

Andrzej BIUSZCZ

Radiocarbon Laboratory
Silesian Technical University, Gliwice

GLIWICE THERMOLUMINESCENCE DATING LIST I

Summary. This paper presents the list of 44 dates obtained by the thermoluminescence method in the Gliwice Radiocarbon Laboratory. Basic information on samples as well as some details of laboratory procedure are given.

1. INTRODUCTION

This list contains 44 dates obtained in years 1984 to 1986 for Quaternary sediments samples submitted to the Laboratory by the Geological Institute (Warsaw), in course of elaborating The Detailed Geological Map of Poland in scale 1:50000. All samples were collected during the field investigations led by the workers of the Geological Institute, without the assistance of the Laboratory staff. No information on the humidity of the samples nor on the homogeneity of radioactivity distribution in places which they come from were enclosed. In many cases the sampled material contained too less amount of mineral grains, sized 0.080 to 0.150 mm, and could not be dated in the Laboratory. Additionally, the best material suitable for TL dating, i.e. aeolian deposits, were absent in most of submitted samples. All these depreciate the value of obtained results by unknown factors.

1.1. SAMPLE PRE-TREATMENT

The material dated in the TL Laboratory are mineral grains extracted from the bulk samples. When the sample is submitted in its original state then the humidity of some 50g is measured after drying in the temperature of 370K. About 250g of the dried sample is used to determine its radioactivity. The details of that are dealt with in the next sub-section. After that sample undergoes the standard laboratory procedure in order to obtain desirable mineral fraction. Details of this procedure are contained in the table below.

Normally 0.088-0.100 mm grains are used for further analyses. When the amount of this fraction is less than ca. 1g, the second fraction 0.100-0.150 mm or both are used. During the whole course of preparation

care is taken to protect mineral grains from the exposition to the direct light: either artificial one or sunlight.

Table 1

Sample pre-treatment

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1. Washing out the fine fraction on the 0.056 mm sieve *
 2. Acid treatment: 2% HCl, 48 h, $\sim 20^{\circ}\text{C}$
 3. Washing
 4. Base treatment: 4% NaOH, 48 h, $\sim 20^{\circ}\text{C}$
 5. Washing and vacuum drying: $\leq 40^{\circ}\text{C}$
 6. Sieve analysis: 0.088-0.100 and 0.100-0.150 mm fractions
 7. Etching: 1N HF, 150 min or 40% HF, 60min, $\sim 20^{\circ}\text{C}$ **
 8. Washing and vacuum drying: $\leq 40^{\circ}\text{C}$
 9. Separation in bromoform-xylene mixtures *
 10. Washing and vacuum drying: $\leq 40^{\circ}\text{C}$ *
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* sample goes through these steps when necessary,

** the variants of etching yield polymineral (quartz and feldspar mainly) and monomineral quartz fractions respectively.

1.2. DOSE-RATE ASSESSMENT

About 250 g of the dried sample is used to measure ^{232}Th , ^{226}Ra and ^{40}K concentrations by means of the triple channel gamma scintillation spectrometer. Assuming the secular equilibrium in the ^{238}U chain one can calculate its concentration in the sample. Then the effective dose rates are calculated considering the humidity of the sample, the grain sizes and the etching in HF acid (according to data of Aitken, 1983 and Fleming, 1979). It is also assumed no radon loss from the sample in the deposit. The cosmic rays contribution is calculated after Yokoyama et al. (1982) and added to the effective alpha, beta and gamma dose rates giving the total dose-rate value delivered to coarse grains.

1.3. EQUIVALENT DOSE DETERMINATION

The equivalent doses (ED) for mineral grains extracted from samples listed in this paper were obtained by means of the regeneration $\text{N}+\text{UV}+\gamma$ method (Wintle & Huntley, 1980) or by the total-bleach method $\text{N}+\gamma-\text{I}_0$ (Shinghvi, Sharma & Agrawal, 1982). The necessary reduction of natural TL is obtained after the exposure to the light of the commercial mercury lamp LRFM-125W. The gamma irradiations were performed in the Radiotherapy Department of the Institute of Oncology, Gliwice, with gamma rays from ^{60}Co bomb at the rate of 35 mGy/s (210 rad/min). Beta irradiations were carried out in our laboratory using the $^{90}\text{Sr}-^{90}\text{Y}$ source at the rate of

2.34mGy/s (14rad/min). After the irradiations grains are stored usually for 2 to 4 weeks prior to measurements of their thermoluminescence.

1.4. RESULTS OF DATING

The final result, i.e. the TL age of the sample and the estimated error of age determination are quoted according to the proposition of Bluszcz & Pazdur (1985). Additional information concerning each date are quoted in the abbreviated form and include: the laboratory identifying code, the laboratory number, the mineral fraction used for dating, the method of ED determination and the result of plateau test, the method and the result of effective dose rate evaluation, the etching with HF acid and the observed linearity of TL growth curve.

2. DATING LIST

Geological samples dated for The Detailed Geological Map of Poland. scale 1:50000.

The whole information on samples given in this chapter is delivered by their collectors.

Region: Olsztyn Lake District (N-E Poland)

Koczarki n. Mrągowo (District Olsztyn) 21°28'E, 53°58'N, alt 153m asl. Samples collected from the drilling core, from depth 122 to 206 m. Collected in August 1982 and submitted in 1983 by Władysław Słowański, Geological Institute, Warsaw.

Koczarki 2 K-1

289±44 ka (GdTL-43; p; 100-150 μ m)

[N+UV+ γ (tp 300-400°C); γ (1.70±0.17 Gy/ka)]

[HF; n1]

Fine-grained sand with an admixture of silty sands, deposited in the lacustrine tidal basin, in the late interglacial phase. Depth 122.6 to 122.7 m.

Koczarki 2 K-2

241±37 ka (GdTL-44; p; 100-150 μ m)

[N+UV+ γ (tp 300-370°C); γ (1.87±0.19 Gy/ka)]

[HF; n1]

Fine-grained sand mainly, probably deposited in the lacustrine tidal basin, in the late interglacial phase. Depth 127.25 to 127.35 m.

Koczarki 2 K-3

436±98 ka (GdTL-45; p; 100-150 μ m)

[N+UV+ γ (tp 350-420°C); γ (1.15±0.12 Gy/ka)]

[HF; n1]

Silty and fine-grained sands, probably deposited in the lacustrine tidal basin, in the interglacial period. Depth 132.45 to 132.55 m.

Koczarki 2 K-4

310±47 ka (GdTL-46; p; 100-150 μ m)

[N+UV+ γ (tp 350-440°C); γ (2.19±0.22 Gy/ka)]

[HF; n1]

Silty and fine-grained sands, aggradational deposits probably, deposited in the interglacial period. Depth 167.45 to 167.55 m.

Koczarki 2 K-5

400±60 ka (GdTL-47; p; 100-150 μ m)

[N+UV+ γ (tp 300-430°C); γ (2.36±0.24 Gy/ka)]

[HF; n1]

Silty sand with admixtures of fine-grained sand and dust, aggradational deposits passing into stagnant water deposits, deposited in the late interglacial or interstadial. Depth 206.1 to 206.2 m.

Sykstyny n. Mragowo (District Olsztyn) 21°30'E, 54°00'N, alt 120m asl. Samples collected from the drilling core, from depth 74 to 217m. Collected in August 1982 and submitted in 1983 by Władysław Słowański, Geological Institute, Warsaw.

Sykstyny 3 S-6

30±9 ka (GdTL-48; p; 100-150 μ m)

[N+UV+ γ (tp 350-430°C); γ (1.15±0.11 Gy/ka)]

[HF; n1]

Fine-grained and silty sands with admixtures of dust, deposited in the fossil lacustrine basin probably. Depth 74.1 to 74.2 m.

Sykstyny 3 S-7

107±17 ka (GdTL-49; p; 100-150 μ m)

[N+UV+ γ (tp 260-430°C); γ (1.17±0.12 Gy/ka)]

[HF; n1]

Fine-grained and silty sands, aggradational deposits (deltaic) probably, deposited in the late interglacial. Depth 113.8 to 113.9 m.

Sykstyny 3 S-8

76±13 ka (GdTL-50; p; 100-150 μ m)

[N+UV+ γ (tp 280-390°C); γ (1.19±0.12 Gy/ka)]

[HF; n1]

Fine-grained and silty sands, aggradational deposits (deltaic) probably, deposited in the late interglacial. Depth 123.7 to 123.8 m.

Sykstyny 3 S-9

425±68 ka (GdTL-51; p: 100-150µm)

[N+UV+γ (tp 300-430°C); γ(1.88±0.18 Gy/ka)]

[HF; nll]

Fine-grained and silty sands with an admixture of dust, aggradational deposits, deposited in several sedimentary cycles in the interglacial period. Depth 197.2 to 197.3 m.

Sykstyny 3 S-10

285±43 ka (GdTL-52; p: 100-150µm)

[N+UV+γ (tp 300-430°C); γ(2.11±0.21 Gy/ka)]

[HF; nll]

Fine-grained and silty sands with an admixture of dust, aggradational deposits, deposited in several sedimentary cycles in the interglacial period. Depth 217.25 to 217.35 m.

Goleń n. Piecki (District Olsztyn) 21°17'E, 53°44'N, alt 150m asl. Samples collected from the drilling core, from depth 50 to 86 m. Collected in November 1982 and submitted in 1984 by Stanisław Lisicki, Geological Institute, Warsaw.

Goleń 1 TL211⁺⁷⁴₋₄₁ ka (GdTL-64; p: 100-150µm)

[N+UV+γ (tp 300-400 C); γ(2.84±0.28 Gy/ka)]

[HF; nll]

Structureless silty sand (light greyish), limnoglacial deposit probably. Depth 50.5 to 50.6 m.

Goleń 2 TL

>160 ka (GdTL-65; p: 100-150µm)

[N+UV+γ (tp 270-410°C); γ(3.15±0.32 Gy/ka)]

[HF; nll]

Loamy sand (light grey-greenish). limnoglacial deposit probably. Depth 86.0 to 86.1 m.

Jakubowo n. Piecki (District Olsztyn) 21°22'E, 53°48'N, alt 171m asl. Samples collected from the drilling core, from depth 96 to 99 m. Collected in November 1982 and submitted in 1984 by Stanisław Lisicki, Geological Institute, Warsaw.

Jakubowo 3 TL

102±14 ka (GdTL-66; p: 100-150µm)

[N+UV+γ (tp 320-410°C); γ(3.76±0.38 Gy/ka)]

[HF; nll]

Compact silt, grey, with thin laminations. lacustrine deposit. Depth 96.2 to 96.3 m.

Jakubowo 4 TL

266_{-52}^{+93} ka (GdTL-67; p; 100-150 μ m)

[N+UV+ γ (tp 320-420 C); $\gamma(2.25\pm 0.23$ Gy/ka)]

[HF; n1]

Very fine sand, grey, compact. lacustrine or limnoglacial deposit. Depth 99.1 to 99.2 m.

Baranowo n. Mokołajki (District Suwałki) 21°27'E, 53°49'N, alt 145m asl. Samples collected from the drilling core, from depth 45 to 248 m. Collected in November 1982 and submitted in 1984 by Stanisław Lisicki, Geological Institute, Warsaw.

Baranowo 5 TL

>235 ka (GdTL-68; p; 100-150 μ m)

[N+UV+ γ (tp 320-400°C); $\gamma(2.56\pm 0.26$ Gy/ka)]

[HF; n1]

Very fine sand, grey, stagnant water deposit probably. Depth 45.5 to 45.6 m.

Baranowo 6 TL

>101 ka (GdTL-69; p; 100-150 μ m)

[N+UV+ γ (peak 300°C); $\gamma(3.95\pm 0.40$ Gy/ka)]

[HF]

Varved clay, overlaying layers of clay and silt. Depth 131.4 to 131.5 m.

Region: Suwałki-Augustów Lake District (North-East Poland)

Zytkiejmy n. Dubeninki (District Suwałki) 22°42'E, 54°22'N, alt 198m asl. Samples collected from the drilling core. Collected in June 1984 and submitted in 1984 by Tomasz Krzywicki, Geological Institute, Warsaw.

Zytkiejmy 1FZ

335 \pm 50 ka (GdTL-119; q; 88-100 μ m)

[N+UV+ γ (tp 300-390°C); $\gamma(2.98\pm 0.30$ Gy/ka)]

[HF; n1]

Sandy silt, light grey, stagnant water deposit probably. Depth 72.4 m. Sample collected from the layer 68.0 to 82.5 m depth which consists of very fine sands, fine-grained sands and silts. There are vari-size grained sands, locally with the gravel and shingles, below the sampled layer. Above the layer there is 1 m of gravel with single shingles and then 13 m of fine-grained and very fine sands with thin intercalations of

boulder clay.

Zytkiejmy 2F2

4450 ka (GdTL-120; q; 88-100 μ m)

[N+UV+ γ (tp 300-390°C); γ (2.29 \pm 0.23 Gy/ka)]

[HF; nil]

Very fine silty sand, light grey, stagnant water deposit probably. Depth 124.2 to 124.4 m. Sample collected from the layer 122.6 to 129.0 m depth which consists of very fine sands, locally silty sands, with thin intercalations of boulder clay. There is 34.6 m thick complex of boulder clays below the sampled layer and 7.5 m of stagnant water deposits with 2 m of clay in the base, above.

Zytkiejmy 3F2

4340 ka (GdTL-121; q; 88-100 μ m)

[N+UV+ γ (tp 300-390°C); γ (2.98 \pm 0.30 Gy/ka)]

[HF; nil]

Sandy silt, grey, stagnant water deposit probably. Depth 169.6 m. Sample collected from the layer 163.6 to 184.6 m depth which consists of silts and sandy silts with thin intercalations of clay-silts. Below and above layers of boulder clays.

Zytkiejmy 4F2

205 \pm 50 ka (GdTL-122; q; 100-150 μ m)

[N+UV+ γ (tp 300-360°C); γ (5.16 \pm 0.52 Gy/ka)]

[HF; nil]

Brown-red clay, stagnant water deposit probably. Depth 203.5 to 203.6 m. Sample collected from the layer 195.0 to 208.4 depth which consists of fine and very fine sands, clay-silts and clays. There are thick layers of boulder clays above (10 m) and below (20 m) the sampled layer.

Zytkiejmy Ndl. n. Dúbeninki (District Suwałki) 22°41'E, 54°20'N, alt 184 m asl. Samples collected from the drilling core. Collected in June 1984 and submitted in 1984 by Tomasz Krzywicki, Geological Institute, Warsaw.

Zytkiejmy 5F2

125 \pm 18 ka (GdTL-123; q; 88-100 μ m)

[N+UV+ γ (tp 300-390°C); γ (1.98 \pm 0.20 Gy/ka)]

[HF; nil]

Fine and very fine sand, grey-beige, stagnant water deposit probably. Depth 102.4 m. Sample collected from the layer 98.4 to 105.9 m depth which consists of fine-grained dusty sands with intercalations of sandy silts. The level of boulders (50 cm thick) and boulder clay (17 m thick) occurs above the sampled layer. Below, there is a level of boulder clays.

29 m thick.

Zytkiejmy 12F2

2440 ka (GdTL-130; q; 100-150 μ m)

[N+UV+ γ (tp 300-390°C); γ (4.57 \pm 0.46 Gy/ka)]

[HF; n1]

Clay silt, light grey, stagnant water deposit probably. Depth 153.0 to 153.15 m. Sample collected from the series of stagnant (?) deposits. 150.5 to 154.0 m depth. The series is placed between two levels of boulder clay. The upper level is 11.5 m thick and the lower one is 17 m thick and contains 1 m of silt deposit.

Maciejowięta Las n. Dubeninki (District Suwałki) 22°41'E, 54°19'N, alt. 225 m asl. Samples collected from the drilling core. Collected in June 1984 and submitted in 1984 by Tomasz Krzywicki, Geological Institute, Warsaw.

Zytkiejmy 0F2

273 ka (GdTL-124; q; 88-100 μ m)

[N+UV+ γ (tp 300-390°C); γ (2.75 \pm 0.28 Gy/ka)]

[HF; n1]

Very fine silty sand, light grey, stagnant water deposit probably. Depth 77.6 m. Sample collected from the thick series of sandy deposits starting at the depth 113.6 m with the 23 m thick level of silts and very fine sands. Above, at depths 0 to 90 m, there are deposited vari-size grained and fine-grained sands and three small intercalations of boulder clay within them. Directly above and below the sampled layer fine- and medium-grained sands occur.

Zytkiejmy 7F2

307 \pm 40 ka (GdTL-125; q; 88-150 μ m)

[N+UV+ γ (tp 300-390°C); γ (4.56 \pm 0.46 Gy/ka)]

[HF; n1]

Clay silt, light grey, stagnant water deposit probably. Depth 235.9 m. Sample collected from the series of stagnant water deposits at the depth 230 to 237 m. The series consists of silty sands, silts and clays. There is the thick (depth 197.0 to 230.0 m) layer of boulder clay containing 1.5 m thick intercalation of silty sand above the sampled series and the boulder clay layer below (depth 237.0 to 246.4 m).

Przystajne n. Przerosl (District Suwałki) 22°41'E, 54°13'N, alt. 219 m asl. Samples collected from the drilling core. Collected in June 1984 and submitted in 1984 by Tomasz Krzywicki, Geological Institute, Warsaw.

Zytkiejmy 8F2610±90 ka (GdTL-126; q; 88-100 μ m)IN+UV+ γ (tp 315-390°C); γ (3.28±0.33 Gy/ka)

[HF; n1]

Sandy silt, stagnant water deposit. Depth 226.4 m. Sample collected from the silty-clayey-sandy series laying at depths 222.6 to 231.4 m between two levels of boulder clays: lower one at 231.4 to 234.8 m and upper one at 212.2 to 222.6 m.

Olszanka n. Filipów (District Suwalki) 22°42'E, 54°10'N, alt 209 m asl. Samples collected from the drilling core. Collected in June 1984 and submitted in 1984 by Tomasz Krzywicki, Geological Institute, Warsaw.

Zytkiejmy 9F2330±60 ka (GdTL-127; q; 88-100 μ m)IN+UV+ γ (tp 300-390°C); γ (2.12±0.22 Gy/ka)

[HF; n1]

Very fine grain, grey, stagnant water deposit probably. Depth 68.7 to 68.9 m. Sample collected from the series of stagnant deposits formed of very fine sands, 65.3 to 71.5 m depth. There is a level of boulder clay above this series (depth 52.2 to 65.3 m) and 60 cm of boulder clay below it. Below, at depths 72.1 to 115.1 m, the level of sands, vari-size grained mostly and fine-grained locally.

Zytkiejmy 10F2533±80 ka (GdTL-128; q; 88-100 μ m)IN+UV+ γ (tp 300-390°C); γ (3.38±0.34 Gy/ka)

[HF; n1]

Sandy silt, beige, stagnant water deposit probably. Depth 133.2 to 133.7 m. Sample collected from the sandy-silty series laying 131.0 to 137.7 m depth between two levels of boulder clays (125.7 to 131.0 and 137.7 to 147.6 m depth).

Zytkiejmy 11F2610±165ka (GdTL-129; q; 88-100 μ m)IN+UV+ γ (tp 300-390°C); γ (3.28±0.33 Gy/ka)

[HF; n1]

Weakly sandy silt, beige, stagnant water deposit probably. Depth 207.5 m. Sample collected from the series of silts (206.0 to 215.8 m depth) laying above the boulder clay level (215.8 to 239.8 m depth) containing the clayey-silty intercalation at the depth 222.3 to 224.1 m. Above the series there is the boulder clay also (172.0 to 206.0 m depth), with several intercalations of sands, silts and clays.

Region: Vistula Delta and Surrounding Area, Eastern Pomerania (North Poland)

Lęcze n. Tolkmicko, Elbląg Upland (District Elbląg) 19°29'E, 54°17'N, alt. 122 m asl. Samples collected from the bore hole. Collected in August 1983 and submitted in 1984 by Aurelia Makowska, Geological Institute, Warsaw.

Lęcze - L₁₀

124±18 ka (GdTL-150; q; 88-100µm)

[N+UV+β (tp 300-400°C); γ(1.61±0.16 Gy/ka)]

IHF; nil

Silty sand, lacustrine deposit. Depth 42.8 m.

Lęcze - L₁₇

107±15 ka (GdTL-151; q; 88-100µm)

[N+UV+β (tp 300-400°C); γ(1.45±0.15 Gy/ka)]

IHF; nil

Silty sand, lacustrine (or marine?) deposit. Depth 171.5 m.

Jagodna n. Elbląg, Elbląg Upland (District Elbląg) 19°24'E, 54°14'N, alt. 45 m asl. Samples collected from the bore holes. Collected in August 1983 and submitted in 1984 by Aurelia Makowska, Geological Institute, Warsaw.

Jagodna - Jag₁

343±100ka (GdTL-145; q; 88-100µm)

[N+UV+β (peak 320°C); γ(1.00±0.10 Gy/ka)]

IHF; nil

Silty sand, lacustrine deposit. Depth 46.0 to 47.0 m.

Jagodna - Jag₃

≥250 ka (GdTL-146; q; 100-150µm)

[N+UV+β (tp 300-390°C); γ(2.83±0.28 Gy/ka)]

IHF; nil

Sandy silt, compact, lacustrine (or marine?) deposit. Depth 126.0 m.

Raczki Elbląskie n. Elbląg, Żuławy Wiślane (District Elbląg) 19°23'E, 54°08'N, alt 0.3 m asl. Samples collected from the bore hole. Collected in August 1983 and submitted in 1984 by Aurelia Makowska, Geological Institute, Warsaw.

Raczki Elbląskie - Ra₄

≥240 ka (GdTL-147; q; 88-100µm)

[N+UV+β (tp 300-390°C); γ(2.49±0.25 Gy/ka)]

IHF; nil

Silty sand, lacustrine deposit. Depth 113.5 to 118 m.

Cierpięta n. Mikolajki Pom., Ilawa Upland (District Elbląg) 19°10'E, 53°52'N, alt 92 m asl. Samples collected from the bore hole. Collected in August 1983 and submitted in 1984 by Aurelia Makowska, Geological Institute, Warsaw.

Cierpięta - Cie₂₃

75±12 ka (GdTL-82; p; 100-150µm)

(N+UV+γ (tp 320-420°C); γ(2.94±0.30 Gy/ka))

IHF: n11

Sandy silts, marine deposits. Depth 56.0 to 57.0 m.

Cierpięta - Cie₂₄

61±15 ka (GdTL-83; p; 100-150µm)

(N+UV+γ (tp 290-420°C); γ(3.62±0.36 Gy/ka))

IHF: 11

Sandy silts, marine deposits. Depth 104.0 to 105.0 m.

Cierpięta - Cie₂₅

81±12 ka (GdTL-84; p; 100-150µm)

(N+UV+γ (tp 320-420°C); γ(2.72±0.27 Gy/ka))

IHF: 11

Sandy silt, marine (?) or stagnant water deposit. Depth 123.0 to 124.0 m.

Suchacz n. Tolkmicko, Elbląg Upland (District Elbląg) 19°27'E, 54°17'N, alt 35 m asl. Samples collected from the exposure. Collected in August 1983 and submitted in 1984 by Aurelia Makowska, Geological Institute, Warsaw.

Suchacz - Su₂

>180 ka (GdTL-148; q; 88-150µm)

(N+UV+β (tp 300-390°C); γ(3.39±0.34 Gy/ka))

IHF: n11

Marine clays. Depth 12 m.

Suchacz - Su₃

220 ka (GdTL-149; q; 88-100µm)

(N+UV+β (tp 300-390°C); γ(2.82±0.28 Gy/ka))

IHF: n11

Clays, marine deposit. Depth 14 m.

Region: Northern Foreland of Little Poland Upland (central Poland)

Samples collected from the bore holes. Collected in November 1983 and submitted in 1984 by Alicja Mankowska, Geological Institute, Warsaw.

Przespolew Pański (District Kalisz) 18°24'E, 51°54'N, alt 136m asl.

S 222 Przespolew Pański

9±5 ka (GdTL-53; p; 100-150 μ m)

[N+ γ -I₀ (tp 260-330°C); γ (0.93±0.09 Gy/ka)]

[HF; 1]

Sandy aggradation, paludal deposits. Depth 1.2 m.

Zychów (District Kalisz) 18°21'E, 51°49'N, alt 131m asl.

S 794 Zychów

870 - 1300 ka (GdTL-54; p; 100-150 μ m)

[N+ γ -I₀ (tp 300-350°C); γ (2.31±0.23 Gy/ka)]

[HF; n1]

Grey-bluish plastic clay, stagnant water deposit. Depth 3.0 to 3.2 m.

Małgów (District Kalisz) 18°29'E, 51°52'N, alt 141m asl.

S 272 Małgów

78±20 ka (GdTL-55; p; 100-150 μ m)

[N+ γ -I₀ (tp 263-430°C); γ (2.64±0.26 Gy/ka)]

[HF; 1]

Fine-grained sand, limous stagnant water deposit. Depth 1.2 m.

Region: Mazovian Lowland (Central Poland)

Arcelin n. Płonsk, Płock Upland (District Ciechanów) 20°19'E, 52°39'N, alt 103 m asl. Samples collected from the bore hole. Collected in May 1984 and submitted 1985 by Maria D. Baraniecka, Geological Institute, Warsaw.

Arcelin 5.3 - 5.7

48±7 ka (GdTL-157; q; 88-100 μ m)

[N+UV+ γ (tp 280-370°C); γ (2.34±0.23 Gy/ka)]

[HF; n1]

Very fine sand, lacustrine or aggradational deposit. Depth 5.3 to 5.7 m.

Arcelin 14.5 - 14.9

61±9 ka (GdTL-158; q; 88-100 μ m)

[N+UV+ γ (tp 280-370°C); γ (2.08±0.21 Gy/ka)]

[HF; n1]

Silty sands, stagnant water deposits. Depth 14.5 to 14.9 m.

Arcein 18.0 - 18.3240⁺⁹⁰₋₅₀ ka (GdTL-159; q: 88-100 μ m)[N+UV γ (tp 280-370°C): γ (2.33 \pm 0.23 Gy/ka)]

[HF; n1]

Sandy silt, stagnant water deposit. Depth 18.0 to 18.3 m

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Wpłynęło do Redakcji 10 kwietnia 1987.

WYKAZ DATOWAN TERMOLUMINESCENCYJNYCH LABORATORIUM C-14 W GLIWICACH
CZĘŚĆ I

S t r e s z c z e n i e

Artykuł zawiera listę 44 dat otrzymanych za pomocą metody datowania termoluminescencyjnego w Laboratorium C-14 w Gliwicach. Badaniami objęto próbki osadów różnych typów genetycznych, głównie osadów fluwioglacjalnych, z terenu północnej Polski. Wiek termoluminescencyjny datowanych próbek zawiera się w przedziale od 50 do 500 tysięcy lat. Pomiar naturalnej termoluminescencji wykonano wykorzystując ziarna kwarcu o granulacji 88-100 μ m metodą odtworzeniową z uwzględnieniem zjawiska nieliniowego wzrostu termoluminescencji. Wielkość dawki rocznej

określana była na podstawie pomiarów naturalnej radioaktywności uranu, toru i potasu w datowanych próbkach metodą trójkanałowego scyntylacyjnego spektrometru gamma. Wyniki oznaczeń wieku podawane są bez uwzględnienia naturalnej wilgotności datowanych próbek, zachowując sformułowaną uprzednio konwencję cytowania dat TL.

РЕЗУЛЬТАТЫ ИММЕНЕНТЕННЫХ ДАТИРОВОК В БЛИВИЦЕ И ЛАБОРАТОРИИ ЧАСТЬ I

Р е з ю м е

В докладе представлено 44 результатов измерений абсолютного возраста четвертичных осадков, полученных термолюминесцентным методом в Лаборатории в Блвице. Датированы образцы происходят из четвертичных отложений разных генетических типов, главным образом ледниково-водных осадков, из северной Польши. Термолюминесцентный возраст датированных осадков заключается в широких пределах от 50 до 500 тыс. лет. Измерения натуральной термолюминесценции проводили для кварцевых зерен диаметром 38-150 мк. Величину поглощенной дозы определяли методом восстановления с учетом нелинейного приращения термолюминесцентного сигнала. Величину годичной дозы определили по результатам измерений натуральной радиоактивности урана, тория и калия в датированных образцах. Эти измерения проводили при помощи трехканального цинтилляционного спектрометра гамма. Результаты определения возраста приведены без учета натуральной влажности осадков.