80660E-01. Range:  0.32247E+06
```

Combined (Isotropical) Variogram:

```
        Date             : 08/21/96
        ------------------------------------------------------------------
        Name of file     : Mn.mod
        ------------------------------------------------------------------
        User             : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lnbxrf.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Mn
        Dimension: 2. Components:  2. Nugget effect:  0.66000E-01
        Model: Spherical    1     . Sill:  0.76000E-01. Range:  0.10000E+06
        Model: Linear       3     . Sill:  0.30000E-01. Range:  0.31000E+06
```


Semi-variogram of Mn

7.7 Variable Na

Direction East-West (*1st semi-variogram*):

```
Date                : 08/21/96
------------------------------------------------------------------
Name of file      : Na-1.mod
------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components:  1. Nugget effect:  0.95260E-02
Model: Spherical     1     . Sill:  0.15001    . Range:  0.16188E+06
```
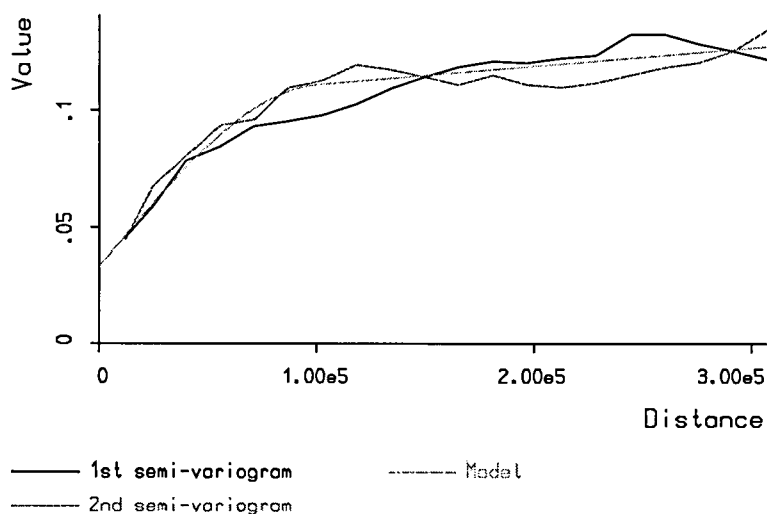
Direction North-South (*2nd semi-variogram*):

```
Date                : 08/21/96
------------------------------------------------------------------
Name of file      : Na-2.mod
------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components:  1. Nugget effect:  0.14441E-01
Model: Spherical     1     . Sill:  0.14510    . Range:  0.16827E+06
```

Combined (Isotropical) Variogram:

```
Date                : 08/21/96
------------------------------------------------------------------
Name of file      : Na.mod
------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components:  1. Nugget effect:  0.11984E-01
Model: Spherical     1     . Sill:  0.14755    . Range:  0.16508E+06
```

7.8   Variable P

Direction East-West (*1st semi-variogram*):

```
Date               : 08/21/96
------------------------------------------------------------------
Name of file       : P-1.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components: 1. Nugget effect:  0.88666E-01
Model: Spherical     1     . Sill:  0.14116    . Range:    47117.
```
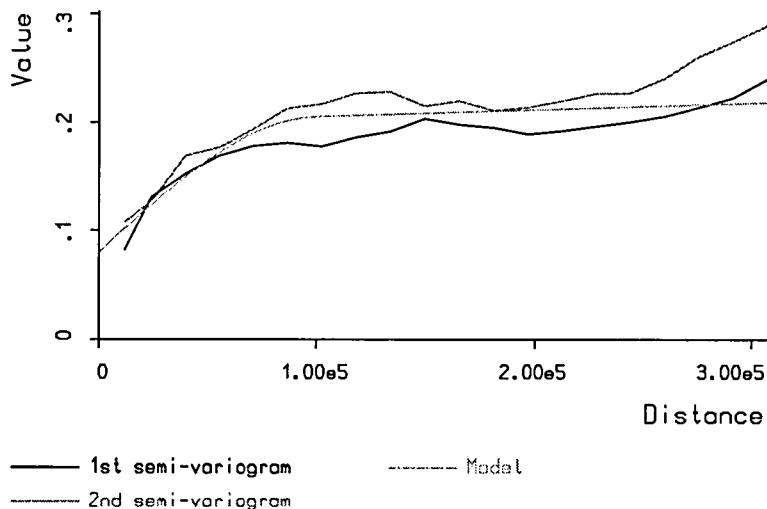
Direction North-South (*2nd semi-variogram*):

```
Date               : 08/21/96
------------------------------------------------------------------
Name of file       : P-2.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components: 1. Nugget effect:  0.22982
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date               : 08/21/96
------------------------------------------------------------------
Name of file       : P.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components: 1. Nugget effect:  0.14000
Model: Spherical     1     . Sill:  0.84600E-01. Range:    90000.
```


Semi-variogram of P

7.9 Variable Si

Direction East-West (*1st semi-variogram*):

```
Date              : 08/21/96
------------------------------------------------------------------
Name of file      : Si-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components:  1. Nugget effect:  0.63940E-02
Model: Spherical     1     . Sill:  0.66767E-02. Range:  0.10364E+06
```
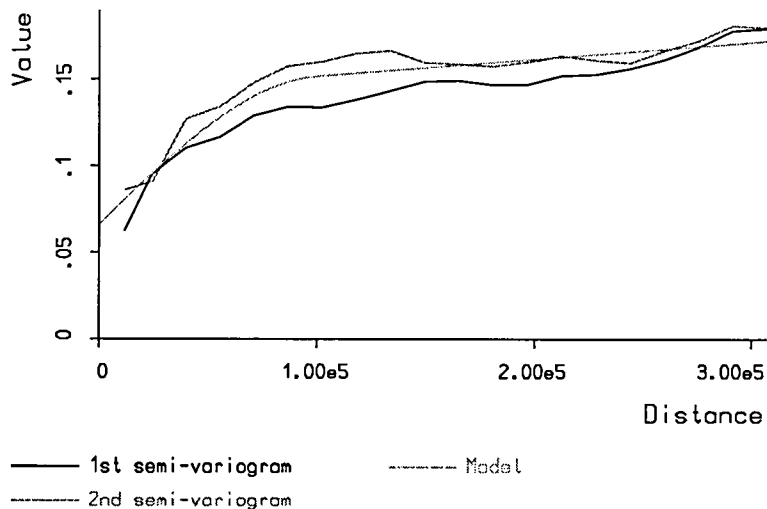
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/21/96
------------------------------------------------------------------
Name of file      : Si-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components:  1. Nugget effect:  0.91993E-02
Model: Spherical     1     . Sill:  0.38714E-02. Range:  0.18421E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/21/96
------------------------------------------------------------------
Name of file      : Si.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components:  1. Nugget effect:  0.77966E-02
Model: Spherical     1     . Sill:  0.52740E-02. Range:  0.14393E+06
```

Semi-variogram of Si

1st semi-variogram ———— Model
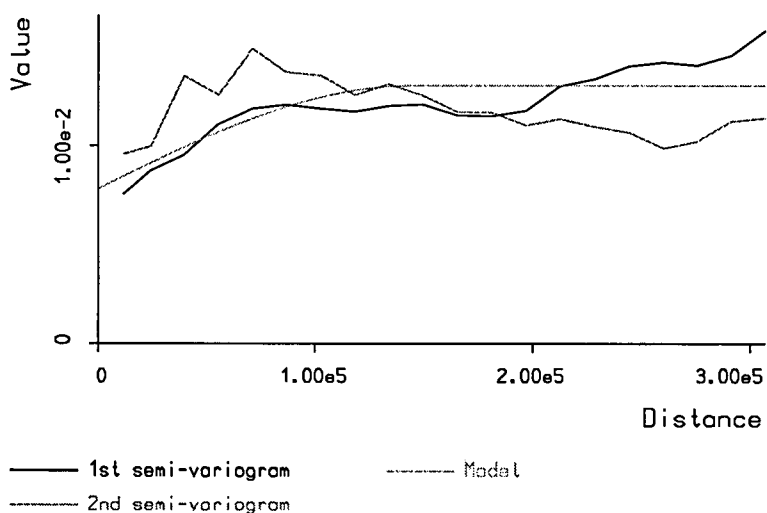
———— 2nd semi-variogram

7.10   Variable Ti

Direction East-West (*1st semi-variogram*):

```
Date              : 08/21/96
------------------------------------------------------------------------
Name of file      : Ti-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ti
Dimension: 2. Components:  1. Nugget effect:  0.56368E-01
Model: Spherical    1     . Sill:  0.10115    . Range:   78931.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/21/96
------------------------------------------------------------------------
Name of file      : Ti-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ti
Dimension: 2. Components:  1. Nugget effect:  0.89643E-01
Model: Spherical    1     . Sill:  0.67876E-01. Range:  0.24733E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/21/96
------------------------------------------------------------------------
Name of file      : Ti.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ti
Dimension: 2. Components:  1. Nugget effect:  0.73005E-01
Model: Spherical    1     . Sill:  0.84513E-01. Range:  0.11000E+06
```

7.11 Variable LOI

Direction East-West (*1st semi-variogram*):

```
Date              : 08/22/96
------------------------------------------------------------------------
Name of file      : LOI-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: LOI
Dimension: 2. Components: 1. Nugget effect:  0.11892
Model: Spherical   1    . Sill: 0.12128   . Range:   60863.
```
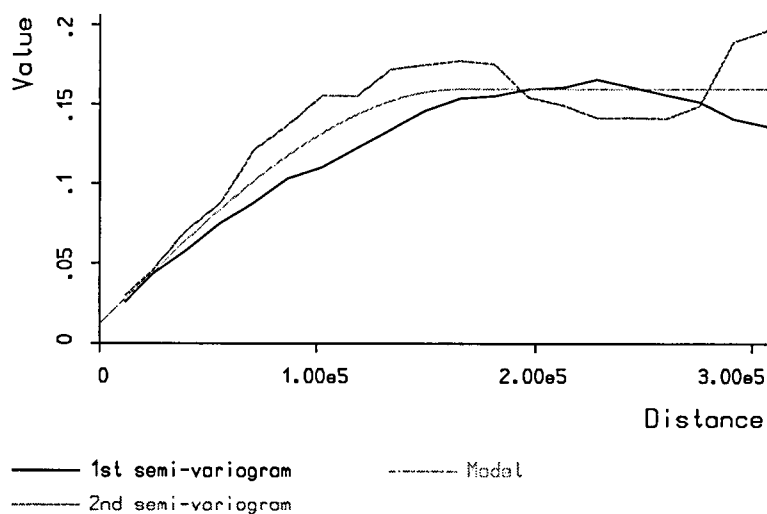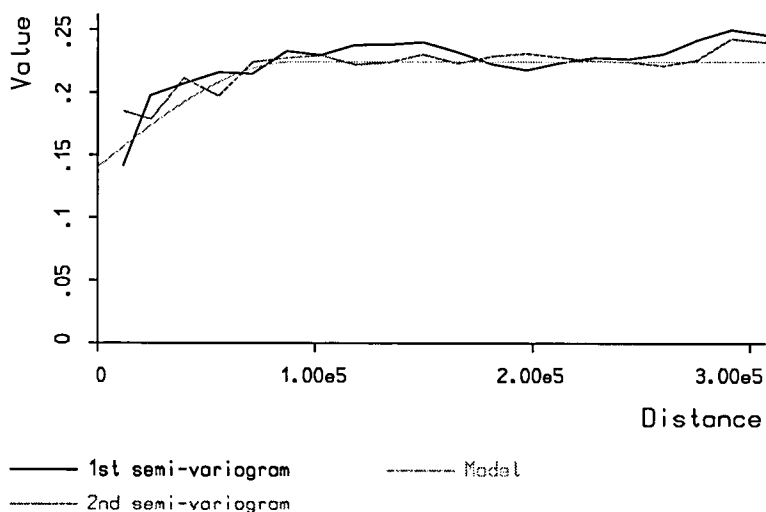
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/22/96
------------------------------------------------------------------------
Name of file      : LOI-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: LOI
Dimension: 2. Components: 1. Nugget effect:  0.24020
Model: Spherical   1    . Sill: 0.00000   . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/22/96
------------------------------------------------------------------------
Name of file      : LOI.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnbxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: LOI
Dimension: 2. Components: 1. Nugget effect:  0.15000
Model: Spherical   1    . Sill: 0.90000E-01. Range:  80000.
```


Semi-variogram of LOI

Chapter 8

Estimated Variograms for the B-HORIZON (Untransformed Data)

8.1 Variable pH

Direction East-West (*1st semi-variogram*):

```
Date            : 11/30/96
----------------------------------------------------------------
Name of file    : pH-1.mod
----------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../b2ph.txt
----------------------------------------------------------------
Semi-variogram model of variable: pH
Dimension: 2. Components: 1. Nugget effect: 0.54005E-01
Model: Spherical   1   . Sill: 0.13588E-01. Range:   69886.
```

Direction North-South (*2nd semi-variogram*):

```
Date            : 11/30/96
----------------------------------------------------------------
Name of file    : pH-2.mod
----------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../b2ph.txt
----------------------------------------------------------------
Semi-variogram model of variable: pH
Dimension: 2. Components: 1. Nugget effect: 0.67593E-01
Model: Spherical   1   . Sill: 0.00000   . Range: 0.00000
```

Combined (Isotropical) Variogram:

```
Date            : 11/30/96
----------------------------------------------------------------
Name of file    : pH.mod
----------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../b2ph.txt
----------------------------------------------------------------
Semi-variogram model of variable: pH
Dimension: 2. Components: 1. Nugget effect: 0.50000E-01
Model: Spherical   1   . Sill: 0.13800E-01. Range:   40000.
```


Semi-variogram of pH

8.2   Variable EC

Direction East-West (*1st semi-variogram*):

```
Date              : 11/30/96
-------------------------------------------------------------------------
Name of file     : EC-1.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../b2ph.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: EC
Dimension: 2. Components: 1. Nugget effect:   9.0761
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```
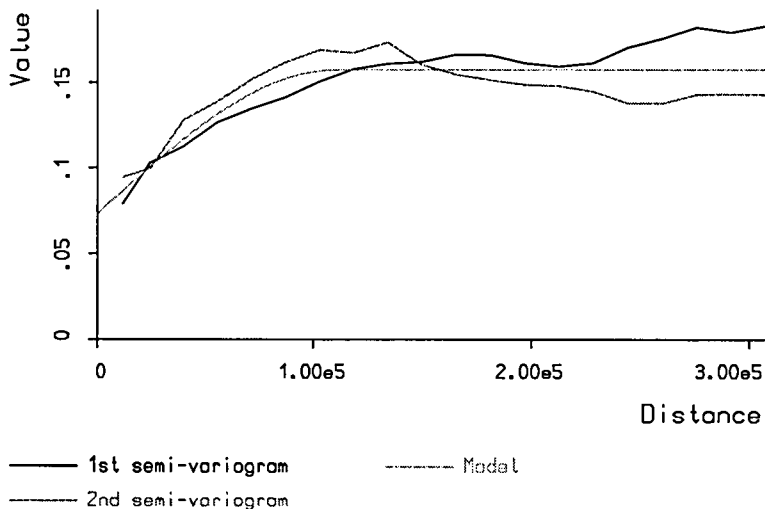
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/30/96
-------------------------------------------------------------------------
Name of file     : EC-2.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../b2ph.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: EC
Dimension: 2. Components: 1. Nugget effect:   5.5038
Model: Spherical    1     . Sill:  3.5723    . Range:  97500.
```

Combined (Isotropical) Variogram:

```
Date              : 11/30/96
-------------------------------------------------------------------------
Name of file     : EC.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../b2ph.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: EC
Dimension: 2. Components: 1. Nugget effect:   5.8000
Model: Spherical    1     . Sill:  3.2800    . Range:  80000.
```


Semi-variogram of EC

8.3   Variable Cl

Direction East-West (*1st semi-variogram*):

```
Date                : 11/30/96
------------------------------------------------------------------
Name of file     : Cl-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../b2ph.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cl
Dimension: 2. Components:  1. Nugget effect:  0.57129E-05
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```
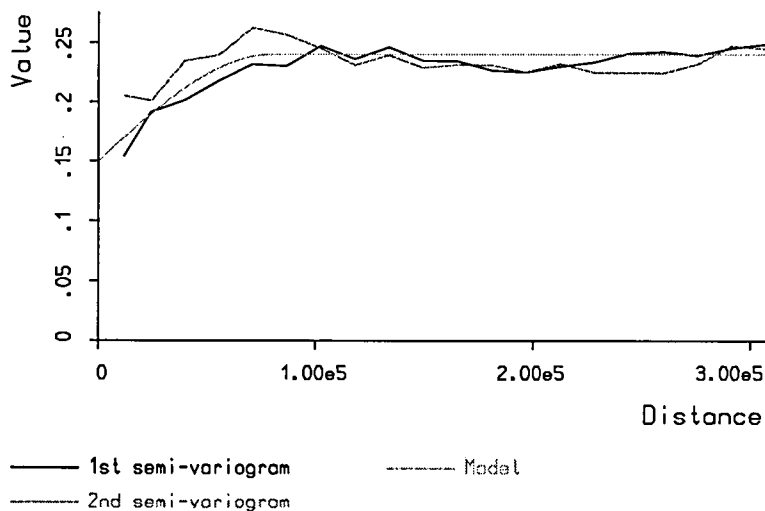
Direction North-South (*2nd semi-variogram*):

```
Date                : 11/30/96
------------------------------------------------------------------
Name of file     : Cl-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../b2ph.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cl
Dimension: 2. Components:  1. Nugget effect:  0.57129E-05
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date                : 11/30/96
------------------------------------------------------------------
Name of file     : Cl.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../b2ph.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cl
Dimension: 2. Components:  1. Nugget effect:  0.40000E-05
Model: Spherical     1     . Sill:  0.12000E-05. Range:   80000.
```


Semi-variogram of Cl

8.4 Variable NO3

Direction East-West (*1st semi-variogram*):

```
Date              : 11/30/96
------------------------------------------------------------------------
Name of file      : NO3-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../b2ph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: NO3
Dimension: 2. Components: 1. Nugget effect:  0.11725E-04
Model: Spherical     1      . Sill:  0.00000    . Range:  0.00000
```
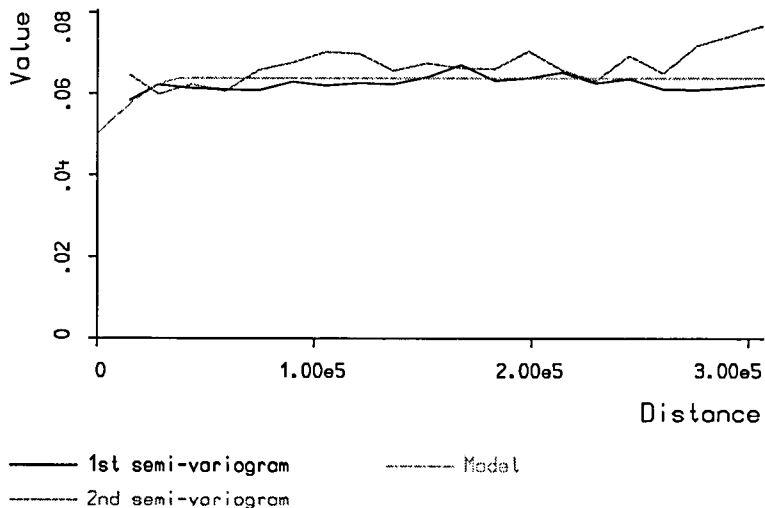
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/30/96
------------------------------------------------------------------------
Name of file      : NO3-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../b2ph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: NO3
Dimension: 2. Components: 1. Nugget effect:  0.11725E-04
Model: Spherical     1      . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 11/30/96
------------------------------------------------------------------------
Name of file      : NO3.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../b2ph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: NO3
Dimension: 2. Components: 1. Nugget effect:  0.90000E-05
Model: Spherical     1      . Sill:  0.25000E-05. Range:   50000.
```


Semi-variogram of NO3

8.5   Variable SO4

Direction East-West (*1st semi-variogram*):

```
Date               : 11/30/96
-----------------------------------------------------------------
Name of file    : SO4-1.mod
-----------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../b2ph.txt
-----------------------------------------------------------------
Semi-variogram model of variable: SO4
Dimension: 2. Components: 1. Nugget effect:  0.84668E-04
Model: Spherical    1     . Sill: 0.23816E-05. Range:   6408.1
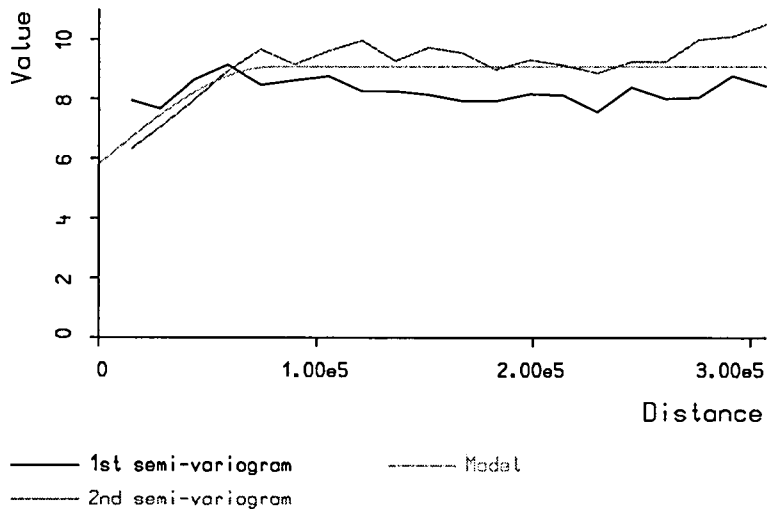```

Direction North-South (*2nd semi-variogram*):

```
Date               : 11/30/96
-----------------------------------------------------------------
Name of file    : SO4-2.mod
-----------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../b2ph.txt
-----------------------------------------------------------------
Semi-variogram model of variable: SO4
Dimension: 2. Components: 1. Nugget effect:  0.87050E-04
Model: Spherical    1     . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date               : 11/30/96
-----------------------------------------------------------------
Name of file    : SO4.mod
-----------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../b2ph.txt
-----------------------------------------------------------------
Semi-variogram model of variable: SO4
Dimension: 2. Components: 1. Nugget effect:  0.56000E-04
Model: Spherical    1     . Sill: 0.41000E-04. Range:   60000.
```


Semi-variogram of SO4

Chapter 9

Estimated Variograms for the C-HORIZON (Ln-transformed ICP- and AAS-data)

9.1   Variable Ag

Direction East-West (*1st semi-variogram*):

```
Date                : 08/16/96
-------------------------------------------------------------------------
Name of file    : Ag-1.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Ag
Dimension: 2. Components: 1. Nugget effect:  0.23868
Model: Spherical     1     . Sill: 0.28977    . Range:    61048.
```
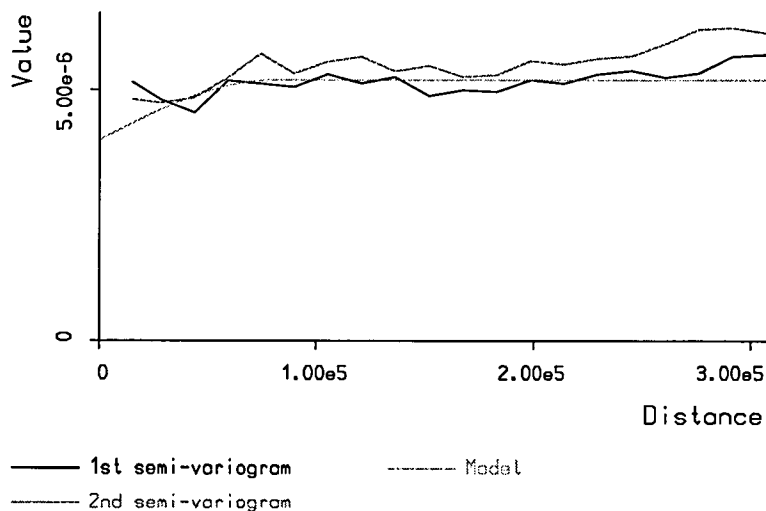
Direction North-South (*2nd semi-variogram*):

```
Date                : 08/16/96
-------------------------------------------------------------------------
Name of file    : Ag-2.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Ag
Dimension: 2. Components: 1. Nugget effect:  0.36134
Model: Spherical     1     . Sill: 0.16710    . Range:  0.59872E+06
```

Combined (Isotropical) Variogram:

```
Date                : 08/16/96
-------------------------------------------------------------------------
Name of file    : Ag.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Ag
Dimension: 2. Components: 1. Nugget effect:  0.31000
Model: Spherical     1     . Sill: 0.17000    . Range:  0.10000E+06
```

Semi-variogram of Ag

9.2 Variable Al

Direction East-West (*1st semi-variogram*):

```
Date                : 08/16/96
--------------------------------------------------------------------
Name of file    : Al-1.mod
--------------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components:  1. Nugget effect:  0.18042
Model: Spherical    1      . Sill:  0.20758    . Range:  0.11304E+06
```

Direction North-South (*2nd semi-variogram*):

```
Date                : 08/16/96
--------------------------------------------------------------------
Name of file    : Al-2.mod
--------------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components:  1. Nugget effect:  0.19833
Model: Spherical    1      . Sill:  0.18966    . Range:   99154.
```

Combined (Isotropical) Variogram:

```
Date                : 08/16/96
--------------------------------------------------------------------
Name of file    : Al.mod
--------------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Al
Dimension: 2. Components:  1. Nugget effect:  0.18937
Model: Spherical    1      . Sill:  0.19862    . Range:  0.10610E+06
```
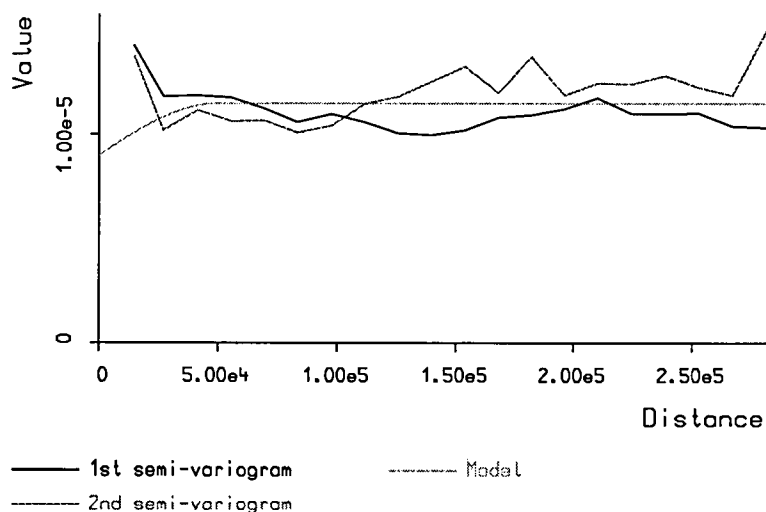

Semi-variogram of Al

9.3 Variable As

Direction East-West (*1st semi-variogram*):

```
Date            : 08/16/96
-----------------------------------------------------------------
Name of file    : As-1.mod
-----------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.52874
Model: Spherical    1    . Sill:  0.68132    . Range:  0.23196E+06
```

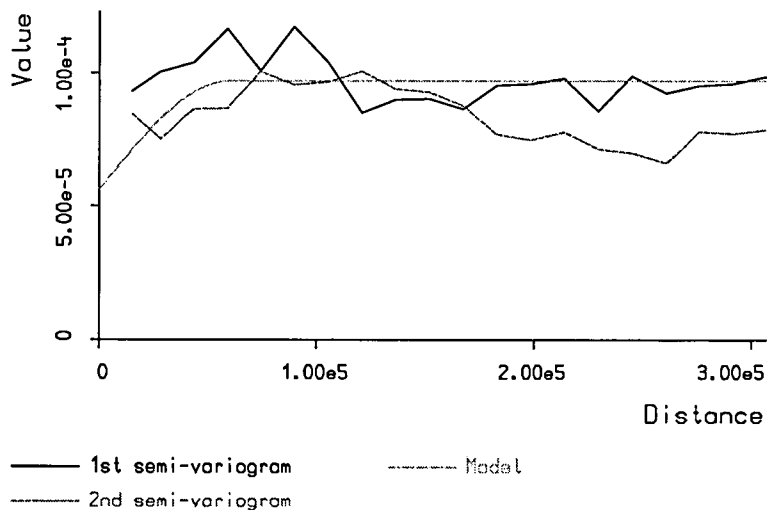Direction North-South (*2nd semi-variogram*):

```
Date            : 08/16/96
-----------------------------------------------------------------
Name of file    : As-2.mod
-----------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.46930
Model: Spherical    1    . Sill:  0.74076    . Range:  0.13288E+06
```

Combined (Isotropical) Variogram:

```
Date            : 08/16/96
-----------------------------------------------------------------
Name of file    : As.mod
-----------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.49902
Model: Spherical    1    . Sill:  0.71104    . Range:  0.18242E+06
```


Semi-variogram of As

9.4   Variable Ba

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : Ba-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components: 1. Nugget effect:  0.21615
Model: Spherical    1    . Sill: 0.33630    . Range:    81163.
```
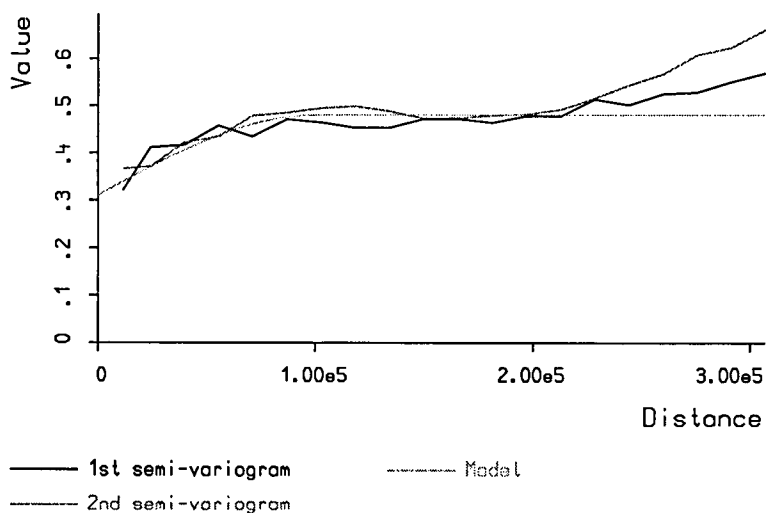
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : Ba-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components: 1. Nugget effect:  0.30277
Model: Spherical    1    . Sill: 0.24967    . Range:  0.13970E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : Ba.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components: 1. Nugget effect:  0.25946
Model: Spherical    1    . Sill: 0.29298    . Range:  0.11043E+06
```


Semi-variogram of Ba

9.5 Variable Be

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
----------------------------------------------------------------
Name of file      : Be-1.mod
----------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: Be
Dimension: 2. Components: 1. Nugget effect:  0.56950E-01
Model: Spherical    1    . Sill: 0.54918    . Range:   63190.
```

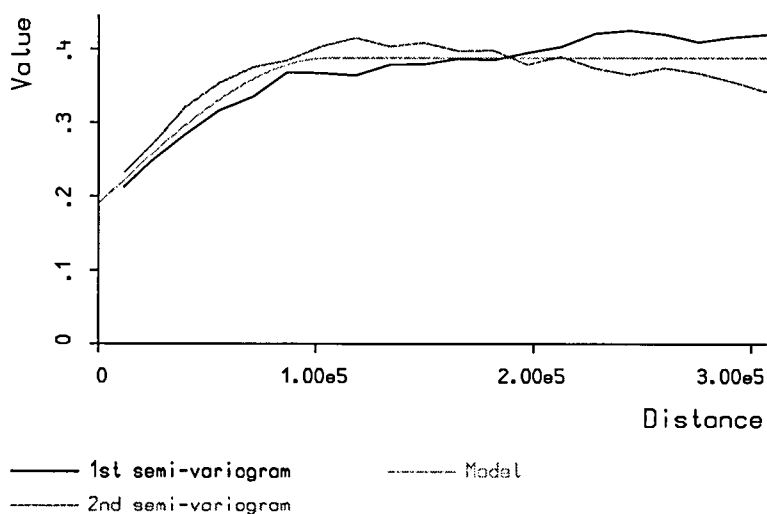Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
----------------------------------------------------------------
Name of file      : Be-2.mod
----------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: Be
Dimension: 2. Components: 1. Nugget effect:  0.12904
Model: Spherical    1    . Sill: 0.47709    . Range:   80226.
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
----------------------------------------------------------------
Name of file      : Be.mod
----------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: Be
Dimension: 2. Components: 1. Nugget effect:  0.92995E-01
Model: Spherical    1    . Sill: 0.51313    . Range:   71708.
```


Semi-variogram of Be

9.6 Variable Bi

Direction East-West (*1st semi-variogram*):

```
Date            : 08/16/96
-----------------------------------------------------------------
Name of file    : Bi-1.mod
-----------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Bi
Dimension: 2. Components: 1. Nugget effect:  0.42375
Model: Spherical    1     . Sill:  0.46563    . Range:  0.37493E+06
```

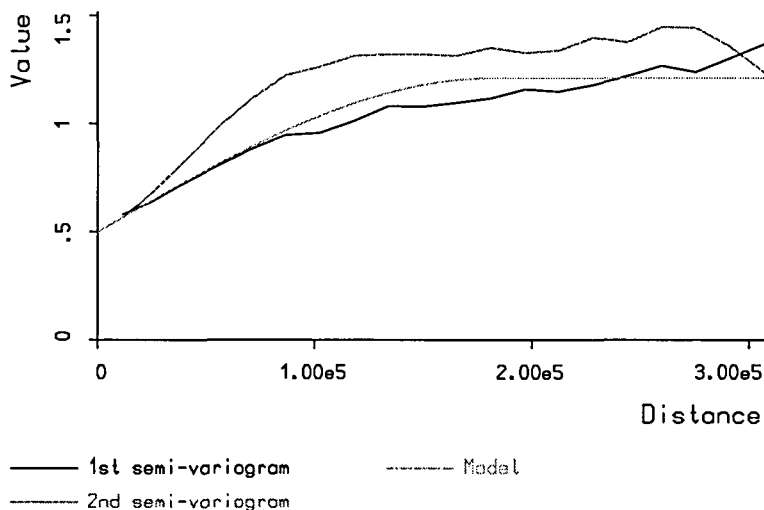Direction North-South (*2nd semi-variogram*):

```
Date            : 08/16/96
-----------------------------------------------------------------
Name of file    : Bi-2.mod
-----------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Bi
Dimension: 2. Components: 1. Nugget effect:  0.31791
Model: Spherical    1     . Sill:  0.57147    . Range:  0.14075E+06
```

Combined (Isotropical) Variogram:

```
Date            : 08/16/96
-----------------------------------------------------------------
Name of file    : Bi.mod
-----------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Bi
Dimension: 2. Components: 1. Nugget effect:  0.30000
Model: Spherical    1     . Sill:  0.57860    . Range:  0.10000E+06
```


Semi-variogram of Bi

9.7   Variable Ca

Direction East-West (*1st semi-variogram*):

```
Date               : 08/16/96
------------------------------------------------------------------
Name of file       : Ca-1.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.57431E-01
Model: Spherical     1     . Sill: 0.45143    . Range:    67865.
```
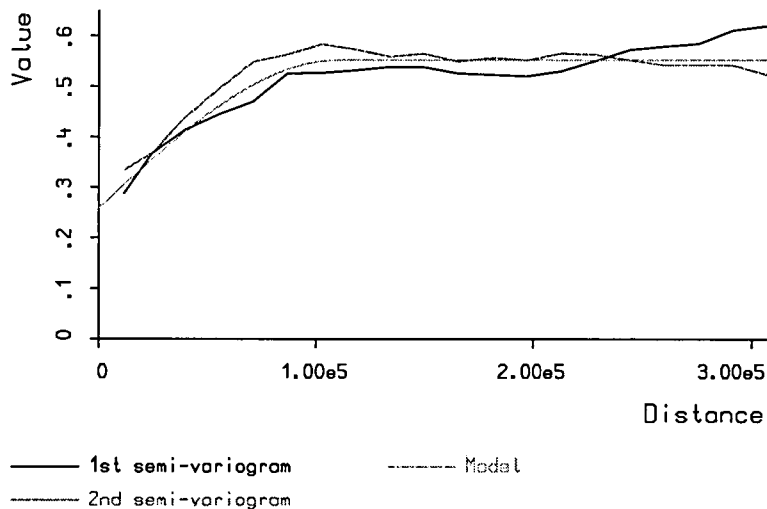
Direction North-South (*2nd semi-variogram*):

```
Date               : 08/16/96
------------------------------------------------------------------
Name of file       : Ca-2.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.50886
Model: Spherical     1     . Sill: 0.00000    . Range: 0.00000
```

Combined (Isotropical) Variogram:

```
Date               : 08/16/96
------------------------------------------------------------------
Name of file       : Ca.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.22000
Model: Spherical     1     . Sill: 0.32600    . Range: 0.17000E+06
```


Semi-variogram of Ca

9.8　Variable Cd

Direction East-West (*1st semi-variogram*):

```
Date             : 08/16/96
-----------------------------------------------------------------------
Hame of file     : Cd-1.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Hame of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components: 1. Hugget effect:  0.15193
Model: Spherical    1     . Sill:  0.14379    . Range:  0.11503E+06
```

Direction North-South (*2nd semi-variogram*):

```
Date             : 08/16/96
-----------------------------------------------------------------------
Hame of file     : Cd-2.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Hame of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components: 1. Hugget effect:  0.17809
Model: Spherical    1     . Sill:  0.11763    . Range:  0.60372E+06
```

Combined (Isotropical) Variogram:

```
Date             : 08/16/96
-----------------------------------------------------------------------
Hame of file     : Cd.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Hame of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Cd
Dimension: 2. Components: 1. Hugget effect:  0.15500
Model: Spherical    1     . Sill:  0.12000    . Range:  0.10000E+06
```
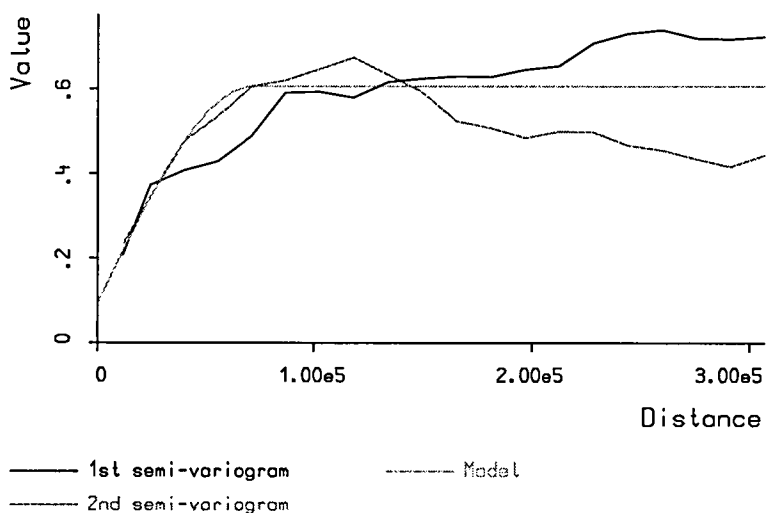

Semi-variogram of Cd

9.9   Variable Co

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
-----------------------------------------------------------------------
Name of file      : Co-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.18948
Model: Spherical    1    . Sill: 0.12806    . Range:  0.11125E+06
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
-----------------------------------------------------------------------
Name of file      : Co-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.21615
Model: Spherical    1    . Sill: 0.10138    . Range:  0.22512E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
-----------------------------------------------------------------------
Name of file      : Co.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.20281
Model: Spherical    1    . Sill: 0.11472    . Range:  0.16819E+06
```
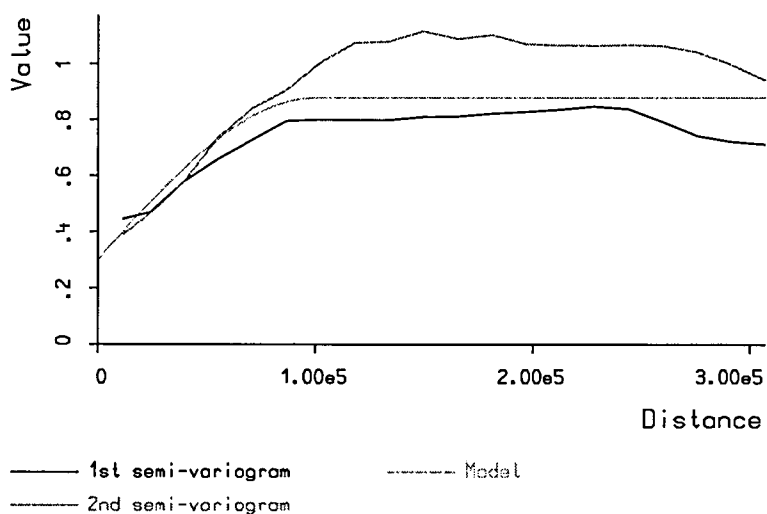

Semi-variogram of Co

9.10 Variable Cr

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
----------------------------------------------------------------
Name of file      : Cr-1.mod
----------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect:  0.22658
Model: Spherical    1    . Sill:  0.21076   . Range:   76436.
```
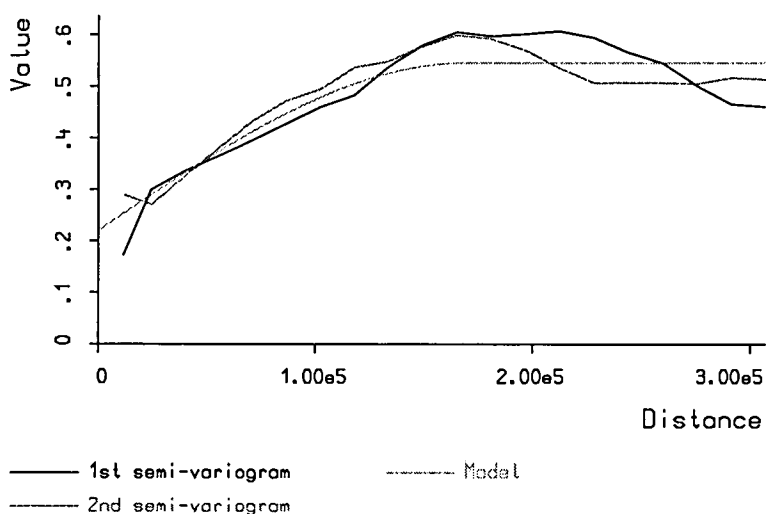
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
----------------------------------------------------------------
Name of file      : Cr-2.mod
----------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect:  0.30098
Model: Spherical    1    . Sill:  0.13637   . Range:  0.96499E+07
```

Combined (Isotropical) Variogram:

```
Date              : 08/17/96
----------------------------------------------------------------
Name of file      : Cr.mod
----------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 2. Nugget effect:  0.24000
Model: Spherical    1    . Sill:  0.80000E-01. Range:   60000.
Model: Spherical    1    . Sill:  0.14000   . Range:  0.32000E+06
```

9.11   Variable Cu

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : Cu-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components: 1. Nugget effect:  0.34176
Model: Spherical    1    . Sill: 0.22852    . Range:   85066.
```
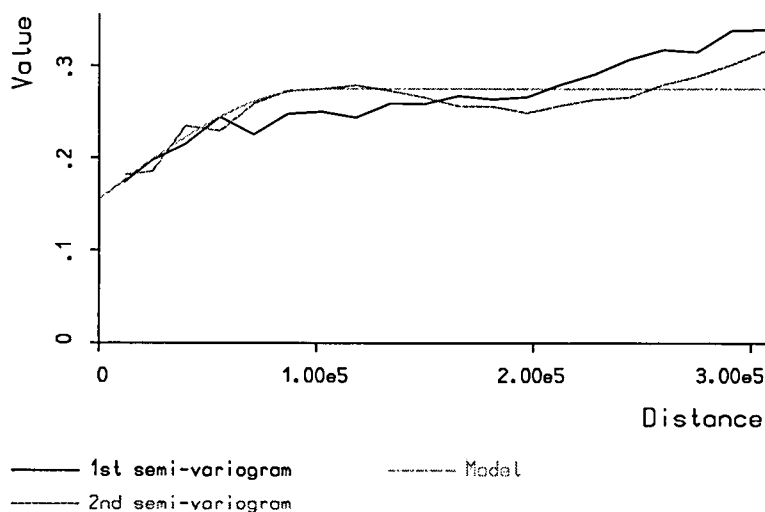
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : Cu-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components: 1. Nugget effect:  0.22132
Model: Spherical    1    . Sill: 0.34896    . Range:   66749.
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : Cu.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cu
Dimension: 2. Components: 1. Nugget effect:  0.28154
Model: Spherical    1    . Sill: 0.28874    . Range:   75908.
```

9.12   Variable Fe

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------------
Name of file      : Fe-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.15452
Model: Spherical     1     . Sill:  0.12283    . Range:  0.16724E+06
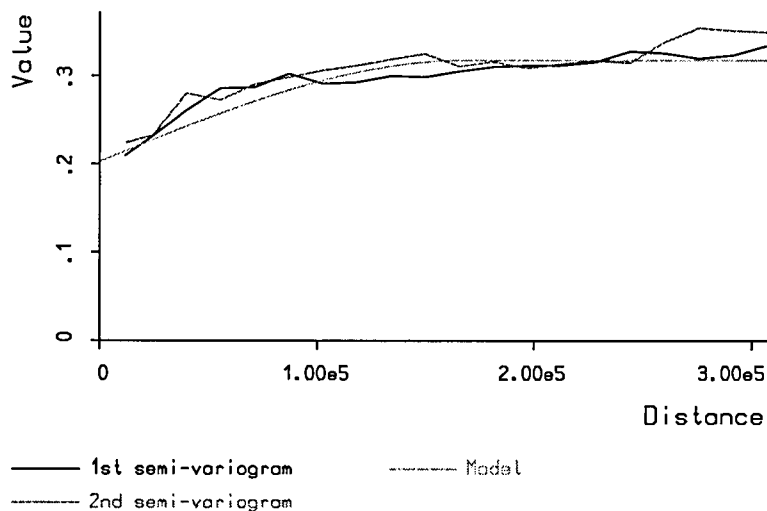```

Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------------
Name of file      : Fe-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.17769
Model: Spherical     1     . Sill:  0.99668E-01. Range:  0.17216E+07
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
------------------------------------------------------------------------
Name of file      : Fe.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 2. Nugget effect:  0.14600
Model: Spherical     1     . Sill:  0.11125    . Range:  0.94442E+06
Model: Spherical     1     . Sill:  0.90000E-01. Range:  90000.
```


Semi-variogram of Fe

9.13   Variable Hg

Direction East-West (*1st semi-variogram*):

```
        Date            : 08/16/96
        ------------------------------------------------------------------
        Name of file    : Hg-1.mod
        ------------------------------------------------------------------
        User            : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lnc2mm.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Hg
        Dimension: 2. Components: 1. Nugget effect:  0.17796
        Model: Spherical    1    . Sill: 0.11497   . Range:   68119.
```

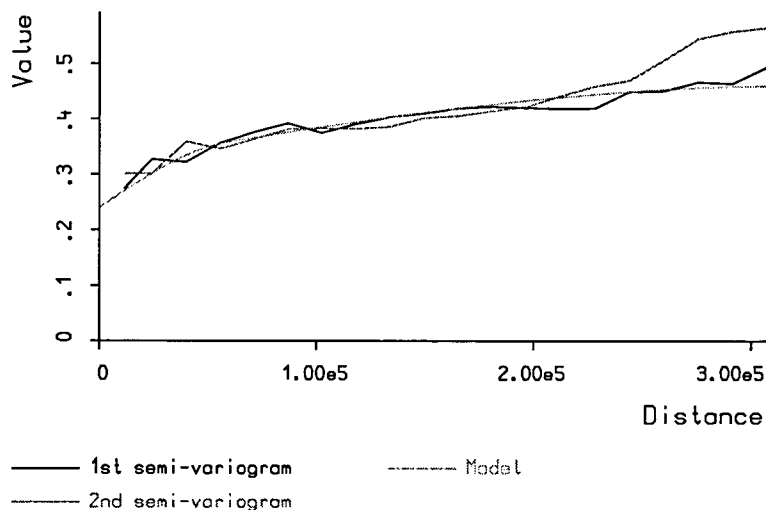Direction North-South (*2nd semi-variogram*):

```
        Date            : 08/16/96
        ------------------------------------------------------------------
        Name of file    : Hg-2.mod
        ------------------------------------------------------------------
        User            : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lnc2mm.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Hg
        Dimension: 2. Components: 1. Nugget effect:  0.29293
        Model: Spherical    1    . Sill: 0.00000   . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
        Date            : 08/16/96
        ------------------------------------------------------------------
        Name of file    : Hg.mod
        ------------------------------------------------------------------
        User            : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lnc2mm.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Hg
        Dimension: 2. Components: 2. Nugget effect:  0.17544
        Model: Spherical    1    . Sill: 0.57485E-01. Range:   34060.
        Model: Spherical    1    . Sill: 0.80000E-01. Range:  0.31000E+06
```


Semi-variogram of Hg

9.14   Variable K

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------------
Name of file      : K-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components:  1. Nugget effect:  0.25733
Model: Spherical    1     . Sill:  0.23682    . Range:  0.10189E+06
```
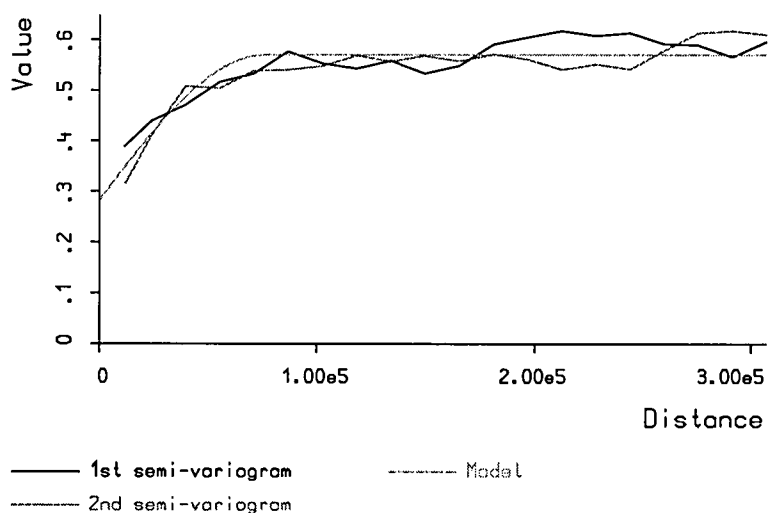
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------------
Name of file      : K-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components:  1. Nugget effect:  0.31018
Model: Spherical    1     . Sill:  0.18398    . Range:  0.12815E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
------------------------------------------------------------------------
Name of file      : K.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components:  1. Nugget effect:  0.28376
Model: Spherical    1     . Sill:  0.18000    . Range:  0.11500E+06
```

9.15   Variable La

Direction East-West (*1st semi-variogram*):

```
Date               : 08/16/96
------------------------------------------------------------------
Name of file       : La-1.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components: 1. Nugget effect:  0.94286E-01
Model: Spherical   1    . Sill: 0.27786   . Range:   50325.
```
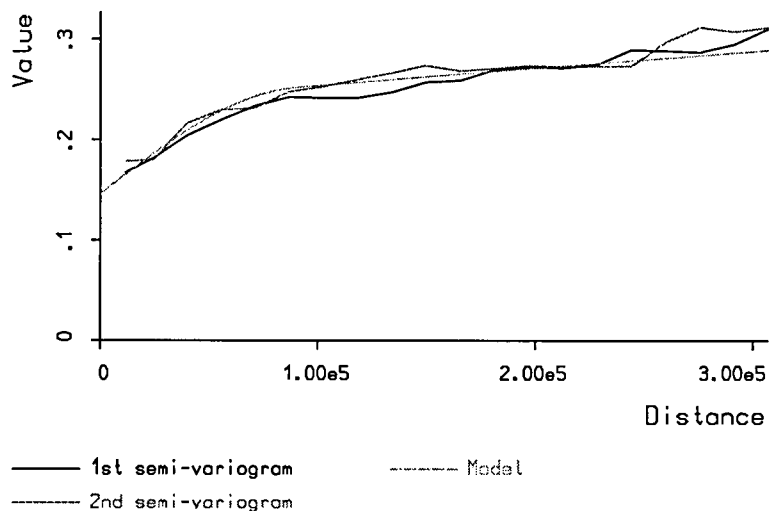
Direction North-South (*2nd semi-variogram*):

```
Date               : 08/16/96
------------------------------------------------------------------
Name of file       : La-2.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components: 1. Nugget effect:  0.14508
Model: Spherical   1    . Sill: 0.22708   . Range:   61845.
```

Combined (Isotropical) Variogram:

```
Date               : 08/16/96
------------------------------------------------------------------
Name of file       : La.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components: 1. Nugget effect:  0.11968
Model: Spherical   1    . Sill: 0.25247   . Range:   56085.
```

9.16   Variable Li

Direction East-West (*1st semi-variogram*):

```
Date                : 08/16/96
-----------------------------------------------------------------------
Name of file     : Li-1.mod
-----------------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Li
Dimension: 2. Components: 1. Nugget effect:  0.17313
Model: Spherical     1     . Sill:  0.21693    . Range:  0.13241E+06
```
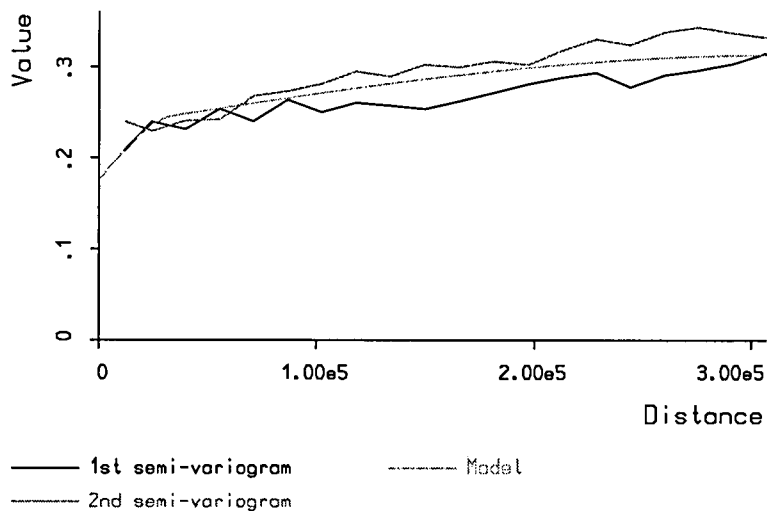
Direction North-South (*2nd semi-variogram*):

```
Date                : 08/16/96
-----------------------------------------------------------------------
Name of file     : Li-2.mod
-----------------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Li
Dimension: 2. Components: 1. Nugget effect:  0.15809
Model: Spherical     1     . Sill:  0.23197    . Range:  98444.
```

Combined (Isotropical) Variogram:

```
Date                : 08/16/96
-----------------------------------------------------------------------
Name of file     : Li.mod
-----------------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Li
Dimension: 2. Components: 1. Nugget effect:  0.16561
Model: Spherical     1     . Sill:  0.22445    . Range:  0.11543E+06
```


Semi-variogram of Li

9.17 Variable Mg

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
-------------------------------------------------------------------
Name of file      : Mg-1.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components: 1. Nugget effect:  0.23612
Model: Spherical    1     . Sill:  0.16815    . Range:    72968.
```
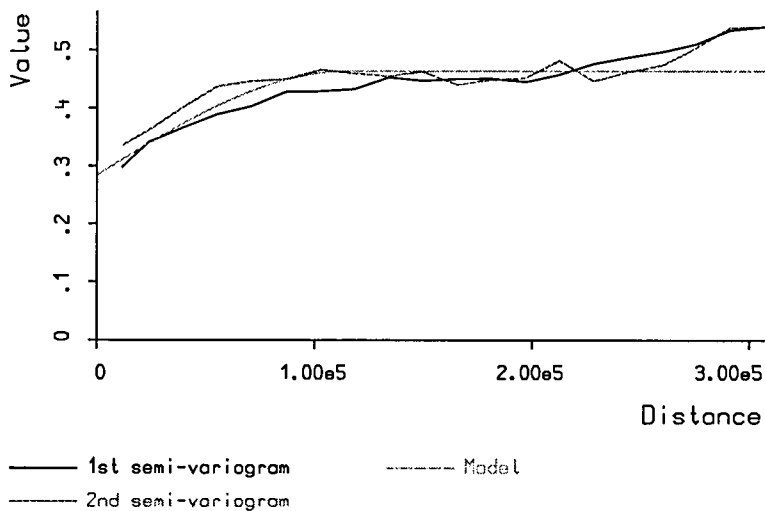
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
-------------------------------------------------------------------
Name of file      : Mg-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components: 1. Nugget effect:  0.40427
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
-------------------------------------------------------------------
Name of file      : Mg.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Mg
Dimension: 2. Components: 2. Nugget effect:  0.22000
Model: Spherical    1     . Sill:  0.84075E-01. Range:    36484.
Model: Spherical    1     . Sill:  0.80000E-01. Range:  0.15000E+06
```


Semi-variogram of Mg

9.18   Variable Mn

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file     : Mn-1.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components:  1. Nugget effect:  0.14366
Model: Spherical     1    . Sill: 0.26085   . Range:  0.11425E+06
```
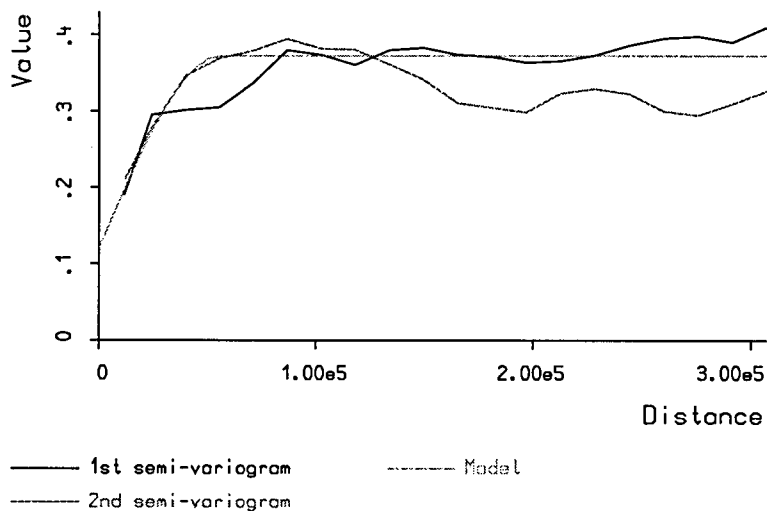
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file     : Mn-2.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components:  1. Nugget effect:  0.21216
Model: Spherical     1    . Sill: 0.19235   . Range:  0.27340E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file     : Mn.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components:  1. Nugget effect:  0.17791
Model: Spherical     1    . Sill: 0.22660   . Range:  0.19383E+06
```


Semi-variogram of Mn

9.19   Variable Mo

Direction East-West (*1st semi-variogram*):

```
        Date            : 08/16/96
        ------------------------------------------------------------------------
        Name of file    : Mo-1.mod
        ------------------------------------------------------------------------
        User            : Dutter / Reimann
        ------------------------------------------------------------------------
        Name of data file: ../lnc2mm.txt
        ------------------------------------------------------------------------
        Semi-variogram model of variable: Mo
        Dimension: 2. Components: 1. Nugget effect:  0.27259
        Model: Spherical    1     . Sill:  0.17045    . Range:   63749.
```
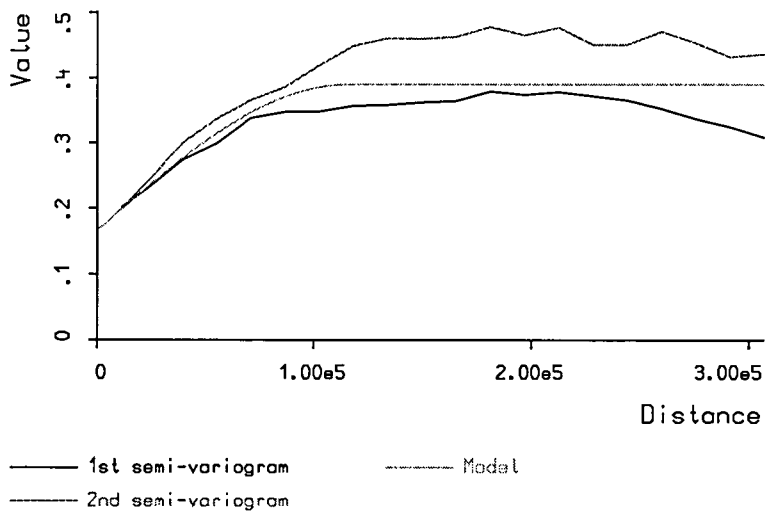
Direction North-South (*2nd semi-variogram*):

```
        Date            : 08/16/96
        ------------------------------------------------------------------------
        Name of file    : Mo-2.mod
        ------------------------------------------------------------------------
        User            : Dutter / Reimann
        ------------------------------------------------------------------------
        Name of data file: ../lnc2mm.txt
        ------------------------------------------------------------------------
        Semi-variogram model of variable: Mo
        Dimension: 2. Components: 1. Nugget effect:  0.44305
        Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
        Date            : 08/16/96
        ------------------------------------------------------------------------
        Name of file    : Mo.mod
        ------------------------------------------------------------------------
        User            : Dutter / Reimann
        ------------------------------------------------------------------------
        Name of data file: ../lnc2mm.txt
        ------------------------------------------------------------------------
        Semi-variogram model of variable: Mo
        Dimension: 2. Components: 2. Nugget effect:  0.26780
        Model: Spherical    1     . Sill:  0.85225E-01. Range:   31875.
        Model: Spherical    1     . Sill:  0.90000E-01. Range:  0.10000E+06
```


Semi-variogram of Mo

9.20 Variable Na

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : Na-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components:  1. Nugget effect:  0.25722
Model: Spherical     1    . Sill:  0.51220    . Range:  0.12774E+06
```
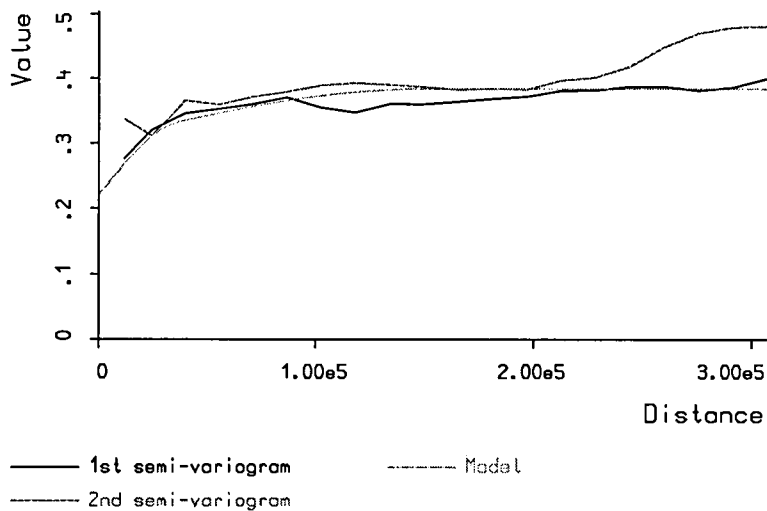
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : Na-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components:  1. Nugget effect:  0.38223
Model: Spherical     1    . Sill:  0.38719    . Range:  0.35223E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : Na.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components:  1. Nugget effect:  0.31973
Model: Spherical     1    . Sill:  0.44969    . Range:  0.23999E+06
```


Semi-variogram of Na

9.21 Variable Ni

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------------
Name of file    : Ni-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components: 1. Nugget effect:  0.23400
Model: Spherical    1    . Sill: 0.21963    . Range:    68061.
```
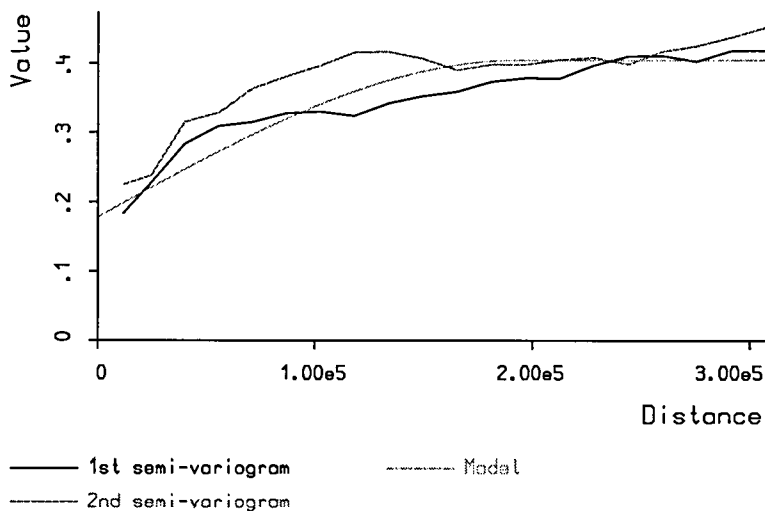
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------------
Name of file    : Ni-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components: 1. Nugget effect:  0.31667
Model: Spherical    1    . Sill: 0.13695    . Range:  0.18442E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
------------------------------------------------------------------------
Name of file    : Ni.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ni
Dimension: 2. Components: 1. Nugget effect:  0.27534
Model: Spherical    1    . Sill: 0.17829    . Range:  0.12624E+06
```


Semi-variogram of Ni

9.22　Variable P

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
-----------------------------------------------------------------------
Name of file      : P-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components: 1. Nugget effect:  0.37969E-01
Model: Spherical    1     . Sill: 0.24766    . Range:   55922.
```
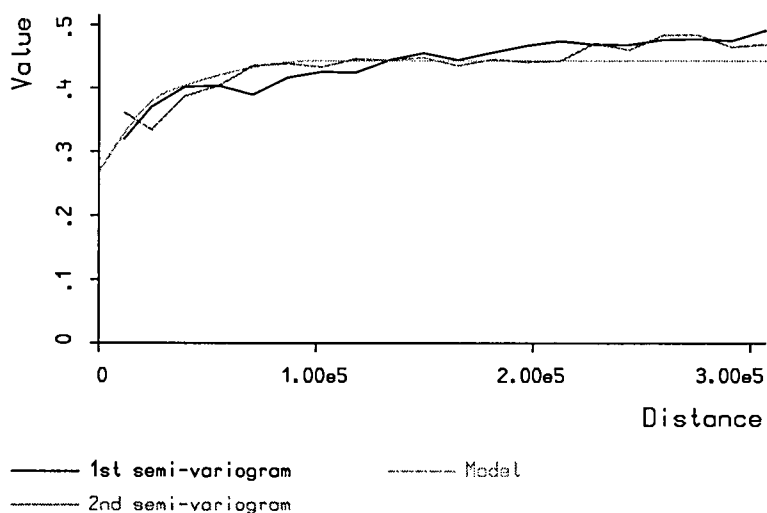
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
-----------------------------------------------------------------------
Name of file      : P-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components: 1. Nugget effect:  0.14829
Model: Spherical    1     . Sill: 0.13734    . Range:  0.10380E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
-----------------------------------------------------------------------
Name of file      : P.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: P
Dimension: 2. Components: 2. Nugget effect:  0.93130E-01
Model: Spherical    1     . Sill: 0.90000E-01. Range:   60000.
Model: Spherical    1     . Sill: 0.13000    . Range:  0.15000E+06
```


Semi-variogram of P

9.23   Variable Pb

Direction East-West (*1st semi-variogram*):

```
        Date              : 08/16/96
        ---------------------------------------------------------------
        Name of file      : Pb-1.mod
        ---------------------------------------------------------------
        User              : Dutter / Reimann
        ---------------------------------------------------------------
        Name of data file: ../lnc2mm.txt
        ---------------------------------------------------------------
        Semi-variogram model of variable: Pb
        Dimension: 2. Components: 1. Nugget effect:  0.17913
        Model: Spherical    1    . Sill: 0.35501    . Range:  0.10130E+06
```

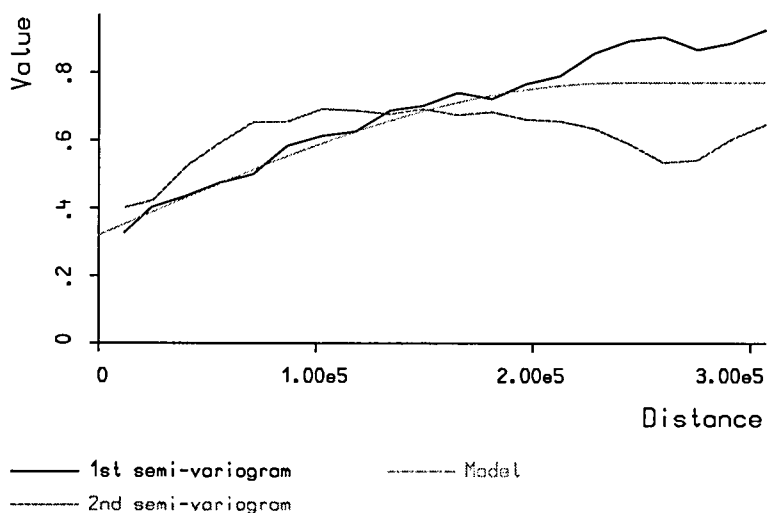Direction North-South (*2nd semi-variogram*):

```
        Date              : 08/16/96
        ---------------------------------------------------------------
        Name of file      : Pb-2.mod
        ---------------------------------------------------------------
        User              : Dutter / Reimann
        ---------------------------------------------------------------
        Name of data file: ../lnc2mm.txt
        ---------------------------------------------------------------
        Semi-variogram model of variable: Pb
        Dimension: 2. Components: 1. Nugget effect:  0.53413
        Model: Spherical    1    . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
        Date              : 08/16/96
        ---------------------------------------------------------------
        Name of file      : Pb.mod
        ---------------------------------------------------------------
        User              : Dutter / Reimann
        ---------------------------------------------------------------
        Name of data file: ../lnc2mm.txt
        ---------------------------------------------------------------
        Semi-variogram model of variable: Pb
        Dimension: 2. Components: 2. Nugget effect:  0.18700
        Model: Spherical    1    . Sill: 0.23000    . Range:  0.10000E+06
        Model: Spherical    1    . Sill: 0.10000    . Range:  0.35000E+06
```


Semi-variogram of Pb

9.24   Variable S

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
-------------------------------------------------------------------
Name of file      : S-1.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components:  1. Nugget effect:  0.19325
Model: Spherical    1     . Sill:  0.26838    . Range:    47031.
```
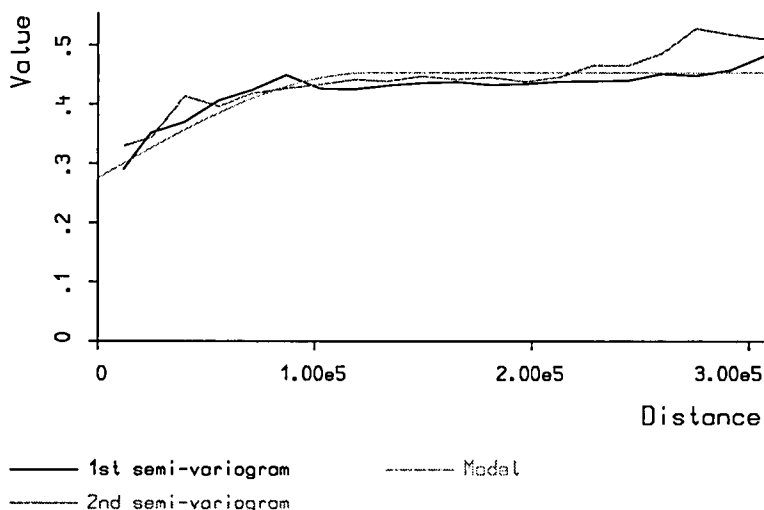
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
-------------------------------------------------------------------
Name of file      : S-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components:  1. Nugget effect:  0.31274
Model: Spherical    1     . Sill:  0.14888    . Range:    65974.
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
-------------------------------------------------------------------
Name of file      : S.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: S
Dimension: 2. Components:  1. Nugget effect:  0.25300
Model: Spherical    1     . Sill:  0.20863    . Range:    56503.
```

9.25 Variable Sb

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
----------------------------------------------------------------------
Name of file      : Sb-1.mod
----------------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
----------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components: 1. Nugget effect:  0.45968
Model: Spherical    1     . Sill:  0.62231    . Range:  0.15569E+06
```

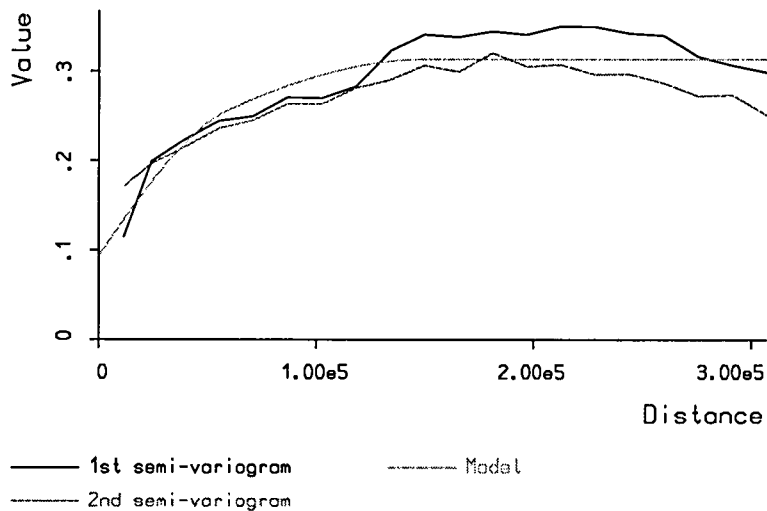Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
----------------------------------------------------------------------
Name of file      : Sb-2.mod
----------------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
----------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components: 1. Nugget effect:  0.53504
Model: Spherical    1     . Sill:  0.54695    . Range:  0.30748E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
----------------------------------------------------------------------
Name of file      : Sb.mod
----------------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
----------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components: 1. Nugget effect:  0.49736
Model: Spherical    1     . Sill:  0.58463    . Range:  0.23159E+06
```

9.26 Variable Sc

Direction East-West (*1st semi-variogram*):

```
        Date              : 08/16/96
        ----------------------------------------------------------------
        Name of file      : Sc-1.mod
        ----------------------------------------------------------------
        User              : Dutter / Reimann
        ----------------------------------------------------------------
        Name of data file: ../lnc2mm.txt
        ----------------------------------------------------------------
        Semi-variogram model of variable: Sc
        Dimension: 2. Components: 1. Nugget effect:  0.20604
        Model: Spherical    1     . Sill:  0.13286    . Range:  0.10434E+06
```

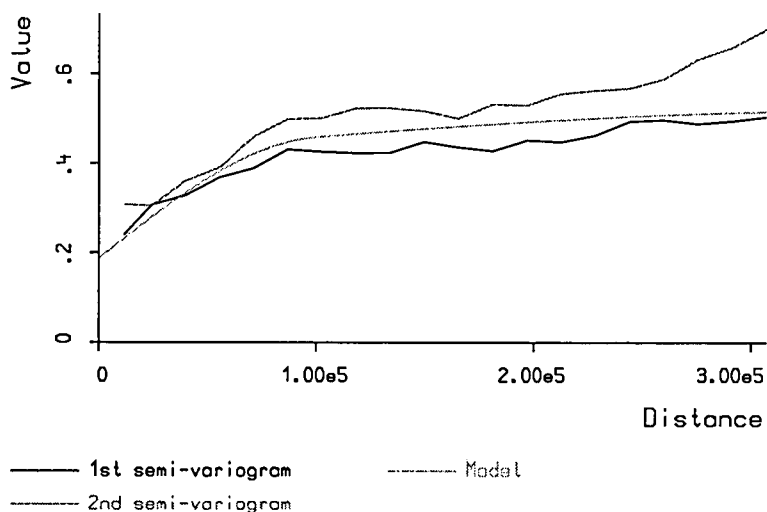Direction North-South (*2nd semi-variogram*):

```
        Date              : 08/16/96
        ----------------------------------------------------------------
        Name of file      : Sc-2.mod
        ----------------------------------------------------------------
        User              : Dutter / Reimann
        ----------------------------------------------------------------
        Name of data file: ../lnc2mm.txt
        ----------------------------------------------------------------
        Semi-variogram model of variable: Sc
        Dimension: 2. Components: 1. Nugget effect:  0.33890
        Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
        Date              : 08/16/96
        ----------------------------------------------------------------
        Name of file      : Sc.mod
        ----------------------------------------------------------------
        User              : Dutter / Reimann
        ----------------------------------------------------------------
        Name of data file: ../lnc2mm.txt
        ----------------------------------------------------------------
        Semi-variogram model of variable: Sc
        Dimension: 2. Components: 2. Nugget effect:  0.19800
        Model: Spherical    1     . Sill:  0.66430E-01. Range:  52170.
        Model: Spherical    1     . Sill:  0.80000E-01. Range:  0.31000E+06
```

Semi-variogram of Sc

9.27   Variable Se

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
-----------------------------------------------------------------------
Name of file     : Se-1.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Se
Dimension: 2. Components: 1. Nugget effect:  0.30475
Model: Spherical    1     . Sill:  0.48253    . Range:   69763.
```

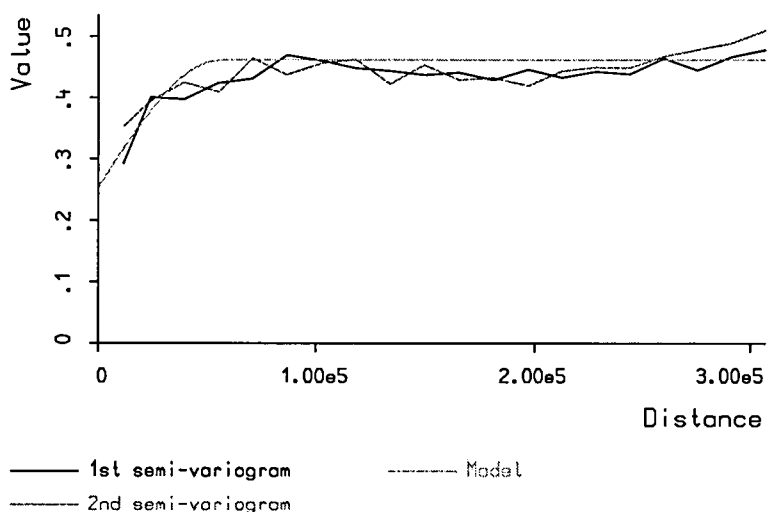Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
-----------------------------------------------------------------------
Name of file     : Se-2.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Se
Dimension: 2. Components: 1. Nugget effect:  0.39117
Model: Spherical    1     . Sill:  0.39611    . Range:   99196.
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
-----------------------------------------------------------------------
Name of file     : Se.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Se
Dimension: 2. Components: 1. Nugget effect:  0.34796
Model: Spherical    1     . Sill:  0.43932    . Range:   84480.
```


Semi-variogram of Se

9.28   Variable Si

Direction East-West (*1st semi-variogram*):

```
Date               : 08/16/96
------------------------------------------------------------------
Name of file       : Si-1.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components:  1. Nugget effect:  0.11857
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```
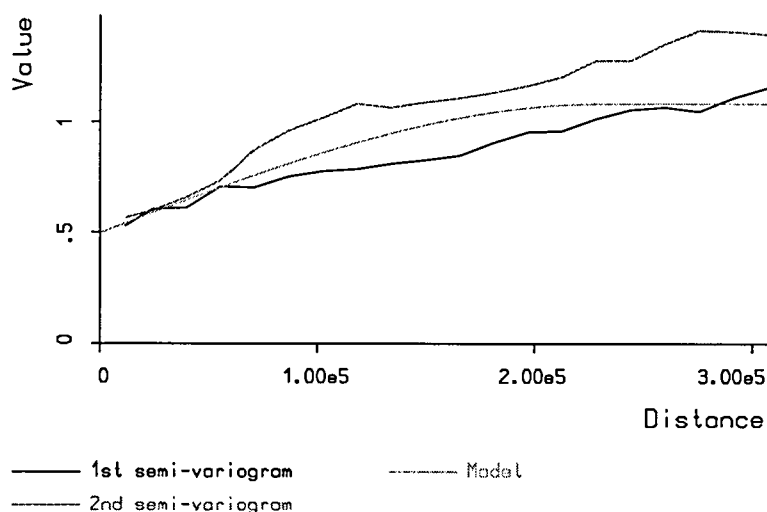
Direction North-South (*2nd semi-variogram*):

```
Date               : 08/16/96
------------------------------------------------------------------
Name of file       : Si-2.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components:  1. Nugget effect:  0.10100
Model: Spherical    1     . Sill:  0.17571E-01. Range:   46939.
```

Combined (Isotropical) Variogram:

```
Date               : 08/16/96
------------------------------------------------------------------
Name of file       : Si.mod (3 outliers removed for variogram calc.)
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components:  1. Nugget effect:  0.96800E-01
Model: Spherical    1     . Sill:  0.20000E-01. Range:   30000.
```

9.29 Variable Sr

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file    : Sr-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension: 2. Components:  1. Nugget effect:  0.38484E-01
Model: Spherical    1     . Sill:  0.82655    . Range:   57976.
```
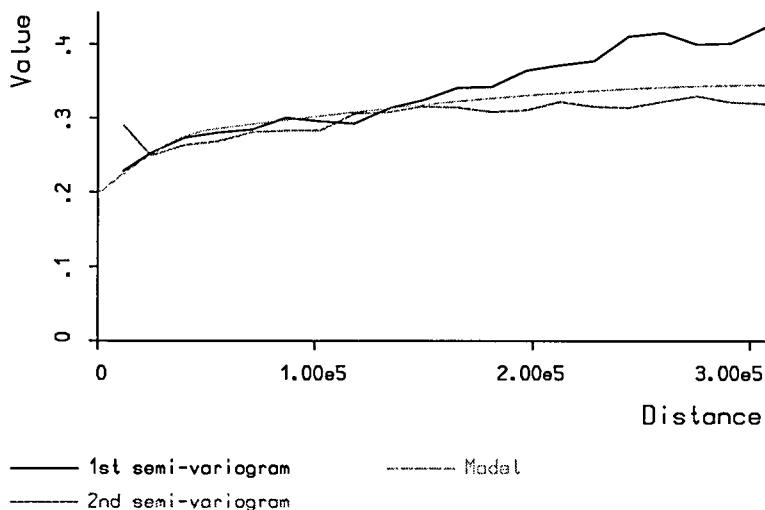
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file    : Sr-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension: 2. Components:  1. Nugget effect:  0.26029
Model: Spherical    1     . Sill:  0.60475    . Range:  0.10155E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file    : Sr.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sr
Dimension: 2. Components:  1. Nugget effect:  0.16939
Model: Spherical    1     . Sill:  0.61600    . Range:   80000.
```


Semi-variogram of Sr

9.30   Variable Te

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : Te-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Te
Dimension: 2. Components: 1. Nugget effect:  0.55322
Model: Spherical    1     . Sill:  0.42087    . Range:   61220.
```
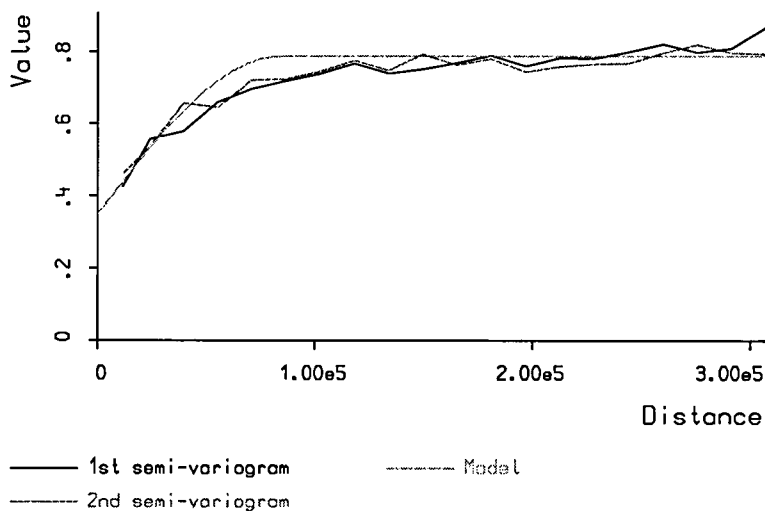
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : Te-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Te
Dimension: 2. Components: 1. Nugget effect:  0.67257
Model: Spherical    1     . Sill:  0.30153    . Range:   93506.
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : Te.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Te
Dimension: 2. Components: 1. Nugget effect:  0.61290
Model: Spherical    1     . Sill:  0.36120    . Range:   77363.
```


Semi-variogram of Te

9.31   Variable Th

Direction East-West (*1st semi-variogram*):

```
Date                : 08/16/96
------------------------------------------------------------------
Name of file    : Th-1.mod
------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.16128
Model: Spherical    1    . Sill: 0.24355   . Range:  75754.
```
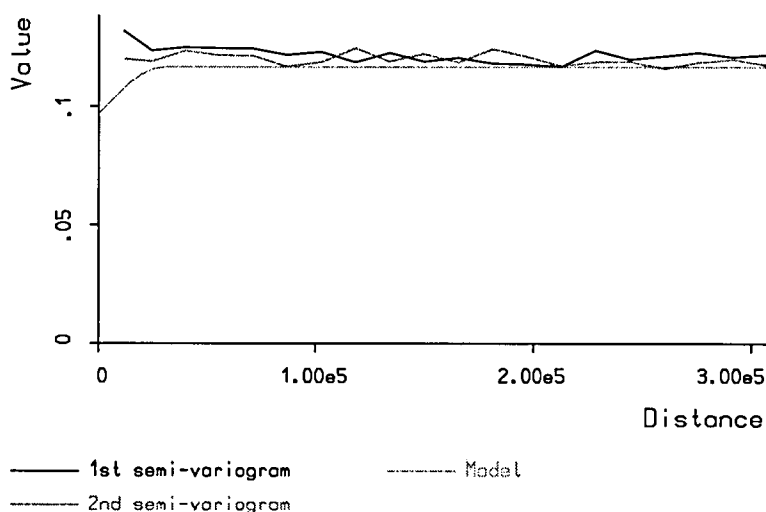
Direction North-South (*2nd semi-variogram*):

```
Date                : 08/16/96
------------------------------------------------------------------
Name of file    : Th-2.mod
------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.20121
Model: Spherical    1    . Sill: 0.20362   . Range:  77377.
```

Combined (Isotropical) Variogram:

```
Date                : 08/16/96
------------------------------------------------------------------
Name of file    : Th.mod
------------------------------------------------------------------
User                : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.18124
Model: Spherical    1    . Sill: 0.22359   . Range:  76566.
```


Semi-variogram of Th

9.32 Variable Ti

Direction East-West (*1st semi-variogram*):

```
Date             : 08/16/96
-----------------------------------------------------------------------
Name of file     : Ti-1.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ti
Dimension: 2. Components: 1. Nugget effect:  0.14422
Model: Spherical    1    . Sill:  0.22273    . Range:    85509.
```
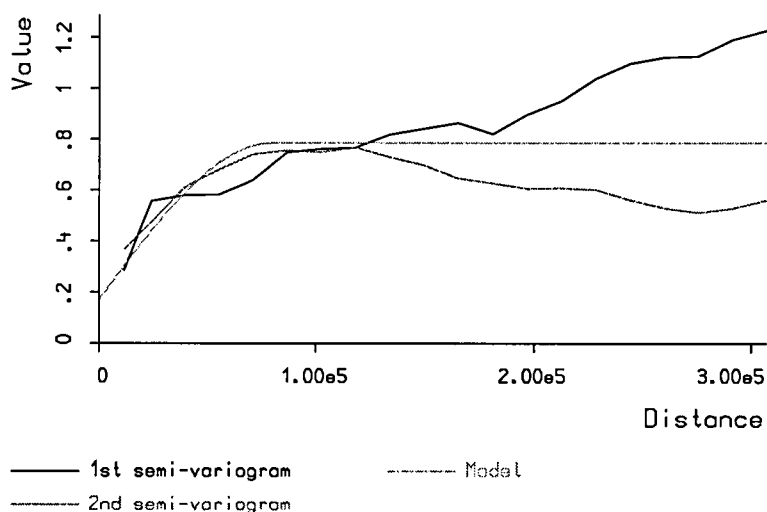
Direction North-South (*2nd semi-variogram*):

```
Date             : 08/16/96
-----------------------------------------------------------------------
Name of file     : Ti-2.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ti
Dimension: 2. Components: 1. Nugget effect:  0.18944
Model: Spherical    1    . Sill:  0.17752    . Range:  0.16986E+06
```

Combined (Isotropical) Variogram:

```
Date             : 08/16/96
-----------------------------------------------------------------------
Name of file     : Ti.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ti
Dimension: 2. Components: 1. Nugget effect:  0.16683
Model: Spherical    1    . Sill:  0.20013    . Range:  0.12768E+06
```


Semi-variogram of Ti

9.33   Variable V

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : V-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: V
Dimension: 2. Components: 1. Nugget effect:  0.17073
Model: Spherical    1    . Sill:  0.10145    . Range:  0.16283E+06
```
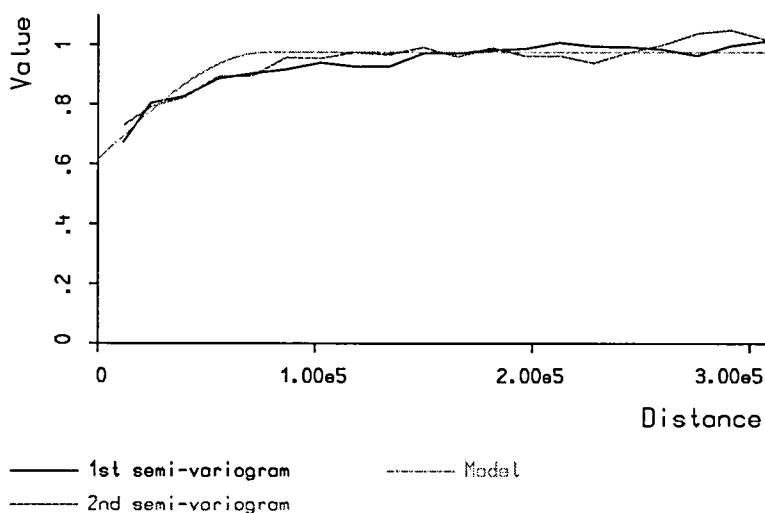
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : V-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: V
Dimension: 2. Components: 1. Nugget effect:  0.27218
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
------------------------------------------------------------------
Name of file      : V.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
------------------------------------------------------------------
Semi-variogram model of variable: V
Dimension: 2. Components: 2. Nugget effect:  0.17000
Model: Spherical    1    . Sill:  0.50725E-01. Range:   81415.
Model: Spherical    1    . Sill:  0.70000E-01. Range:  0.31000E+06
```


Semi-variogram of V

9.34   Variable Y

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
-------------------------------------------------------------------
Name of file     : Y-1.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Y
Dimension: 2. Components:  1. Nugget effect:  0.11533
Model: Spherical     1     . Sill:  0.31245    . Range:   68947.
```
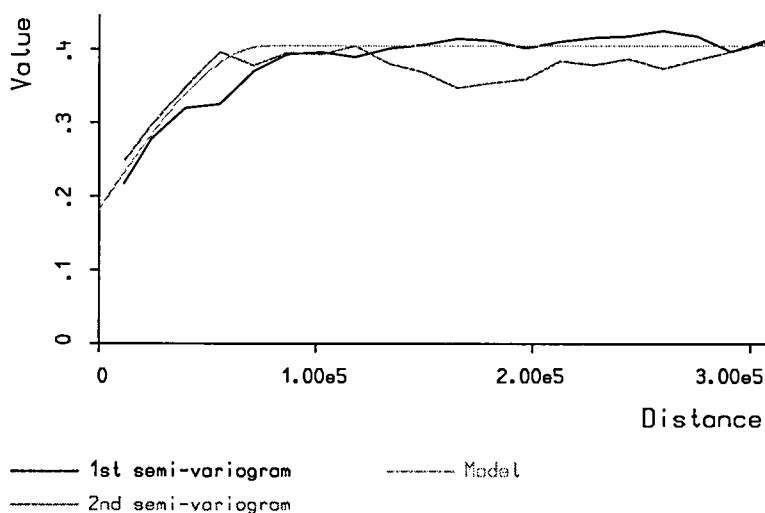
Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
-------------------------------------------------------------------
Name of file     : Y-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Y
Dimension: 2. Components:  1. Nugget effect:  0.17231
Model: Spherical     1     . Sill:  0.25547    . Range:   87454.
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
-------------------------------------------------------------------
Name of file     : Y.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lnc2mm.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Y
Dimension: 2. Components:  1. Nugget effect:  0.14382
Model: Spherical     1     . Sill:  0.26400    . Range:   80000.
```


Semi-variogram of Y

9.35 Variable Zn

Direction East-West (*1st semi-variogram*):

```
Date              : 08/16/96
----------------------------------------------------------------
Name of file      : Zn-1.mod
----------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components:  1. Nugget effect:  0.14982
Model: Spherical     1     . Sill: 0.26648    . Range:    93104.
```

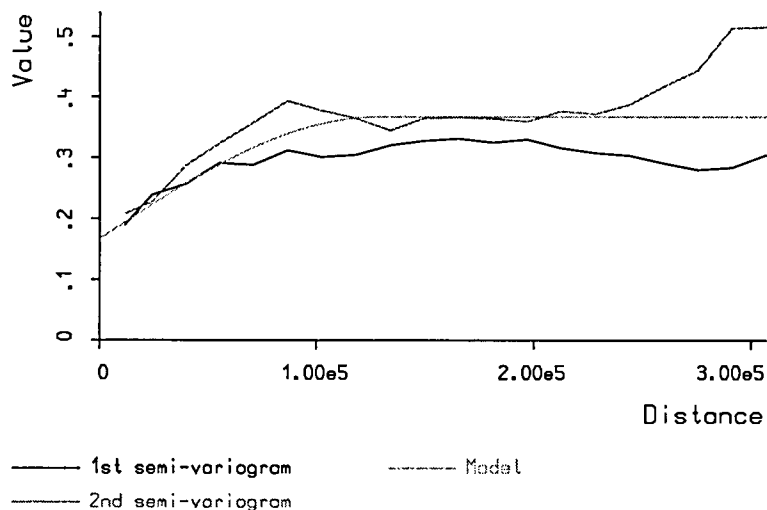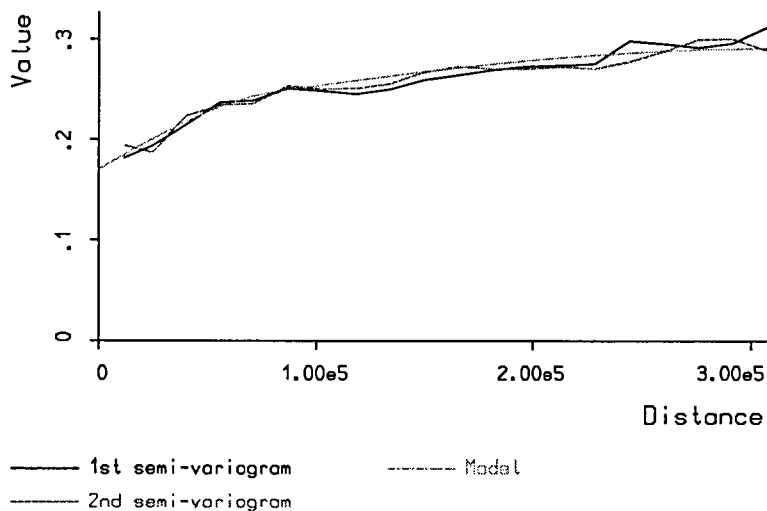Direction North-South (*2nd semi-variogram*):

```
Date              : 08/16/96
----------------------------------------------------------------
Name of file      : Zn-2.mod
----------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components:  1. Nugget effect:  0.18633
Model: Spherical     1     . Sill: 0.22998    . Range:  0.12439E+06
```

Combined (Isotropical) Variogram:

```
Date              : 08/16/96
----------------------------------------------------------------
Name of file      : Zn.mod
----------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../lnc2mm.txt
----------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components:  2. Nugget effect:  0.17000
Model: Spherical     1     . Sill: 0.15000    . Range:  0.10000E+06
Model: Spherical     1     . Sill: 0.10000    . Range:  0.31000E+06
```


Semi-variogram of Zn

Chapter 10

Estimated Variograms for the C-HORIZON (Ln-transformed XRF-data)

10.1   Variable Al

Direction East-West (*1st semi-variogram*):

```
        Date              : 09/03/96
        ------------------------------------------------------------------
        Name of file      : Al-1.mod
        ------------------------------------------------------------------
        User              : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Al
        Dimension: 2. Components:  1. Nugget effect:  0.50289E-02
        Model:  Spherical    1     . Sill:  0.15516E-01. Range:  0.10305E+06
```

Direction North-South (*2nd semi-variogram*):

```
        Date              : 09/03/96
        ------------------------------------------------------------------
        Name of file      : Al-2.mod
        ------------------------------------------------------------------
        User              : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Al
        Dimension: 2. Components:  1. Nugget effect:  0.42640E-02
        Model:  Spherical    1     . Sill:  0.16281E-01. Range:  0.11501E+06
```

Combined (Isotropical) Variogram:

```
        Date              : 09/03/96
        ------------------------------------------------------------------
        Name of file      : Al.mod
        ------------------------------------------------------------------
        User              : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Al
        Dimension: 2. Components:  2. Nugget effect:  0.48450E-02
        Model:  Spherical    1     . Sill:  0.70000E-02. Range:  70000.
        Model:  Linear       3     . Sill:  0.10000E-01. Range:  0.31000E+06
```


Semi-variogram of Al

10.2   Variable Ca

Direction East-West (*1st semi-variogram*):

```
Date              : 09/03/96
------------------------------------------------------------------------
Name of file      : Ca-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.00000
Model: Spherical    1     . Sill:  0.40278    . Range:  0.11011E+06
```
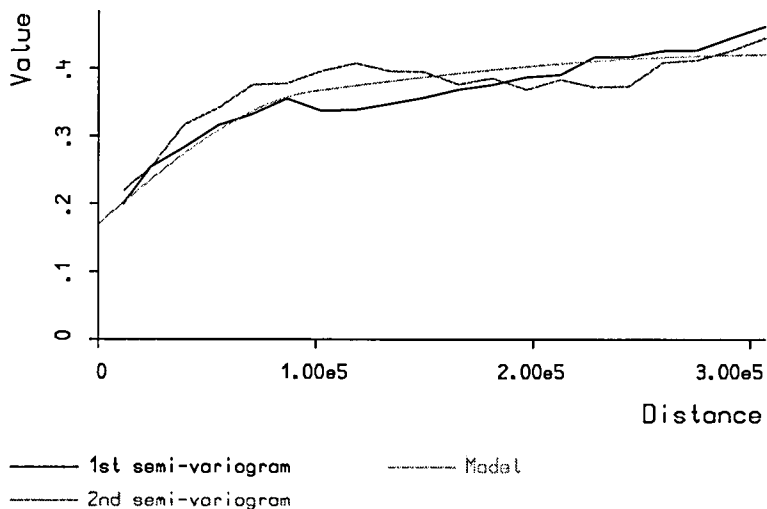
Direction North-South (*2nd semi-variogram*):

```
Date              : 09/03/96
------------------------------------------------------------------------
Name of file      : Ca-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.10451
Model: Spherical    1     . Sill:  0.29827    . Range:  0.41797E+06
```

Combined (Isotropical) Variogram:

```
Date              : 09/03/96
------------------------------------------------------------------------
Name of file      : Ca.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.52255E-01
Model: Spherical    1     . Sill:  0.35052    . Range:  0.26404E+06
```


Semi-variogram of Ca

10.3   Variable Fe

Direction East-West (*1st semi-variogram*):

```
Date             : 09/03/96
------------------------------------------------------------------------
Name of file     : Fe-1.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.39912E-01
Model: Spherical    1     . Sill: 0.11603    . Range:   74888.
```
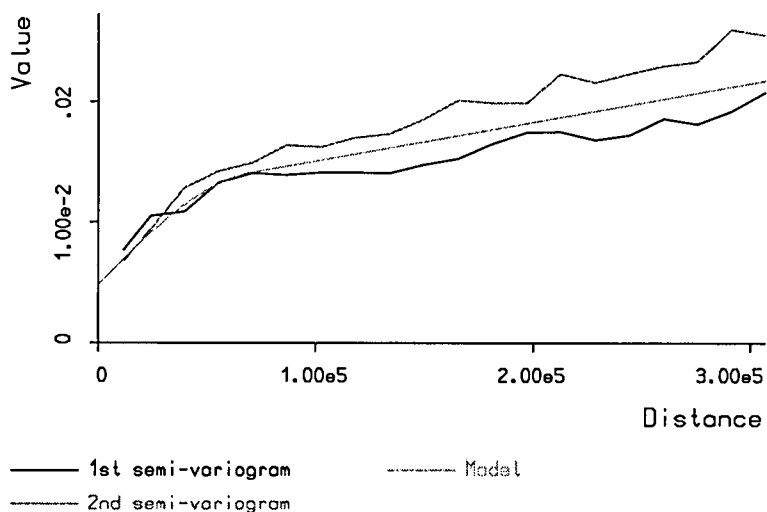
Direction North-South (*2nd semi-variogram*):

```
Date             : 09/03/96
------------------------------------------------------------------------
Name of file     : Fe-2.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.15594
Model: Spherical    1     . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date             : 09/03/96
------------------------------------------------------------------------
Name of file     : Fe.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.80000E-01
Model: Spherical    1     . Sill: 0.78000E-01. Range:  0.18000E+06
```


Semi-variogram of Fe

10.4   Variable K

Direction East-West (*1st semi-variogram*):

```
Date              : 09/03/96
------------------------------------------------------------------------
Name of file      : K-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components:  1. Nugget effect:  0.31944E-01
Model: Spherical     1     . Sill:  0.87028E-01. Range:   85534.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 09/03/96
------------------------------------------------------------------------
Name of file      : K-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components:  1. Nugget effect:  0.33856E-01
Model: Spherical     1     . Sill:  0.85116E-01. Range:   73487.
```

Combined (Isotropical) Variogram:

```
Date              : 09/03/96
------------------------------------------------------------------------
Name of file      : K.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------------
Semi-variogram model of variable: K
Dimension: 2. Components:  1. Nugget effect:  0.38000E-01
Model: Spherical     1     . Sill:  0.77000E-01. Range:   90000.
```
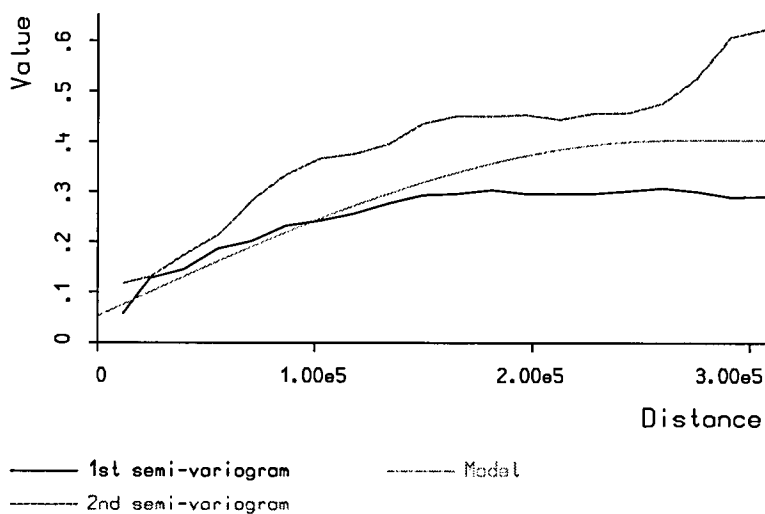
10.5   Variable Mg

Direction East-West (*1st semi-variogram*):

```
        Date            : 09/03/96
        -----------------------------------------------------------------
        Name of file    : Mg-1.mod
        -----------------------------------------------------------------
        User            : Dutter / Reimann
        -----------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        -----------------------------------------------------------------
        Semi-variogram model of variable: Mg
        Dimension: 2. Components: 1. Nugget effect:  0.85421E-01
        Model: Spherical    1    . Sill:  0.16176   . Range:   66748.
```

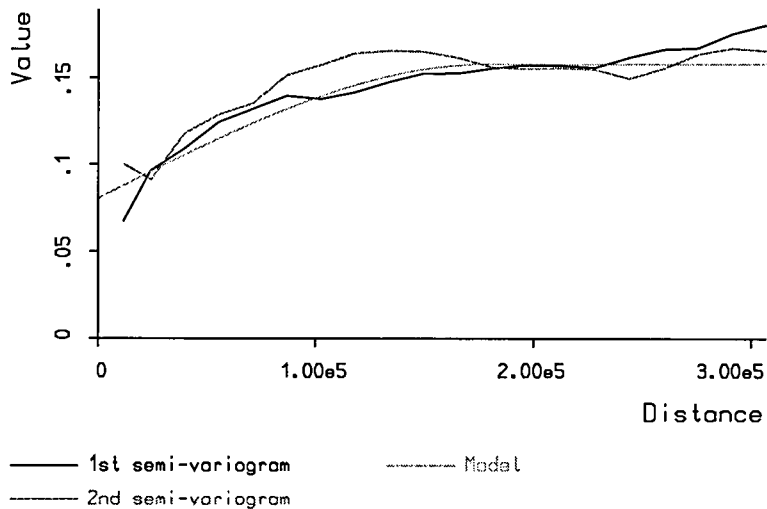Direction North-South (*2nd semi-variogram*):

```
        Date            : 09/03/96
        -----------------------------------------------------------------
        Name of file    : Mg-2.mod
        -----------------------------------------------------------------
        User            : Dutter / Reimann
        -----------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        -----------------------------------------------------------------
        Semi-variogram model of variable: Mg
        Dimension: 2. Components: 1. Nugget effect:  0.24718
        Model: Spherical    1    . Sill:  0.00000   . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
        Date            : 09/03/96
        -----------------------------------------------------------------
        Name of file    : Mg.mod
        -----------------------------------------------------------------
        User            : Dutter / Reimann
        -----------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        -----------------------------------------------------------------
        Semi-variogram model of variable: Mg
        Dimension: 2. Components: 2. Nugget effect:  0.11000
        Model: Spherical    1    . Sill:  0.80000E-01. Range:   50000.
        Model: Linear       3    . Sill:  0.80000E-01. Range:  0.31000E+06
```


Semi-variogram of Mg

10.6   Variable Mn

Direction East-West (*1st semi-variogram*):

```
Date              : 09/03/96
------------------------------------------------------------------
Name of file     : Mn-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components:  1. Nugget effect:  0.21592E-01
Model: Spherical    1    . Sill:  0.16507   . Range:   65968.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 09/03/96
------------------------------------------------------------------
Name of file     : Mn-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components:  1. Nugget effect:  0.87697E-01
Model: Spherical    1    . Sill:  0.98968E-01. Range:   96030.
```
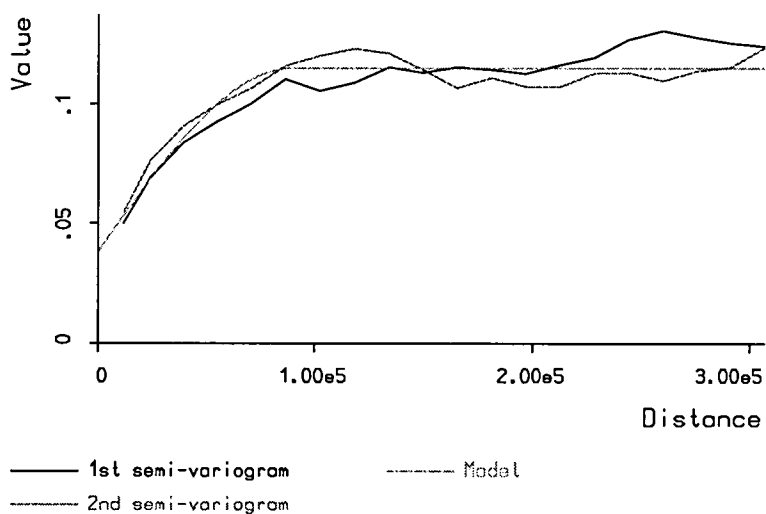
Combined (Isotropical) Variogram:

```
Date              : 09/03/96
------------------------------------------------------------------
Name of file     : Mn.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: Mn
Dimension: 2. Components:  1. Nugget effect:  0.70000E-01
Model: Spherical    1    . Sill:  0.11000   . Range:  0.12000E+06
```


Semi-variogram of Mn
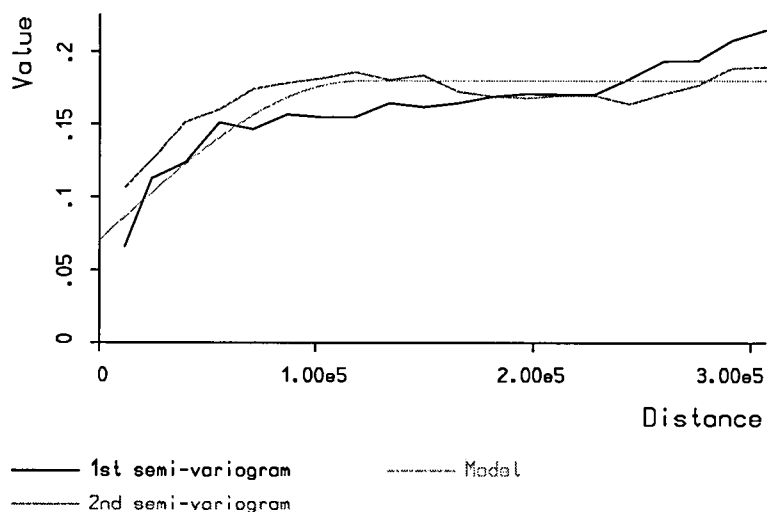
10.7 Variable Na

Direction East-West (*1st semi-variogram*):

```
        Date              : 09/03/96
        ---------------------------------------------------------------
        Name of file      : Na-1.mod
        ---------------------------------------------------------------
        User              : Dutter / Reimann
        ---------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        ---------------------------------------------------------------
        Semi-variogram model of variable: Na
        Dimension: 2. Components: 1. Nugget effect:  0.28697E-01
        Model: Spherical    1     . Sill:  0.15833    . Range:  0.23914E+06
```

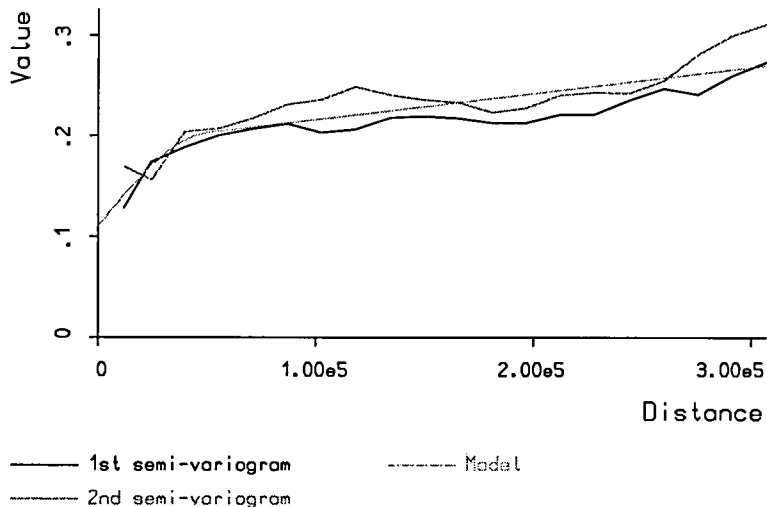Direction North-South (*2nd semi-variogram*):

```
        Date              : 09/03/96
        ---------------------------------------------------------------
        Name of file      : Na-2.mod
        ---------------------------------------------------------------
        User              : Dutter / Reimann
        ---------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        ---------------------------------------------------------------
        Semi-variogram model of variable: Na
        Dimension: 2. Components: 1. Nugget effect:  0.49232E-01
        Model: Spherical    1     . Sill:  0.13780    . Range:  0.57704E+06
```

Combined (Isotropical) Variogram:

```
        Date              : 09/03/96
        ---------------------------------------------------------------
        Name of file      : Na.mod
        ---------------------------------------------------------------
        User              : Dutter / Reimann
        ---------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        ---------------------------------------------------------------
        Semi-variogram model of variable: Na
        Dimension: 2. Components: 1. Nugget effect:  0.30000E-01
        Model: Spherical    1     . Sill:  0.15800    . Range:  0.20000E+06
```


Semi-variogram of Na

1st semi-variogram ———— Model
2nd semi-variogram

10.8   Variable P

Direction East-West (*1st semi-variogram*):

```
        Date              : 09/03/96
        ---------------------------------------------------------------
        Name of file      : P-1.mod
        ---------------------------------------------------------------
        User              : Dutter / Reimann
        ---------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        ---------------------------------------------------------------
        Semi-variogram model of variable: P
        Dimension: 2. Components: 1. Nugget effect:  0.30116E-01
        Model: Spherical    1     . Sill: 0.19513    . Range:   53645.
```

Direction North-South (*2nd semi-variogram*):

```
        Date              : 09/03/96
        ---------------------------------------------------------------
        Name of file      : P-2.mod
        ---------------------------------------------------------------
        User              : Dutter / Reimann
        ---------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        ---------------------------------------------------------------
        Semi-variogram model of variable: P
        Dimension: 2. Components: 1. Nugget effect:  0.11614
        Model: Spherical    1     . Sill: 0.10910    . Range:   82228.
```

Combined (Isotropical) Variogram:

```
        Date              : 09/03/96
        ---------------------------------------------------------------
        Name of file      : P.mod
        ---------------------------------------------------------------
        User              : Dutter / Reimann
        ---------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        ---------------------------------------------------------------
        Semi-variogram model of variable: P
        Dimension: 2. Components: 2. Nugget effect:  0.83000E-01
        Model: Spherical    1     . Sill: 0.10000    . Range:   70000.
        Model: Spherical    1     . Sill: 0.70000E-01. Range:  0.40000E+06
```

10.9   Variable Si

Direction East-West (*1st semi-variogram*):

```
Date              : 09/03/96
--------------------------------------------------------------------
Name of file      : Si-1.mod
--------------------------------------------------------------------
User              : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lncxrf.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components:  1. Nugget effect:  0.38671E-02
Model: Spherical    1     . Sill:  0.35985E-02. Range:  0.13202E+06
```

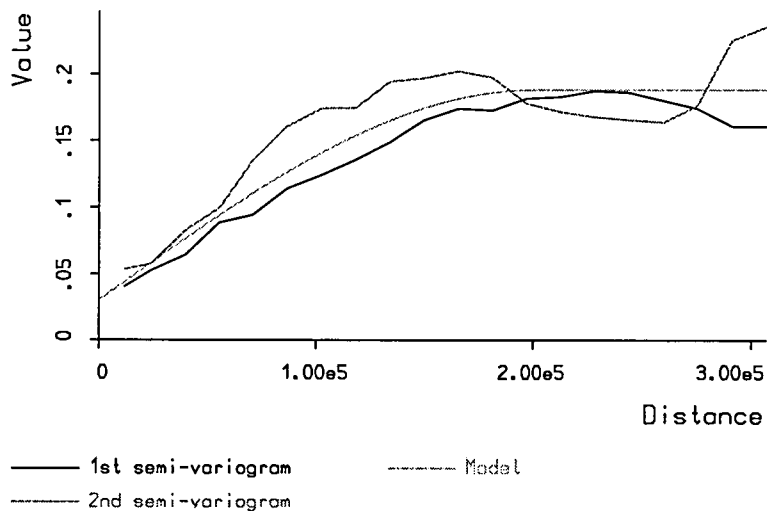Direction North-South (*2nd semi-variogram*):

```
Date              : 09/03/96
--------------------------------------------------------------------
Name of file      : Si-2.mod
--------------------------------------------------------------------
User              : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lncxrf.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components:  1. Nugget effect:  0.74656E-02
Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 09/03/96
--------------------------------------------------------------------
Name of file      : Si.mod
--------------------------------------------------------------------
User              : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lncxrf.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Si
Dimension: 2. Components:  1. Nugget effect:  0.42000E-02
Model: Spherical    1     . Sill:  0.29000E-02. Range:  0.10000E+06
```


Semi-variogram of Si

10.10   Variable Ti

Direction East-West (*1st semi-variogram*):

```
        Date              : 09/03/96
        ------------------------------------------------------------------
        Name of file      : Ti-1.mod
        ------------------------------------------------------------------
        User              : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Ti
        Dimension: 2. Components: 1. Nugget effect:  0.52385E-01
        Model: Spherical    1     . Sill: 0.12564    . Range:   73032.
```
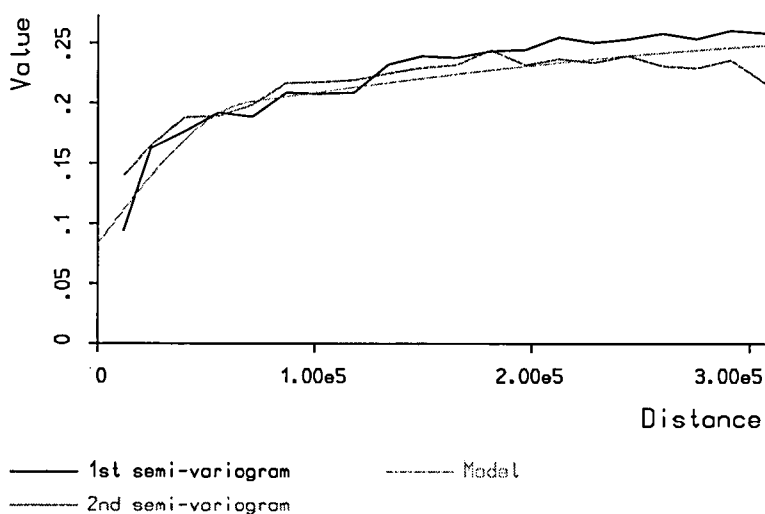
Direction North-South (*2nd semi-variogram*):

```
        Date              : 09/03/96
        ------------------------------------------------------------------
        Name of file      : Ti-2.mod
        ------------------------------------------------------------------
        User              : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Ti
        Dimension: 2. Components: 1. Nugget effect:  0.17802
        Model: Spherical    1     . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
        Date              : 09/03/96
        ------------------------------------------------------------------
        Name of file      : Ti.mod
        ------------------------------------------------------------------
        User              : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lncxrf.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Ti
        Dimension: 2. Components: 1. Nugget effect:  0.95000E-01
        Model: Spherical    1     . Sill: 0.83000E-01. Range:  0.11000E+06
```


Semi-variogram of Ti

10.11 Variable LOI

Direction East-West (*1st semi-variogram*):

```
Date              : 09/03/96
------------------------------------------------------------------
Name of file      : LOI-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: LOI
Dimension: 2. Components: 1. Nugget effect:  0.24273
Model: Spherical     1    . Sill:  0.15185    . Range:  0.41973E+06
```
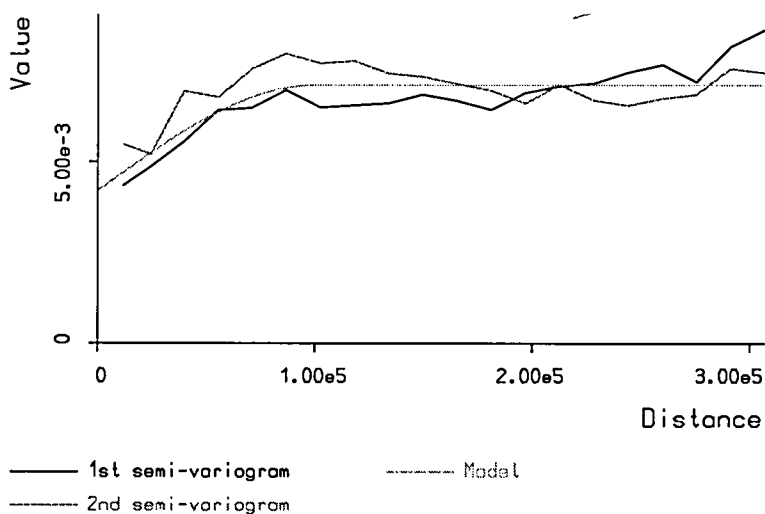
Direction North-South (*2nd semi-variogram*):

```
Date              : 09/03/96
------------------------------------------------------------------
Name of file      : LOI-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: LOI
Dimension: 2. Components: 1. Nugget effect:  0.17855
Model: Spherical     1    . Sill:  0.21603    . Range:  75840.
```

Combined (Isotropical) Variogram:

```
Date              : 09/03/96
------------------------------------------------------------------
Name of file      : LOI.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncxrf.txt
------------------------------------------------------------------
Semi-variogram model of variable: LOI
Dimension: 2. Components: 1. Nugget effect:  0.21064
Model: Spherical     1    . Sill:  0.17869    . Range:  0.12000E+06
```

Chapter 11

Estimated Variograms for the C-HORIZON (Ln-transformed INAA-data)

11.1   Variable As

Direction East-West (*1st semi-variogram*):

```
Date               : 11/01/96
-------------------------------------------------------------------
Name of file    : As-1.mod
-------------------------------------------------------------------
User               : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.12250
Model: Spherical    1    . Sill: 0.46144    . Range:   65188.
```
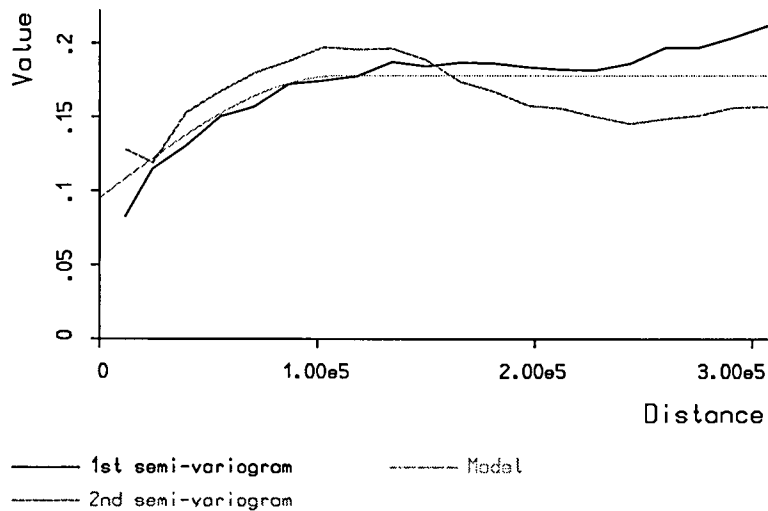
Direction North-South (*2nd semi-variogram*):

```
Date               : 11/01/96
-------------------------------------------------------------------
Name of file    : As-2.mod
-------------------------------------------------------------------
User               : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.36750
Model: Spherical    1    . Sill: 0.21644    . Range:  0.35081E+06
```

Combined (Isotropical) Variogram:

```
Date               : 11/01/96
-------------------------------------------------------------------
Name of file    : As.mod
-------------------------------------------------------------------
User               : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.21500
Model: Spherical    1    . Sill: 0.36900    . Range:   70000.
```


Semi-variogram of As

11.2   Variable Au

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
-----------------------------------------------------------------
Name of file      : Au-1.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Au
Dimension: 2. Components:  1. Nugget effect:  0.00000
Model: Spherical    1    . Sill:  0.35574    . Range:   48200.
```
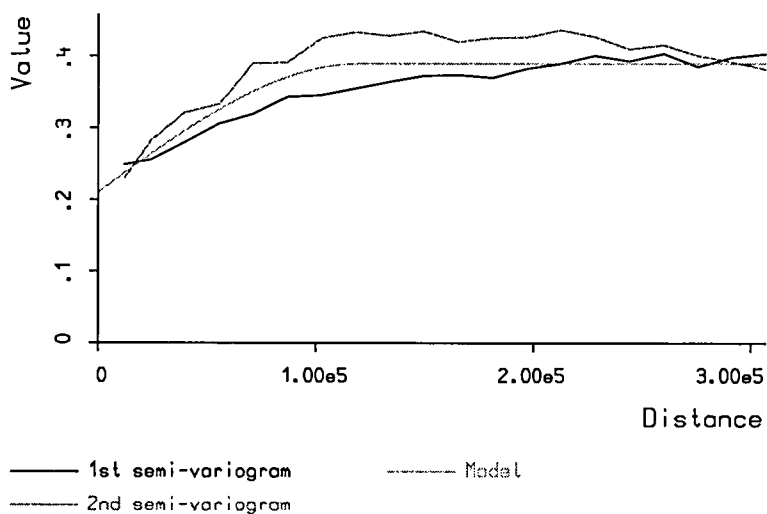
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
-----------------------------------------------------------------
Name of file      : Au-2.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Au
Dimension: 2. Components:  1. Nugget effect:  0.49733E-02
Model: Spherical    1    . Sill:  0.35077    . Range:   47262.
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
-----------------------------------------------------------------
Name of file      : Au.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Au
Dimension: 2. Components:  1. Nugget effect:  0.24866E-02
Model: Spherical    1    . Sill:  0.35326    . Range:   47731.
```


Semi-variogram of Au

11.3   Variable Ba

Direction East-West (*1st semi-variogram*):

```
Date             : 11/01/96
-------------------------------------------------------------------
Name of file     : Ba-1.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components:  1. Nugget effect:  0.23834E-01
Model: Spherical     1     . Sill:  0.80668E-01. Range:    50129.
```
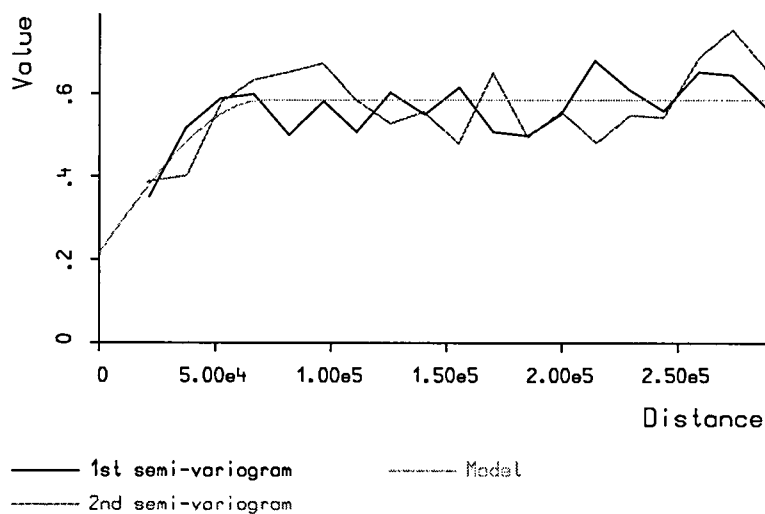
Direction North-South (*2nd semi-variogram*):

```
Date             : 11/01/96
-------------------------------------------------------------------
Name of file     : Ba-2.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components:  1. Nugget effect:  0.31482E-01
Model: Spherical     1     . Sill:  0.73020E-01. Range:    66004.
```

Combined (Isotropical) Variogram:

```
Date             : 11/01/96
-------------------------------------------------------------------
Name of file     : Ba.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Ba
Dimension: 2. Components:  1. Nugget effect:  0.27658E-01
Model: Spherical     1     . Sill:  0.76844E-01. Range:    58067.
```


Semi-variogram of Ba

───── 1st semi-variogram   ────── Model

─────── 2nd semi-variogram

11.4   Variable Br

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Br-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Br
Dimension: 2. Components: 1. Nugget effect:  0.22389
Model: Spherical    1    . Sill:  0.13807    . Range:  0.21088E+06
```
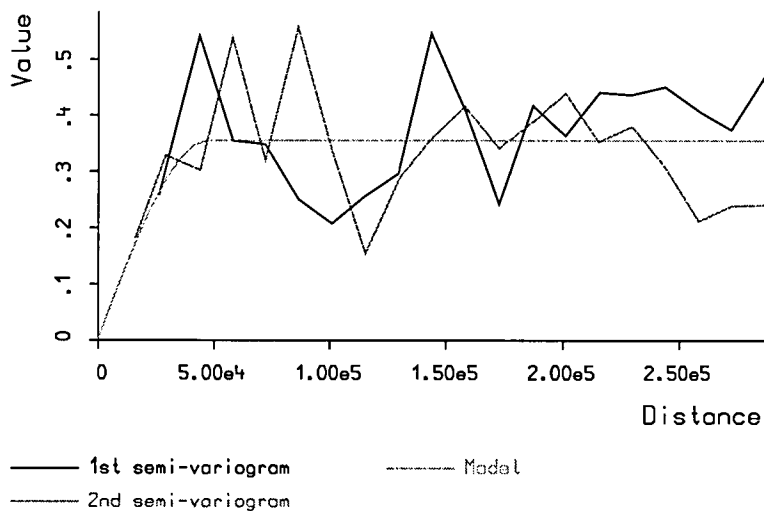
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Br-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Br
Dimension: 2. Components: 1. Nugget effect:  0.22846
Model: Spherical    1    . Sill:  0.13350    . Range:  0.13666E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Br.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Br
Dimension: 2. Components: 1. Nugget effect:  0.24600
Model: Spherical    1    . Sill:  0.11600    . Range:  0.30000E+06
```


Semi-variogram of Br

11.5 Variable Ca

Direction East-West (*1st semi-variogram*):

```
Date               : 11/01/96
------------------------------------------------------------------
Name of file       : Ca-1.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.15492
Model: Spherical    1     . Sill:  0.39859    . Range:    63209.
```
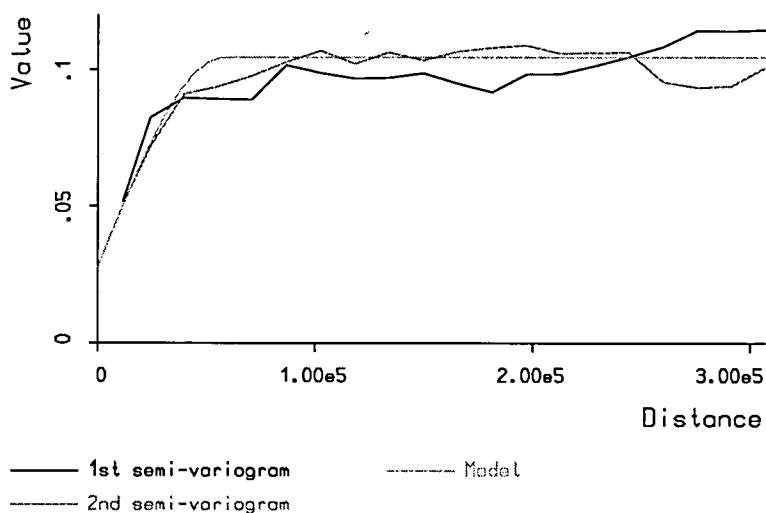
Direction North-South (*2nd semi-variogram*):

```
Date               : 11/01/96
------------------------------------------------------------------
Name of file       : Ca-2.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.27498
Model: Spherical    1     . Sill:  0.27854    . Range:  0.11237E+06
```

Combined (Isotropical) Variogram:

```
Date               : 11/01/96
------------------------------------------------------------------
Name of file       : Ca.mod
------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components: 1. Nugget effect:  0.29500
Model: Spherical    1     . Sill:  0.25900    . Range:  0.19000E+06
```

11.6   Variable Ce

Direction East-West (*1st semi-variogram*):

```
Date             : 11/01/96
-----------------------------------------------------------------------
Name of file     : Ce-1.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ce
Dimension: 2. Components: 1. Nugget effect:  0.93405E-02
Model: Spherical    1    . Sill: 0.35032   . Range:   58283.
```

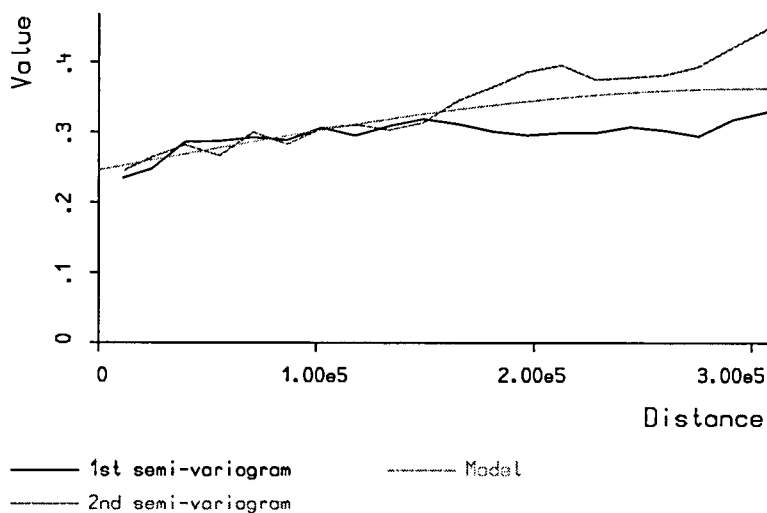Direction North-South (*2nd semi-variogram*):

```
Date             : 11/01/96
-----------------------------------------------------------------------
Name of file     : Ce-2.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ce
Dimension: 2. Components: 1. Nugget effect:  0.86992E-01
Model: Spherical    1    . Sill: 0.27267   . Range:   80947.
```

Combined (Isotropical) Variogram:

```
Date             : 11/01/96
-----------------------------------------------------------------------
Name of file     : Ce.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Ce
Dimension: 2. Components: 1. Nugget effect:  0.98000E-01
Model: Spherical    1    . Sill: 0.26000   . Range: 0.11000E+06
```

Semi-variogram of Ce

11.7   Variable Co

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Co-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.61874E-01
Model: Spherical    1    . Sill:  0.15351    . Range:   50193.
```
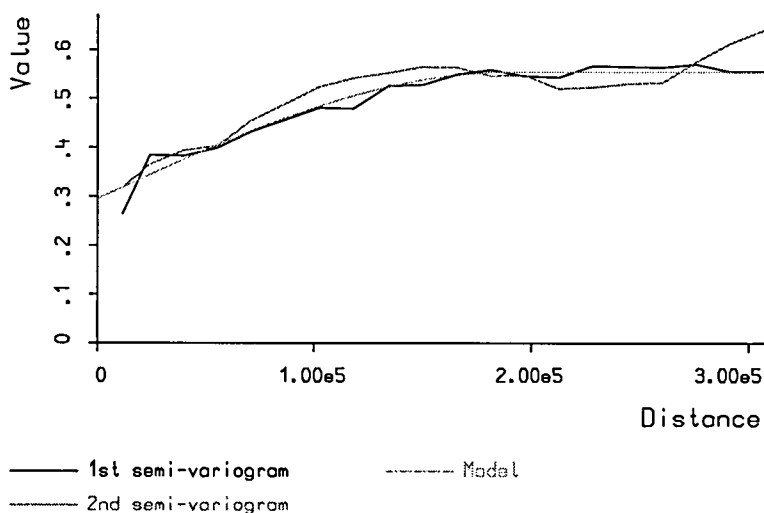
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Co-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.11483
Model: Spherical    1    . Sill:  0.10056    . Range:   75205.
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Co.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.98000E-01
Model: Spherical    1    . Sill:  0.10700    . Range:   65000.
```


Semi-variogram of Co

11.8   Variable Cr

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------------
Name of file      : Cr-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect: 0.16193
Model: Spherical    1     . Sill: 0.21072    . Range:   68523.
```
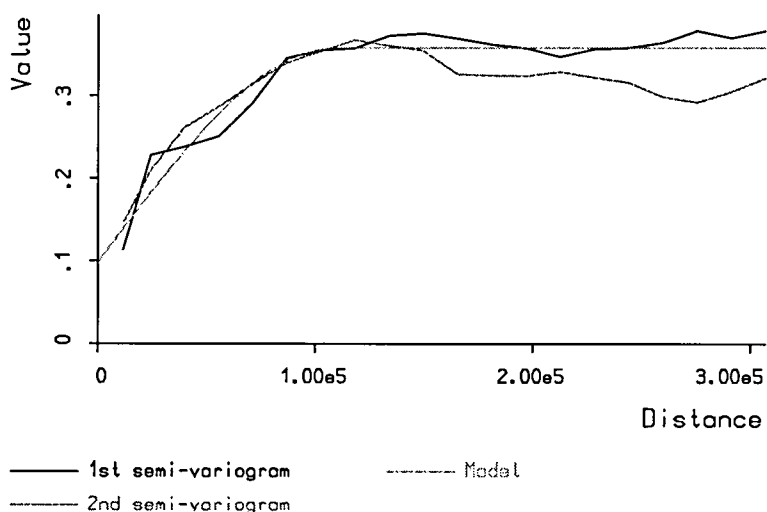
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------------
Name of file      : Cr-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect: 0.17799
Model: Spherical    1     . Sill: 0.19466    . Range: 0.10544E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
------------------------------------------------------------------------
Name of file      : Cr.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 2. Nugget effect: 0.16996
Model: Spherical    1     . Sill: 0.80000E-01. Range:   40000.
Model: Linear       3     . Sill: 0.17000    . Range: 0.31000E+06
```

11.9   Variable Cs

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------------
Name of file      : Cs-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Cs
Dimension: 2. Components:  1. Nugget effect:  0.90571E-01
Model: Spherical    1     . Sill:  0.15941    . Range:  0.15485E+06
```
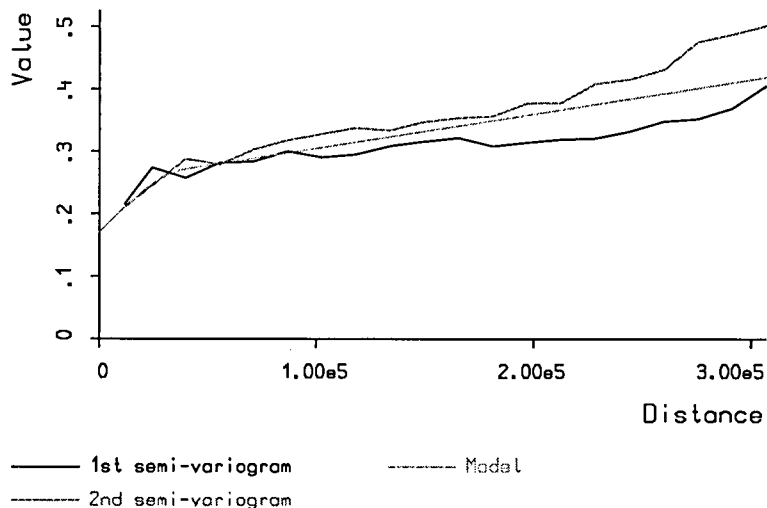
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------------
Name of file      : Cs-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Cs
Dimension: 2. Components:  1. Nugget effect:  0.75602E-01
Model: Spherical    1     . Sill:  0.17438    . Range:  0.10055E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
------------------------------------------------------------------------
Name of file      : Cs.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Cs
Dimension: 2. Components:  1. Nugget effect:  0.83087E-01
Model: Spherical    1     . Sill:  0.14600    . Range:  0.10000E+06
```


Semi-variogram of Cs

11.10   Variable Eu

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
-----------------------------------------------------------------------
Name of file    : Eu-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Eu
Dimension: 2. Components: 1. Nugget effect:  0.10551E-01
Model: Spherical     1     . Sill:  0.17771    . Range:    54959.
```
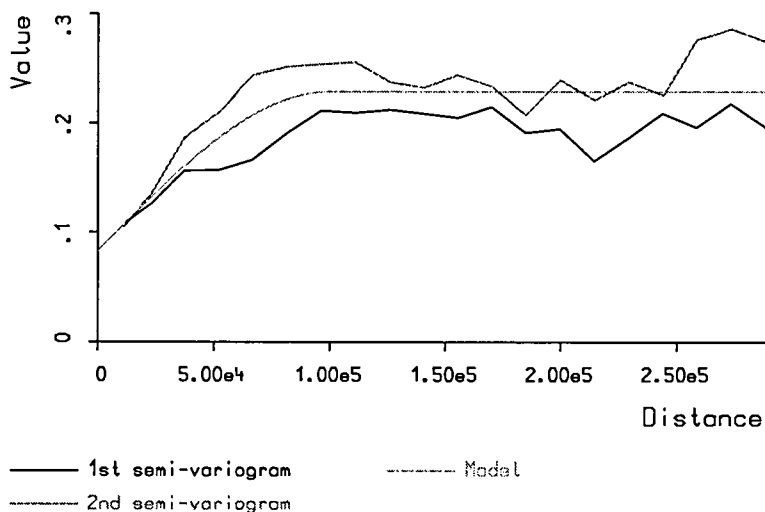
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
-----------------------------------------------------------------------
Name of file    : Eu-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Eu
Dimension: 2. Components: 1. Nugget effect:  0.70425E-01
Model: Spherical     1     . Sill:  0.11784    . Range:    97409.
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
-----------------------------------------------------------------------
Name of file    : Eu.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Eu
Dimension: 2. Components: 1. Nugget effect:  0.60000E-01
Model: Spherical     1     . Sill:  0.12800    . Range:  0.10500E+06
```


Semi-variogram of Eu

11.11 Variable Fe

Direction East-West (*1st semi-variogram*):

```
Date               : 11/01/96
---------------------------------------------------------------------
Name of file       : Fe-1.mod
---------------------------------------------------------------------
User               : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lncinaa.txt
---------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components:  1. Nugget effect:  0.31796E-01
Model: Spherical    1     . Sill:  0.11752    . Range:   75198.
```

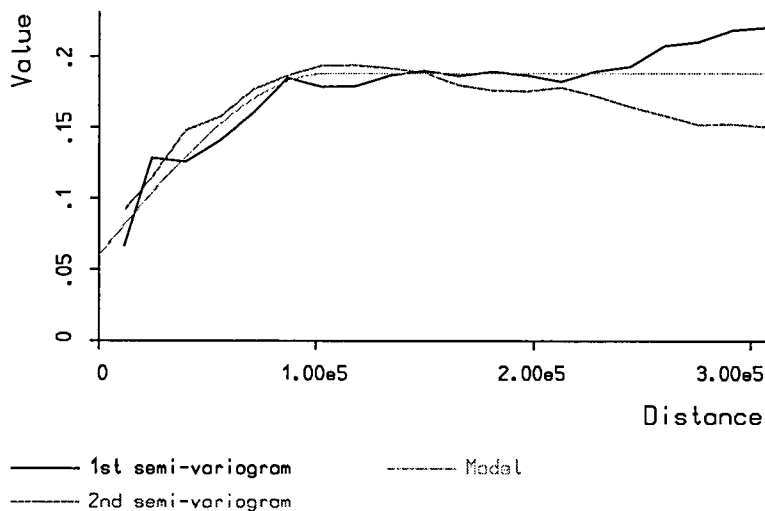Direction North-South (*2nd semi-variogram*):

```
Date               : 11/01/96
---------------------------------------------------------------------
Name of file       : Fe-2.mod
---------------------------------------------------------------------
User               : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lncinaa.txt
---------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components:  1. Nugget effect:  0.73869E-01
Model: Spherical    1     . Sill:  0.75444E-01. Range:  0.16629E+06
```

Combined (Isotropical) Variogram:

```
Date               : 11/01/96
---------------------------------------------------------------------
Name of file       : Fe.mod
---------------------------------------------------------------------
User               : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lncinaa.txt
---------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components:  1. Nugget effect:  0.57000E-01
Model: Spherical    1     . Sill:  0.96482E-01. Range:  0.12074E+06
```


Semi-variogram of Fe

11.12   Variable Hf

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
-----------------------------------------------------------------
Name of file     : Hf-1.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Hf
Dimension: 2. Components: 1. Nugget effect:  0.20611E-01
Model: Spherical     1     . Sill:  0.18190    . Range:   54547.
```
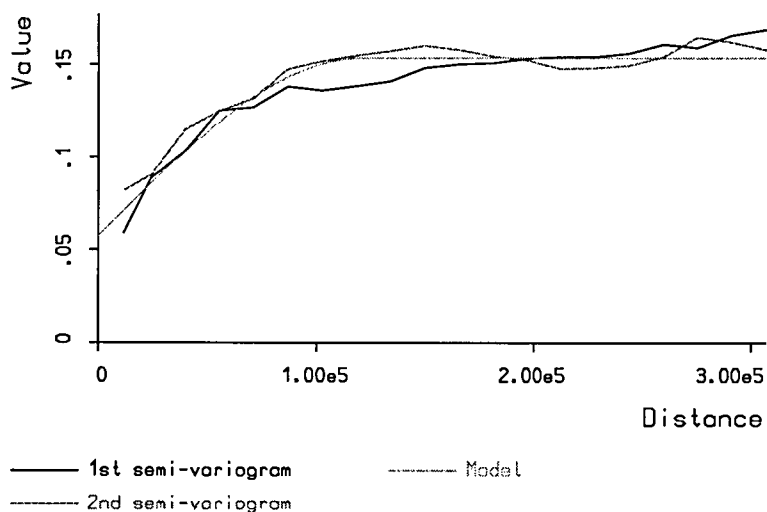
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
-----------------------------------------------------------------
Name of file     : Hf-2.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Hf
Dimension: 2. Components: 1. Nugget effect:  0.11416
Model: Spherical     1     . Sill:  0.88350E-01. Range:  0.15702E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
-----------------------------------------------------------------
Name of file     : Hf.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Hf
Dimension: 2. Components: 1. Nugget effect:  0.77000E-01
Model: Spherical     1     . Sill:  0.11500    . Range:  0.10000E+06
```


Semi-variogram of Hf

11.13 Variable La

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
-----------------------------------------------------------------------
Name of file      : La-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components:  1. Nugget effect:  0.29597E-01
Model: Spherical    1    . Sill:  0.32728   . Range:   59220.
```

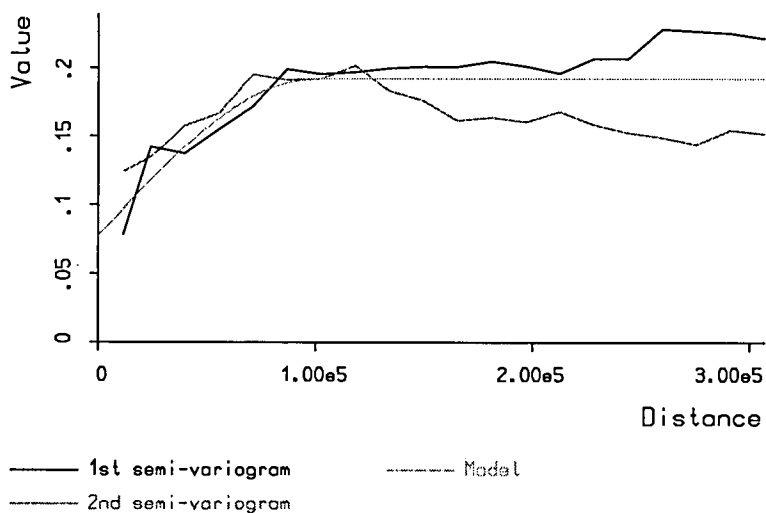Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
-----------------------------------------------------------------------
Name of file      : La-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components:  1. Nugget effect:  0.83880E-01
Model: Spherical    1    . Sill:  0.27300   . Range:   72368.
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
-----------------------------------------------------------------------
Name of file      : La.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components:  1. Nugget effect:  0.56738E-01
Model: Spherical    1    . Sill:  0.30014   . Range:   65794.
```


Semi-variogram of La

11.14   Variable Lu

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
-------------------------------------------------------------------------
Name of file      : Lu-1.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Lu
Dimension: 2. Components: 1. Nugget effect:  0.30529E-01
Model: Spherical    1    . Sill:  0.26653    . Range:   90522.
```
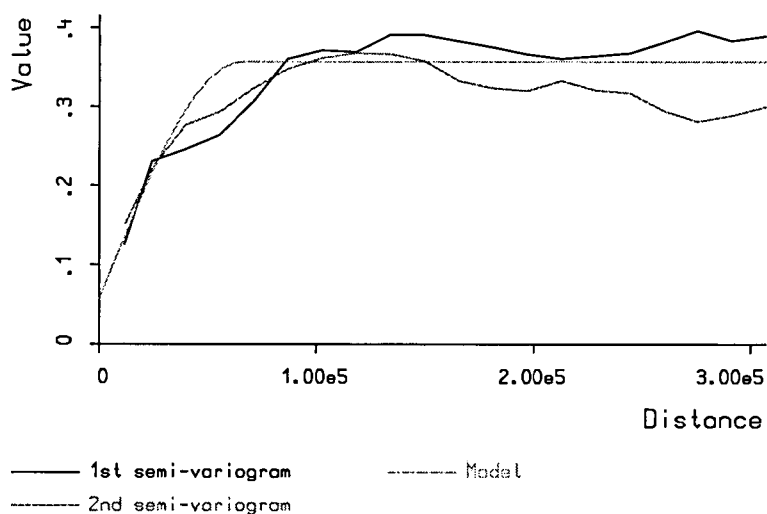
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
-------------------------------------------------------------------------
Name of file      : Lu-2.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Lu
Dimension: 2. Components: 1. Nugget effect:  0.88232E-01
Model: Spherical    1    . Sill:  0.20883    . Range:  0.12920E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
-------------------------------------------------------------------------
Name of file      : Lu.mod
-------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-------------------------------------------------------------------------
Semi-variogram model of variable: Lu
Dimension: 2. Components: 1. Nugget effect:  0.79000E-01
Model: Spherical    1    . Sill:  0.21700    . Range:  0.16000E+06
```

11.15   Variable Na

Direction East-West (*1st semi-variogram*):

```
         Date              : 11/01/96
         ------------------------------------------------------------------
         Name of file      : Na-1.mod
         ------------------------------------------------------------------
         User              : Dutter / Reimann
         ------------------------------------------------------------------
         Name of data file: ../lncinaa.txt
         ------------------------------------------------------------------
         Semi-variogram model of variable: Na
         Dimension: 2. Components:  1. Nugget effect:  0.19076E-01
         Model: Spherical    1     . Sill:  0.16965    . Range:  0.16319E+06
```

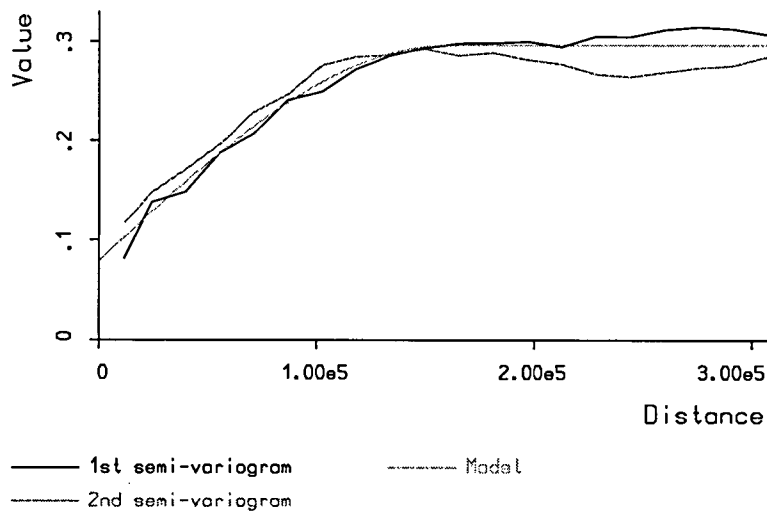Direction North-South (*2nd semi-variogram*):

```
         Date              : 11/01/96
         ------------------------------------------------------------------
         Name of file      : Na-2.mod
         ------------------------------------------------------------------
         User              : Dutter / Reimann
         ------------------------------------------------------------------
         Name of data file: ../lncinaa.txt
         ------------------------------------------------------------------
         Semi-variogram model of variable: Na
         Dimension: 2. Components:  1. Nugget effect:  0.27880E-01
         Model: Spherical    1     . Sill:  0.16085    . Range:  0.13362E+06
```

Combined (Isotropical) Variogram:

```
         Date              : 11/01/96
         ------------------------------------------------------------------
         Name of file      : Na.mod
         ------------------------------------------------------------------
         User              : Dutter / Reimann
         ------------------------------------------------------------------
         Name of data file: ../lncinaa.txt
         ------------------------------------------------------------------
         Semi-variogram model of variable: Na
         Dimension: 2. Components:  1. Nugget effect:  0.33000E-01
         Model: Spherical    1     . Sill:  0.15500    . Range:  0.20000E+06
```

11.16   Variable Nd

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Nd-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Nd
Dimension: 2. Components: 1. Nugget effect:  0.83399E-01
Model: Spherical    1     . Sill: 0.28431    . Range:   56827.
```
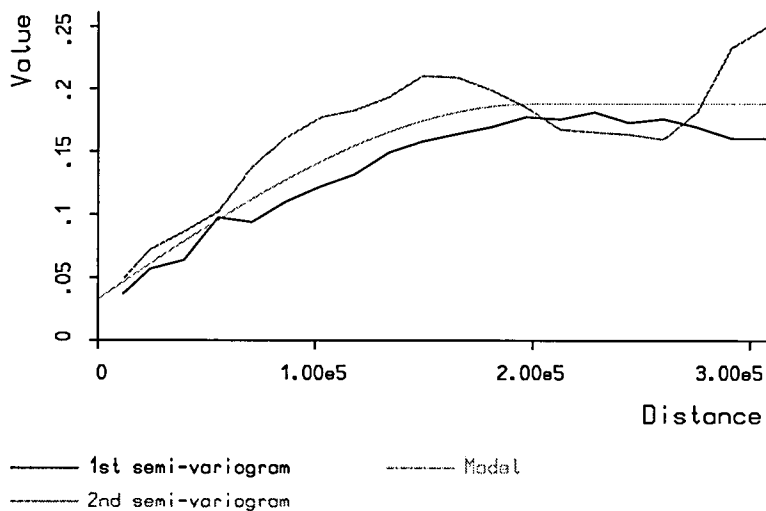
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Nd-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Nd
Dimension: 2. Components: 1. Nugget effect:  0.12425
Model: Spherical    1     . Sill: 0.24346    . Range:   67377.
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Nd.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Nd
Dimension: 2. Components: 1. Nugget effect:  0.11400
Model: Spherical    1     . Sill: 0.25300    . Range:   70000.
```


Semi-variogram of Nd

11.17   Variable Rb

Direction East-West (*1st semi-variogram*):

```
Date                : 11/01/96
---------------------------------------------------------------------
Name of file      : Rb-1.mod
---------------------------------------------------------------------
User              : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lncinaa.txt
---------------------------------------------------------------------
Semi-variogram model of variable: Rb
Dimension: 2. Components:  1. Nugget effect:  0.49891E-01
Model: Spherical     1     . Sill:  0.15496    . Range:   70431.
```

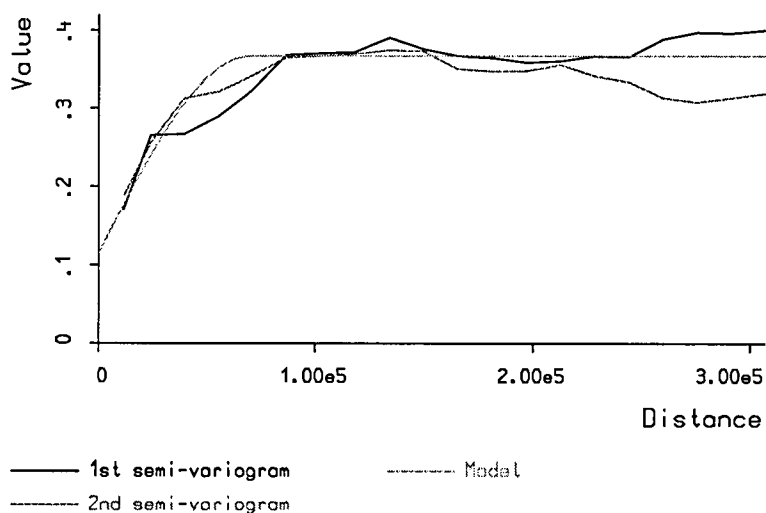Direction North-South (*2nd semi-variogram*):

```
Date                : 11/01/96
---------------------------------------------------------------------
Name of file      : Rb-2.mod
---------------------------------------------------------------------
User              : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lncinaa.txt
---------------------------------------------------------------------
Semi-variogram model of variable: Rb
Dimension: 2. Components:  1. Nugget effect:  0.39833E-01
Model: Spherical     1     . Sill:  0.16502    . Range:   59199.
```

Combined (Isotropical) Variogram:

```
Date                : 11/01/96
---------------------------------------------------------------------
Name of file      : Rb.mod
---------------------------------------------------------------------
User              : Dutter / Reimann
---------------------------------------------------------------------
Name of data file: ../lncinaa.txt
---------------------------------------------------------------------
Semi-variogram model of variable: Rb
Dimension: 2. Components:  1. Nugget effect:  0.65000E-01
Model: Spherical     1     . Sill:  0.13900    . Range:  0.10000E+06
```


Semi-variogram of Rb

———— 1st semi-variogram   ————— Model

————— 2nd semi-variogram

11.18   Variable Sb

Direction East-West (*1st semi-variogram*):

```
Date                : 11/01/96
-----------------------------------------------------------------------
Name of file    : Sb-1.mod
-----------------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components: 1. Nugget effect:  0.00000
Model: Spherical    1     . Sill: 0.37092    . Range:    81296.
```
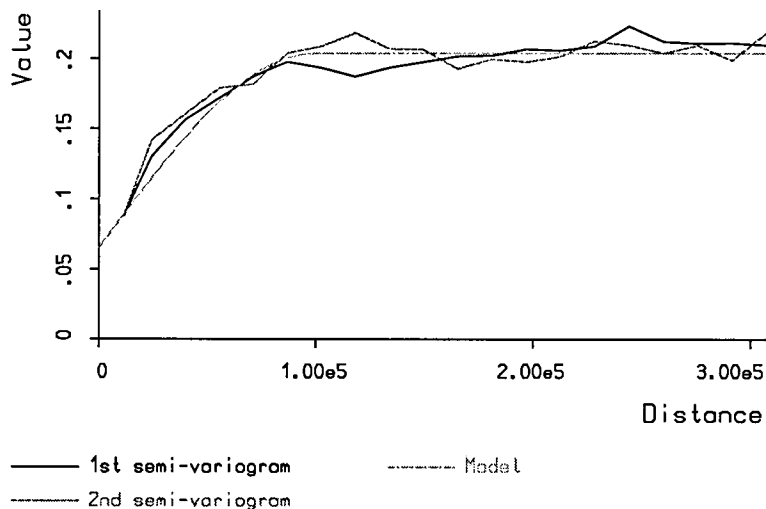
Direction North-South (*2nd semi-variogram*):

```
Date                : 11/01/96
-----------------------------------------------------------------------
Name of file    : Sb-2.mod
-----------------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components: 1. Nugget effect:  0.18826
Model: Spherical    1     . Sill: 0.18266    . Range:  0.24443E+06
```

Combined (Isotropical) Variogram:

```
Date                : 11/01/96
-----------------------------------------------------------------------
Name of file    : Sb.mod
-----------------------------------------------------------------------
User                : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components: 1. Nugget effect:  0.94130E-01
Model: Spherical    1     . Sill: 0.27679    . Range:  0.10000E+06
```


Semi-variogram of Sb

11.19   Variable Sc

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Sc-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sc
Dimension: 2. Components:  1. Nugget effect:  0.58238E-01
Model: Spherical     1     . Sill:  0.14428     . Range:   63347.
```
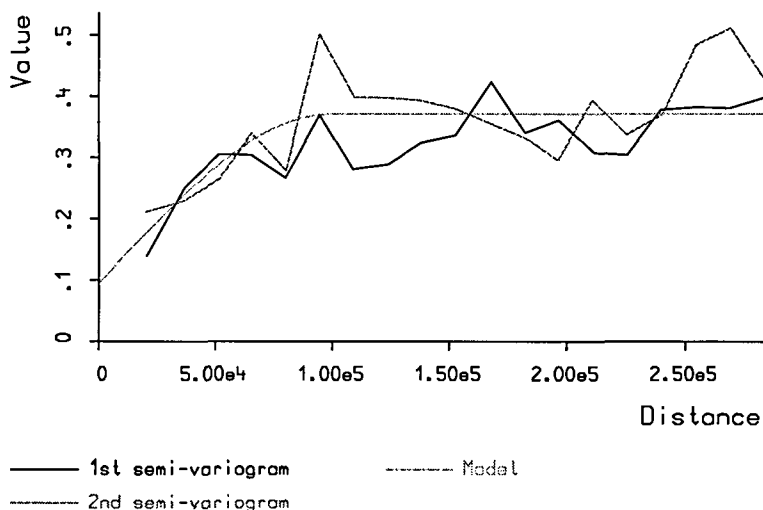
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Sc-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sc
Dimension: 2. Components:  1. Nugget effect:  0.11848
Model: Spherical     1     . Sill:  0.84033E-01. Range:  0.37721E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Sc.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sc
Dimension: 2. Components:  1. Nugget effect:  0.98000E-01
Model: Spherical     1     . Sill:  0.10800     . Range:  0.15000E+06
```


Semi-variogram of Sc

11.20   Variable Sm

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
-----------------------------------------------------------------
Name of file      : Sm-1.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Sm
Dimension: 2. Components: 1. Nugget effect:  0.26715E-01
Model: Spherical    1     . Sill:  0.23732    . Range:   58906.
```
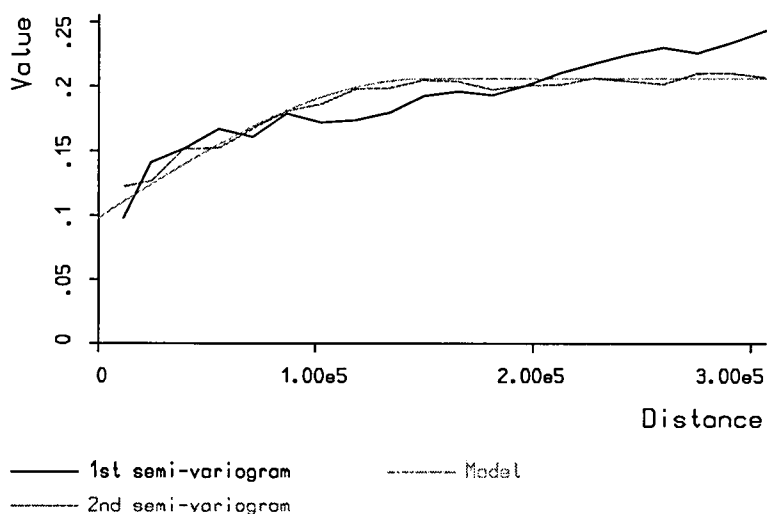
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
-----------------------------------------------------------------
Name of file      : Sm-2.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Sm
Dimension: 2. Components: 1. Nugget effect:  0.88833E-01
Model: Spherical    1     . Sill:  0.17520    . Range:   87670.
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
-----------------------------------------------------------------
Name of file      : Sm.mod
-----------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Sm
Dimension: 2. Components: 1. Nugget effect:  0.88000E-01
Model: Spherical    1     . Sill:  0.17600    . Range:  0.10000E+06
```


Semi-variogram of Sm

11.21   Variable Ta

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Ta-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ta
Dimension: 2. Components: 1. Nugget effect:  0.19291
Model: Spherical    1     . Sill:  0.51531    . Range:    92133.
```
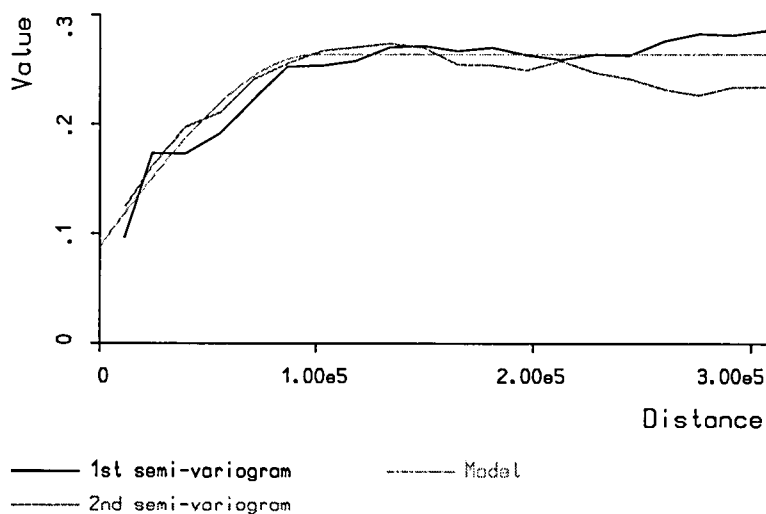
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Ta-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ta
Dimension: 2. Components: 1. Nugget effect:  0.37459
Model: Spherical    1     . Sill:  0.33362    . Range:  0.27933E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file      : Ta.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Ta
Dimension: 2. Components: 1. Nugget effect:  0.33000
Model: Spherical    1     . Sill:  0.30000    . Range:  0.18000E+06
```

11.22   Variable Tb

Direction East-West (*1st semi-variogram*):

```
Date             : 11/01/96
------------------------------------------------------------------------
Name of file     : Tb-1.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Tb
Dimension: 2. Components: 1. Nugget effect: 0.11794
Model: Spherical    1    . Sill: 0.60673E-01. Range: 0.17427E+06
```

Direction North-South (*2nd semi-variogram*):

```
Date             : 11/01/96
------------------------------------------------------------------------
Name of file     : Tb-2.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Tb
Dimension: 2. Components: 1. Nugget effect: 0.33530E-01
Model: Spherical    1    . Sill: 0.14508    . Range:   76494.
```
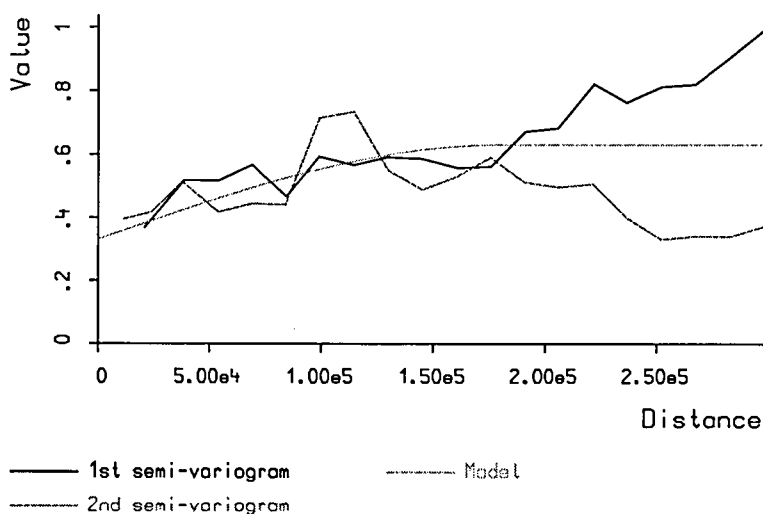
Combined (Isotropical) Variogram:

```
Date             : 11/01/96
------------------------------------------------------------------------
Name of file     : Tb.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Tb
Dimension: 2. Components: 2. Nugget effect: 0.70000E-01
Model: Spherical    1    . Sill: 0.60000E-01. Range:   50000.
Model: Linear       3    . Sill: 0.50000E-01. Range: 0.31000E+06
```


Semi-variogram of Tb

— 1st semi-variogram   —·—·— Model

-------- 2nd semi-variogram

11.23 Variable Th

Direction East-West (*1st semi-variogram*):

```
Date            : 11/01/96
------------------------------------------------------------------
Name of file    : Th-1.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.51416E-01
Model: Spherical    1    . Sill:  0.30620   . Range:   68706.
```
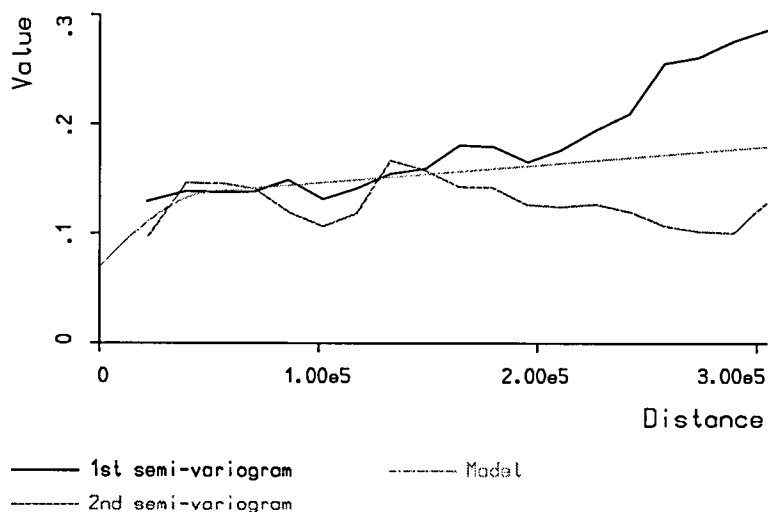
Direction North-South (*2nd semi-variogram*):

```
Date            : 11/01/96
------------------------------------------------------------------
Name of file    : Th-2.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.86090E-01
Model: Spherical    1    . Sill:  0.27152   . Range:   69352.
```

Combined (Isotropical) Variogram:

```
Date            : 11/01/96
------------------------------------------------------------------
Name of file    : Th.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.68753E-01
Model: Spherical    1    . Sill:  0.28886   . Range:   69029.
```


Semi-variogram of Th

11.24   Variable U

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file     : U-1.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: U
Dimension: 2. Components: 1. Nugget effect:  0.46533E-01
Model: Spherical    1    . Sill: 0.19599   . Range:   53591.
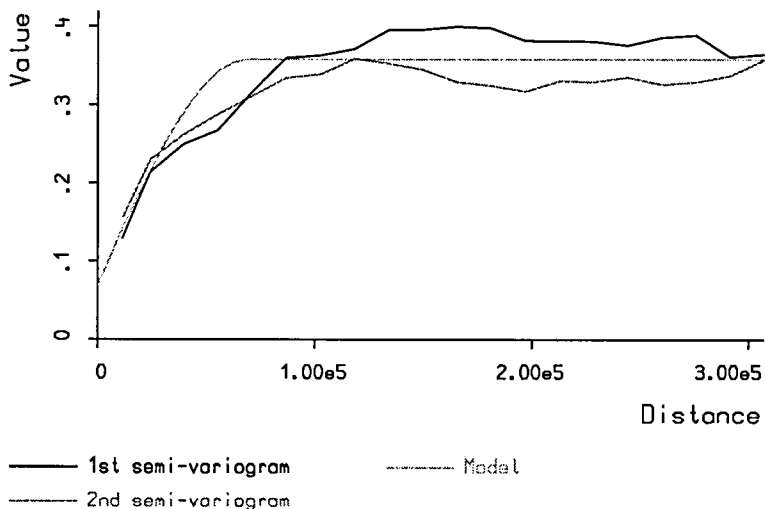```

Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file     : U-2.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: U
Dimension: 2. Components: 1. Nugget effect:  0.24252
Model: Spherical    1    . Sill: 0.00000   . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
------------------------------------------------------------------
Name of file     : U.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lncinaa.txt
------------------------------------------------------------------
Semi-variogram model of variable: U
Dimension: 2. Components: 1. Nugget effect:  0.90000E-01
Model: Spherical    1    . Sill: 0.14000   . Range:  70000.
```


Semi-variogram of U

11.25   Variable Yb

Direction East-West (*1st semi-variogram*):

```
Date              : 11/01/96
----------------------------------------------------------------------
Name of file      : Yb-1.mod
----------------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
----------------------------------------------------------------------
Semi-variogram model of variable: Yb
Dimension: 2. Components:  1. Nugget effect:  0.24936E-01
Model: Spherical     1     . Sill:  0.28716    . Range:    91286.
```
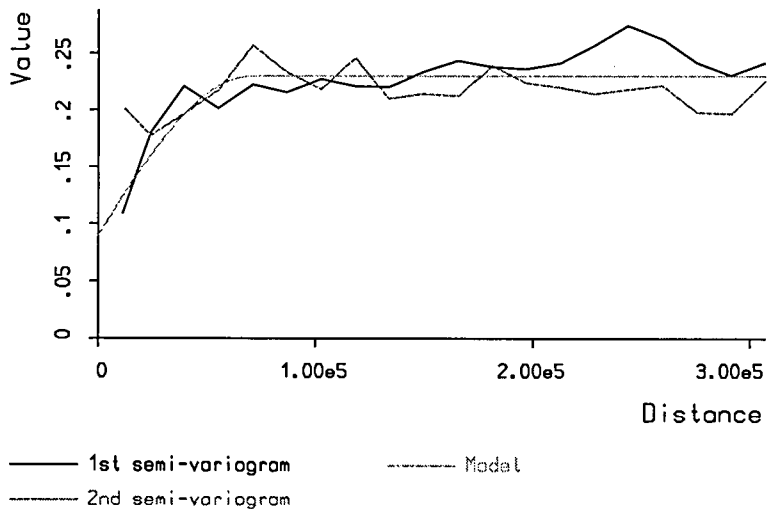
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/01/96
----------------------------------------------------------------------
Name of file      : Yb-2.mod
----------------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
----------------------------------------------------------------------
Semi-variogram model of variable: Yb
Dimension: 2. Components:  1. Nugget effect:  0.82206E-01
Model: Spherical     1     . Sill:  0.22989    . Range:  0.13197E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/01/96
----------------------------------------------------------------------
Name of file      : Yb.mod
----------------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
----------------------------------------------------------------------
Semi-variogram model of variable: Yb
Dimension: 2. Components:  1. Nugget effect:  0.83000E-01
Model: Spherical     1     . Sill:  0.22800    . Range:  0.17000E+06
```


Semi-variogram of Yb

11.26   Variable Zn

Direction East-West (*1st semi-variogram*):

```
Date            : 11/01/96
-----------------------------------------------------------------------
Name of file    : Zn-1.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components:  1. Nugget effect:  0.49604E-01
Model: Spherical     1     . Sill:  0.59737E-01. Range:   63608.
```

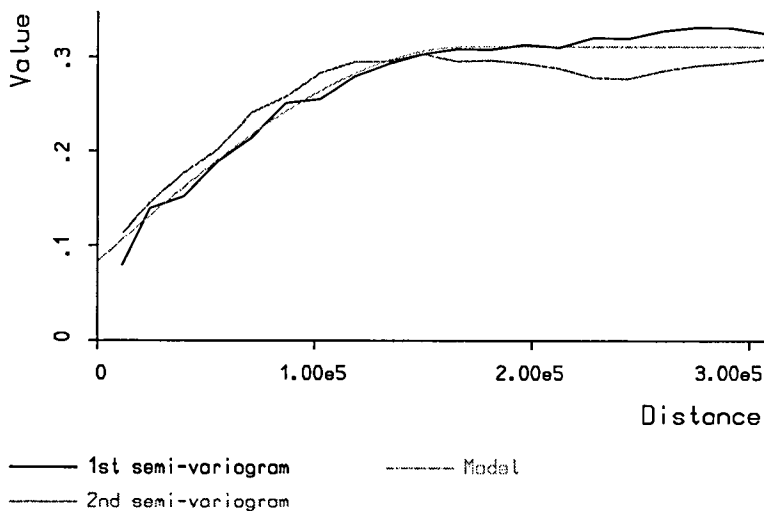Direction North-South (*2nd semi-variogram*):

```
Date            : 11/01/96
-----------------------------------------------------------------------
Name of file    : Zn-2.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components:  1. Nugget effect:  0.72615E-01
Model: Spherical     1     . Sill:  0.36726E-01. Range:  0.12544E+06
```

Combined (Isotropical) Variogram:

```
Date            : 11/01/96
-----------------------------------------------------------------------
Name of file    : Zn.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lncinaa.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components:  1. Nugget effect:  0.61109E-01
Model: Spherical     1     . Sill:  0.48232E-01. Range:   94524.
```


Semi-variogram of Zn

Chapter 12

Estimated Variograms for the C-HORIZON (Untransformed Data)

12.1 Variable EC

Direction East-West (*1st semi-variogram*):

```
Date              : 11/30/96
------------------------------------------------------------------------
Name of file      : EC-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../c2ph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: EC
Dimension: 2. Components:  1. Nugget effect:    1.2367
Model: Spherical    1     . Sill:  0.72179    . Range:    70251.
```
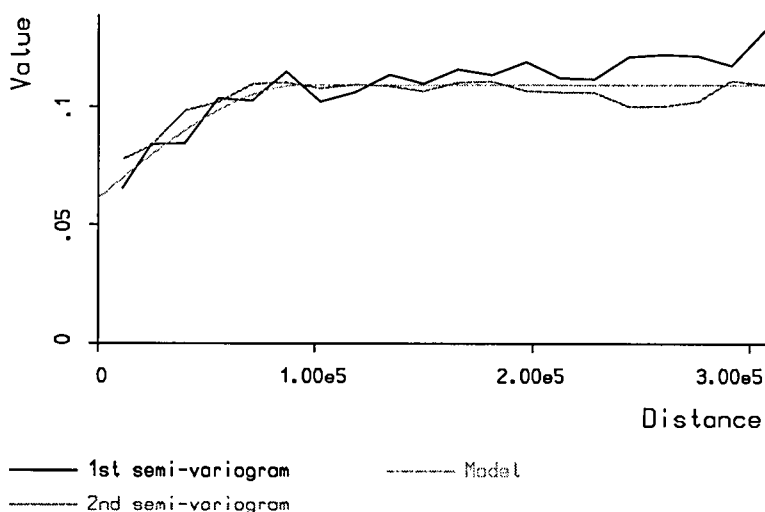
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/30/96
------------------------------------------------------------------------
Name of file      : EC-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../c2ph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: EC
Dimension: 2. Components:  1. Nugget effect:  0.98237
Model: Spherical    1     . Sill:  0.97610    . Range:    67955.
```

Combined (Isotropical) Variogram:

```
Date              : 11/30/96
------------------------------------------------------------------------
Name of file      : EC.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../c2ph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: EC
Dimension: 2. Components:  1. Nugget effect:    1.2000
Model: Spherical    1     . Sill:  0.75000    . Range:    90000.
```


Semi-variogram of EC

12.2 Variable pH

Direction East-West (*1st semi-variogram*):

```
Date            : 11/30/96
-----------------------------------------------------------------------
Name of file    : pH-1.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../c2ph.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: pH
Dimension: 2. Components:  1. Nugget effect:  0.12900
Model: Spherical    1    . Sill: 0.00000    . Range:  0.00000
```

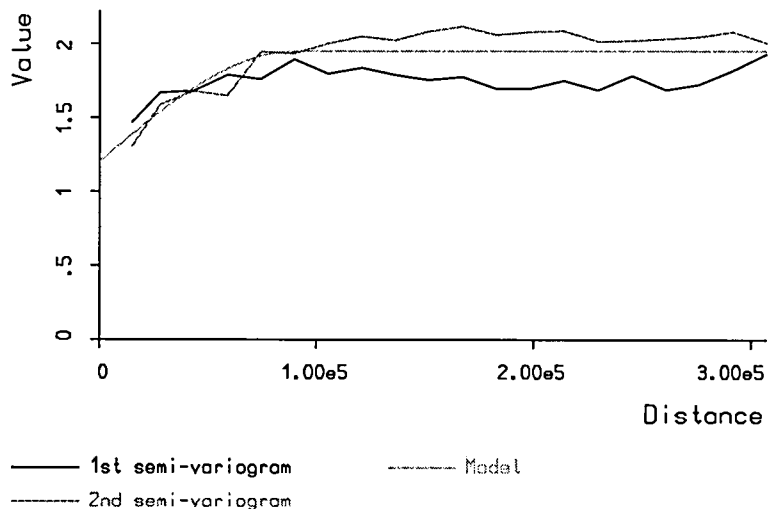Direction North-South (*2nd semi-variogram*):

```
Date            : 11/30/96
-----------------------------------------------------------------------
Name of file    : pH-2.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../c2ph.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: pH
Dimension: 2. Components:  1. Nugget effect:  0.12795
Model: Spherical    1    . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date            : 11/30/96
-----------------------------------------------------------------------
Name of file    : pH.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../c2ph.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: pH
Dimension: 2. Components:  1. Nugget effect:  0.10500
Model: Spherical    1    . Sill: 0.28000E-01. Range:   40000.
```

12.3   Variable SO4_IC

Direction East-West (*1st semi-variogram*):

```
Date              : 11/30/96
----------------------------------------------------------------
Name of file      : SO4_IC-1.mod
----------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../c2ph.txt
----------------------------------------------------------------
Semi-variogram model of variable: SO4_IC
Dimension: 2. Components:  1. Nugget effect:  0.15438E-04
Model: Spherical     1    . Sill:  0.00000    . Range:  0.00000
```
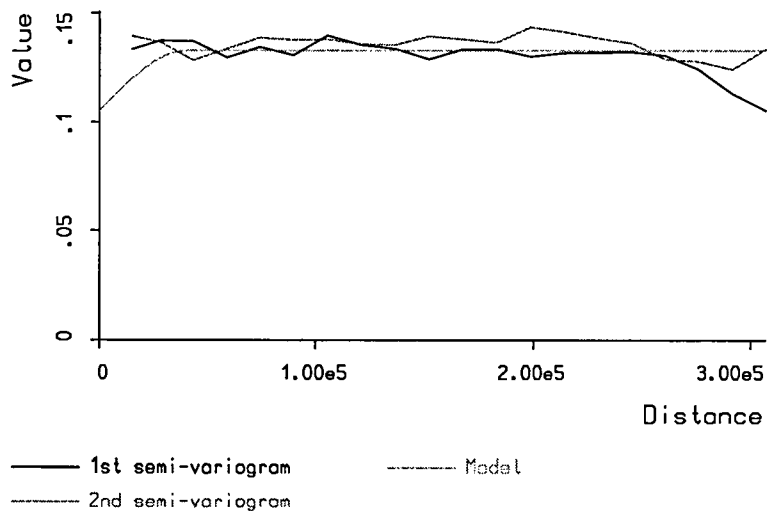
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/30/96
----------------------------------------------------------------
Name of file      : SO4_IC-2.mod
----------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../c2ph.txt
----------------------------------------------------------------
Semi-variogram model of variable: SO4_IC
Dimension: 2. Components:  1. Nugget effect:  0.12990E-04
Model: Spherical     1    . Sill:  0.24485E-05. Range:    82947.
```

Combined (Isotropical) Variogram:

```
Date              : 11/30/96
----------------------------------------------------------------
Name of file      : SO4_IC.mod
----------------------------------------------------------------
User              : Dutter / Reimann
----------------------------------------------------------------
Name of data file: ../c2ph.txt
----------------------------------------------------------------
Semi-variogram model of variable: SO4_IC
Dimension: 2. Components:  1. Nugget effect:  0.12500E-04
Model: Spherical     1    . Sill:  0.32200E-05. Range:  0.10000E+06
```


Semi-variogram of SO4_IC

Chapter 13

Estimated Variograms for TOPSOIL (Ln-transformed Isotopes)

13.1   Variable 137Cs

Direction East-West (*1st semi-variogram*):

```
Date              : 10/29/96
-------------------------------------------------------------------------------
Name of file      : 137Cs-1.mod
-------------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------------
Name of data file: ../isotopen.txt
-------------------------------------------------------------------------------
Semi-variogram model of variable: 137Cs
Dimension: 2. Components: 1. Nugget effect:  0.15211
Model: Spherical    1     . Sill:  0.12599    . Range:   90541.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 10/29/96
-------------------------------------------------------------------------------
Name of file      : 137Cs-2.mod
-------------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------------
Name of data file: ../isotopen.txt
-------------------------------------------------------------------------------
Semi-variogram model of variable: 137Cs
Dimension: 2. Components: 1. Nugget effect:  0.16367
Model: Spherical    1     . Sill:  0.11443    . Range:   88494.
```
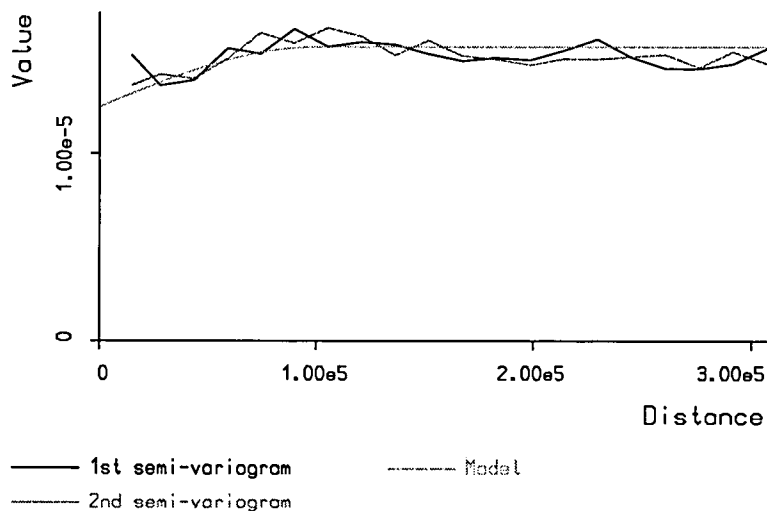
Combined (Isotropical) Variogram:

```
Date              : 10/29/96
-------------------------------------------------------------------------------
Name of file      : 137Cs.mod
-------------------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------------------
Name of data file: ../isotopen.txt
-------------------------------------------------------------------------------
Semi-variogram model of variable: 137Cs
Dimension: 2. Components: 1. Nugget effect:  0.18000
Model: Spherical    1     . Sill:  0.80000E-01. Range:  0.13000E+06
```

13.2 Variable 241Am

Direction East-West (*1st semi-variogram*):

```
Date              : 10/29/96
------------------------------------------------------------------------
Name of file    : 241Am-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../isotopen.txt
------------------------------------------------------------------------
Semi-variogram model of variable: 241Am
Dimension: 2. Components:  1. Nugget effect:  0.20577
Model: Spherical    1    . Sill:  0.11167    . Range:    89849.
```
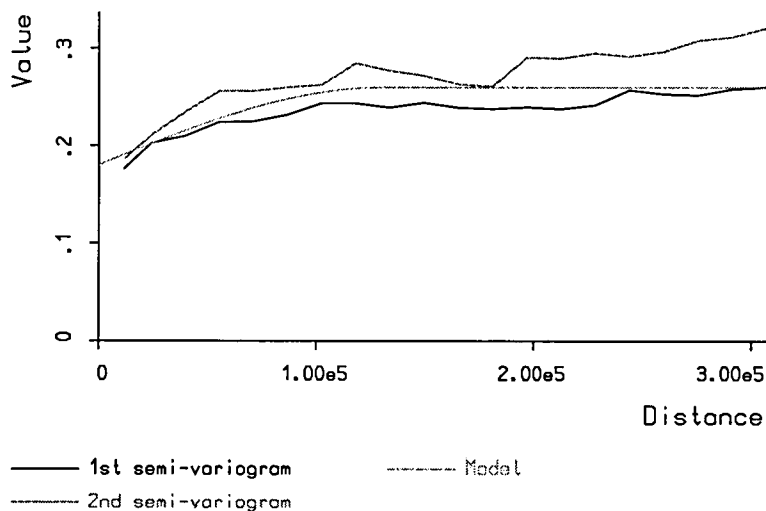
Direction North-South (*2nd semi-variogram*):

```
Date              : 10/29/96
------------------------------------------------------------------------
Name of file    : 241am-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../isotopen.txt
------------------------------------------------------------------------
Semi-variogram model of variable: 241Am
Dimension: 2. Components:  1. Nugget effect:  0.99452E-01
Model: Spherical    1    . Sill:  0.21799    . Range:    40948.
```

Combined (Isotropical) Variogram:

```
Date              : 10/29/96
------------------------------------------------------------------------
Name of file    : 241Am.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../isotopen.txt
------------------------------------------------------------------------
Semi-variogram model of variable: 241Am
Dimension: 2. Components:  1. Nugget effect:  0.20000
Model: Spherical    1    . Sill:  0.11400    . Range:    70000.
```


Semi-variogram of 241Am

——— 1st semi-variogram   — — — Model

— — — 2nd semi-variogram

13.3   Variable 40K

Direction East-West (*1st semi-variogram*):

```
Date              : 10/29/96
------------------------------------------------------------------
Name of file      : 40K-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../isotopen.txt
------------------------------------------------------------------
Semi-variogram model of variable: 40K
Dimension: 2. Components: 1. Nugget effect:  0.16760
Model: Spherical     1     . Sill: 0.26739    . Range:    78867.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 10/29/96
------------------------------------------------------------------
Name of file      : 40K-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../isotopen.txt
------------------------------------------------------------------
Semi-variogram model of variable: 40K
Dimension: 2. Components: 1. Nugget effect:  0.18447
Model: Spherical     1     . Sill: 0.25052    . Range:  0.11272E+06
```
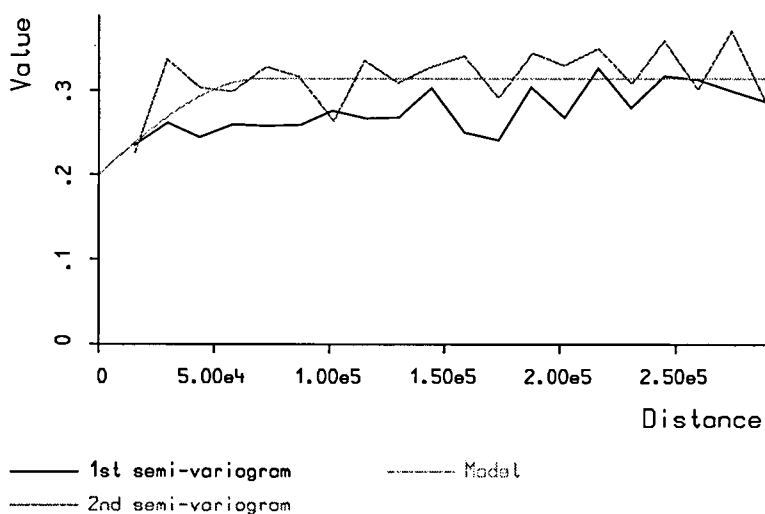
Combined (Isotropical) Variogram:

```
Date              : 10/29/96
------------------------------------------------------------------
Name of file      : 40K.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../isotopen.txt
------------------------------------------------------------------
Semi-variogram model of variable: 40K
Dimension: 2. Components: 2. Nugget effect:  0.18000
Model: Spherical     1     . Sill: 0.12000    . Range:    50000.
Model: Linear        3     . Sill: 0.11000    . Range:  0.31000E+06
```


Semi-variogram of 40K

13.4   Variable 214Bi

Direction East-West (*1st semi-variogram*):

```
Date             : 10/29/96
-----------------------------------------------------------------------
Name of file     : 214Bi-1.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../isotopen.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: 214Bi
Dimension: 2. Components:  1. Nugget effect:  0.17243
Model: Spherical     1     . Sill:  0.21001    . Range:   57371.
```
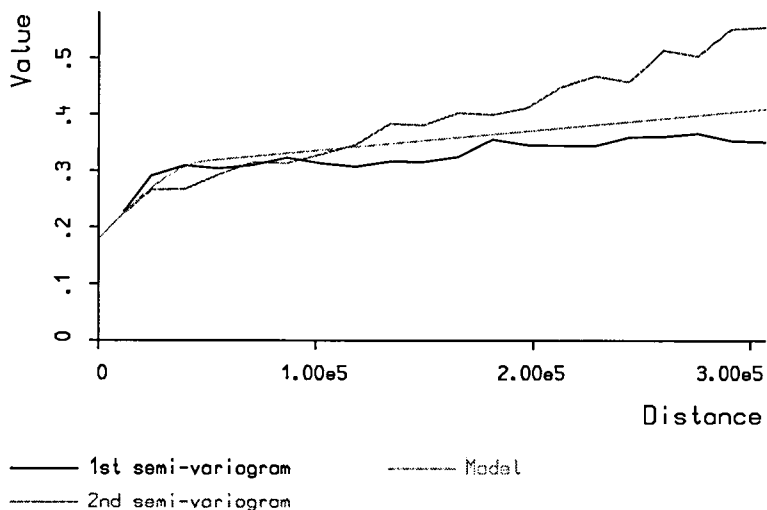
Direction North-South (*2nd semi-variogram*):

```
Date             : 10/29/96
-----------------------------------------------------------------------
Name of file     : 214Bi-2.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../isotopen.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: 214Bi
Dimension: 2. Components:  1. Nugget effect:  0.26445
Model: Spherical     1     . Sill:  0.11799    . Range:   0.10327E+06
```

Combined (Isotropical) Variogram:

```
Date             : 10/29/96
-----------------------------------------------------------------------
Name of file     : 214Bi.mod
-----------------------------------------------------------------------
User             : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../isotopen.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: 214Bi
Dimension: 2. Components:  1. Nugget effect:  0.21844
Model: Spherical     1     . Sill:  0.16400    . Range:   80321.
```


Semi-variogram of 214Bi

13.5   Variable 228Ac

Direction East-West (*1st semi-variogram*):

```
Date               : 10/29/96
------------------------------------------------------------------------
Name of file     : 228Ac-1.mod
------------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../isotopen.txt
------------------------------------------------------------------------
Semi-variogram model of variable: 228Ac
Dimension: 2. Components: 1. Nugget effect:  0.23111
Model: Spherical    1     . Sill: 0.39056    . Range:  0.13717E+06
```
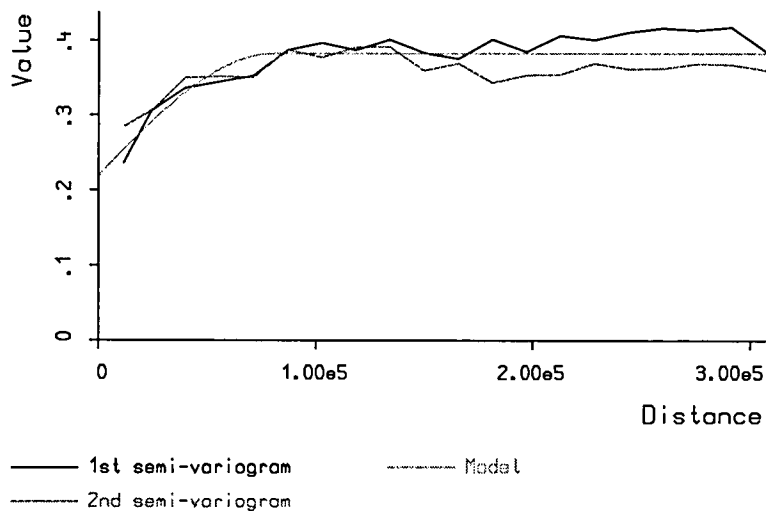
Direction North-South (*2nd semi-variogram*):

```
Date               : 10/29/96
------------------------------------------------------------------------
Name of file     : 228Ac-2.mod
------------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../isotopen.txt
------------------------------------------------------------------------
Semi-variogram model of variable: 228Ac
Dimension: 2. Components: 1. Nugget effect:  0.12892
Model: Spherical    1     . Sill: 0.49275    . Range:   75478.
```

Combined (Isotropical) Variogram:

```
Date               : 10/29/96
------------------------------------------------------------------------
Name of file     : 228Ac.mod
------------------------------------------------------------------------
User               : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../isotopen.txt
------------------------------------------------------------------------
Semi-variogram model of variable: 228Ac
Dimension: 2. Components: 1. Nugget effect:  0.21000
Model: Spherical    1     . Sill: 0.47000    . Range:  0.15000E+06
```

Semi-variogram of 228Ac


```
———— 1st semi-variogram        ———— Model
———— 2nd semi-variogram
```
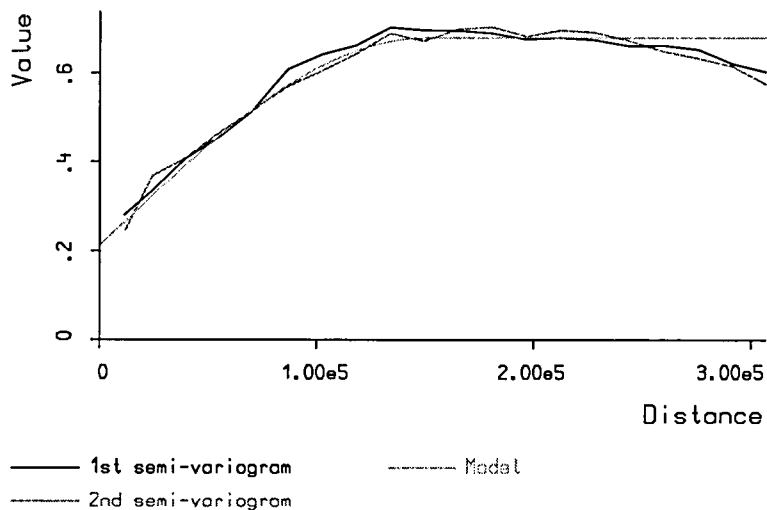
13.6 Variable 137Cs_

Direction East-West (*1st semi-variogram*):

Direction North-South (*2nd semi-variogram*):

```
Date            : 11/03/96
------------------------------------------------------------------
Name of file    : 137cs_-2.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../isotopen.txt
------------------------------------------------------------------
Semi-variogram model of variable: 137cs_
Dimension: 2. Components: 1. Nugget effect:  0.12469
Model: Spherical    1     . Sill:  0.48024E-01. Range:    38368.
```

Combined (Isotropical) Variogram:

```
Date            : 11/03/96
------------------------------------------------------------------
Name of file    : 137cs_.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../isotopen.txt
------------------------------------------------------------------
Semi-variogram model of variable: 137cs_
Dimension: 2. Components: 1. Nugget effect:  0.14000
Model: Spherical    1     . Sill:  0.35000E-01. Range:    60000.
```
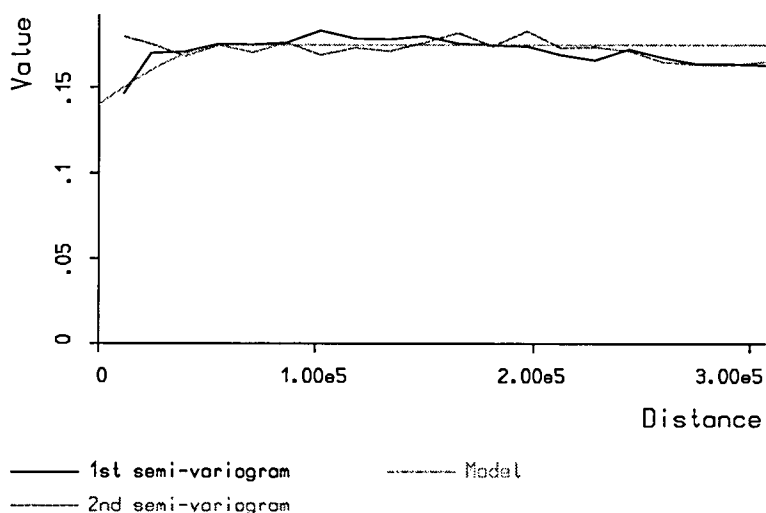
Chapter 14

Estimated Variograms for TOPSOIL (Ln-transformed INAA-data)

14.1 Variable As

Direction East-West (*1st semi-variogram*):

Direction North-South (*2nd semi-variogram*):

```
Date            : 11/03/96
-----------------------------------------------------------------------
Name of file    : As-2.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lntopna.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.29643
Model: Spherical    1    . Sill: 0.11128    . Range:  0.12779E+06
```

Combined (Isotropical) Variogram:

```
Date            : 11/03/96
-----------------------------------------------------------------------
Name of file    : As.mod
-----------------------------------------------------------------------
User            : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lntopna.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: As
Dimension: 2. Components: 1. Nugget effect:  0.34841
Model: Spherical    1    . Sill: 0.59305E-01. Range:   70921.
```


Semi-variogram of As

—————— 1st semi-variogram   ———·——— Model
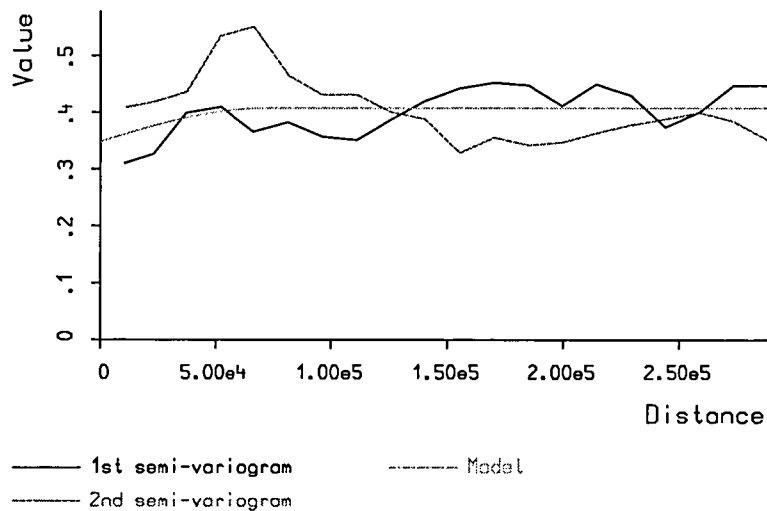
—·———— 2nd semi-variogram

14.2   Variable Au

Direction East-West (*1st semi-variogram*):

```
Date             : 11/09/96
-------------------------------------------------------------------
Name of file     : Au-1.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Au
Dimension: 2. Components: 1. Nugget effect:  0.44174
Model: Spherical    1    . Sill: 0.00000   . Range:  0.00000
```

Direction North-South (*2nd semi-variogram*):

```
Date             : 11/09/96
-------------------------------------------------------------------
Name of file     : Au-2.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Au
Dimension: 2. Components: 1. Nugget effect:  0.44971
Model: Spherical    1    . Sill: 0.00000   . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date             : 11/09/96
-------------------------------------------------------------------
Name of file     : Au.mod
-------------------------------------------------------------------
User             : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Au
Dimension: 2. Components: 1. Nugget effect:  0.00000
Model: Spherical    1    . Sill: 0.45000   . Range:  40000.
```


Semi-variogram of Au

14.3   Variable Ba

Direction East-West (*1st semi-variogram*):

```
        Date              : 11/03/96
        ------------------------------------------------------------------
        Name of file      : Ba-1.mod
        ------------------------------------------------------------------
        User              : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lntopna.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Ba
        Dimension: 2. Components:  1. Nugget effect:  0.62075E-01
        Model: Spherical     1     . Sill:  0.10217    . Range:   82919.
```
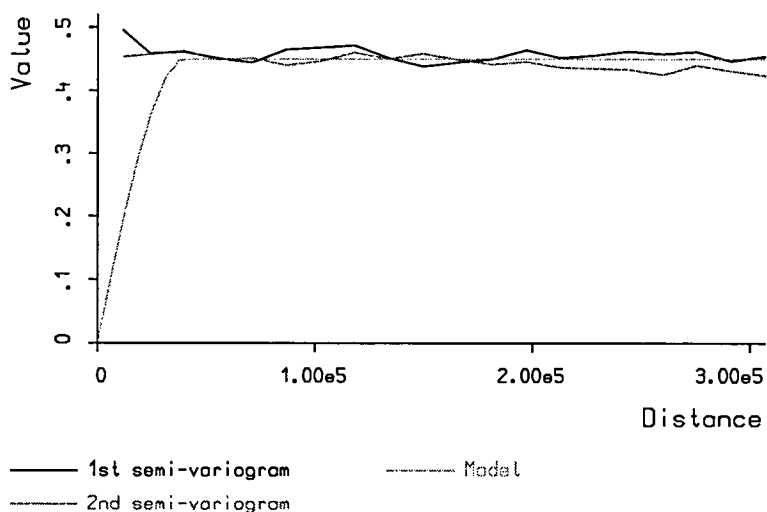
Direction North-South (*2nd semi-variogram*):

```
        Date              : 11/03/96
        ------------------------------------------------------------------
        Name of file      : Ba-2.mod
        ------------------------------------------------------------------
        User              : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lntopna.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Ba
        Dimension: 2. Components:  1. Nugget effect:  0.94031E-01
        Model: Spherical     1     . Sill:  0.70214E-01. Range:  0.40726E+06
```

Combined (Isotropical) Variogram:

```
        Date              : 11/03/96
        ------------------------------------------------------------------
        Name of file      : Ba.mod
        ------------------------------------------------------------------
        User              : Dutter / Reimann
        ------------------------------------------------------------------
        Name of data file: ../lntopna.txt
        ------------------------------------------------------------------
        Semi-variogram model of variable: Ba
        Dimension: 2. Components:  1. Nugget effect:  0.90000E-01
        Model: Spherical     1     . Sill:  0.86192E-01. Range:  0.24509E+06
```


Semi-variogram of Ba
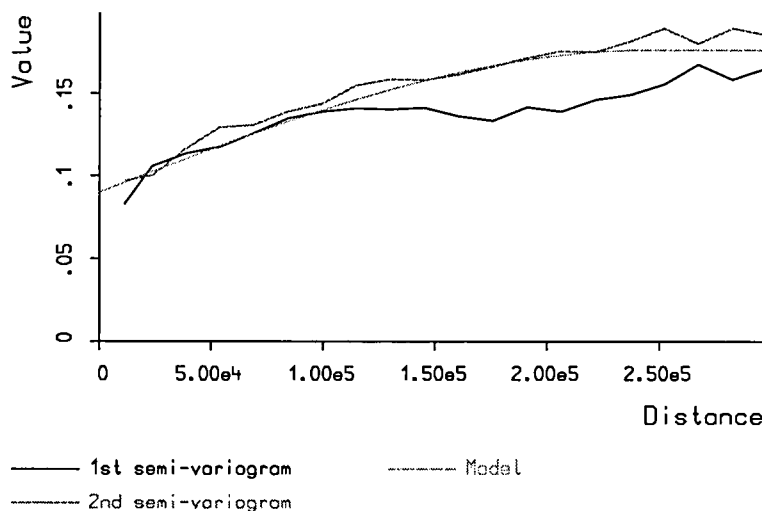
14.4 Variable Br

Direction East-West (*1st semi-variogram*):

```
                Date              : 11/03/96
                ------------------------------------------------------------------
                Name of file      : Br-1.mod
                ------------------------------------------------------------------
                User              : Dutter / Reimann
                ------------------------------------------------------------------
                Name of data file: ../lntopna.txt
                ------------------------------------------------------------------
                Semi-variogram model of variable: Br
                Dimension: 2. Components: 1. Nugget effect:   1.4949
                Model: Spherical    1     . Sill:  0.00000    . Range:  0.00000
```

Direction North-South (*2nd semi-variogram*):

```
                Date              : 11/03/96
                ------------------------------------------------------------------
                Name of file      : Br-2.mod
                ------------------------------------------------------------------
                User              : Dutter / Reimann
                ------------------------------------------------------------------
                Name of data file: ../lntopna.txt
                ------------------------------------------------------------------
                Semi-variogram model of variable: Br
                Dimension: 2. Components: 1. Nugget effect:  0.47791
                Model: Spherical    1     . Sill:   1.0170    . Range:  0.23630E+06
```
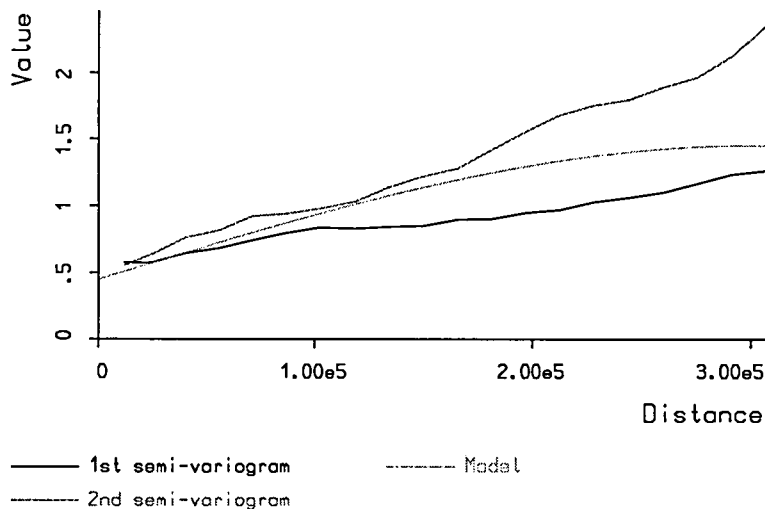
Combined (Isotropical) Variogram:

```
                Date              : 12/20/96
                ------------------------------------------------------------------
                Name of file      : Br.mod
                ------------------------------------------------------------------
                User              : Dutter / Reimann
                ------------------------------------------------------------------
                Name of data file: ../lntopna.txt
                ------------------------------------------------------------------
                Semi-variogram model of variable: Br
                Dimension: 2. Components: 1. Nugget effect:  0.45000
                Model: Spherical    1     . Sill:   1.0000    . Range:  0.30000E+06
```


Semi-variogram of Br

14.5   Variable Ca

Direction East-West (*1st semi-variogram*):

```
Date              : 11/03/96
------------------------------------------------------------------------
Name of file      : Ca-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components:  1. Nugget effect:  0.37420
Model: Spherical     1    . Sill:  0.73910E-01. Range:  0.13632E+06
```
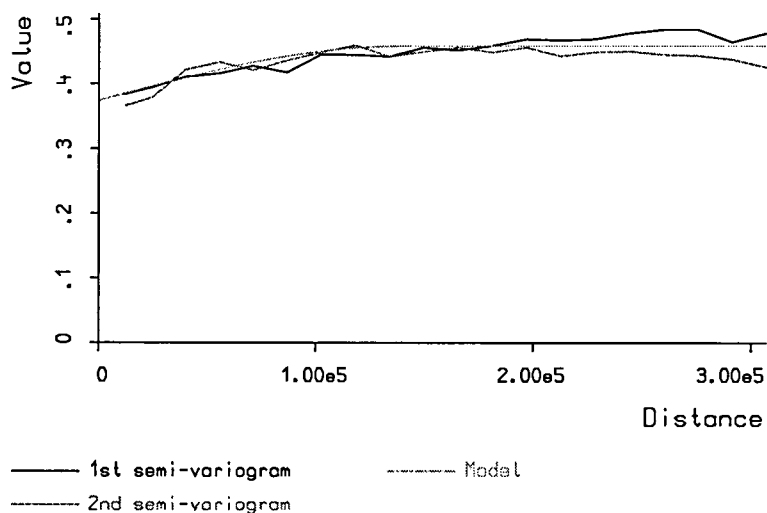
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/03/96
------------------------------------------------------------------------
Name of file      : Ca-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components:  1. Nugget effect:  0.35389
Model: Spherical     1    . Sill:  0.94220E-01. Range:  0.14208E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/03/96
------------------------------------------------------------------------
Name of file      : Ca.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Ca
Dimension: 2. Components:  1. Nugget effect:  0.37400
Model: Spherical     1 ·  . Sill:  0.84065E-01. Range:  0.13920E+06
```

14.6 Variable Ce

Direction East-West (*1st semi-variogram*):

```
Date            : 11/03/96
--------------------------------------------------------------------
Name of file    : Ce-1.mod
--------------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lntopna.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Ce
Dimension: 2. Components: 1. Nugget effect:  0.20088
Model: Spherical    1    . Sill:  0.53331    . Range:  0.12215E+06
```
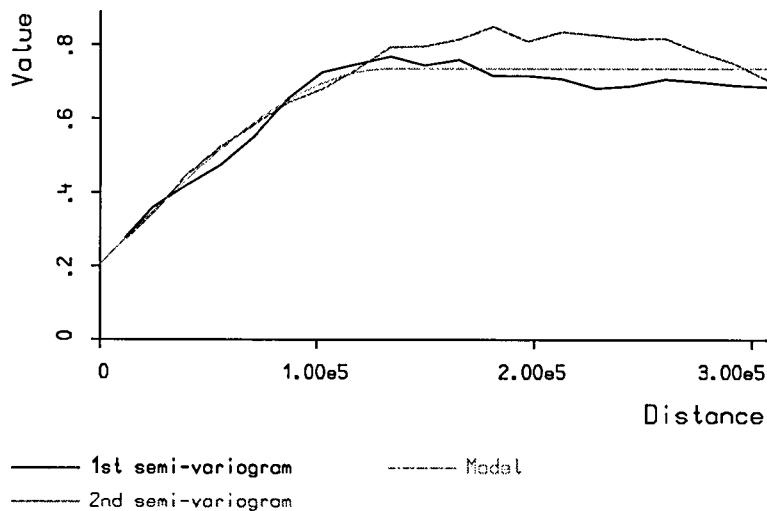
Direction North-South (*2nd semi-variogram*):

```
Date            : 11/03/96
--------------------------------------------------------------------
Name of file    : Ce-2.mod
--------------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lntopna.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Ce
Dimension: 2. Components: 1. Nugget effect:  0.20816
Model: Spherical    1    . Sill:  0.52603    . Range:  0.14380E+06
```

Combined (Isotropical) Variogram:

```
Date            : 11/03/96
--------------------------------------------------------------------
Name of file    : Ce.mod
--------------------------------------------------------------------
User            : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lntopna.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Ce
Dimension: 2. Components: 1. Nugget effect:  0.20452
Model: Spherical    1    . Sill:  0.52967    . Range:  0.13298E+06
```

14.7 Variable Co

Direction East-West (*1st semi-variogram*):

```
Date              : 11/03/96
------------------------------------------------------------------------
Name of file      : Co-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.12389
Model: Spherical     1     . Sill: 0.33336    . Range:    86846.
```

Direction North-South (*2nd semi-variogram*):

```
Date              : 11/03/96
------------------------------------------------------------------------
Name of file      : Co-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 1. Nugget effect:  0.18151
Model: Spherical     1     . Sill: 0.27574    . Range:  0.16372E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/03/96
------------------------------------------------------------------------
Name of file      : Co.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Co
Dimension: 2. Components: 2. Nugget effect:  0.17000
Model: Spherical     1     . Sill: 0.16000    . Range:  0.11000E+06
Model: Linear        3     . Sill: 0.15000    . Range:  0.31000E+06
```


Semi-variogram of Co

14.8   Variable Cr

Direction East-West (*1st semi-variogram*):

```
Date               : 11/03/96
-----------------------------------------------------------------
Name of file       : Cr-1.mod
-----------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lntopna.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect:  0.37505
Model: Spherical    1    . Sill:  0.57184    . Range:  0.18580E+06
```
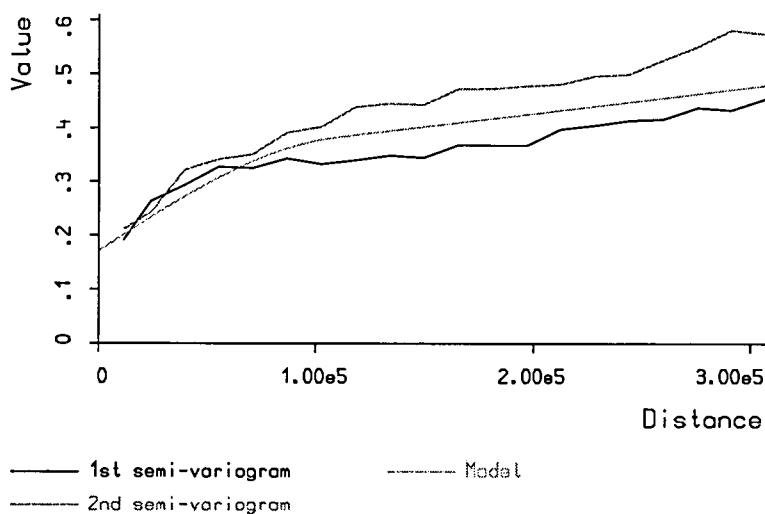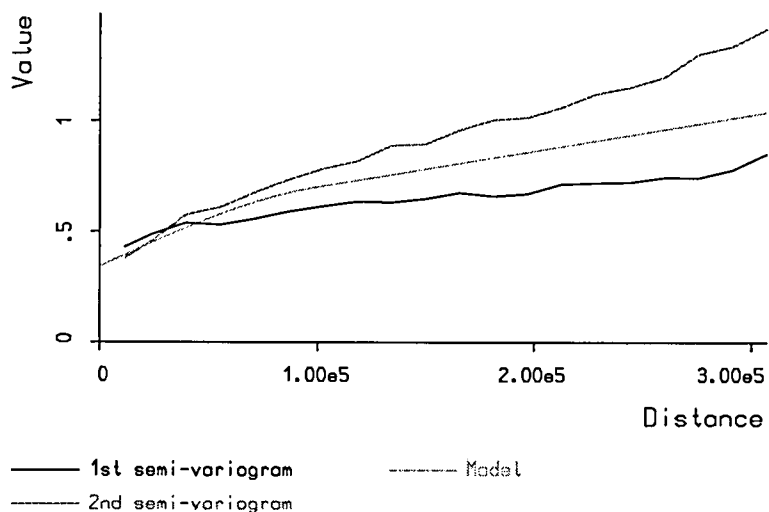
Direction North-South (*2nd semi-variogram*):

```
Date               : 11/03/96
-----------------------------------------------------------------
Name of file       : Cr-2.mod
-----------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lntopna.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 1. Nugget effect:  0.30463
Model: Spherical    1    . Sill:  0.64226    . Range:  0.15303E+06
```

Combined (Isotropical) Variogram:

```
Date               : 11/03/96
-----------------------------------------------------------------
Name of file       : Cr.mod
-----------------------------------------------------------------
User               : Dutter / Reimann
-----------------------------------------------------------------
Name of data file: ../lntopna.txt
-----------------------------------------------------------------
Semi-variogram model of variable: Cr
Dimension: 2. Components: 2. Nugget effect:  0.33984
Model: Spherical    1    . Sill:  0.20000    . Range:  0.10000E+06
Model: Linear       3    . Sill:  0.50000    . Range:  0.31000E+06
```


Semi-variogram of Cr

14.9   Variable Cs

Direction East-West (*1st semi-variogram*):

```
Date            : 11/09/96
------------------------------------------------------------------
Iame of file    : Cs-1.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Iame of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cs
Dimension: 2. Components: 1. Iugget effect:  0.10435
Model: Spherical     1     . Sill:  0.29580E-01. Range:  0.92725E+06
```

Direction North-South (*2nd semi-variogram*):

```
Date            : 11/09/96
------------------------------------------------------------------
Iame of file    : Cs-2.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Iame of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cs
Dimension: 2. Components: 1. Iugget effect:  0.95428E-01
Model: Spherical     1     . Sill:  0.38499E-01. Range:  0.17243E+06
```

Combined (Isotropical) Variogram:

```
Date            : 11/09/96
------------------------------------------------------------------
Iame of file    : Cs.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Iame of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Cs
Dimension: 2. Components: 1. Iugget effect:  0.10500
Model: Spherical     1     . Sill:  0.34040E-01. Range:  0.54984E+06
```

14.10   Variable Eu

Direction East-West (*1st semi-variogram*):

```
Date             : 11/03/96
------------------------------------------------------------------
Name of file     : Eu-1.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Eu
Dimension: 2. Components: 1. Nugget effect:  0.15895
Model: Spherical    1    . Sill: 0.33348    . Range:  0.11612E+06
```
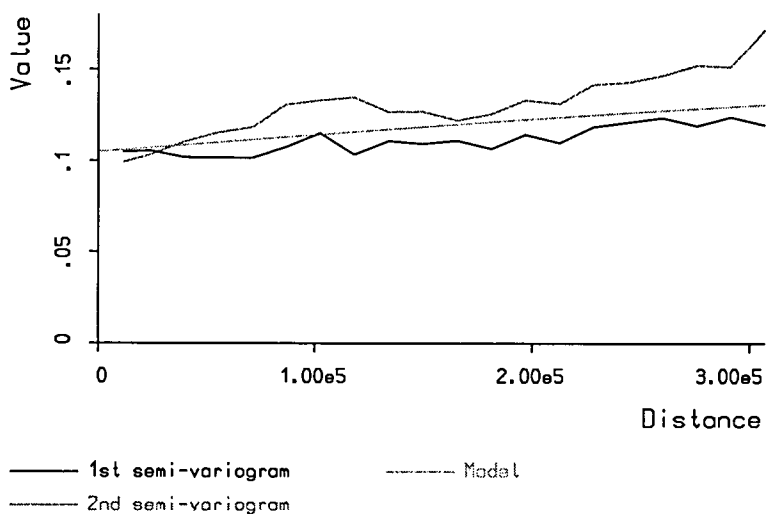
Direction North-South (*2nd semi-variogram*):

```
Date             : 11/03/96
------------------------------------------------------------------
Name of file     : Eu-2.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Eu
Dimension: 2. Components: 1. Nugget effect:  0.16104
Model: Spherical    1    . Sill: 0.33138    . Range:  0.13538E+06
```

Combined (Isotropical) Variogram:

```
Date             : 11/03/96
------------------------------------------------------------------
Name of file     : Eu.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Eu
Dimension: 2. Components: 1. Nugget effect:  0.15999
Model: Spherical    1    . Sill: 0.33243    . Range:  0.14000E+06
```


Semi-variogram of Eu

14.11 Variable Fe

Direction East-West (*1st semi-variogram*):

```
Date              : 11/03/96
------------------------------------------------------------------
Name of file      : Fe-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.25553
Model: Spherical    1    . Sill: 0.34165    . Range:  0.34868E+06
```
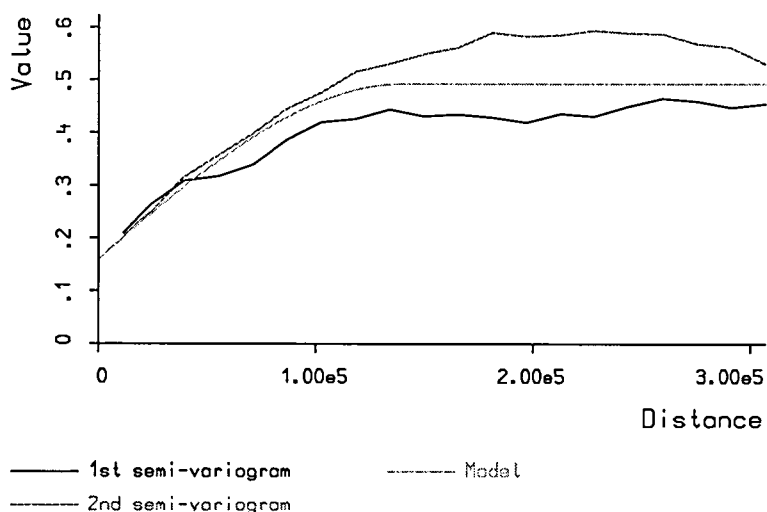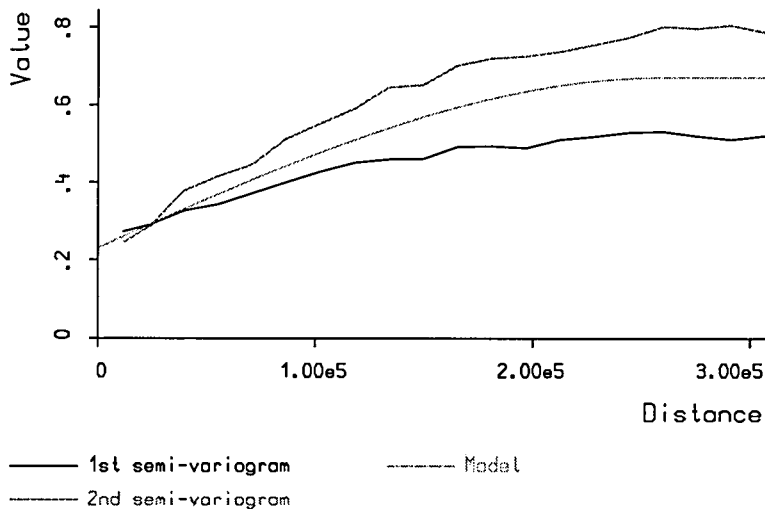
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/03/96
------------------------------------------------------------------
Name of file      : Fe-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.20533
Model: Spherical    1    . Sill: 0.39186    . Range:  0.17284E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/03/96
------------------------------------------------------------------
Name of file      : Fe.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Fe
Dimension: 2. Components: 1. Nugget effect:  0.23043
Model: Spherical    1    . Sill: 0.44000    . Range:  0.26000E+06
```


Semi-variogram of Fe

14.12   Variable Hf

Direction East-West (*1st semi-variogram*):

```
Date               : 11/03/96
--------------------------------------------------------------------
Name of file      : Hf-1.mod
--------------------------------------------------------------------
User               : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lntopna.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Hf
Dimension: 2. Components: 1. Nugget effect:  0.23020
Model: Spherical    1     . Sill:  0.22049    . Range:  0.14970E+06
```

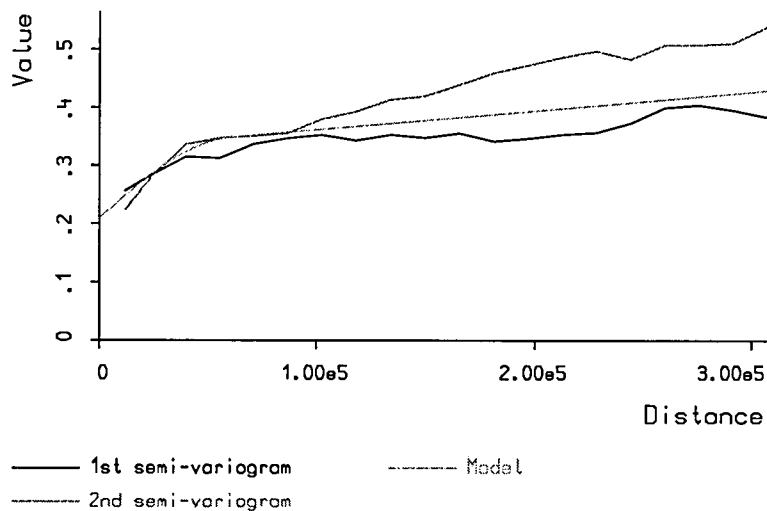Direction North-South (*2nd semi-variogram*):

```
Date               : 11/03/96
--------------------------------------------------------------------
Name of file      : Hf-2.mod
--------------------------------------------------------------------
User               : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lntopna.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Hf
Dimension: 2. Components: 1. Nugget effect:  0.16812
Model: Spherical    1     . Sill:  0.28258    . Range:   90607.
```

Combined (Isotropical) Variogram:

```
Date               : 11/03/96
--------------------------------------------------------------------
Name of file      : Hf.mod
--------------------------------------------------------------------
User               : Dutter / Reimann
--------------------------------------------------------------------
Name of data file: ../lntopna.txt
--------------------------------------------------------------------
Semi-variogram model of variable: Hf
Dimension: 2. Components: 2. Nugget effect:  0.20900
Model: Spherical    1     . Sill:  0.12000    . Range:   60000.
Model: Linear       3     . Sill:  0.10000    . Range:  0.31000E+06
```


Semi-variogram of Hf

14.13   Variable La

Direction East-West (*1st semi-variogram*):

```
Date                : 11/03/96
-------------------------------------------------------------------
Name of file     : La-1.mod
-------------------------------------------------------------------
User                : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components: 1. Nugget effect:  0.15438
Model: Spherical    1     . Sill:  0.57865    . Range:  0.11782E+06
```

Direction North-South (*2nd semi-variogram*):

```
Date                : 11/03/96
-------------------------------------------------------------------
Name of file     : La-2.mod
-------------------------------------------------------------------
User                : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components: 1. Nugget effect:  0.21420
Model: Spherical    1     . Sill:  0.51884    . Range:  0.18153E+06
```

Combined (Isotropical) Variogram:

```
Date                : 11/03/96
-------------------------------------------------------------------
Name of file     : La.mod
-------------------------------------------------------------------
User                : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: La
Dimension: 2. Components: 1. Nugget effect:  0.18429
Model: Spherical    1     . Sill:  0.54875    . Range:  0.13000E+06
```
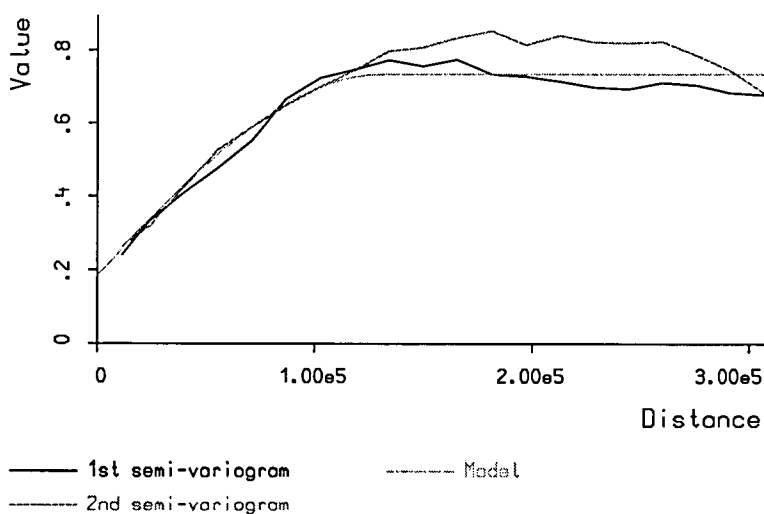

Semi-variogram of La

14.14   Variable Lu

Direction East-West (*1st semi-variogram*):

```
Date              : 11/03/96
------------------------------------------------------------------
Name of file      : Lu-1.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Lu
Dimension: 2. Components:  1. Nugget effect:  0.64878E-01
Model: Spherical     1     . Sill:  0.24762     . Range:   87012.
```

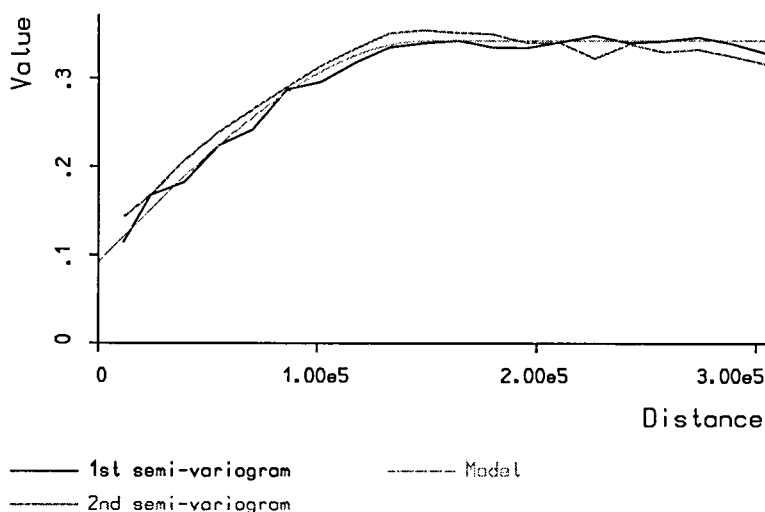Direction North-South (*2nd semi-variogram*):

```
Date              : 11/03/96
------------------------------------------------------------------
Name of file      : Lu-2.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Lu
Dimension: 2. Components:  1. Nugget effect:  0.11956
Model: Spherical     1     . Sill:  0.19294     . Range:  0.14492E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/03/96
------------------------------------------------------------------
Name of file      : Lu.mod
------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Lu
Dimension: 2. Components:  1. Nugget effect:  0.92219E-01
Model: Spherical     1     . Sill:  0.25000     . Range:  0.15000E+06
```


Semi-variogram of Lu

14.15   Variable Na

Direction East-West (*1st semi-variogram*):

```
Date                : 11/03/96
----------------------------------------------------------------------
Name of file    : Na-1.mod
----------------------------------------------------------------------
User                : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../lntopna.txt
----------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.22094
Model: Spherical    1     . Sill: 0.34626    . Range:  0.58089E+06
```

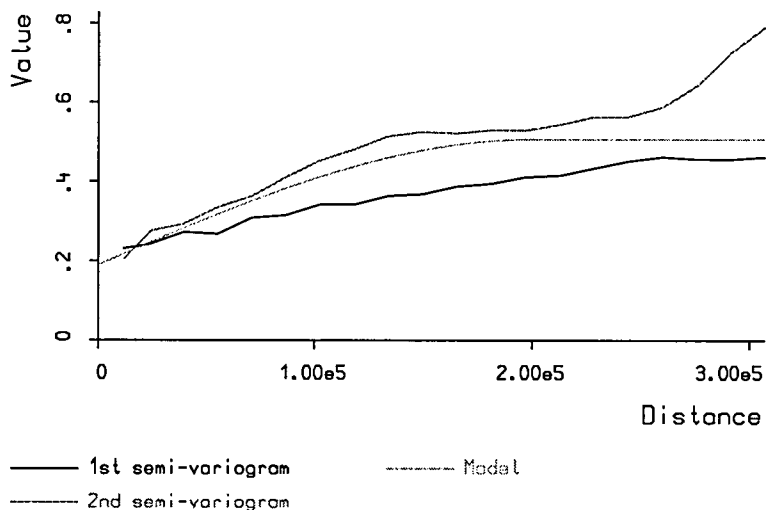Direction North-South (*2nd semi-variogram*):

```
Date                : 11/03/96
----------------------------------------------------------------------
Name of file    : Na-2.mod
----------------------------------------------------------------------
User                : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../lntopna.txt
----------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.14020
Model: Spherical    1     . Sill: 0.42699    . Range:  0.11605E+06
```

Combined (Isotropical) Variogram:

```
Date                : 11/03/96
----------------------------------------------------------------------
Name of file    : Na.mod
----------------------------------------------------------------------
User                : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../lntopna.txt
----------------------------------------------------------------------
Semi-variogram model of variable: Na
Dimension: 2. Components: 1. Nugget effect:  0.19000
Model: Spherical    1     . Sill: 0.31600    . Range:  0.20000E+06
```


Semi-variogram of Na

14.16 Variable Nd

Direction East-West (*1st semi-variogram*):

```
Date              : 11/03/96
------------------------------------------------------------------------
Name of file      : Nd-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Nd
Dimension: 2. Components: 1. Nugget effect:  0.71320E-01
Model: Spherical    1      . Sill:  0.20906    . Range:   86794.
```
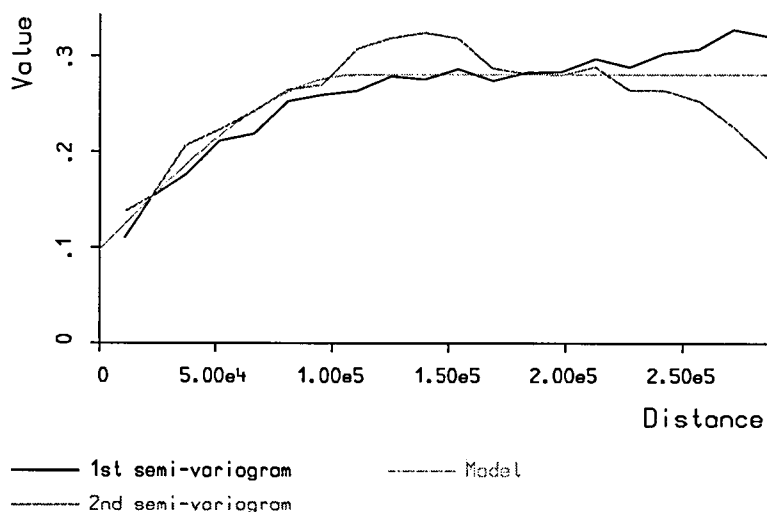
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/03/96
------------------------------------------------------------------------
Name of file      : Nd-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Nd
Dimension: 2. Components: 1. Nugget effect:  0.12267
Model: Spherical    1      . Sill:  0.15771    . Range:  0.17084E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/03/96
------------------------------------------------------------------------
Name of file      : Nd.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Nd
Dimension: 2. Components: 1. Nugget effect:  0.96995E-01
Model: Spherical    1      . Sill:  0.18338    . Range:  0.11000E+06
```


Semi-variogram of Nd

14.17   Variable Rb

Direction East-West (*1st semi-variogram*):

```
Date              : 11/03/96
-------------------------------------------------------------------
Name of file      : Rb-1.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Rb
Dimension: 2. Components: 1. Nugget effect:  0.58338E-01
Model: Spherical   1     . Sill: 0.10065    . Range:   51579.
```

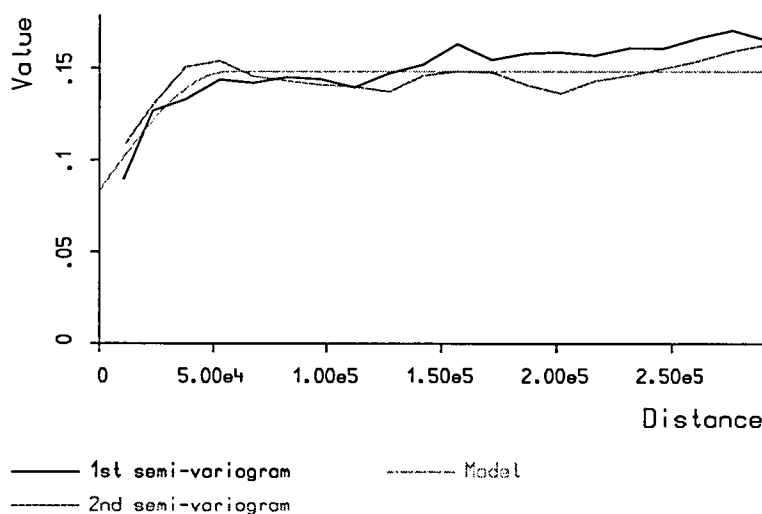Direction North-South (*2nd semi-variogram*):

```
Date              : 11/03/96
-------------------------------------------------------------------
Name of file      : Rb-2.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Rb
Dimension: 2. Components: 1. Nugget effect:  0.88522E-01
Model: Spherical   1     . Sill: 0.70470E-01. Range:   59887.
```

Combined (Isotropical) Variogram:

```
Date              : 11/03/96
-------------------------------------------------------------------
Name of file      : Rb.mod
-------------------------------------------------------------------
User              : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Rb
Dimension: 2. Components: 1. Nugget effect:  0.83000E-01
Model: Spherical   1     . Sill: 0.65000E-01. Range:   56000.
```

14.18   Variable Sb

Direction East-West (*1st semi-variogram*):

```
Date            : 11/03/96
------------------------------------------------------------------
Name of file    : Sb-1.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components: 1. Nugget effect:  0.13537
Model: Spherical    1     . Sill:  0.12102    . Range:   60614.
```
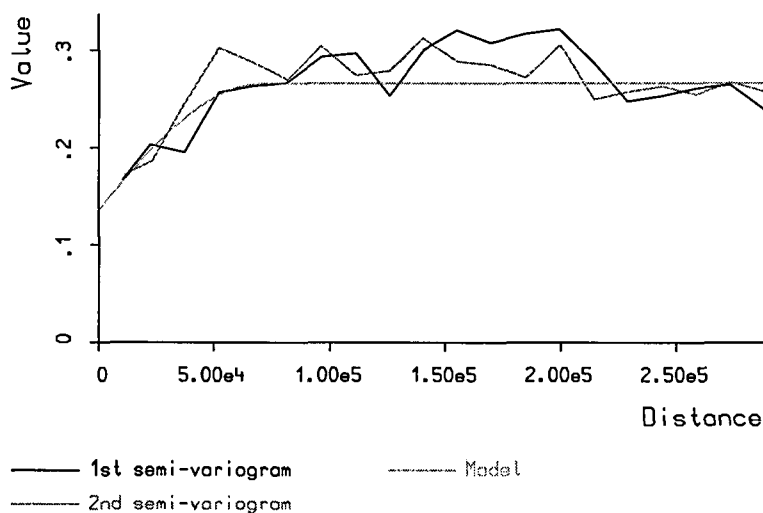
Direction North-South (*2nd semi-variogram*):

```
Date            : 11/03/96
------------------------------------------------------------------
Name of file    : Sb-2.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components: 1. Nugget effect:  0.15830
Model: Spherical    1     . Sill:  0.98091E-01. Range:  0.12189E+06
```

Combined (Isotropical) Variogram:

```
Date            : 11/03/96
------------------------------------------------------------------
Name of file    : Sb.mod
------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------
Semi-variogram model of variable: Sb
Dimension: 2. Components: 1. Nugget effect:  0.13600
Model: Spherical    1     . Sill:  0.13000    . Range:   70000.
```


Semi-variogram of Sb

14.19   Variable Sc

Direction East-West (*1st semi-variogram*):

```
          Date            : 11/03/96
          ------------------------------------------------------------------
          Name of file    : Sc-1.mod
          ------------------------------------------------------------------
          User            : Dutter / Reimann
          ------------------------------------------------------------------
          Name of data file: ../lntopna.txt
          ------------------------------------------------------------------
          Semi-variogram model of variable: Sc
          Dimension: 2. Components: 1. Nugget effect:  0.18245
          Model: Spherical    1     . Sill: 0.37898    . Range:  0.12844E+06
```

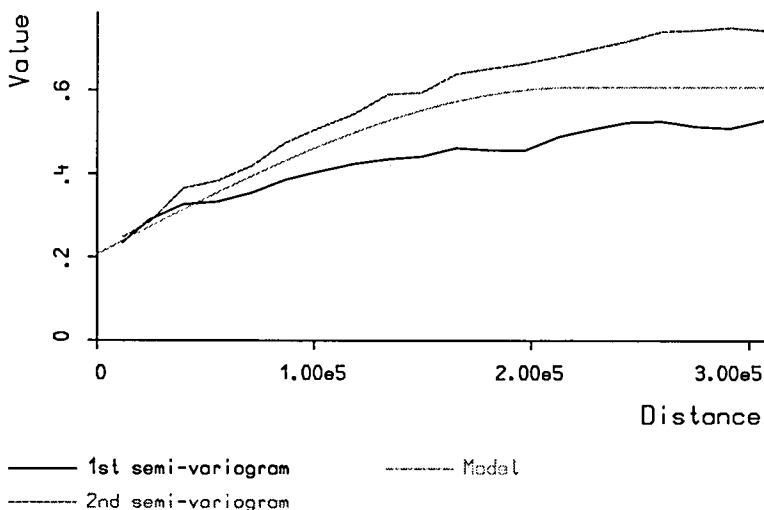Direction North-South (*2nd semi-variogram*):

```
          Date            : 11/03/96
          ------------------------------------------------------------------
          Name of file    : Sc-2.mod
          ------------------------------------------------------------------
          User            : Dutter / Reimann
          ------------------------------------------------------------------
          Name of data file: ../lntopna.txt
          ------------------------------------------------------------------
          Semi-variogram model of variable: Sc
          Dimension: 2. Components: 1. Nugget effect:  0.21199
          Model: Spherical    1     . Sill: 0.34945    . Range:  0.17463E+06
```

Combined (Isotropical) Variogram:

```
          Date            : 11/03/96
          ------------------------------------------------------------------
          Name of file    : Sc.mod
          ------------------------------------------------------------------
          User            : Dutter / Reimann
          ------------------------------------------------------------------
          Name of data file: ../lntopna.txt
          ------------------------------------------------------------------
          Semi-variogram model of variable: Sc
          Dimension: 2. Components: 1. Nugget effect:  0.20700
          Model: Spherical    1     . Sill: 0.40000    . Range:  0.22000E+06
```


Semi-variogram of Sc

14.20 Variable Sm

Direction East-West (*1st semi-variogram*):

```
Date            : 11/03/96
-------------------------------------------------------------------
Name of file    : Sm-1.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Sm
Dimension: 2. Components: 1. Nugget effect:  0.16101
Model: Spherical    1    . Sill: 0.41474    . Range: 0.11684E+06
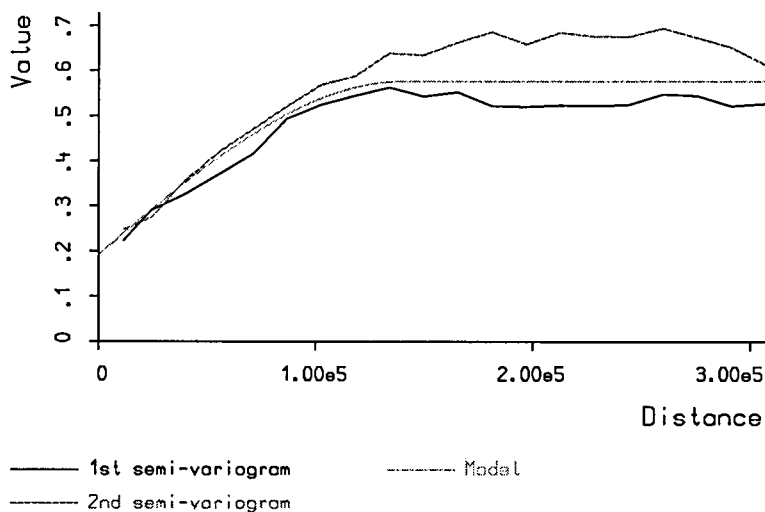```

Direction North-South (*2nd semi-variogram*):

```
Date            : 11/03/96
-------------------------------------------------------------------
Name of file    : Sm-2.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Sm
Dimension: 2. Components: 1. Nugget effect:  0.22234
Model: Spherical    1    . Sill: 0.35340    . Range: 0.24674E+06
```

Combined (Isotropical) Variogram:

```
Date            : 11/03/96
-------------------------------------------------------------------
Name of file    : Sm.mod
-------------------------------------------------------------------
User            : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Sm
Dimension: 2. Components: 1. Nugget effect:  0.19168
Model: Spherical    1    . Sill: 0.38407    . Range: 0.14000E+06
```

Semi-variogram of Sm

14.21   Variable Ta

Direction East-West (*1st semi-variogram*):

```
        Date            : 11/09/96
        ------------------------------------------------------------
        Name of file    : Ta-1.mod
        ------------------------------------------------------------
        User            : Dutter / Reimann
        ------------------------------------------------------------
        Name of data file: ../lntopna.txt
        ------------------------------------------------------------
        Semi-variogram model of variable: Ta
        Dimension: 2. Components: 1. Nugget effect: 0.24522
        Model: Spherical    1    . Sill: 0.49636   . Range:   54263.
```
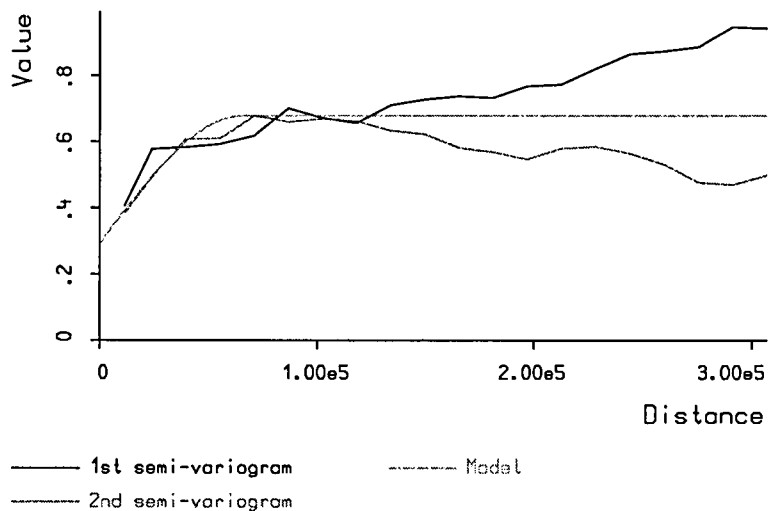
Direction North-South (*2nd semi-variogram*):

```
        Date            : 11/09/96
        ------------------------------------------------------------
        Name of file    : Ta-2.mod
        ------------------------------------------------------------
        User            : Dutter / Reimann
        ------------------------------------------------------------
        Name of data file: ../lntopna.txt
        ------------------------------------------------------------
        Semi-variogram model of variable: Ta
        Dimension: 2. Components: 1. Nugget effect: 0.27900
        Model: Spherical    1    . Sill: 0.46258   . Range:   78474.
```

Combined (Isotropical) Variogram:

```
        Date            : 11/09/96
        ------------------------------------------------------------
        Name of file    : Ta.mod
        ------------------------------------------------------------
        User            : Dutter / Reimann
        ------------------------------------------------------------
        Name of data file: ../lntopna.txt
        ------------------------------------------------------------
        Semi-variogram model of variable: Ta
        Dimension: 2. Components: 1. Nugget effect: 0.29000
        Model: Spherical    1    . Sill: 0.38900   . Range:   66000.
```


Semi-variogram of Ta

14.22   Variable Tb

Direction East-West (*1st semi-variogram*):

```
Date              : 11/09/96
------------------------------------------------------------------------
Name of file      : Tb-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Tb
Dimension: 2. Components: 1. Nugget effect:  0.91804E-02
Model: Spherical    1    . Sill:  0.90106E-01. Range:    41763.
```
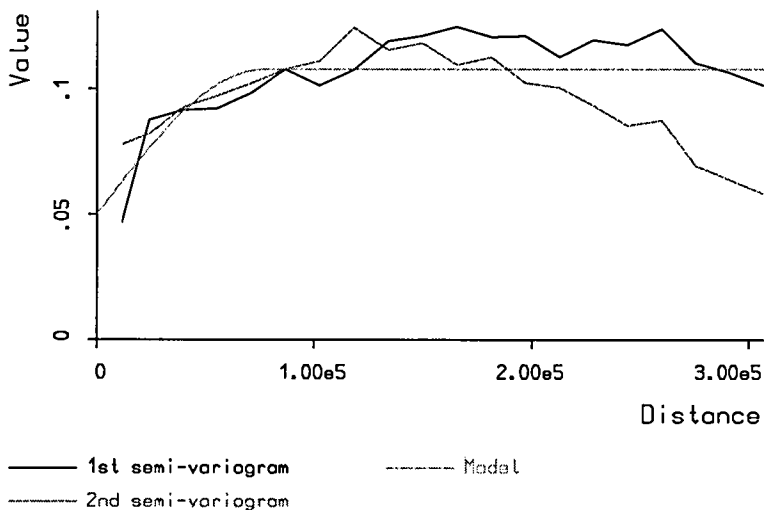
Direction North-South (*2nd semi-variogram*):

```
Date              : 11/09/96
------------------------------------------------------------------------
Name of file      : Tb-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Tb
Dimension: 2. Components: 1. Nugget effect:  0.73849E-01
Model: Spherical    1    . Sill:  0.25437E-01. Range:  0.11153E+06
```

Combined (Isotropical) Variogram:

```
Date              : 11/09/96
------------------------------------------------------------------------
Name of file      : Tb.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Tb
Dimension: 2. Components: 1. Nugget effect:  0.50000E-01
Model: Spherical    1    . Sill:  0.57772E-01. Range:    76647.
```


Semi-variogram of Tb

14.23 Variable Th

Direction East-West (*1st semi-variogram*):

```
Date                : 11/03/96
-------------------------------------------------------------------
Name of file        : Th-1.mod
-------------------------------------------------------------------
User                : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.11751
Model: Spherical     1     . Sill:  0.46102    . Range:    96727.
```

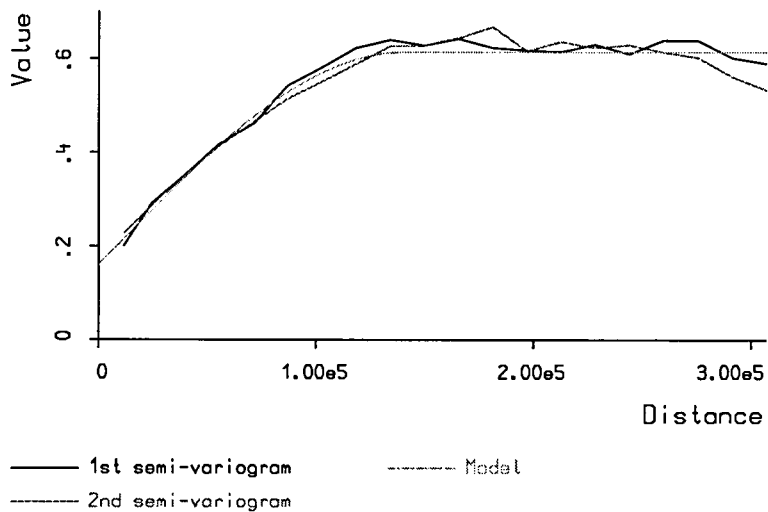Direction North-South (*2nd semi-variogram*):

```
Date                : 11/03/96
-------------------------------------------------------------------
Name of file        : Th-2.mod
-------------------------------------------------------------------
User                : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.17047
Model: Spherical     1     . Sill:  0.40806    . Range:  0.12682E+06
```

Combined (Isotropical) Variogram:

```
Date                : 11/03/96
-------------------------------------------------------------------
Name of file        : Th.mod
-------------------------------------------------------------------
User                : Dutter / Reimann
-------------------------------------------------------------------
Name of data file: ../lntopna.txt
-------------------------------------------------------------------
Semi-variogram model of variable: Th
Dimension: 2. Components: 1. Nugget effect:  0.16000
Model: Spherical     1     . Sill:  0.45400    . Range:  0.14000E+06
```

14.24   Variable U

Direction East-West (*1st semi-variogram*):

```
Date              : 11/03/96
-----------------------------------------------------------------------
Name of file      : U-1.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lntopna.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: U
Dimension: 2. Components: 1. Nugget effect:  0.12383
Model: Spherical    1    . Sill:  0.33879E-01. Range:   21303.
```

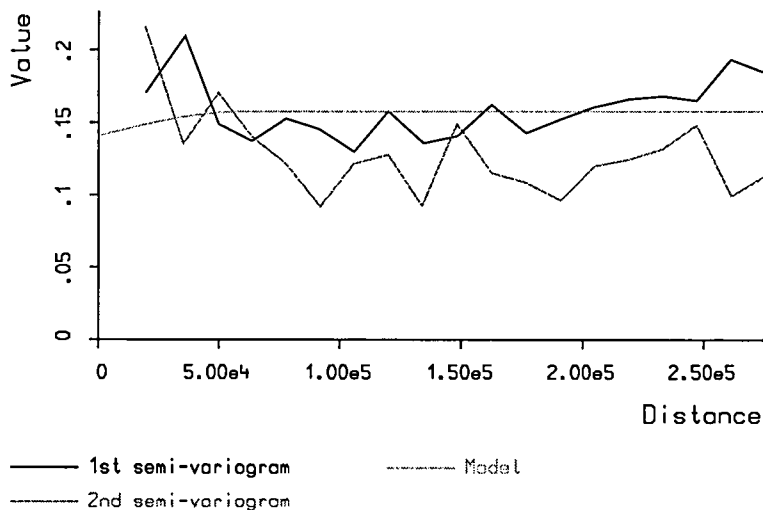Direction North-South (*2nd semi-variogram*):

```
Date              : 11/03/96
-----------------------------------------------------------------------
Name of file      : U-2.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lntopna.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: U
Dimension: 2. Components: 1. Nugget effect:  0.15771
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date              : 11/03/96
-----------------------------------------------------------------------
Name of file      : U.mod
-----------------------------------------------------------------------
User              : Dutter / Reimann
-----------------------------------------------------------------------
Name of data file: ../lntopna.txt
-----------------------------------------------------------------------
Semi-variogram model of variable: U
Dimension: 2. Components: 1. Nugget effect:  0.14077
Model: Spherical    1    . Sill:  0.16940E-01. Range:   60000.
```


Semi-variogram of U

14.25 Variable Yb

Direction East-West (*1st semi-variogram*):

```
Date             : 11/03/96
------------------------------------------------------------------------
Name of file     : Yb-1.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Yb
Dimension: 2. Components: 1. Nugget effect:  0.23023
Model: Spherical    1     . Sill:  0.33746    . Range:  0.19584E+06
```

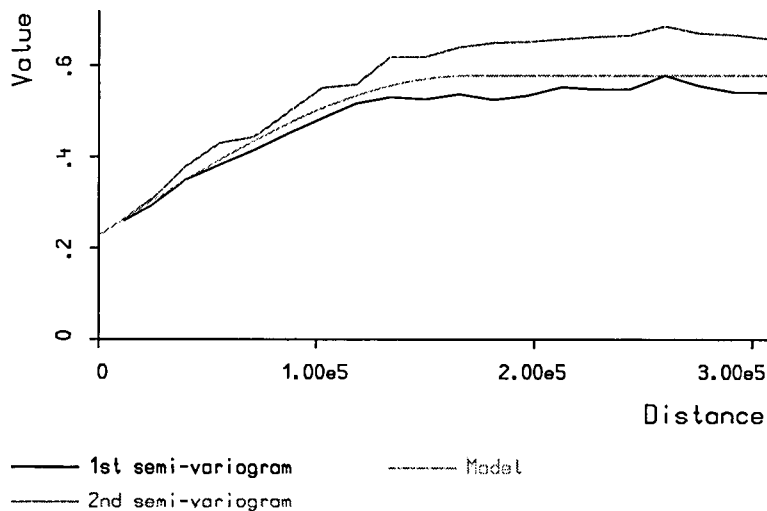Direction North-South (*2nd semi-variogram*):

```
Date             : 11/03/96
------------------------------------------------------------------------
Name of file     : Yb-2.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Yb
Dimension: 2. Components: 1. Nugget effect:  0.22538
Model: Spherical    1     . Sill:  0.34232    . Range:  0.15262E+06
```

Combined (Isotropical) Variogram:

```
Date             : 11/03/96
------------------------------------------------------------------------
Name of file     : Yb.mod
------------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Yb
Dimension: 2. Components: 1. Nugget effect:  0.22781
Model: Spherical    1     . Sill:  0.35000    . Range:  0.17000E+06
```


Semi-variogram of Yb

14.26 Variable Zn

Direction East-West (*1st semi-variogram*):

```
Date            : 11/03/96
------------------------------------------------------------------------
Name of file    : Zn-1.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect:  0.83809E-01
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

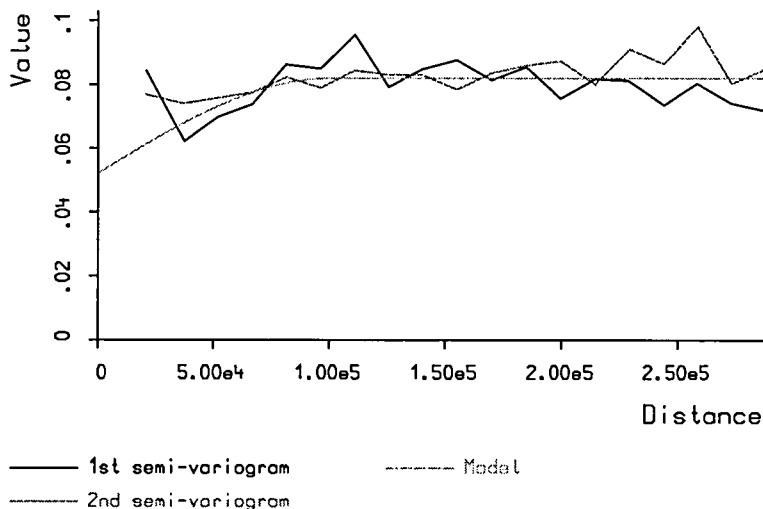Direction North-South (*2nd semi-variogram*):

```
Date            : 11/03/96
------------------------------------------------------------------------
Name of file    : Zn-2.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect:  0.83809E-01
Model: Spherical    1    . Sill:  0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date            : 11/03/96
------------------------------------------------------------------------
Name of file    : Zn.mod
------------------------------------------------------------------------
User            : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../lntopna.txt
------------------------------------------------------------------------
Semi-variogram model of variable: Zn
Dimension: 2. Components: 1. Nugget effect:  0.52000E-01
Model: Spherical    1    . Sill:  0.30000E-01. Range:  0.10000E+06
```

Chapter 15

Estimated Variograms for TOPSOIL

15.1   Variable lnLOI

Direction East-West (*1st semi-variogram*):

```
Date              : 01/02/97
------------------------------------------------------------------------
Name of file      : lnLOI-1.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../topph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: lnLOI
Dimension: 2. Components: 1. Nugget effect:  0.54988
Model: Spherical     1     . Sill:  0.00000    . Range:  0.00000
```
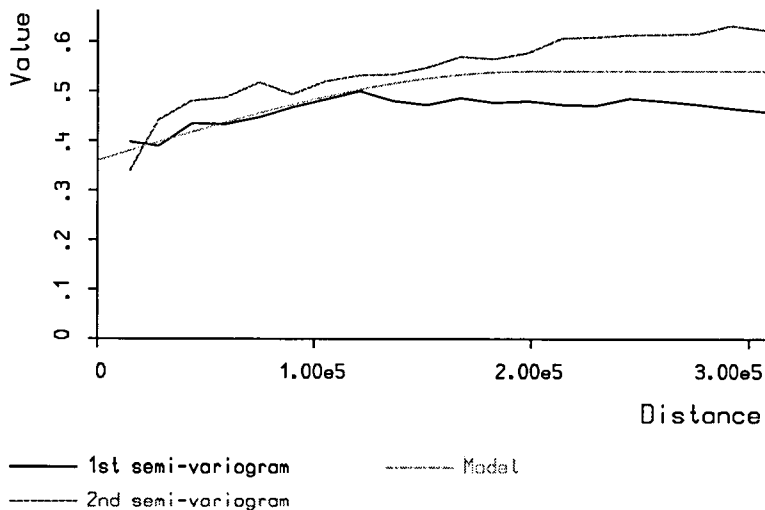
Direction North-South (*2nd semi-variogram*):

```
Date              : 01/02/97
------------------------------------------------------------------------
Name of file      : lnLOI-2.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../topph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: lnLOI
Dimension: 2. Components: 1. Nugget effect:  0.22179
Model: Spherical     1     . Sill:  0.32809    . Range:   63026.
```

Combined (Isotropical) Variogram:

```
Date              : 01/02/97
------------------------------------------------------------------------
Name of file      : lnLOI.mod
------------------------------------------------------------------------
User              : Dutter / Reimann
------------------------------------------------------------------------
Name of data file: ../topph.txt
------------------------------------------------------------------------
Semi-variogram model of variable: lnLOI
Dimension: 2. Components: 1. Nugget effect:  0.36000
Model: Spherical     1     . Sill:  0.18000    . Range:  0.20000E+06
```

Semi-variogram of lnLOI

————— 1st semi-variogram   ——·—·— Model

――――― 2nd semi-variogram

15.2 Variable lnEC

Direction East-West (*1st semi-variogram*):

```
Date            : 01/02/97
----------------------------------------------------------------------
Name of file    : lnEC-1.mod
----------------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../topph.txt
----------------------------------------------------------------------
Semi-variogram model of variable: lnEC
Dimension: 2. Components: 1. Nugget effect:  0.15937
Model: Spherical    1    . Sill: 0.87330E-01. Range:    82857.
```

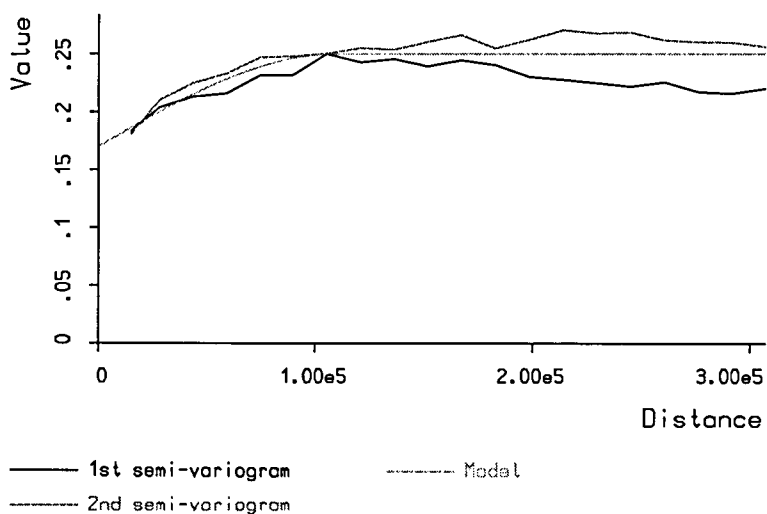Direction North-South (*2nd semi-variogram*):

```
Date            : 01/02/97
----------------------------------------------------------------------
Name of file    : lnEC-2.mod
----------------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../topph.txt
----------------------------------------------------------------------
Semi-variogram model of variable: lnEC
Dimension: 2. Components: 1. Nugget effect:  0.14766
Model: Spherical    1    . Sill: 0.99038E-01. Range:    67261.
```

Combined (Isotropical) Variogram:

```
Date            : 01/02/97
----------------------------------------------------------------------
Name of file    : lnEC.mod
----------------------------------------------------------------------
User            : Dutter / Reimann
----------------------------------------------------------------------
Name of data file: ../topph.txt
----------------------------------------------------------------------
Semi-variogram model of variable: lnEC
Dimension: 2. Components: 1. Nugget effect:  0.17000
Model: Spherical    1    . Sill: 0.80000E-01. Range:  0.11000E+06
```


Semi-variogram of lnEC

15.3   Variable pH

Direction East-West (*1st semi-variogram*):

```
Date             : 01/02/97
------------------------------------------------------------------
Name of file     : pH-1.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../topph.txt
------------------------------------------------------------------
Semi-variogram model of variable: pH
Dimension: 2. Components: 1. Nugget effect:  0.35940E-01
Model: Spherical    1    . Sill: 0.27170E-01. Range:   40444.
```

Direction North-South (*2nd semi-variogram*):

```
Date             : 01/02/97
------------------------------------------------------------------
Name of file     : pH-2.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../topph.txt
------------------------------------------------------------------
Semi-variogram model of variable: pH
Dimension: 2. Components: 1. Nugget effect:  0.63109E-01
Model: Spherical    1    . Sill: 0.00000    . Range:  0.00000
```

Combined (Isotropical) Variogram:

```
Date             : 01/02/97
------------------------------------------------------------------
Name of file     : pH.mod
------------------------------------------------------------------
User             : Dutter / Reimann
------------------------------------------------------------------
Name of data file: ../topph.txt
------------------------------------------------------------------
Semi-variogram model of variable: pH
Dimension: 2. Components: 1. Nugget effect:  0.39500E-01
Model: Spherical    1    . Sill: 0.23600E-01. Range:   50000.
```


Semi-variogram of pH