

# RADIOCARBON DATES III

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## INTRODUCTION

This third date list from the Dating Laboratory of the University of Helsinki is a continuation of the first two published in 1979 and 1983. The list brings the published dates up to about number Hel-2000 and covers the period from 1981 to 1984.

Dates reported are based on 95 % of the activity of the old NBS oxalic acid and the Libby half-life 5568 a. Errors quoted ( $\pm 1 \sigma$ ) include counting uncertainties for sample, standard and background. When a  $\delta^{13}\text{C}$  value is given the corresponding date has been corrected for isotopic fractionation. If the  $^{14}\text{C}$  activity of a sample indicates a date younger than 1950 AD the age is given as " > modern ".

The date list is compiled according to laboratory number. Series of samples from the same site or same context are, however, grouped together. At the end of the report an index according to submitter is included. The data compiled in this list are sorted from a data-base set up to cover the samples dated in our laboratory.

## ACKNOWLEDGEMENTS

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## KOPPELONIEMI SERIES, HYRYNSALMI

64° 42' N, 28° 30' E; x=7179 06, y=3571 34; ca 160 m a.s.l.  
 Coll. by Perkko, M. 1979 and subm. by Siiriäinen, A. 1980.  
 Comment (M. Huurre): A dwelling site with archaeological finds from the Suomusjärvi phase (cf. Hel-1425), Sär 1 phase, the Late Stone Age (cf. Hel-1401), and the Early Metal Period (cf. Hel-1402).

Hel-1401	KM 20638:382 Charcoal, depth 27 cm	3440±100
Hel-1402	KM 20634:386 Charcoal, depth 21 cm	2030±110
Hel-1425	KM 20634:387 Charcoal, depth 45 cm	8260±120

## VANUTEHTAANMÄKI SERIES, SALO

Coll. and subm. by Linturi, E. 1979, 1981 and 1982

Hel-1403	Vanutehtaanmäki, 20610:490 Charcoal, depth 10 cm	1430±140
Hel-1494	Vanutehtaanmäki, 20869/1 Charcoal, depth 10-25 cm	1540±100
Hel-1495	Vanutehtaanmäki, 20870/1 Charcoal, depth 35 cm	1640±110
Hel-1603	Vanutehtaanmäki, 21201:1 Charcoal, depth 50 cm	1870±100
Hel-1604	Vanutehtaanmäki, 21201:2 Charcoal, depth 30 cm	1950± 90
Hel-1605	Vanutehtaanmäki, 21201:3 Charcoal, depth 30 cm	1800±100
Hel-1606	Vanutehtaanmäki, 21201:4 Charcoal, depth 20 cm	1560±110
Hel-1607	Vanutehtaanmäki, 21201:5 Charcoal, depth 20 cm	1360±120
Hel-1608	Vanutehtaanmäki, 21201:6 Charcoal, depth 40 cm	1560± 90
Hel-1609	Vanutehtaanmäki, 21201:7 Charcoal, depth 25 cm	1610± 90
Hel-1610	Vanutehtaanmäki, 21201:8 Charcoal, depth 15 cm	1670± 90
Hel-1762	Vanutehtaanmäki 4, 21500:1 Charcoal	1830± 90

Hel-1763	Vanutehtaanmäki 4, 21500:2 Charcoal	1880± 90
Hel-1764	Vanutehtaanmäki 4, 21500:3 Charcoal	2900± 90
Hel-1765	Vanutehtaanmäki 4, 21500:4 Charcoal	1960± 90
Hel-1766	Vanutehtaanmäki 4, 21500:5 Charcoal	1800± 90
Hel-1767	Vanutehtaanmäki 4, 21500:6 Charcoal	1850± 90
Hel-1768	Vanutehtaanmäki 4, 21500:7 Charcoal	1830± 90
Hel-1769	Vanutehtaanmäki 4, 21500:8 Charcoal	1600± 80

#### RYYTIMAA SERIES, VIMPELI

119 m a.s.l.

Coll. and subm. by Donner, J. 1979

Comment (JD): All three samples from Vimpele are from a till-covered layer of drift peat at Ryytimaa, which was interpreted as representing the Eemian Interglacial.

Ref. Aalto et al. (1983).

Hel-1404	Ryytimaa 1 wood	> 43000
Hel-1405	Ryytimaa 2 drift peat	> 43000
Hel-1406	Ryytimaa 3 humus from sample Hel-1405	> 40300

#### OULUNJÄRVI SERIES I

Peat samples collected from three different sites submerged by the transgression of Lake Oulujärvi.

Coll. by Keränen, R. 1979 and subm. by Koutaniemi, L. and Keränen, R. 1980.

Ref. Koutaniemi, L. and Keränen, R. (1983).

Hel-1407	Nimisjoki I 64° 31' N, 26° 49' E; x=7156.10, y=490.00; 123 m a.s.l. depth 0.505-0.585 m	3640±140
Hel-1408	Mieslahti I 64° 23' N, 27° 59' E; x=7142.80, y=547.20; 123 m a.s.l. depth 6.23-6.31 m	5370±150

Hel-1409	Mieslahti II depth 5.82-5.90 m	3660±150
Hel-1426	Jormualahti II 64° 18' N, 27° 58' E; x=7133.50, y=547.50; 123 m a.s.l. depth 2.15-2.23 m	1490±130
Hel-1427	Jormualahti III depth 2.07-2.15 m	1110±130
Hel-1428	Jormualahti IV depth 1.99-2.07 m	170±130

## LUMISUO SERIES, PALTAMO

Coll. by Huurre, M. 1980 and subm. by Siiriäinen, A. 1980.

Hel-1410	Lumisuo I Peat, depth 45 cm	2230±100
Hel-1411	The Paltamo bow, KM 20253 Wood, depth 50 cm	2230±100

## POHJASSUO SERIES, NUOLIVAARA, POSIO

66° 15' N, 28° 30' E; 410 m a.s.l.

Coll by Huttunen, A. 1979 and subm. by Vasari, Y. 1980

Samples from various levels of a mire, taken to date the local vegetational history and to calculate the rate of peat growth. Samples 1-2 taken by digging, the others with a Russian peat sampler and combined of two replicate cores.

Ref. Huttunen (1987).

Hel-1412	Pohjassuo 1 peat, depth 20-25 cm Comment (AH): Beginning of weak signs of human influence in the pollen profile. Due obviously to root effect this dating gave a very young age.	170±110
Hel-1413	Pohjassuo 2 peat, depth 45-50 cm Comment (AH): Boundary between two local subzones (Picea - Pinus and Betula - Ericales) within the local Pinus - Picea p.a.z.	1170±100
Hel-1414	Pohjassuo 3 peat, depth 70-77 cm Comment (AH): Boundary between two local subzones (Pinus - Betula - Picea and Picea - Pinus) within the local Pinus - Picea p.a.z. Rise of Picea pollen to maximal values.	3030±100

- Hel-1415 Pohjassuo 4 5060±160  
 peat, depth 110-117 cm  
 Comment (AH): End of local Pinus - Betula p.a.z.  
 Immigration of Spruce.
- Hel-1416 Pohjassuo 5 6870±110  
 peat, depth 143-150 cm  
 Comment (AH): Beginning of peat accumulation.

## LACHISH SERIES, ISRAEL

Coll. and subm. by Louhivuori, M. 1979.

- Hel-1417 P 3535, 15184, Temple  
 Seeds 2810±100
- Hel-1418 S 3608, 13545, Level IV  
 Seeds 2650± 90
- Hel-1419 S 3529, 8139, Level III  
 Seeds 2110± 80
- Hel-1420 P 5009, 25085, MB  
 Charcoal 3380±100
- Hel-1421 P 3140, 9509, LB  
 Charcoal 3000±100
- Hel-1422 S 3579, 8565, Level IV  
 Charcoal 3040± 90
- Hel-1423 S 3582, 8580, Level III  
 Charcoal 2400±100
- Hel-1424 G 4129, 30871, Level II  
 Charcoal 2110± 90

Hel-1425 see KOPPELONIEMI SERIES Hel-1401

Hel-1426 - 1428 see OULUNJÄRVI SERIES I Hel-1407

## KUOPPAJÄRVI SERIES

x=6700.58, y=421.70; 9.5 m a.s.l.

Coll. and subm. by Salonen, V-P. 1980

- Hel-1429 Kuoppajärvi I 990±110  
 gyttja, depth 1.90-1.97 m  
 Comment (V-P.S): Dating the maximum frequency of  
 Cerealia pollen; permanent field cultivation.
- Hel-1430 Kuoppajärvi II 1230±120  
 gyttja, depth 2.40-2.47 m  
 Comment (V-P.S): Dating the first appearance of  
 Secale pollen; start of slash and burn cultivation.

Hel-1431 Kuoppajärvi III 1550±160  
 gyttja, depth 3.05-3.15 m  
 Comment (V-P.S): Dating the isolation of the lake  
 from the Baltic Sea - verified with diatom  
 analysis.

#### KUTTULAMPI SERIES, ESPOO

60° 14' N, 24° 45' E; 28.7 m a.s.l.

Coll. by Hyvärinen, H. and Eronen, M. 1980 and subm. by Hyvärinen, H. 1980.

General Comment (HH): A stratigraphical site used for the reconstruction of relative sea-level changes near Helsinki. Hel-1435 dates the contact between brackish and small-lake sediments in the core, hence the isolation of the basin (28.7 m a.s.l) from the Baltic. Hel-1434 is a control sample from the top of the *Campylodiscus clypeus* diatom zone just below the isolation contact. Hel-1433 is from near the base of the *C. clypeus* zone. Hel-1432 dates the top of the *Fragilaria-Mastogloia* diatom zone, and it also dates the pollen limit of *Tilia* (T°).

Ref. Hyvärinen (1982, 1984).

Hel-1432	Kuttulampi I gyttja, depth 5.40-5.50 m	7310±110
Hel-1433	Kuttulampi II gyttja, depth 5.10-5.20 m	6770±110
Hel-1434	Kuttulampi III gyttja, depth 3.50-3.60 m	6010±110
Hel-1435	Kuttulampi IV gyttja, depth 3.20-3.30 m	5700±120

#### KITKAJOKI SERIES, KUUSAMO

Coll. by Hautala, Koutaniemi and Norokytö 1980 and subm. by Koutaniemi, L. 1980

Ref. Koutaniemi (1983, 1987).

Hel-1436	Ki V B T 66° 17' N, 29° 37' E; x=7353.76, y=482.54; 138 m a.s.l. wood, depth 2.5 m Subfossil trunk in a terrace of the Kitkajoki valley.	5010±150
Hel-1488	Ki III A 66° 16' N, 29° 38' E; x=7353.52, y=483.08; 139.5 m a.s.l. peat, depth 2.62-2.65 m Bottom deposits of a palaeochannel ("too young").	4620±140
Hel-1489	Ki III A (2) 140.5 m a.s.l. peat, depth 1.55-1.65 m Palaeochannel deposits.	3820±110

- Hel-1490 Ki III A (3) 3810±120  
140.5 m a.s.l.  
peat, depth 1.45-1.55 m  
Palaeochannel deposits.
- Hel-1491 Ki IV A (4) 1220±120  
66° 16' N, 29° 38' E; x=7353.53, y= 482.90;  
138.5 m a.s.l.  
peat, depth 1.50-1.55 m  
Palaeochannel deposits.
- Hel-1492 Ki IV A (3) 2580±130  
138.5 m a.s.l.  
peat, depth 1.55-1.60 m  
Palaeochannel deposits.

#### OULANKAJOKI SERIES, KUUSAMO

Coll. by Hautala, Koutaniemi and Norokytö 1980 and subm. by  
Koutaniemi, L. 1980  
Ref. Koutaniemi (1983, 1987).

- Hel-1437 Raj II 2190±140  
66° 17' N, 29° 38' E; x=7355.05, y=484.07;  
138 m a.s.l.  
wood, depth 3.5 m  
Subfossil trunk in a terrace of the Oulankajoki  
valley.
- Hel-1438 Jäk III 2040±140  
66° 17' N, 29° 37' E; x=7355.46, y=483.29;  
138 m a.s.l.  
wood, depth 2.5 m  
Submerged trunk in a terrace of the Oulankajoki  
valley.
- { Hel-1439 Juh I 8530±140  
66° 18' N, 29° 32' E; x=7358.84, y=479.40;  
138.5 m a.s.l.  
wood, depth 0.50 m  
Buried kettle-hole bottom in the river bed.
- { Hel-1440 Ant I 8730±170  
66° 19' N, 29° 30' E; x=7360.74, y=477.52;  
140 m a.s.l.  
wood, depth 0.20 m below w.s.  
Wood remnants in a terrace of the Oulankajoki  
valley.

#### VALKIAJÄRVI SERIES, RUOVESI

Coll. and subm. by Saarnisto, M. 1980

- Hel-1441 Valkiajärvi 1000 970±120  
gyttja



Hel-1442	Valkiajärvi 2000 gyttja	1550±110
Hel-1443	Valkiajärvi 3000 gyttja	2810±120
Hel-1444	Valkiajärvi 4000 gyttja	3870±110
Hel-1445	Valkiajärvi 5000 gyttja	4950±140
Hel-1446	Valkiajärvi 6000 gyttja	6100±110
Hel-1447	Valkiajärvi 7000 gyttja	7140±110
Hel-1448	Valkiajärvi 1000 humus humic fraction	980±120
Hel-1449	Valkiajärvi 2000 humus humic fraction	2180±100
Hel-1450	Valkiajärvi 3000 humus humic fraction	2980±100
Hel-1451	Valkiajärvi 4000 humus humic fraction	3830±110
Hel-1452	Valkiajärvi 5000 humus humic fraction	5030±140
Hel-1453	Valkiajärvi 6000 humus humic fraction	6060±100
Hel-1454	Valkiajärvi 7000 humus humic fraction	7140±160

## SANTAMÄKI SERIES, SALO

60° 23' N, 23° 07' E; 57.5 m a.s.l.

Coll. by Matiskainen, H. and Tolonen, K. 1979 and subm. by Tolonen, M. 1980.

Ref. Tolonen, M. (1975).

Hel-1455	Santamäki I peat, depth 3.37-3.45 m Comment (MT): A <sup>+</sup>	7960±130
Hel-1456	Santamäki II peat, depth 1.67-1.71 m Comment (MT): Before Pc°	3780±120
Hel-1457	Santamäki III peat, depth 1.46-1.48 m Comment (MT): After Pc <sup>+</sup>	3290±130

Hel-1458	Santamäki IV peat, depth 0.92-0.94 m	1970±140
Hel-1459	Santamäki V peat, depth 0.90-0.92 m Comment (MT): First cultivation	1700±140
Hel-1460	Santamäki VI peat, depth 0.88-0.90 m	1590±140
Hel-1461	Santamäki VII peat, depth 0.81-0.83 m	1360±130
Hel-1462	Santamäki VIII peat, depth 0.70-0.73 m	960±130
Hel-1463	RIIHIPELTO, KÄRSÄMÄKI  KM 16642 RNo. 13:17 Coll. by Lauhama, V. 1964 and subm. by Edgren, T. 1980 wood, depth 1.10-1.20 m	1110± 90

## KETOHAKA SERIES I, SALO

Coll. by Schauman-Lönnqvist, M. and subm. by Carpelan, C. 1980 and 1981.

Hel-1464	Ketohaka 570/718, 6. charcoal, depth 0.45 m	1630±110
Hel-1465	Ketohaka 594/728, 6-7. charcoal, depth 0.50 m	2070±120
Hel-1466	Ketohaka 9650/2760 c, 4. charcoal, depth 0.40 m	1630±120
Hel-1467	Ketohaka 9650-52/2740, 5. charcoal, depth 0.40 m	1410±130
Hel-1570	Ketohaka 964675/276825 charcoal	350±100
Hel-1571	Ketohaka 9652/2774 charcoal	1880± 90

## HANHILAMPI SERIES, IISALMI

63° 37' N, 27° 04' E; 121.8 m a.s.l.  
Gyttja samples from various levels of the lake bottom deposits.  
Coll. using a piston sampler and subm. 1980 by Vasari, Y. and  
Ruohomäki, A.-M. Generally the datings fit well with earlier  
results (see Tolonen and Ruuhijärvi, 1976).  
Ref. Ruohomäki (1983).

- Hel-1468 Hanhilampi 4 8490±200  
 silty gyttja, depth 1.90-2.00 m  
 Comment (AMR & YV): Dating for the beginning of the  
 organic sedimentation and for the Holocene pine  
 maximum.
- Hel-1469 Hanhilampi 3 7950±140  
 gyttja, depth 1.60-1.70 m  
 Comment (AMR & YV): Spread of Alnus, (A+).
- Hel-1470 Hanhilampi 2 6030±160  
 gyttja, depth 1.10-1.15 m  
 Comment (AMR & YV): Appearance of *Tilia* pollen  
 (T°).
- Hel-1541 Hanhilampi 1 5240±140  
 gyttja, depth 0.65-0.80 m. Composed of two strati-  
 graphically equivalent core segments.  
 Comment (AMR & YV): Immigration of spruce (Pc°).

## YLIKYLÄ SERIES, ROVANIEMI

Coll. by Koivunen, P. 1979 and subm. 1980.

For references see Koivunen (1978), Kostet and Närhi (1980),  
 Paavola (1984), and Mäkivuoti (1987).

- Hel-1471 YK-79 No.5 600± 90  
 charcoal, depth 0.30 m
- Hel-1472 YK-79 No.6 50± 90  
 charcoal, depth 0.65 m
- Hel-1477 YK-79 No. 1 290± 90  
 charcoal, depth 0.30 m
- Hel-1478 YK-79 No. 2 90± 90  
 charcoal, depth 0.67 m
- Hel-1479 YK-79 No. 3 80± 90  
 charcoal, depth 0.25 m
- Hel-1480 YK-79 No. 4 230± 90  
 charcoal, depth 0.28 m
- Hel-1507 YK-79 No.7 290±110  
 wood, depth 0.55 m
- Hel-1508 YK-79 No.8 480± 90  
 wood, depth 0.75 m
- Hel-1473 SALTVIK, MYRSBACKA 1960±100

60° 17' N, 20° 08' E; x=6687.73, y=1453.13; 28 m a.s.l.  
 Ål. Mus. 322:97, charcoal coll. by Meinander, C.F. and  
 subm. by Siiriäinen, A. 1980.  
 Ref. Meinander (1981).  
 Comment (M. Miettinen): The date does not agree with  
 the archaeological dating.

## KOIRALAMMINSUO BOAT, RÄÄKKYLÄ

62° 16' N, 29° 42' E

Samples from a sewn boat found in the bog Koiralampi at Rääkkylä.  
Coll. by Huurre, M. 1976 and subm. by Siiriäinen, A. 1980.

Comment (E. Naskali): Earlier datings from the same boat (Hel-1005 and Hel-1093) gave different results.

Ref. Naskali (1979) and Vuorela (1988).

Hel-1474	Koivalamminsuo boat 1 wood	> modern
Hel-1475	Koivalamminsuo boat 2 wood	70± 90
Hel-1533	Koivalamminsuo boat 3 wood	130± 90
Hel-1575	Koivalamminsuo boat 4 wood	320± 80
Hel-1476	OULU 1, LINNANKATU, OULU wood, depth 1.60 m Coll. by Sandman, K. 1977 and subm. by Koivunen, P. 1980.	70± 70

Hel-1477 - 1480 see YLIKYLÄ SERIES Hel-1471

## LIIPPASUO SERIES, KUUSAMO

x=47337.32, y=471.73

Coll. by Seppälä, M. and Koutaniemi, L. 1980 and subm. by Seppälä, M. 1980.

Ref. Seppälä and Koutaniemi (1985).

Hel-1481	Lii-VIII peat, depth 0.60-0.62 m Comment (MS): Beginning of the development of a string. See dates Hel-1245 - Hel-1251.	1840±120
Hel-1482	Lii-IX mud, depth 6.00-6.02 m Comment (MS): Starting point of peat formation on the studied mire, Liippasuo.	9120±120
Hel-1483	Lii-X peat, depth 5.97-5.99 m Comment (MS): Age of the lowest peat layer just above the bottom mud Hel-1482.	8170±170

## PERKIÖ SERIES, HAUHO

61° 04' N, 24° 45' E; 110 m a.s.l.

Coll. by Vuorela, I and P. 1980 and subm by Vuorela, I. 1981.

Ref. Vuorela (1982).

- |          |  |          |
|----------|--|----------|
| Hel-1484 | Perkiö I   | 4210±130 |
|          | peat, depth 0.985-1.015 m  |          |
|          | Comment (IV): The rise of the Picea curve (Pc°).                                       |          |
| Hel-1485 | Perkiö II  | 3480±130 |
|          | peat, depth 0.885-0.915 m  |          |
|          | Comment (IV): The rise of the Picea curve (Pc+).                                       |          |
| Hel-1486 | Perkiö III   | 2690±120 |
|          | peat, depth 0.66-0.69 m  |          |
|          | Comment (IV): Rise of Picea after an anthro-<br>pogenic period, probably with grazing. |          |
| Hel-1487 | Perkiö IV  | 1910±110 |
|          | peat, depth 0.30-0.35 m  |          |
|          | Comment (IV): Steep decline of Picea. Increase<br>in Ericales pollen.                  |          |

Hel-1488 - 1492 see KITKAJOKI SERIES Hel-1436

Hel-1493 NUIJANIEMI, POHJASLAHTI > modern

62° 06' N, 24° 08' E; x=6887.70, y=2506.68;

102.5 m a.s.l.

KM 18323:4, charcoal, depth 0.20 m.

Coll. by Huurre, M. 1970 and subm. by Siiriäinen, A. 1980.

Comment (MH): The sample was connected to a destroyed  
burial cairn, archaeologically dated to the Early Roman  
Iron Age.

Ref. Salo (1981).

Hel-1494 - 1495 see VANUTEHTAANMÄKI SERIES Hel-1403

## MEKRIJÄRVI BOAT, ILOMANTSI

Three samples from a sewn boat found at the bottom of Lake  
Mekrijärvi. The first two samples coll. by Naskali, E. and  
Alopaeus, H. 1980 and subm. by Siiriäinen, A. 1980.

Ref. Forssell (1983)

- |          |                                       |         |
|----------|---------------------------------------|---------|
| Hel-1496 | Mekrijärvi I                          | 140± 90 |
|          | wood                                  |         |
| Hel-1497 | Mekrijärvi II                         | 20± 90  |
|          | wood                                  |         |
| Hel-1628 | Mekrijärvi III                        | 340±100 |
|          | wood, coll. by von Grönhagen, J. 1981 |         |

## KONTIOSUO SERIES, JOENSUU

62° 35' N, 29° 49' E, 81.0 m a.s.l.

Coll. by Vesajoki, H. and Huttunen, P. 1980 and subm. by Vesajoki, H. 1980.

Ref. Vesajoki et al. (1985).

- Hel-1498 Kontiosuo I 9030±180  
gyttja, depth 3.00-3.02 m  
Comment (HV): The beginning of organic sedimentation following the deglaciation and emergence of land areas in the surrounding of Joensuu.
- Hel-1499 Kontiosuo II 9090±130  
terrestrial peat, depth 2.98-3.00 m  
Comment (HV): Beginning of paludification of land areas in the surrounding of Joensuu.
- Hel-1500 Kontiosuo III 8610±120  
terrestrial peat, depth 2.68-2.70 m  
Comment (HV): The top of terrestrial peat layer buried by a silty flood deposit of the river Pielisjoki.
- Hel-1501 Kontiosuo IV 6520±120  
terrestrial peat, depth 2.10-2.12 m  
Comment (HV): The continuing of paludification of a shallow basin located near the mouth of the river Pielisjoki after the interruption by the sudden flood of the river.

## SAMMAKKOLAMPI SERIES, PUDASJÄRVI

65° 15' N, 27° 04' E; 120 m a.s.l.

Gyttja samples from various levels of the lake bottom deposits.

Coll. using a piston sampler and subm. by Vasari, Y. and Haapalahti, R. 1981.

Comment (YV): The datings are generally older than originally supposed. There seems to be no reason to suspect hard water effect.

Ref. Haapalahti (1982).

- Hel-1502 Sammakkolampi 1 9490±190  
silty gyttja, depth 2.50-2.40 m  
Comment (RH & YV): Pine maximum and rise of Alnus.
- Hel-1503 Sammakkolampi 2 8370±150  
silty gyttja, depth 2.15-2.10 m  
Comment (RH & YV): End of Alnus maximum.
- Hel-1504 Sammakkolampi 3 7090±130  
lake mud, depth 1.75-1.70 m  
Comment (RH & YV): Close to the Postglacial Climatic Optimum.

- Hel-1505 Sammakkolampi 4 4850±120  
lake mud, depth 1.15-1.05 m  
Comment (RH & YV): Beginning of the continuous  
Picea curve (Pc°).
- Hel-1506 Sammakkolampi 5 1700±130  
lake mud, depth 0.30-0.25 m  
Comment (RH & YV): Beginning of permanent (?)  
agriculture. Dating based upon even sedimentation  
rate gives an age of 700 years to this horizon.

HEL-1507 - 1508 see YLIKYLÄ SERIES Hel-1471

RYTISUO SERIES, KUUSAMO

66° 23' N, 29° 19' E; 240 m a.s.l.

Samples from various levels of a rich fen, taken in order to date the vegetational succession and to calculate the rate of peat growth. Coll. and subm. 1980 by Vasari, Y and Heino, J. Ref. Heino (1987).

- Hel-1509 Rytisuo 1 2920±120  
peat, depth 1.00-0.90 m  
Comment (JH & YV): Strong increase in Cyperaceae  
pollen.
- Hel-1510 Rytisuo 2 4440±180  
peat, depth 2.00-1.90 m  
Comment (JH & YV): Beginning of the continuous  
curve for Picea.
- Hel-1511 Rytisuo 3 5710±120  
peat, depth 3.00-2.90 m  
Comment (JH & YV): Beginning of the sporadic  
occurrence of Picea.
- Hel-1512 Rytisuo 4 6700±120  
peat, depth 3.90-3.80 m  
Comment (JH & YV): Postglacial climatic optimum.
- Hel-1513 Rytisuo 5 8600±140  
peat, depth 5.10-5.00 m  
Comment (JH & YV): Limnotelmatic contact on the  
bottom of the profile; boundary between Betula  
and Pinus - Betula pollen assemblage zones,  
immigration of Alnus (A°).

KETOHAKA SERIES II, SALO

Coll. by Uino, P. and subm. by Carpelan, C. 1980 and 1981.  
Ref. Uino (1986).

- Hel-1514 Ketohaka 9650/2740 b 4. 2320±100  
post-hole 128  
charcoal, depth 0.30 m

Hel-1515	Ketohaka 9650/2754 a-b 3. post-hole 146 charcoal, depth 0.25 m	1680± 90
Hel-1516	Ketohaka 9652/2750 c 3. post-hole 159 charcoal, depth 0.25 m	1460±120
Hel-1528	Ketohaka 9650/2738 b-d 3. charcoal, depth 0.25 m	1850±120
Hel-1529	Ketohaka 508/770 3. post-hole 204 charcoal, depth 0.25 m	1630± 80
Hel-1530	Ketohaka 9648/2758 c post-hole 121 charcoal, depth 0.30 m	1990±110
Hel-1531	Ketohaka 9648/2758 b 4. post-hole 120 charcoal, depth 0.30 m	1840±120
Hel-1565	Ketohaka 9652/2758 4. hearth 169-170 charcoal	2050±130
Hel-1566	Ketohaka 9649/2771 cairn 11 charcoal	1490± 80
Hel-1572	Ketohaka 9644/2758 post-hole 184 charcoal	2080± 90
Hel-1573	Ketohaka 9644/2760 post-hole 165 charcoal	1820±120
Hel-1574	Ketohaka 9654/2744 pit 190 charcoal	1900±120
Hel-1517	PENNALA, ORIMATTILA	5310±110
	x=6757.02, y=429.28; 65 m a.s.l. gyttja, depth 0.525-0.575 m Coll. by Kielosto, S. 1979 and subm. by Vuorela, I. 1981 Comment (IV): The level at which a prehistoric sledge runner was found, also rich in pollen and fruits of Trapa Natans.	

## AINAVARPPIJÄRVI SERIES, ENONTEKIÖ

68° 42' N, 20° 27' E; x=762350, y=51825/21; 405 m a.s.l.  
Remains of pine found beyond the present pine limit  
coll. and subm. by Eronen, M. 1980.  
Ref. Eronen and Huttunen (1987).



Hel-1518	Ainavarppijärvi I wood	5460±140
Hel-1519	Ainavarppijärvi II wood	5690±120
Hel-1520	Ainavarppijärvi III wood	5700±140
Hel-1521	Ainavarppijärvi IV wood	5900±140
Hel-1522	Ainavarppijärvi V wood	5960±120

## LADNAJÄRVI SERIES, ENONTEKIÖ

68° 43' N, 21° 29' E; x=762560, y=51950/21; 488 m a.s.l.  
Remains of pine found beyond the present pine limit  
coll. and subm by Eronen, M. 1980.  
Ref. Eronen and Huttunen (1987).

Hel-1523	Keskimmäinen Ladnajärvi I wood	4890±140
Hel-1524	Keskimmäinen Ladanajärvi II wood	4590±110
Hel-1525	Keskimmäinen Ladnajärvi III wood	6000±120
Hel-1526	Keskimmäinen Ladnajärvi IV wood	4670±100
Hel-1527	Läntinen Ladnajärvi I wood	4500±130

Hel-1528 - 1531 see KETOHAKA SERIES II Hel-1514

Hel-1532 JOENNIEMI, SUOMUSSALMI 40±100

65° 02' N, 29° 05' E; x=7215.76, y=4456.20; 199 m a.s.l.  
wood, coll. by Huurre, M. 1980 and subm. by Siiriäinen,  
A. 1981.

Comment (MH): The sample was from a wooden paddle found  
in a bog close to a Stone Age - Early Metal Period  
dwelling site.

Hel-1533 see KOIRALAMINSUO BOAT, RÄÄKKYLÄ Hel-1474

## SKI SERIES

Samples of skis coll. and subm. by Naskali, E. 1980 and 1981

Hel-1534	KTE 9584, Suomussalmi wood	710± 90
	Comment (EN): The sample is from a ski with a band ornament at the top.	
Hel-1535	KTE 7468, Linnusperä, Kokkola wood	590±110
	Comment (EN): The sample is from a whole ski decorated with linear ornaments.	
Hel-1536	KTE 10755:2, Kinnula wood	1300±100
	Comment (EN): The sample is from a ski with a ring-chain ornament.	
Hel-1537	KM 3873:9, Jylänkö, Kiuruvesi wood	1100±100
Hel-1539	KTE 10755:1, Tankojoki, Sumiainen wood	1110±100
	Comment (EN): Sample from a decorated ski.	
Hel-1626	KM 12058, Lapua wood	750±110

## BOAT SERIES

Samples from boats coll. and subm. by Naskali, E. 1981 and 1982.  
Ref. Forssell (1983).

Hel-1538	Salajärvi, Heinola wood	140±100
	Comment (EN): From a logboat.	
Hel-1540	KTE 7789:1, Alasenjärvi, Valtimo wood	310±120
	Comment (EN): Sample from a sewn boat with a false keel.	
Hel-1627	KTE 8131, Siilinjärvi wood	190±100
	Comment (EN): Sample from a sewn boat.	
Hel-1749	TLM, Tornio, Laivajärvi wood	1040± 90
	Comment (EN): Sample from a sewn boat found at the bottom of Lake Laivajärvi.	
Hel-1751	A sewn boat from Sotkamo, Museum of Kajaani wood	210± 80

Hel-1539 see SKI SERIES Hel-1534

Hel-1540 see BOAT SERIES Hel-1538

Hel-1541 see HANHILAMPI SERIES Hel-1468

Hel-1542 VUOSAARI, HELSINKI 3150±100  
 shell, *Cerastoderma edule*  
 Coll. and subm. by Donner, J. 1981  
 Comment (JD): A 30 cm thick shell bed covered by  
 beach sand. 7.3 m a.s.l.

#### PURKUPUTAANSUO SERIES, KUUSAMO

66° 23' N, 29° 25' E; 245 m a.s.l.

Peat samples from various levels of a spring mire, taken with a  
 Russian peat sampler in order to date the vegetational and  
 hydrological changes and to calculate the rate of peat growth.  
 Coll. by Miettinen, L. 1980 and subm. by Vasari, Y. 1981.  
 Ref. Miettinen (1985).

Hel-1543	Purkuputaansuo 1	110±110
	peat, depth 0.26-0.23 m	
	Comment (LM & YV): Attempted, unsuccessful dating of a marked dry horizon in the surface peat.	
Hel-1544	Purkuputaansuo 2	3960±160
	peat, depth 0.75-0.65 m	
	Comment (LM & YV): General spreading of Spruce (Pc+).	
Hel-1545	Purkuputaansuo 3	6670±170
	peat, depth 1.01-0.89 m	
	Comment (LM & YV): Climatic optimum.	
Hel-1546	Purkuputaansuo 4	7750±170
	peat, depth 1.19-1.06 m	
	Comment (LM & YV): Beginning of peat accumulation.	

#### LAKES PROVINCE SERIES, S. SUDAN

Charcoal samples from three different sites, Bekjiu, Naam Camp  
 and Kat in the Lakes District of South Sudan coll. and subm. by  
 Siiriäinen, A. 1981.

Ref. Robertshaw and Siiriäinen (1985).

Hel-1547	Bekjiu 1, 60-70 charcoal, depth 0.60-0.70 m	1070±100
Hel-1548	Bekjiu 1, 90-100 charcoal, depth 0.90-1.00 m	1080±100
Hel-1549	Bekjiu 1, 190-200 charcoal, depth 1.90-2.00 m	1310± 90

Hel-1555	Bekjiu 2, 40-50 charcoal, 0.40-0.50 m	1210± 90
Hel-1556	Bekjiu 2, 140-150 charcoal, depth 1.40-1.50 m	1300± 90
Hel-1557	Bekjiu 2, 200-210 charcoal, depth 2.00-2.10 m	840± 90
Hel-1550	Naam 60-70 charcoal, depth 0.60-0.70 m	20±100
Hel-1551	Naam 130-140 charcoal, depth 1.30-1.40 m	50± 90
Hel-1552	Naam 140-150 charcoal, depth 1.40-1.50 m	> modern
Hel-1553	Kat 50-70 charcoal, depth 0.50-0.70 m	> modern
Hel-1554	Kat 90-100 charcoal, depth 0.90-1.00 m	> modern

Hel-1555 - 1557 see LAKES PROVINCE SERIES Hel-1547

Hel-1558      SAN PEDRO DE ATACAMA, CHILE      > modern  
A piece of textile  
Coll. and subm. by Leppe, V. 1981

#### PURMO SERIES

63° 21' N, 23° 07' E; 60 m a.s.l.  
Coll. by Miettinen, M and P. 1980 and subm. by Vuorela, I. 1981.  
Ref. Miettinen and Vuorela (1982).

Hel-1559	Purmo 1 Sph-peat, depth 0.325-0.350 m Comment (IV): Absolute Cerealia limit (C°).	290±130
Hel-1560	Purmo 2 C-peat and Eriphorum, depth 0.875-0.900 m Comment (IV): limnotelmatic contact.	3560±120
Hel-1564	Purmo 3 C-peat, depth 0.55-0.57 m	2570±110

#### LEMUNSUO SERIES, PERNIÖ

60° 12' N, 23° 14' E; 14 m a.s.l.  
Coll. by Vuorela, I. and P. 1980 and subm. by Vuorela, I. 1981.  
Ref. Vuorela (1985).

- Hel-1561 Lemunsuo B 1 1230±110  
Sph-peat, depth 0.675-0.700 m  
Comment (IV): Absolute limit of Cerealia (C°).
- Hel-1562 Lemunsuo B 2 550±130  
peat, depth 0.225-0.250 m  
Comment (IV): Rational limit of Cerealia (C++).
- Hel-1567 Lemunsuo C 1 1340±110  
C-peat, depth 0.300-0.325 m  
Comment (IV): Absolute limit of Cerealia (C°).
- Hel-1568 Lemunsuo C 2 760±100  
C-peat, depth 0.115-0.140 m  
Comment (IV): Rational limit of Cerealia (C++).
- Hel-1640 Lemunsuo A 1 600± 90  
Sph-peat, depth 0.475-0.500 m  
Comment (IV): Rational limit of Cerealia (C++).
- Hel-1641 Lemunsuo A 2 880±100  
Sph-peat, depth 0.800-0.825 m  
Comment (IV): Empiric limit of Cerealia (C+).
- Hel-1728 Lemunsuo A 3 1260±110  
Sph-peat, depth 0.96-1.00 m  
Comment (IV): Absolute limit of Cerealia (C°).
- Hel-1673 Lemunsuo D 1 590±120  
Sph-peat, depth 0.450-0.475 m  
Comment (IV): Rational limit of Cerealia (C++).
- Hel-1674 Lemunsuo D 2 780±100  
Sph-peat, depth 0.700-0.725 m  
Comment (IV): Empiric limit of Cerealia (C+).
- Hel-1729 Lemunsuo D 3 1740±110  
Sph-peat, depth 1.365-1.390 m  
Comment (IV): Absolute limit of Cerealia (C°).
- Hel-1563 BJÖRKBACKAN LAMPI, KIRKKONUMMI 9190±190  
80 m a.s.l.  
gyttja, depth 6.45-6.35 m  
Coll. by Haila, H. 1981 and subm. by Eronen, M. 1981
- Hel-1564 see PURMO SERIES Hel-1559
- Hel-1565 - 1566 see KETOHAKA SERIES II Hel-1514
- Hel-1567 - 1568 see LEMUNSUO SERIES Hel-1561

Hel-1569 YRJÖLÄN HIEKKAKUOPPA, LAPINLAHTI 8520±100

63° 20' N, 27° 25' E; 108 m a.s.l.  
charcoal, coll. by Muhonen, A. 1981 and subm. by  
Donner, J. 1981.  
Comment (JD): A thin layer of charcoal covered by sand  
representing the beach level of the Ancyclus Lake.

Hel-1570 - 1571 see KETOHAKA SERIES I Hel-1464

Hel-1572 - 1574 see KETOHAKA SERIES II Hel-1514

Hel-1575 see KOIRALAMMINSUO BOAT Hel-1474

#### KASTELHOLM SERIES, ÅLAND

A series of mortar samples and one of charcoal from the Castle  
of Kastelholm coll. and subm. by P. Erämetsä 1981.  
Ref. Sonninen et al. (1985).

Hel-1576	Sample 3 A	700± 90 $\delta^{13}\text{C}=-17.9$
Hel-1617	Sample 5	560± 90 $\delta^{13}\text{C}=-14.7$
Hel-1625	Sample 2	510± 70 $\delta^{13}\text{C}=-14.8$
Hel-1630	Sample 4	970± 90 $\delta^{13}\text{C}=-17.9$
Hel-1631	Sample 1	610± 90 $\delta^{13}\text{C}=-9.2$
Hel-1832	Sample 6	580± 90
Hel-1833	Sample 7	> modern $\delta^{13}\text{C}=-17.1$
Hel-1834	Sample 8	> modern $\delta^{13}\text{C}=-15.4$
Hel-1835	Sample 9	> modern $\delta^{13}\text{C}=-13.2$
Hel-1836	Sample 10	1680±110 $\delta^{13}\text{C}=-21.0$
Hel-1837	Sample 11 charcoal	200± 80 $\delta^{13}\text{C}=-26.1$
Hel-1893	Sample 12	700± 90 $\delta^{13}\text{C}=-20.5$

Hel-1894	Sample 13	720± 70 $\delta^{13}\text{C}=-22.1$
Hel-1895	Sample 14	570± 90 $\delta^{13}\text{C}=-20.1$
Hel-1896	Sample 15	610± 90 $\delta^{13}\text{C}=-21.9$
Hel-1897	Sample 16	550± 90 $\delta^{13}\text{C}=-21.4$
Hel-1898	Sample 17	710± 80 $\delta^{13}\text{C}=-19.8$
Hel-1899	Sample 18	610± 80 $\delta^{13}\text{C}=-20.4$
Hel-1900	Sample 19	130± 80 $\delta^{13}\text{C}=-22.3$
Hel-1901	Sample 20	> modern $\delta^{13}\text{C}=-21.8$
Hel-1902	Sample 21	> modern $\delta^{13}\text{C}=-22.8$
Hel-1903	Sample 22	1070± 70 $\delta^{13}\text{C}=-20.0$
Hel-1983	Sample 23	640± 80 $\delta^{13}\text{C}=-22.0$

## KATAJAMÄKI SERIES, SALO

Coll. and subm. by Carpelan, C. 1981.

Hel-1577	Katajamäki 562/692 charcoal	2670±100
Hel-1578	Katajamäki 562/700/5 charcoal	1970± 90
Hel-1613	Katajamäki 550/696 charcoal	1650±140
Hel-1614	Katajamäki, K-92, 568/698 charcoal	1640±200
Hel-1618	Katajamäki, 546/696 charcoal	2360±130

## IVALO SERIES, NÄVERINNIEMI IVALO

Coll. by Koutaniemi, L. and Keränen, R. 1981 and subm. by Koutaniemi, L. 1981.  
Ref. Koutaniemi (1987).

Hel-1579	IVA 2 (b)	3620±170
	68° 37' N, 27° 30' E; x=7617.30, y=520.33;	
	115 m a.s.l. mud, depth 2.35-2.40 m	
Hel-1582	IVA 4	1370±120
	68° 38' N, 27° 34' E; x=7618.06, y= 522.68;	
	113 m a.s.l. gyttja, depth 3.62-3.65 m	

## JOKKAVAARA SERIES, ROVANIEMI

66° 27' N, 26° 04' E; 82.5 m a.s.l.

Coll. and subm. by Torvinen, M. 1981.

Comment (MT): The dates are in agreement with the finds from the dwelling site, which indicate habitation during the Suomusjärvi phase as well as the early subneolithic phase (Sär 1).

Hel-1580	KM 21307:1	6600±110
	charcoal, depth 0.70 m	
Hel-1581	KM 21307:2	6300±110
	charcoal, depth 0.40 m	
Hel-1619	KM 21307:3	5860±110
	charcoal, depth 0.30 m	
Hel-1620	KM 21307:4	6120±110
	charcoal, depth 0.30 m	

Hel-1582 see IVALO SERIES Hel-1579

## NISKALAMPI SERIES, KUUSAMO

66° 00' N, 29° 08' E; x=7323.81, y=461.45; 253 m a.s.l.

Coll. by Järviluoma and Koutaniemi 1981 and subm. by Koutaniemi, L. 1981.

Ref. Koutaniemi (1982), Koutaniemi and Sillanpää (1985).

Hel-1583	NIS 1	3030± 90
	wood, depth 4.10 m	
Hel-1584	NIS 2	1660±100
	wood, depth 3.30 m	
Hel-1585	NIS 3	320±110
	peat, depth 3.00 m	



## ORAVILAHTI SERIES, RÄÄKKYLÄ

62° 15' N, 29° 42' E; 76 m a.s.l.

Coll. by Siiriäinen, A. 1981 and subm. by Vuorela, I. 1981.

Ref. Vuorela (1988).

- Hel-1586 Oravilahti 1 830±110  
Phragmites peat, depth 3.00-3.25 m  
Comment (IV): Level of the remains of the Rääkkylä  
boat (see Hel-1474). Also the absolute Cerealia  
limit (C°).
- Hel-1587 Oravilahti 2 4460±110  
clay-gyttja, depth 0.40-0.45 m  
Comment (IV): Start of anthropogenic indicators.  
The date is possibly affected by secondary  
allochthonous material.

## PYHÄ-HÄKKI SERIES, SAARIJÄRVI

62° 50' N, 25° 30' E; 165 m a.s.l.

Coll. by Koskinen, E. and Vasari, Y. 1980 and subm. by  
Vasari, Y. 1981.

Ref. Koskinen (1983).

- Hel-1588 Pyhä-Häkki A 1 3210±120  
peat, depth 0.90-0.97 m  
Comment (EK & YV): Beginning of the peat  
formation in a spruce mire.
- Hel-1589 Pyhä-Häkki B 1 570±100  
peat, depth 0.25-0.32 m  
Comment (EK & YV): Beginning of cultural  
influence in the pollen diagram.
- Hel-1590 Pyhä-Häkki B 2 2660±110  
peat, depth 0.50-0.60 m  
Comment (EK & YV): Boundary between two local  
pollen assemblage zones, viz. Betula - Alnus -  
Picea and Pinus - Picea - Betula.

## HAMUNEN SERIES, RAUTAVAARA

63° 45' N, 28° 20' E; 198.6 m a.s.l.

Coll. by Nykänen, Saarnisto and Vasari 1979 and subm. by  
Vasari, Y. 1981.

Ref. Nykänen (1984).

- Hel-1591 Hamunen I 4830±140  
gyttja, depth 1.75-1.85 m  
Comment (JN & YV): Boundary between Betula -  
Alnus - Pinus and Pinus - Picea L p.a.z.
- Hel-1592 Hamunen II 8280±110  
gyttja, depth 2.35-2.45 m  
Comment (JN & YV): Boundary between Pinus - Betula  
and Betula - Alnus - Pinus L p.a.z.

Hel-1593 Hamunen III 9300±180  
 gyttja, depth 2.86-2.96 m  
 Comment (JN & YV): Beginning of organic sedi-  
 mentation in the Lake Hamunen series.

#### KIIMISUO SERIES, HAILUOTO

65° 02' N, 24° 42' E; 11.5 m a.s.l.  
 Coll. by Rönkä, A. 1978 and subm. by Vasari, Y. 1981.  
 Ref. Rönkä (1983), Hicks (1988).

Hel-1594 Kiimisu I > modern  
 peat, depth 0.60-0.65 m  
 Comment (AR & YV): Interpolation based upon the  
 dating Hel-1595 and the estimated growth rate of  
 mosses suggests an absolute age between  
 1700-1645 AD for this horizon. The modern age must  
 illustrate difficulties associated with dating of  
 raw Sphagnum peat with the radiocarbon method.

Hel-1595 Kiimisu II 950±130  
 peat, depth 1.25-1.30 m  
 Comment (AR & YV): Beginning of peat formation.

Hel-1872 Kiimisu III 180±120  
 peat, depth 0.90-0.95 m  
 Comment (AR): Local beginning of ombrotropic  
 phase in the mire development.

#### NÄSTINRISTI, KOTJALA, LAITILA

60° 48' N, 21° 50' E; 40-45 m a.s.l.  
 Two charcoal samples collected from a cairn supposed to date to  
 the Bronze Age.  
 Coll. by Ahtela, E. and subm. by Siiriäinen, A. 1981.

Hel-1596 KM 21169:240 1070±100

Hel-1597 KM 21169:241 1050±110

#### MALMINKARTANO, HELSINKI

60° 15' N, 24° 53' E; 22-25 m a.s.l.  
 Two charcoal samples coll. by Ahtela, E. 1981 and subm. by  
 Siiriäinen, A 1981.  
 Comment (EA): The finds from the dwelling site are from the Comb  
 Ceramic and Early Metal Periods.

Hel-1598 KM 21233:414 770±110  
 depth 0.5 m

Hel-1599 KM 21233:415 810±120  
 depth 0.55 m

Hel-1600            ÄKÄLÄNNIEMI, KAJAANI            580±120

64° 13' N, 27° 46' E; 145 m a.s.l.

KM 21213:77

charcoal, depth 0.11 m. Coll. by Perkkö, M. 1981 and  
subm. by Siiriäinen, A. 1981.

Comment (M Huurre): The date does not agree with the  
finds, which are from the Suomusjärvi phase and the  
Iron Age.

Hel-1601            SYLVÄJÄNNIEMI, KUUMO            660±110

64° 08' N, 29° 31' E; 162.5-165 m a.s.l.

KM 20903:219

charcoal, depth 0.25 m. Coll. by Perkkö, M. 1980 and  
subm. by Siiriäinen, A. 1981

Comment (M Huurre): A dwelling site with finds from the  
Stone Age and the Early Metal Period as well as an  
arrow-head from the Late Iron Age. The date might agree  
with the age of the later.

Hel-1602            SALMENSIVU, SUOMUSSALMI            290±100

64° 54' N, 28° 51' E; 200-205 m a.s.l.

KM 21211:55

charcoal, depth 0.40 m. Coll. by Perkkö, M. 1981 and  
subm. by Siiriäinen, A. 1981

Comment (M Huurre): Stone Age dwelling site finds.

Hel-1603 - 1610 see VANUTEHTAANMÄKI SERIES Hel-1403

KETOHAKA SERIES III, SALO

Coll. 1981 and subm. 1982 by Carpelan, C.

Hel-1611            Ketohaka, pit 189, 9652/2756            1630±140  
charcoal

Hel-1612            Ketohaka, pit 172 a, 9646/2744            1800±100  
charcoal

Hel-1615            Ketohaka, pit 168, 9646/2760            1820±130  
charcoal

Hel-1616            Ketohaka, surface, 9652/2762            140±130  
charcoal

Hel-1613 - 1614 see KATAJAMÄKI SERIES Hel-1577

Hel-1615 - 1616 see KETOHAKA SERIES III Hel-1611

Hel-1617 see KASTELHOLM SERIES Hel-1576

Hel-1618 see KATAJAMÄKI SERIES Hel-1577

Hel-1619 - 1620 see JOKKAVAARA SERIES Hel-1580

Hel-1621 AUTIOKENTTÄ II, SODANKYLÄ 7930±110

67° 42' N, 26° 48' E; 200 m a.s.l.

KM 21046:245

charcoal, depth 0.45 m.

Coll. and subm. by Torvinen, M. 1980

Comment (MT): The date is in agreement with the finds from the dwelling site, which belong to the Suomusjärvi phase.

ISOKYLÄ SERIES, SALO

Coll. by Carpelan, C. and Matiskainen, H. and subm. by Carpelan, C. 1982

Hel-1622	Isokylä 959/265 charcoal	1690±120
Hel-1623	Isokylä 986/275 charcoal	1850±100
Hel-1624	Isokylä 986/283 charcoal	1890± 90

Hel-1625 see KASTELHOLM SERIES Hel-1576

Hel-1626 see SKI SERIES Hel-1534

Hel-1627 see BOAT SERIES Hel-1538

Hel-1628 see MEKRIJÄRVI BOAT Hel-1496

Hel-1629 PYLKÖNMÄKI, LUKSAJÄRVI 890±110

KTE 8546, wood.

Coll. and subm. by Naskali, E. 1981.

Comment (EN): Sample from the bottom of a Lapp's sledge.

Hel-1630 - 1631 see KASTELHOLM SERIES Hel-1576

## LAUHANVUORI SERIES

General comment: Dating of the isolation of different basins in the Lauhanvuori area in order to establish a land-uplift chronology.

Samples coll. by Salomaa, R., Uusinoka, R. and Wallin, T. and subm. by Salomaa, R.

Ref. Salomaa and Matiskainen (1983).

- Hel-1632 Rynkäkeidas, Honkajoki 6370±110  
 61° 57' N, 22° 05' E, 90 m a.s.l.  
 Phragmites-Equisetum peat  
 depth 3.65-3.55 m  
 Comment (RS): The postisolation age, the beginning of the paludification of the basin.
- Hel-1633 Rynkäkeidas 2 7450±120  
 clay-gyttja and gyttja  
 depth 3.80-3.70 m  
 Comment (RS): Isolation of the basin from the Mastogloia Sea.
- Hel-1634 Uuronjärvi, Kauhajoki 8520±130  
 62° 16' N, 22° 02' E, 131.4 m a.s.l.  
 silty gyttja  
 depth 4.45-4.35 m  
 Comment (RS): Isolation of the basin from the Ancylus Lake. The isolation sequence was long with no exact isolation horizon. The age seem to be a bit too old when compared to other isolation dates in the area.
- Hel-1635 Uuronjärvi 2 8740±130  
 gyttja silt and silty gyttja  
 depth 4.60-4.45 m  
 Comment (RS): The spread of *Alnus* (A<sup>+</sup>). The age is probably some hundreds of years too old when compared to other A<sup>+</sup> dates in the area. There was no sign of redeposited pollen.
- Hel-1740 Pohjasjärvi, Siikainen 5790±110  
 61° 59' N, 21° 52' E, 67.1 m a.s.l.  
 gyttja, depth 5.475-5.375 m  
 Comment (RS): Isolation of the basin from the Litorina lagoon.
- Hel-1741 Pohjasjärvi 2 6100±110  
 black sulphide gyttja  
 depth 5.575-5.475 m  
 Comment (RS): Just below the isolation horizon.
- Hel-1742 Pohjasjärvi 3 5880±140  
 greenish-grey marine gyttja  
 depth 5.675-5.575 m  
 Comment (RS): The final stage of the Litorina lagoon below the sulphide layer.

- Hel-1743 Suojärvi, Merikarvia 5160±110  
61° 59' N, 21° 46' E, 54.8 m a.s.l.  
gyttja, depth 2.525-2.425 m  
Comment (RS): Isolation of the basin from the Litorina sea.
- Hel-1744 Suojärvi 2 5160±110  
sandy gyttja, depth 2.625-2.525 m  
Comment (RS): Just below the isolation horizon. In spite of the abrupt sedimentary change there seem to be no hiatus in the sediment sequence.
- Hel-1945 Tuorilampi, Merikarvia 2830±100  
61° 53' N, 21° 37' E, 29.3 m a.s.l.  
gyttja, depth 2.00-2.10 m  
Comment (RS): The final isolation of the basin from the Litorina sea. The spread of *Picea* (Pc<sup>+</sup>) takes place between this date and Hel-1946.
- Hel-1946 Tuorilampi 2 3200±100  
FeS-coloured clay-gyttja and gyttja  
depth 2.35-2.45 m  
Comment (RS): Muddy sequence between the sulphide bearing Litorina sediments indicating either a short-term isolation before transgression or fresh water influence of the Tuori river.
- Hel-1947 Kalliojärvi, Merikarvia 4610±110  
61° 58' N, 21° 40' E, 47.7 m a.s.l.  
gyttja, depth 2.30-2.40 m  
Comment (RS): Isolation of the basin from the Litorina sea.
- Hel-1948 Kalliojärvi 2 4640±100  
clay-gyttja with black sulphide laminations  
depth 2.40-2.50 m  
Comment (RS): Just below the isolation horizon.

## PISAVAARA SERIES, ROVANIEMI

66° 15' N, 25° 07' E, 100 m a.s.l.  
Coll. by Vasari, Y. and Juola-Helle, M. 1978 and subm. by Vasari, Y. 1981.  
Ref. Juola-Helle (1982).

- Hel-1636 Pisavaara 1 1400±130  
peat, depth .57-.62 m  
Comment (MJH & YV): Dates the beginning of a luxurious phase in the development of the local mire vegetation.
- Hel-1637 Pisavaara 2 3010±130  
peat, depth 1:27-1.43 m  
Comment (MJH & YV): Approximate boundary between two local pollen assemblage zones, *Betula* - *Pinus* - *Alnus* and *Pinus* - *Picea*.

- Hel-1638 Pisavaara 3 4770±140  
 peat, depth 2.10-2.20 m  
 Comment (MJH & YV): Fall in the Alnus curve, first  
 signs of Picea in the pollen profile.
- Hel-1639 Pisavaara 4 5440±150  
 peat, depth 3.10-3.25 m  
 Comment (MJH & YV): Beginning of peat accumulation.

Hel-1640 - 1641 see LEMUNSUO SERIES Hel-1561

NUKKUMAJOKI SERIES, INARI

Bone samples from winter village sites in the Nukkumajoki area  
 coll. and subm. by Carpelan, C. 1981.

- Hel-1642 Nukkumajoki 2 No.11 330±100  
 116/106, 20837:64
- Hel-1643 Nukkumajoki 2 No.1 150± 90  
 040/100, 20278:90
- Hel-1644 Nukkumajoki 2 No.3 150± 90  
 060/104, 20278:80
- Hel-1645 Nukkumajoki 2 No.7 210± 90  
 070/116, 20583:142
- Hel-1657 Nukkumajoki 2 No. 16 230±100  
 140/098
- Hel-1658 Nukkumajoki 2 No.17 230± 90  
 178/140
- Hel-1659 Nukkumajoki 2 No.18 130± 90  
 218/120
- Hel-1664 Nukkumajoki 2 No.15 290± 90  
 126/110
- Hel-1665 Nukkumajoki 2 No.9 380± 80  
 078/108
- Hel-1666 Nukkumajoki 2 No.4 580± 90  
 066/100
- Hel-1680 Nukkumajoki 5 No. 22 490± 90
- Hel-1681 Nukkumajoki 3 No. 19 460± 90
- Hel-1682 Nukkumajoki 5 No. 21 430± 90
- Hel-1684 Nukkumajoki 6 No. 23 420±100
- Hel-1685 Nukkumajoki 2, No. 12 490±100  
 118/114
- Hel-1687 Nukkumajoki 2 No. 13 380±100  
 120/112

Hel-1688	Nukkumajoki 2 No. 14 122/110	320± 90
Hel-1689	Nukkumajoki 2 No. 6 070/110	320±100
Hel-1690	Nukkumajoki 2 No. 8 076/088	360±100
Hel-1908	Nukkumajoki 2, 21986:235	150± 90
Hel-1909	Nukkumajoki 2, 21986:235	220±100
Hel-1910	Nukkumajoki 2, 21986:238	140±110
Hel-1911	Nukkumajoki 2, 21583:123	160± 90

## DALAMALM SERIES, SIUNTIO

x=6672.11, 509.93

Coll. 1981 and subm. 1982 by Edgren, T.

Hel-1646	Dalamalm a charcoal, depth 0.98 m	620±100
Hel-1647	Dalamalm b charcoal, depth 0.78 m	600±100
Hel-1648	Dalamalm c charcoal, depth 0.80 m	540±100

## KAURASTENSUO SERIES, JAHKOLA, LAMMI

61° 01' N, 24° 58' E; about 155 m a.s.l.

Coll. 1979 by K. Tolonen with a steel cylinder and a Russian corer 10 x 100 cm. Subm. 1982 by K. Tolonen.

Ref. Tolonen, K. (1987).

General comment (KT): Main features in the natural history of raised bogs in the Lammi area, southern Finland were studied by peat stratigraphical methods in two mire basins in Lammi (Laaviosuo, see Jungner and Sonninen 1983 p. 73 and Kaurastensuo) and one mire basin in Kärkölä (Luutasuo). A special attention was paid to a peculiar black peat/light peat contact distinct at about 3 m below the mire surface in the boring transects of these bogs. The radiocarbon datings revealed that the age of this "boundary horizon" did not vary much within Kaurastensuo bog, on the basis of altogether eight closely spaced radiocarbon datings from four sites. The contact is from about 3000 B.P. In the adjacent Laaviosuo the similar contact was dated to about 2700 B.P. and in Luutasuo to about 3800 B.P. For the corresponding peat stratigraphical limit still greater age variation was found in other raised bogs in the Salpausselkä region of southern Finland the extremes being between ca. 1900 B.P. and ca 6000 B.P. All the ages obtained are stratigraphically consistent and in agreement with the expectations based on pollen analytical events, which are earlier dated from the study area (Tolonen, K. 1987 and references therein).



- Hel-1649 KAUR 1#1 140±130  
peat, depth 0.70-0.75 m  
Comment (KT): The age obtained is slightly too young presumably due to downwards transportation of assimilated carbon by e.g. *Rubus Chamaemorus*, *Empetrum* and *Andromeda* fine roots.
- Hel-1650 KAUR 1#2 1540±120  
peat, depth 1.60-1.70 m
- Hel-1651 KAUR 1#3 1810±130  
peat, depth 2.00-2.10 m  
Comment (KT): A conspicuous decline in relative pollen frequencies of *Picea* is contemporaneous with the same feature in the adjacent *Laaviosuo* (1870±110 BP) and is obviously due to clearings for cultivation with slash-and-burn method.
- Hel-1652 KAUR 1#4 2110±130  
peat, depth 2.50-2.60 m
- Hel-1653 KAUR 1#5 3040±120  
peat, depth 3.30-3.40 m  
Comment (KT): A sample just above the "boundary horizon".
- Hel-1654 KAUR 1#6 3780±110  
peat, depth 3.60-3.70 m  
Comment (KT): A sample below the "boundary" representing the starting general spread of spruce (*Pc\**). The date seems to be some hundreds of years "too young" due to contamination of deep roots of younger mire plants above.
- Hel-1655 KAUR 1#7 3960±130  
peat, depth 3.80-3.90 m  
Comment (KT): The dating is from the empirical limit of spruce (*Pc°*) and is likely a few hundreds of years too young.
- Hel-1656 KAUR 1#8 5770±120  
peat, depth 4.30-4.40 m  
Comment (KT): Lower limit of local P.A.Z. 4 and *Tilia\** in the area.
- Hel-1660 KAUR 1#9 6480±100  
peat, depth 4.60-4.70 m
- Hel-1661 KAUR 1#10 8120±110  
gyttja, depth 4.88-5.00 m  
Comment (KT): Lower limit of local P.A.Z. 3 and general spread of alder (*A\**) in the area.
- Hel-1662 KAUR 1#11 8950±120  
gyttja, depth 5.10-5.20 m  
Comment (KT): Lower limit of local P.A.Z. 2 and the rise of pine (*P°*) in the area.

- Hel-1753 Kaur 12 2910±110  
peat, depth 3.50-3.53 m  
Comment (KT): Just above "Grenz" at site B in Tolonen (1987).
- Hel-1754 Kaur 13 3110±130  
peat, depth 3.60-3.62 m  
Comment (KT): Just below "Grenz" at site B in Tolonen (1987).
- Hel-1755 Kaur 14 3360±110  
peat, depth 2.91-2.93 m  
Comment (KT): Just above "Grenz" at site C in Tolonen (1987).
- Hel-1756 Kaur 15 3540±130  
peat, depth 2.89-3.00 m  
Comment (KT): Just below "Grenz" at site C in Tolonen (1987).
- Hel-1757 Kaur 16 2430±130  
peat, depth 1.84-1.88 m  
Comment (KT): Above "Grenz" at site D in Tolonen (1987).
- Hel-1758 Kaur 17 2980± 90  
peat, depth 1.96-2.00 m  
Comment (KT): Below "Grenz" at site D in Tolonen (1987).

Hel-1657 - 1659 see NUKKUMAJOKI SERIES Hel-1642

Hel-1660 - 1662 see KAURASTENSUO SERIES Hel-1649

MONHEGAN ISLAND SERIES, MAINE, USA

43° 46' N, 69° 18' W; 3-4 m a.s.l.  
Coll. 1981 and subm. 1982 by Tolonen, M.  
Ref. Tolonen, M. (1983a).

- Hel-1663 Monhegan meadow 1 250±110  
peat CH<sub>5-6</sub> Bryales, depth 0.25-0.33 m
- Hel-1671 Monhegan meadow 2 530± 90  
peat LCH<sub>8</sub>, depth 0.470-0.485 m
- Hel-1672 Monhegan meadow 3 860± 80  
peat LCH<sub>8</sub>, depth 0.485-0.500 m

Hel-1664 - 1666 see NUKKUMAJOKI SERIES Hel-1642

Hel-1667

SUO I, KÄRKÄ, SALO

4240± 90

60° 20' N, 23° 10' E; ca 28 m a.s.l.

peat SH<sub>a</sub>L, depth 1.05-1.10 m

Coll. 1977 and subm. 1982 by Tolonen, M.

Ref. Tolonen, M. (1983b).

Comment (MT): A local *Alnus* phase, before Pc<sup>+</sup>.

## METSÄLAMPI SERIES, ESPOO

60° 14' N, 24° 39' E; 26.3 m a.s.l.

Coll. and subm. 1982 by Hyvärinen, H.

Ref. Hyvärinen (1984).

General comment (HH): A stratigraphical site used for the reconstruction of relative sea-level changes near Helsinki. Hel-1669 dates the contact between brackish and small-lake sediments, hence the isolation of the basin from the Baltic. Hel-1668, 1679 and 1678 are samples from brackish Baltic sediments below the isolation contact, and Hel-1678 also dates the *Tilia* pollen limit (T°). Hel-1670, 1675, 1691, 1676, and 1677 are samples from lacustrine sediments above the isolation contact. The two uppermost samples date the beginning (Hel-1676) and the rise (Hel-1677) of the *Picea* pollen curve.

The dates are consistent mutually and with the pollen stratigraphy. However, the date for the isolation of the basin appears too old in comparison with dates obtained from adjacent sites, and it is concluded (Hyvärinen 1984) that the original isolation threshold must have been somewhat higher than the present outlet threshold of the basin.

Hel-1668	Metsälampi 1 gyttja, depth 3.80-3.90 m	6720±110
Hel-1669	Metsälampi 2 gyttja, depth 3.50-3.60 m	6110±120
Hel-1670	Metsälampi 3 gyttja, depth 3.20-3.30 m	6090±110
Hel-1675	Metsälampi 4 gyttja, depth 2.45-2.55 m	5050±100
Hel-1676	Metsälampi 5 gyttja, depth 1.75-1.85 m	4740±120
Hel-1677	Metsälampi 6 gyttja, depth 1.15-1.25 m	3820± 90
Hel-1678	Metsälampi 7 gyttja-clay, depth 4.65-4.75 m	7550±160
Hel-1679	Metsälampi 8 clay-gyttja, depth 4.15-4.25 m	6540±150
Hel-1691 A	Metsälampi 9 A gyttja, depth 2.10-2.30 m	5000±130
Hel-1691 B	Metsälampi 9 B, humusfraction of Hel-1691 A.	5060±120

Hel-1671 - 1672 see MONHEGAN ISLAND SERIES Hel-1663

Hel-1673 - 1674 see LEMUNSUO SERIES Hel-1561

Hel-1675 - 1679 see METSÄLAMPI SERIES Hel-1668

Hel-1680 - 1682 see NUKKUMAJOKI SERIES Hel-1642

Hel-1683 KULENNOINEN, PUNKAHARJU 600±120

61° 50' N, 29° 16' E  
charcoal, coll. by Ristiluoma, S. 1982 and subm. by  
Donner, J. 1982

Hel-1684 - 1685 see NUKKUMAJOKI SERIES Hel-1642

Hel-1686 VÄHÄMÄKI, HAILUOTO 1590±130

65° 04' N, 24° 46' E; 15 m a.s.l.  
wood, coll. 1981 and subm. 1982 by Alestalo, J.  
Comment (JA): A shore dune ridge 10 m high, was shifted  
in forest and buried a Scotch pine, more than 118 years  
old. Sample for radiocarbon dating was taken from pith  
of stem base. The pine is sprouted on the leeward of  
dune, which has moved landwards about 60 m or half a  
metre per year. The dune is today wooded.  
Ref. Alestalo (1979, 1986)

Hel-1687 - 1690 see NUKKUMAJOKI SERIES Hel-1642

Hel-1691 A, B see METSÄLAMPI SERIES Hel-1668

KARJAA, LÄPP, ÖSTERGÅRD

60° 03' N, 23° 39' E; x=6660.40, y= 2480.92; 17 m a.s.l.  
Charcoal samples coll. by Heikkurinen, T. and subm. by  
Siiriäinen, A. 1982.  
Ref. Heikkurinen and Suominen (1982).  
Comment (TH): The finds from the site are mostly ceramics  
from the Bronze Age and the earlier Iron Age. The  
radiocarbon dates are in agreement with the youngest  
ceramic finds.

Hel-1692 KM 21237:270 1910±110  
charcoal, depth 0.30 m

Hel-1693 KM 21237:271 1510±130  
charcoal, depth 0.20 m

*Östergård Series ???  
- lastella  
base in 507ak*

*Järven suo I Series 2, 2, 2*  
*-laitteita*  
*dBase in sajakki*

## JÄRVENSUO, HUMPPILA

Coll. and subm. by Siiriäinen, A. 1982.

Hel-1694	KM 21493 a gyttja, depth 0.55-0.65 m	4430±120
Hel-1695	KM 21493 b wood, depth 0.55-0.65 m	3610±120
Hel-1696	KM 21493 c charcoal, depth 0.55-0.65 m	4880±120

## SAARIJÄRVI, TARVAALA

62° 40' N, 25° 20' E; x=6951.34, y=568.20; ca 115 m a.s.l.

Coll. by Luho, V. 1949 and subm. by Siiriäinen, A. 1982.

Comment (H. Matiskainen): The dates are in agreement with the Late-Mesolithic occupation of the site.

Hel-1697	KM 12234:199 charcoal	5920±120
Hel-1698	KM 14537:63 charcoal	5810±100
Hel-1699	KM 14537:64 charcoal	6000±100

*Tarvaala Series 2, 2, 2*  
*-laitteita*  
*dBase in sajakki*

## SHELL SERIES, IRELAND

Coll. and subm. 1982 by Donner, J.

General comment (JD): The shell samples were collected in order to elucidate the Holocene land/sea level changes in Ireland. The samples from Black Rock, Haggards (Hel-1700) and Laytown (Hel-1701) are from thin shell beds in beach sediments, whereas the others are from middens; the three samples from Culleenamore from three levels of the same midden.

Hel-1700	Black Rock, Haggards, Co.Louth 2 m a.h.w.m shell, Cerastoderma	700±120
Hel-1701	Laytown, Co.Meath 2 m a.h.w.m. shell, Buccinum	1990±100
Hel-1702	Lackmeeltaun, Ballyconnell, Co.Sligo 3.5 m a.h.w.m. shell, Littorina	280± 90
Hel-1703	Colleenamore, Co.Sligo 3.9 m a.h.w.m. shell, Ostrea	2650±100

Hel-1704	Colleenamore, Co.Sligo 3.4 m a.h.w.m. shell, Ostrea	3850±100
Hel-1705	Colleenamore, Co.Sligo 2.9 m a.h.w.m. shell, Ostrea	4170±100
Hel-1706	Colleenamore, Co.Sligo 1.7 m a.h.w.m. shell, Ostrea	1450± 90
Hel-1707	Strandhill, Co.Sligo 4.4 m a.h.w.m. shell, Ostrea	920± 90
Hel-1708	Strandhill, Co.Sligo 4.4 m a.h.w.m. shell, Littorina	1000±100
Hel-1709	Strandhill, Co.Sligo 4.4 m a.h.w.m. shell, Mytilus	990±100
Hel-1710	Strandhill, Co.Sligo 4.4 m a.h.w.m. shell, Patella	830± 80

## ASKOLA SERIES

Charcoal samples collected by Luho, V. 1953, 1959 and 1961, and subm. by Siiriäinen, A. 1982.  
Comment (H. Matiskainen): According to shore-line chronology a Mesolithic age was expected for each sample.

Hel-1711	Askola, Rahkaissuo I 60° 32' N, 25° 35' E; x=6716.68, y=423.09 ca 35 m a.s.l. KM 13302:11, charcoal	2710±100
Hel-1712	Askola, Rahkaissuo II KM 13302:186, charcoal	1930±130
Hel-1713	Askola, Rahkaissuo III KM 13302:203, charcoal	1830±140
Hel-1714	Askola, Vanha-Klemetti 60° 31' N, 25° 35' E; x=6713.46, y=423.07 ca 32.5 m a.s.l. KM 15325:86, charcoal	5480±120
Hel-1715	Askola, Vakkola 60° 31' N, 25° 36' E; x=6713.30, y=423.41 ca 32.5 m a.s.l. KM 14542:157, charcoal	1620±140

Hel-1716 ACADIA 1, BIG HEATH, MAINE, USA 10980±190

44° 14' N, 68° 19' W

clay-gyttja, depth 6.39-6.52 m, coll. by Tolonen, K. and M. 1981 and subm. by Tolonen, K. 1982.

Comment (KT): The dated sample represents the oldest organic material of the site, but seems to be some 1000 to 1500 years later than the time of the deglaciation. The diatom remains indicate a slightly alkaline water which agrees with the macro- and microremains of other aquatics like *Ceratophyllum*.

KUORTANE, HAAVISTONHARJU

62° 58' N, 23° 30' E; x=6984.80, y=475.54; ca. 95 m a.s.l.  
Charcoal samples coll. by Luho, V. 1964 and subm. by Siiriäinen, A. 1982.

Comment (H. Matiskainen): Mesolithic date expected.

Hel-1717 KM 16163:89 1060±130

Hel-1718 KM 16163:104 500±130

+ Hel-1725

MÄTÄJÄRVI SERIES, TURKU

60° 27' N, 22° 17' E; 7 m a.s.l.

Coll. by Salonen, V.-P., Pihlman, A. and Ikäheimo, M. and subm. by Salonen, V.-P. 1982.

Ref. Salonen et al. (1985), Pihlman and Ikäheimo (1989).

Hel-1719 Mätäjärvi 040 770± 90  
gyttja, depth 2.40 m  
Comment (V-PS): Dating the medieval damp patch site; rate of sedimentation.

Hel-1720 Mätäjärvi 050 770± 80  
gyttja, depth 2.50 m  
Comment (V-PS): Disturbed damp sediments.

Hel-1730 Mätäjärvi 070 640± 90  
gyttja, depth 2.70 m  
Comment (V-PS): Dating the Mätäjärvi gyttja bed, deposited during the early urban settlement of the medieval town Turku, SW-Finland.

Hel-1731 Mätäjärvi 090 1470± 90  
gyttja, depth 2.90 m  
Comment (V-PS): Isolation of the Lake Mätäjärvi is supported by the shore-line displacement curve (Glückert 1976).

Hel-1732 Mätäjärvi 095 2280±120  
clay-gyttja, depth 2.95 m  
Comment (V-PS): Baltic sea sediment underlying the limnic Mätäjärvi sediments.

*Haavistonharju Series  
- last part of series*

- Hel-1733 Mätäjärvi, krooppi I 830± 80  
wood, depth 2.50 m  
Comment (V-PS): Material from wooden outlet channel, which has been constucted in attempt to keep the lake area dry.
- Hel-1734 Mätäjärvi, krooppi II 820± 90  
wood, depth 2.50 m  
Comment (V-PS): Material from wooden outlet channel of lake Mätäjärvi.
- Hel-1839 Mätäjärvi 2, 65-67 350± 80  
gyttja, depth 2.97 m  
Comment (V-PS): Dating is supported by a coin (1540 AD) found from the same layer.
- Hel-1840 Mätäjärvi 2, 75-77 450± 90  
gyttja, depth 2.97 m  
Comment (V-PS): Dating the sedimentation rate of the Mätäjärvi bed.
- Hel-1841 Mätäjärvi 2, 84-86.5 600± 90  
gyttja, depth 2.97 m  
Comment (V-PS): Dating the sedimentation rate of the Mätäjärvi bed.
- Hel-1842 Mätäjärvi 2, 91-93 450± 90  
gyttja, depth 2.97 m  
Comment (V-PS): Age too young - possible human disturbancies in sedimentation process.
- Hel-1843 Mätäjärvi 2, 95-97 700± 90  
clay-gyttja, depth 2.97 m  
Comment (V-PS): Dating oldest sediment related with urban settlement in Finland.
- Hel-1844 Mätäjärvi 2, 97-100 1390±110  
clay-gyttja, depth 2.97 m  
Comment (V-PS): Isolation of the Mätäjärvi-basin is supported by the shore line evidence (Glückert 1976).
- Hel-1860 Mätäjärvi 2, no 1385 650± 90  
wood, depth 3.20 m  
Comment (V-PS): Dating archaeological layers and artefacts from sediment deposited in a small lake, Mätäjärvi.
- Hel-1863 Mätäjärvi 2, no 783 380±110  
bone, depth 3.30 m  
Comment (V-PS): Dating archaeological layers and their artifacts.
- Hel-1864 Mätäjärvi 2, no 656 380± 80  
bone, depth 3.40 m  
Comment (V-PS): Dating archaeological layers and their artifacts.



