

**ANALIZA wody**  
**Składowisko odpadów komunalnych**  
**KOPASZYN** - Nowe-Toniszewo, gm. Wągrowiec  
maj 1999 r.

| Miejsce pobrania próbki<br>Nr analizy |                                                 |                         | PP-1<br>322 | PP-2<br>323 | PP-3<br>324 | 3<br>325 | 9<br>327 |
|---------------------------------------|-------------------------------------------------|-------------------------|-------------|-------------|-------------|----------|----------|
| Data pobrania próbki                  |                                                 |                         | 5.05.99     | 5.05.99     | 5.05.99     | 5.05.99  | 5.05.99  |
| t° powietrza                          |                                                 |                         |             |             |             |          |          |
| t° wody                               |                                                 |                         |             |             |             |          |          |
| Mętność                               | mg/l                                            |                         |             |             |             |          |          |
| Barwa                                 | mg Pt/l                                         |                         | 80          | 20          | 80          | 5        | 15       |
| Próg barwy                            |                                                 |                         |             |             |             |          |          |
| Zapach                                |                                                 |                         |             |             |             |          |          |
| Próg zapachu                          |                                                 |                         |             |             |             |          |          |
| Smak                                  |                                                 |                         |             |             |             |          |          |
| Odczyn pH                             |                                                 |                         | 7,22        | 7,15        | 7,13        | 6,57     | 7,00     |
| Tlen rozpuszcz.                       | mg O <sub>2</sub> /l                            |                         |             |             |             |          |          |
| % nasycenia tlenem                    |                                                 |                         |             |             |             |          |          |
| BZT <sub>5</sub>                      | mg O <sub>2</sub> /l                            |                         |             |             |             |          |          |
| ChZT                                  | z KMnO <sub>4</sub>                             | mg O <sub>2</sub> /l    | 27,4        | 6,8         | 27,0        | 4,4      | 6,0      |
|                                       | z K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> | mg O <sub>2</sub> /l    |             |             |             |          |          |
| Azot                                  | amoniakalny                                     | mg N/l                  | 0,72        | 0,16        | 0,76        | 0,36     | 0,72     |
|                                       | azotynowy                                       | mg N/l                  | n.w.        | 0,030       | 0,080       | 0,16     | 0,080    |
|                                       | azotanowy                                       | mg N/l                  | 0,14        | 22,0        | 48,0        | 40,0     | 0,20     |
|                                       | organiczny                                      | mg N/l                  |             |             |             |          |          |
| Siarczki                              |                                                 |                         |             |             |             |          |          |
| Siarczany                             |                                                 |                         | 25          | 106         | 219         | 301      | 115      |
| Chlorki                               |                                                 |                         | 47          | 34          | 30          | 82       | 16       |
| Fosforany                             | ogólne                                          | mg PO <sub>4</sub> /l   |             |             |             |          |          |
|                                       | orto-rozpuszcz.                                 | mg PO <sub>4</sub> /l   | 1,0         | 0,72        | 5,8         | 0,3      | 0,35     |
| Fluorki                               |                                                 |                         |             |             |             |          |          |
| Cyjanki                               | ogólne                                          | mg CN/l                 |             |             |             |          |          |
|                                       | wolne                                           | mg CN/l                 |             |             |             |          |          |
| Zasadowość                            | ogólna                                          | mval/l                  | 2,4         | 3,5         | 3,2         | 4,8      | 3,6      |
|                                       | ogólna                                          | mg CaCO <sub>3</sub> /l |             |             |             |          |          |
|                                       |                                                 |                         |             |             |             |          |          |
|                                       | wobec fenoloftaleiny                            | mval/l                  |             |             |             |          |          |
| Żelazo                                | dwuwartościowe                                  | mg Fe/l                 |             |             |             |          |          |
|                                       | trójwartościowe                                 | mg Fe/l                 |             |             |             |          |          |
|                                       | ogólne                                          | mg Fe/l                 |             |             |             | 0,08     | 0,26     |
| Mangan                                |                                                 |                         |             |             |             |          |          |
| Potas                                 |                                                 |                         |             |             |             |          |          |
| Sód                                   |                                                 |                         |             |             |             |          |          |
| Wapń                                  |                                                 |                         |             |             |             |          |          |
| Magnez                                |                                                 |                         |             |             |             |          |          |
| Twardość                              |                                                 | °n                      |             |             |             | 44,2     | 19,0     |
|                                       |                                                 | mval/l                  |             |             |             |          |          |

| Nr analizy                                  |               |                         | 322   | 323   | 234   | 325   | 327   |
|---------------------------------------------|---------------|-------------------------|-------|-------|-------|-------|-------|
| Kwasowość                                   |               | mval/l                  |       |       |       |       |       |
|                                             |               | mg CaCO <sub>3</sub> /l |       |       |       |       |       |
| Dwutlenek węgla                             | wolny         | mg CO <sub>2</sub> /l   |       |       |       |       |       |
|                                             | agresywny     | mg CO <sub>2</sub> /l   |       |       |       |       |       |
|                                             | Miedź         | mg Cu/kg                | 0,004 | 0,003 | 0,010 | 0,010 | 0,004 |
|                                             | Rtęć          | mg Hg/l                 |       |       |       |       |       |
|                                             | Cynk          | mg Zn/kg                | 0,039 | 0,019 | 0,090 | 7,83  | 6,64  |
|                                             | Ołów          | mg Pb/kg                | 0,003 | 0,003 | n.w.  | 0,011 | 0,003 |
|                                             | Chrom         | mg Cr/l                 | 0,029 | 0,017 | 0,021 | 0,024 | 0,025 |
|                                             | Kadm          | mg Cd/kg                | 0,001 | 0,001 | 0,001 | 0,004 | 0,002 |
|                                             | Arsen         | mg As/l                 |       |       |       |       |       |
|                                             | Nikiel        | mg Ni/kg                | 0,004 | 0,001 | 0,001 | n.w.  | n.w.  |
|                                             | Fenole        | mg/l                    |       |       |       |       |       |
| Detergenty                                  | anionowe      | mg/l                    |       |       |       |       |       |
|                                             | kationowe     | mg/l                    |       |       |       |       |       |
| Substancje ekstrahujące się eterem naftowym |               | mg/l                    |       |       |       |       |       |
|                                             | Fl            | ng/l                    |       |       |       |       |       |
|                                             | B(a)P         | ng/l                    |       |       |       |       |       |
|                                             | B(b)F         | ng/l                    |       |       |       |       |       |
|                                             | B(k)F         | ng/l                    |       |       |       |       |       |
|                                             | IP            | ng/l                    |       |       |       |       |       |
|                                             | B(ghi)P       | ng/l                    |       |       |       |       |       |
|                                             | Przewodnictwo | μS/cm                   |       |       |       |       |       |
|                                             | OWO           | mg C/l                  |       |       |       |       |       |
|                                             |               |                         |       |       |       |       |       |
|                                             |               |                         |       |       |       |       |       |
|                                             |               |                         |       |       |       |       |       |
|                                             |               |                         |       |       |       |       |       |
| Sucha pozostałość                           | il. ogólna    | mg/l                    |       |       |       |       |       |
|                                             | cz. lotne     | mg/l                    |       |       |       |       |       |
|                                             | cz. stałe     | mg/l                    |       |       |       |       |       |
| Zawiesiny                                   | il. ogólna    | mg/l                    |       |       |       |       |       |
|                                             | cz. lotne     | mg/l                    |       |       |       |       |       |
|                                             | cz. stałe     | mg/l                    |       |       |       |       |       |

#### Bilans jonowy

|                  |                          |  |  |  |  |  |
|------------------|--------------------------|--|--|--|--|--|
| Sód              | mval Na/l                |  |  |  |  |  |
| Potas            | mval K/l                 |  |  |  |  |  |
| Wapń             | mval Ca/l                |  |  |  |  |  |
| Magnez           | mval Mg/l                |  |  |  |  |  |
| Azot amoniakalny | mval N/l                 |  |  |  |  |  |
| Cynk             | mval Zn/l                |  |  |  |  |  |
|                  |                          |  |  |  |  |  |
| Suma kationów    | mval/l                   |  |  |  |  |  |
|                  |                          |  |  |  |  |  |
| Kwaśne węglany   | mval HCO <sub>3</sub> /l |  |  |  |  |  |
| Siarczany        | mval SO <sub>4</sub> /l  |  |  |  |  |  |
| Chlorki          | mval Cl/l                |  |  |  |  |  |
| Azot azotanowy   | mval N/l                 |  |  |  |  |  |
| Azot azotynowy   | mval N/l                 |  |  |  |  |  |
|                  |                          |  |  |  |  |  |
| Suma anionów     | mval/l                   |  |  |  |  |  |



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|                                       |                                                 |                         |           |  |  |  |  |
|---------------------------------------|-------------------------------------------------|-------------------------|-----------|--|--|--|--|
| Miejsce pobrania próbki<br>Nr analizy |                                                 |                         | 10<br>328 |  |  |  |  |
| Data pobrania próbki                  |                                                 |                         | 5.05.99   |  |  |  |  |
| t <sup>o</sup> powietrza              |                                                 |                         |           |  |  |  |  |
| t <sup>o</sup> wody                   |                                                 |                         |           |  |  |  |  |
| Mętność                               | mg/l                                            |                         |           |  |  |  |  |
| Barwa                                 | mg Pt/l                                         |                         | 10        |  |  |  |  |
| Próg barwy                            |                                                 |                         |           |  |  |  |  |
| Zapach                                |                                                 |                         |           |  |  |  |  |
| Próg zapachu                          |                                                 |                         |           |  |  |  |  |
| Smak                                  |                                                 |                         |           |  |  |  |  |
| Odczyn pH                             |                                                 |                         | 6,84      |  |  |  |  |
| Tlen rozpuszcz.                       |                                                 | mg O <sub>2</sub> /l    |           |  |  |  |  |
| % nasycenia tlenem                    |                                                 |                         |           |  |  |  |  |
| BZT <sub>5</sub>                      |                                                 | mg O <sub>2</sub> /l    |           |  |  |  |  |
| ChZT                                  | z KMnO <sub>4</sub>                             | mg O <sub>2</sub> /l    | 6,2       |  |  |  |  |
|                                       | z K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> | mg O <sub>2</sub> /l    |           |  |  |  |  |
| Azot                                  | amoniakalny                                     | mg N/l                  | 1,4       |  |  |  |  |
|                                       | azotynowy                                       | mg N/l                  | 0,18      |  |  |  |  |
|                                       | azotanowy                                       | mg N/l                  | 20,0      |  |  |  |  |
|                                       | organiczny                                      | mg N/l                  |           |  |  |  |  |
| Siarczki                              |                                                 | mg H <sub>2</sub> S/l   |           |  |  |  |  |
| Siarczany                             |                                                 | mg SO <sub>4</sub> /l   | 108       |  |  |  |  |
| Chlorki                               |                                                 | mg Cl/l                 | 34        |  |  |  |  |
| Fosforany                             | ogólne                                          | mg PO <sub>4</sub> /l   |           |  |  |  |  |
|                                       | orto-rozpuszcz.                                 | mg PO <sub>4</sub> /l   | 0,35      |  |  |  |  |
| Fluorki                               |                                                 | mg F/l                  |           |  |  |  |  |
| Cyjanki                               | ogólne                                          | mg CN/l                 |           |  |  |  |  |
|                                       | wolne                                           | mg CN/l                 |           |  |  |  |  |
| Zasadowość                            | ogólna                                          | mval/l                  |           |  |  |  |  |
|                                       | ogólna                                          | mg CaCO <sub>3</sub> /l | 4,4       |  |  |  |  |
|                                       |                                                 |                         |           |  |  |  |  |
|                                       | wobec fenoloftaleiny                            | mval/l                  |           |  |  |  |  |
| Żelazo                                | dwuwartościowe                                  | mg Fe/l                 |           |  |  |  |  |
|                                       | trójwartościowe                                 | mg Fe/l                 |           |  |  |  |  |
|                                       | ogólne                                          | mg Fe/l                 | 0,04      |  |  |  |  |
| Mangan                                |                                                 | mg Mn/l                 |           |  |  |  |  |
| Potas                                 |                                                 | mg K/l                  |           |  |  |  |  |
| Sód                                   |                                                 | mg Na/l                 |           |  |  |  |  |
| Wapń                                  |                                                 | mg Ca/l                 |           |  |  |  |  |
| Magnez                                |                                                 | mg Mg/l                 |           |  |  |  |  |
| Twardość                              |                                                 | °n                      | 26,4      |  |  |  |  |
|                                       |                                                 | mval/l                  |           |  |  |  |  |

|                                             |                |                          |       |  |  |  |  |
|---------------------------------------------|----------------|--------------------------|-------|--|--|--|--|
| Nr analizy                                  |                |                          | 328   |  |  |  |  |
| Kwasowość                                   |                |                          |       |  |  |  |  |
|                                             |                | mval/l                   |       |  |  |  |  |
|                                             |                | mg CaCO <sub>3</sub> /l  |       |  |  |  |  |
| Dwutlenek węgla                             | wolny          | mg CO <sub>2</sub> /l    |       |  |  |  |  |
|                                             | agresywny      | mg CO <sub>2</sub> /l    |       |  |  |  |  |
|                                             | Miedź          | mg Cu/kg                 | 0,003 |  |  |  |  |
|                                             | Rtęć           | mg Hg/l                  |       |  |  |  |  |
|                                             | Cynk           | mg Zn/kg                 | 7,12  |  |  |  |  |
|                                             | Ołów           | mg Pb/kg                 | 0,003 |  |  |  |  |
|                                             | Chrom          | mg Cr/l                  | 0,013 |  |  |  |  |
|                                             | Kadm           | mg Cd/kg                 | 0,004 |  |  |  |  |
|                                             | Arsen          | mg As/l                  |       |  |  |  |  |
|                                             | Nikiel         | mg Ni/kg                 | n.w.  |  |  |  |  |
|                                             | Fenole         | mg/l                     |       |  |  |  |  |
| Detergenty                                  | anionowe       | mg/l                     |       |  |  |  |  |
|                                             | kationowe      | mg/l                     |       |  |  |  |  |
| Substancje ekstrahujące się eterem naftowym |                | mg/l                     |       |  |  |  |  |
|                                             | Fl             | ng/l                     |       |  |  |  |  |
|                                             | B(a)P          | ng/l                     |       |  |  |  |  |
|                                             | B(b)F          | ng/l                     |       |  |  |  |  |
|                                             | B(k)F          | ng/l                     |       |  |  |  |  |
|                                             | IP             | ng/l                     |       |  |  |  |  |
|                                             | B(ghi)P        | ng/l                     |       |  |  |  |  |
|                                             | Przewodnictwo  | μS/cm                    |       |  |  |  |  |
|                                             | OWO            | mg C/l                   |       |  |  |  |  |
|                                             |                |                          |       |  |  |  |  |
|                                             |                |                          |       |  |  |  |  |
|                                             |                |                          |       |  |  |  |  |
|                                             |                |                          |       |  |  |  |  |
| Szcina pozostałość                          | il. ogólna     | mg/l                     |       |  |  |  |  |
|                                             | cz. lotne      | mg/l                     |       |  |  |  |  |
|                                             | cz. stałe      | mg/l                     |       |  |  |  |  |
| Zawiesiny                                   | il. ogólna     | mg/l                     |       |  |  |  |  |
|                                             | cz. lotne      | mg/l                     |       |  |  |  |  |
|                                             | cz. stałe      | mg/l                     |       |  |  |  |  |
| Bilans jonowy                               |                |                          |       |  |  |  |  |
|                                             | Sód            | mval Na/l                |       |  |  |  |  |
|                                             | Potas          | mval K/l                 |       |  |  |  |  |
|                                             | Wapń           | mval Ca/l                |       |  |  |  |  |
|                                             | Magnez         | mval Mg/l                |       |  |  |  |  |
| Azot                                        | amoniakalny    | mval N/l                 |       |  |  |  |  |
|                                             | Cynk           | mval Zn/l                |       |  |  |  |  |
|                                             |                |                          |       |  |  |  |  |
| Suma kationów                               |                | mval/l                   |       |  |  |  |  |
|                                             |                |                          |       |  |  |  |  |
|                                             | Kwaśne węglany | mval HCC <sub>3</sub> /l |       |  |  |  |  |
|                                             | Siarczany      | mval SO <sub>4</sub> /l  |       |  |  |  |  |
|                                             | Chlorki        | mval Cl/l                |       |  |  |  |  |
|                                             | Azot azotanowy | mval N/l                 |       |  |  |  |  |
|                                             | Azot azotynowy | mval N/l                 |       |  |  |  |  |
|                                             |                |                          |       |  |  |  |  |
| Suma anionów                                |                | mval/l                   |       |  |  |  |  |