

LAMPIRAN-LAMPIRAN



Lampiran 1. Hasil Pengujian dengan *One-Way* ANOSIM pada struktur komunitas antar stasiun

ONE-WAY ANOSIM

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Date: 25/10/1999

Similarity matrix: D:ANIS\TAMANIS.SIM

Group	Size	Samples
1	2	1,6
2	2	2,7
3	2	3,8
4	2	4,9
5	2	5,10

Number of samples used: 10 from a possible 10

GLOBAL TEST

Sample statistic (Global R): -0.020

Number of permutations: 945 (ALL POSSIBLE PERMUATIONS)

Number of permuted statistics greater than or equal to global R: 477

Significance level of sample statistic: 50.5%

PAIRWISE TESTS

Groups Used	Stat Value	Possible Permutations	Permutations Used	Significant Statistics	Significance Level
(1, 2)	0.250	3	3	2	66.7%
(1, 3)	-0.250	3	3	2	66.7%
(1, 4)	0.000	3	3	2	66.7%
(1, 5)	0.000	3	3	2	66.7%
(2, 3)	0.000	3	3	2	66.7%
(2, 4)	1.000	3	3	1	33.3%
(2, 5)	0.500	3	3	2	66.7%
(3, 4)	0.500	3	3	2	66.7%
(3, 5)	-0.750	3	3	3	100.0%
(4, 5)	-0.250	3	3	3	100.0%

NB: The significance levels in the pairwise tests are NOT adjusted to allow for multiple comparisons.

Lampiran 2. Hasil Pengujian dengan *One-Way* ANOSIM pada struktur komunitas bulan Oktober 1998 dengan Maret 1999

ONE-WAY ANOSIM
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Date: 25/10/1999

Similarity matrix: D:ANIS\TAMANIS.SIM

Group	Size	Samples
1	5	1-5
2	5	6-10

Number of samples used: 10 from a possible 10

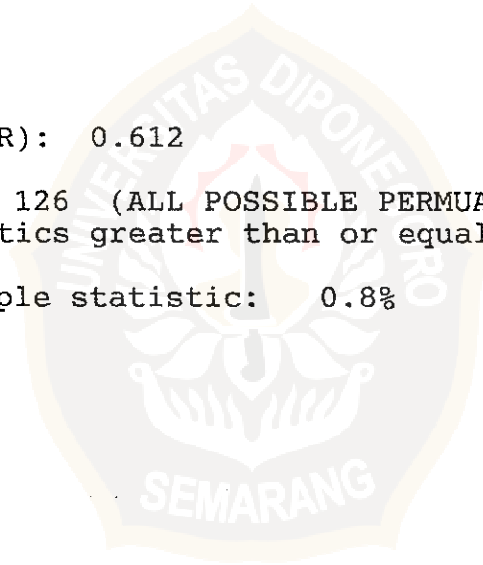
GLOBAL TEST
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Sample statistic (Global R): 0.612

Number of permutations: 126 (ALL POSSIBLE PERMUATIONS)

Number of permuted statistics greater than or equal to global R: 1

Significance level of sample statistic: 0.8%



Lampiran 3. Tabel kategorisasi konvensional nilai p

| Nilai p               | Tingkat Kekuatan Pembuktian                | Deskripsi            | Penggunaan umum |
|-----------------------|--------------------------------------------|----------------------|-----------------|
| $p > 0,1$             | Tidak ada alasan untuk menolak $H_0$       | Non signifikan       | $p > 0,1$       |
| $0,05 < p \leq 0,1$   | Ada alasan lemah untuk menolak $H_0$       | Signifikan pada 10%  | $p < 0,1$       |
| $0,01 < p \leq 0,05$  | Ada alasan cukup kuat untuk menolak $H_0$  | Signifikan pada 5%   | $p < 0,05$      |
| $0,001 < p \leq 0,01$ | Ada alasan kuat untuk menolak $H_0$        | Signifikan pada 1%   | $p < 0,01$      |
| $p \leq 0,001$        | Ada alasan sangat kuat untuk menolak $H_0$ | Signifikan pada 0,1% | $p < 0,001$     |

Sumber : Brown and Rothery, 1994

## LAMPIRAN 4 : KONSEP BAKU MUTU (KANTOR MENTERI NEGARA KLH)

## 1. BAKU MUTU AIR PADA SUMBER AIR

## BAKU MUTU AIR GOLONGAN A

| NO.                | PARAMETER            | SATUAN                | MAKSIMUM YANG DIANJURKAN | MAKSIMUM YANG DIBERBOLEHKAN | METODE ANALISIS                                         | PERALATAN                                               | Keterangan            |
|--------------------|----------------------|-----------------------|--------------------------|-----------------------------|---------------------------------------------------------|---------------------------------------------------------|-----------------------|
| 1                  | 2                    | 3                     | 4                        | 5                           | 6                                                       | 7                                                       | 8                     |
| <b>F I S I K A</b> |                      |                       |                          |                             |                                                         |                                                         |                       |
| 1.                 | Temperatur           | °C                    | Temperatur air normal    | Temperatur air normal       | Remuian                                                 | Termometer                                              |                       |
| 2.                 | Warna                | Unit Pt Co standard   | 5                        | 50                          | Kolorimetrik/Spektrofotometrik                          | Kolorimetrik/Spektrofotometrik                          |                       |
| 3.                 | Bau                  | -                     | Tidak berbau             | Tidak berbau                | Organ Ulap                                              |                                                         |                       |
| 4.                 | Rasa                 | -                     | Tidak berasa             | Tidak berasa                |                                                         |                                                         |                       |
| 5.                 | Kekeruhan            | mg/l.SiO <sub>2</sub> | 5                        | 25                          | Turbidimetrik                                           | Turbidimeter                                            |                       |
| 6.                 | Residu terlarut      | mg/l                  | 500                      | 1500                        | Gravimetrik                                             | Timbangan analitik dan kertas saring 0,45 µm            |                       |
| <b>K I M I A</b>   |                      |                       |                          |                             |                                                         |                                                         |                       |
| 1.                 | pH                   |                       | 6,5 - 8,5                | 6,5 - 8,5                   | Potensiometrik                                          | pH meter                                                | nilai antara (Kurang) |
| 2.                 | Kalsium (Ca)         | mg/l                  | 75                       | 200                         | - Titrimetrik-ADTA<br>- Spektrofotometrik serapan atom  | - Buret<br>- AAS                                        |                       |
| 3.                 | Magnesium (Mg)       | mg/l                  | 30                       | 150                         | - Titrimetrik-EDTA<br>- Spektrofotometrik serapan atom  | - Buret<br>- AAS                                        |                       |
| 4.                 | Barium (Ba)          | mg/l                  | nihil                    | 0,05                        | - Gravimetrik<br>- Spektrofotometrik serapan atom       | - Timbangan analitik dan kertas saring 0,45 µm<br>- AAS |                       |
| 5.                 | Besi (Fe)            | mg/l                  | 0,1                      | 1                           | - Spektrofotometrik<br>- Spektrofotometrik serapan atom | - Spektrofotometer<br>- AAS                             |                       |
| 6.                 | Mangan (Mn)          | mg/l                  | 0,05                     | 0,5                         | - Spektrofotometrik<br>- Spektrofotometrik serapan atom | - Spektrofotometer<br>- AAS                             |                       |
| 7.                 | Tembaga (Cu)         | mg/l                  | nihil                    | 1                           | - Spektrofotometrik<br>- Spektrofotometrik serapan atom | - Spektrofotometer<br>- AAS                             |                       |
| 8.                 | Seng (Zn)            | mg/l                  | 1                        | 15                          | - Spektrofotometrik<br>- Spektrofotometrik serapan atom | - Spektrofotometer<br>- AAS                             |                       |
| 9.                 | Krom heksavalen (Cr) | mg/l                  | nihil                    | 0,05                        | - Spektrofotometrik serapan atom                        | - AAS                                                   |                       |
| 10.                | Kadmium (Cd)         | mg/l                  | nihil                    | 0,01                        | Spektrofotometrik serapan atom                          | - AAS                                                   |                       |
| 11.                | Raksa total (Hg)     | mg/l                  | 0,0005                   | 0,001                       | Spektrofotometrik serapan atom                          | AAS                                                     |                       |
| 12.                | Timbal (Pb)          | mg/l                  | 0,05                     | 0,1                         | Spektrofotometrik serapan atom                          | AAS                                                     |                       |
| 13.                | Arsen (As)           | mg/l                  | nihil                    | 0,05                        | - Spektrofotometrik<br>- Spektrofotometrik serapan atom | - Spektrofotometer<br>- AAS                             |                       |

| 1                     | 2                                  | 3                      | 4     | 5     | 6                                | 7                                           | 8        |
|-----------------------|------------------------------------|------------------------|-------|-------|----------------------------------|---------------------------------------------|----------|
| 14.                   | Selenium (Se)                      | mg/l                   | nihil | 0,01  | - Spektrofotometrik              | - Spektrofotometer                          |          |
|                       |                                    |                        |       |       | - Spektrofotometrik serapan atom | - AAS                                       |          |
| 15.                   | Sianida (CN)                       | mg/l                   | nihil | 0,05  | Spektrofotometrik                | Spektrofotometer                            |          |
| 16.                   | Sulfida (S)                        | mg/l                   | nihil | nihil | - Titrimetrik                    | - Buret                                     |          |
| 17.                   | Fluorida (F)                       | mg/l                   | -     | 1,5   | - Spektrofotometrik              | - Spektrofotometer                          | min. 0,5 |
| 18.                   | Klorida (Cl)                       | mg/l                   | 200   | 600   | Spektrofotometrik                | Spektrofotometer                            |          |
| 19.                   | Sulfat (SO <sub>4</sub> )          | mg/l                   | 200   | 400   | Titrimetrik                      | Buret                                       |          |
|                       |                                    |                        |       |       | - Gravitimetrik                  | - Timbangan analitik                        |          |
|                       |                                    |                        |       |       | - Spektrofotometrik              | - Spektrofotometer                          |          |
| 20.                   | Amoniak bebas (NH <sub>3</sub> -N) | mg/l                   | nihil | nihil | Spektrofotometrik                | Spektrofotometer                            |          |
| 21.                   | Nitrat (NO <sub>3</sub> -N)        | mg/l                   | 5     | 10    | Spektrofotometrik                | Spektrofotometer                            |          |
| 22.                   | Nitrit (NO <sub>2</sub> -N)        | mg/l                   | nihil | nihil | Spektrofotometrik                | Spektrofotometer                            |          |
| 23.                   | Nilai permanganat                  | mg/l.KMnO <sub>4</sub> | nihil | 10    | Titrimetrik                      | Buret                                       |          |
| 24.                   | Senyawa aktif biru metilen         | mg/l                   | nihil | 0,5   | Spektrofotometrik                | Spektrofotometer                            |          |
| 25.                   | Fenol                              | mg/l                   | 0,001 | 0,002 | Spektrofotometrik                | Spektrofotometer                            |          |
| 26.                   | Minyak & Lemak                     | mg/l                   | nihil | nihil | - Gravitimetrik                  | - Timbangan analitik                        |          |
|                       |                                    |                        |       |       | - Spektrofotometrik infra merah  | Spektrofotometer IR                         |          |
| 27.                   | Karbon kloroform ekstrak           | mg/l                   | 0,04  | 0,5   | Spektrofotometrik                | Spektrofotometer                            |          |
| 28.                   | PCB                                | mg/l                   | nihil | nihil | Kromatografi                     | - Kromatografi Gas (CG)                     |          |
|                       |                                    |                        |       |       |                                  | - HPLC                                      |          |
| <b>BAKTERIOLOGI</b>   |                                    |                        |       |       |                                  |                                             |          |
| 1.                    | Colliform group                    | MPN/100 ml             | nihil | nihil | MPN atau Filtrasi                | Tabel MPN, Filter holder dan corong counter |          |
| 2.                    | Kuman parasitik                    |                        | nihil | nihil | Mikroskopis                      | Mikroskop                                   |          |
| 3.                    | Kuman patogenik                    |                        | nihil | nihil | Kultur dan isolasi               | Selektif media                              |          |
| <b>RADIOAKTIFITAS</b> |                                    |                        |       |       |                                  |                                             |          |
| 1.                    | Aktivitas beta total               | pCi                    | -     | 100   | β counting                       | Counter Geiger-Muller                       |          |
| 2.                    | Strontium - 90                     | pCi                    | -     | 2     | β counting                       | Counter Geiger-Muller                       |          |
| 3.                    | Radium - 226                       | pCi                    | -     | 1     | α counting                       | α counter                                   |          |
| <b>PESTISIDA</b>      |                                    |                        |       |       |                                  |                                             |          |
|                       | Pestisida                          | mg/l                   | nihil | nihil | Kromatografi                     | - Kromatografi Gas (CG)                     |          |
|                       |                                    |                        |       |       |                                  | - HPLC                                      |          |
|                       |                                    |                        |       |       |                                  | - Kromatografi lapis tipis (TLC)            |          |

## BAKU MUTU AIR PADA SUMBER AIR

## BAKU MUTU AIR GOLONBAN B

| NO.                | PARAMETER                          | SATUAN | MAKSIMUM YANG DIANJURKAN | MAKSIMUM YANG DIPERBOLEHKAN | METODE ANALISIS                 | PERALATAN                                      | KETERANGAN                                                                |
|--------------------|------------------------------------|--------|--------------------------|-----------------------------|---------------------------------|------------------------------------------------|---------------------------------------------------------------------------|
| 1                  | 2                                  | 3      | 4                        | 5                           | 6                               | 7                                              | 8                                                                         |
| <b>F I S I K A</b> |                                    |        |                          |                             |                                 |                                                |                                                                           |
| 1.                 | Temperatur                         | °C     | Temperatur air normal    | Temperatur air normal       | - Pemuaian                      | - Termometer                                   |                                                                           |
| 2.                 | Residu terlarut                    | mg/l   | 500                      | 1500                        | - Gravitrik                     | - Timbangan analitik dan kertas saring 0,45 µm |                                                                           |
| <b>K I M I A</b>   |                                    |        |                          |                             |                                 |                                                |                                                                           |
| 1.                 | pH                                 | -      | 5 - 9                    | 5 - 9                       | - Potensiometri                 | - pH meter                                     |                                                                           |
| 2.                 | Berium (Ba)                        | mg/l   | nihil                    | 1                           | - Gravitrik                     | - Timbangan analitik dan kertas saring 0,45 µm |                                                                           |
| 3.                 | Besi terlarut (Fe)                 | mg/l   | 1                        | 5                           | - Spektrofotometri serapan atom | - AAS                                          |                                                                           |
| 4.                 | Mangan terlarut (Mn)               | mg/l   | 0,05                     | 0,5                         | - Spektrofotometri serapan atom | - Spektrofotometer - AAS                       |                                                                           |
| 5.                 | Tembaga (Cu)                       | mg/l   | nihil                    | 1                           | - Spektrofotometri serapan atom | - Spektrofotometer - AAS                       |                                                                           |
| 6.                 | Seng (Zn)                          | mg/l   | 1                        | 15                          | - Spektrofotometri serapan atom | - Spektrofotometer - AAS                       |                                                                           |
| 7.                 | Krom heksavalen (Cr)               | mg/l   | nihil                    | 0,05                        | - Spektrofotometri serapan atom | - AAS                                          |                                                                           |
| 8.                 | Kadmium (Cd)                       | mg/l   | nihil                    | 0,01                        | - Spektrofotometri serapan atom | - AAS                                          |                                                                           |
| 9.                 | Raksa (Hg)                         | mg/l   | 0,0005                   | 0,001                       | - Spektrofotometri serapan atom | - AAS                                          |                                                                           |
| 10.                | Timbel (Pb)                        | mg/l   | 0,05                     | 0,1                         | - Spektrofotometri serapan atom | - AAS                                          |                                                                           |
| 11.                | Arsen (As)                         | mg/l   | nihil                    | 0,05                        | - Spektrofotometri serapan atom | - Spektrofotometer - AAS                       |                                                                           |
| 12.                | Selenium (Se)                      | mg/l   | nihil                    | 0,01                        | - Spektrofotometri serapan atom | - Spektrofotometer - AAS                       |                                                                           |
| 13.                | Sianide (CN)                       | mg/l   | nihil                    | 0,05                        | - Spektrofotometri              | - Spektrofotometer                             |                                                                           |
| 14.                | Sulfide (S)                        | mg/l   | nihil                    | nihil                       | - Titrimetri                    | - Buret                                        |                                                                           |
| 15.                | Fluoride (F)                       | mg/l   | -                        | 1,5                         | - Spektrofotometri              | - Spektrofotometer                             | minimum 0,5                                                               |
| 16.                | Khloride (Cl)                      | mg/l   | 200                      | 600                         | - Titrimetri                    | - Buret                                        |                                                                           |
| 17.                | Sulfat (SO <sub>4</sub> )          | mg/l   | 200                      | 400                         | - Gravitrik                     | - Timbangan analitik                           |                                                                           |
| 18.                | Amoniak bebas (NH <sub>3</sub> -N) | mg/l   | 0,01                     | 0,5                         | - Spektrofotometri              | - Spektrofotometer                             |                                                                           |
| 19.                | Nitrat (NO <sub>3</sub> -N)        | mg/l   | 5                        | 10                          | - Spektrofotometri              | - Spektrofotometer                             |                                                                           |
| 20.                | Nitrit (NO <sub>2</sub> -N)        | mg/l   | nihil                    | 1                           | - Spektrofotometri              | - Spektrofotometer                             |                                                                           |
| 21.                | Oksigen terlarut (DO)              | mg/l   |                          |                             | - Titrimetri<br>- Potensiometri | - Buret<br>- DO meter                          | Air pernah dianjurkan lebih besar atau = 6. Air tanah tidak diperbolehkan |
| 22.                | Kebutuhan Oksigen Biokimia (BOD)   | mg/l   | 6                        | -                           | - Titrimetri<br>- Potensiometri | - Buret<br>- DO meter                          |                                                                           |

| 1   | 2                             | 3          | 4     | 5     | 6                            | 7                                                               | 8 |
|-----|-------------------------------|------------|-------|-------|------------------------------|-----------------------------------------------------------------|---|
| 23. | Kebutuhan Oksigen Kimia (COD) | mg/l       | 10    | -     | Titrimetri                   | Buret                                                           |   |
| 24. | Senyawa aktif biru metilen    | mg/l       | nihil | 0,5   | Spektrofotometri             | Spektrofotometer                                                |   |
| 25. | Fenol                         | mg/l       | 0,001 | 0,002 | Spektrofotometri             | Spektrofotometer                                                |   |
| 26. | Minyak & lemak                | mg/l       | nihil | nihil | Gravimetri                   | Timbangan analitik                                              |   |
|     |                               |            |       |       | Spektrofotometri Infra Merah | Spektrofotometer IR                                             |   |
| 27. | Karbon kloroform Ekstrek      | mg/l       | 0,04  | 0,05  | Spektrofotometri             | Spektrofotometer                                                |   |
| 28. | P C B                         | mg/l       | nihil | nihil | Kromatografi                 | Kromatografi Gas (GC)<br>HPLC                                   |   |
|     | <u>BAKTERIOLOGI</u>           |            |       |       |                              |                                                                 |   |
| 1.  | Coliform group                | MPN/100 ml | 10000 | -     | MPN atau filtrasi            | Tabel MPN, filter holder dan corong counter                     |   |
| 2.  | Coliform tinja                | MPN/100 ml | 2000  | -     | MPN atau filtrasi            | Tabel MPN, filter holder dan corong counter                     |   |
|     | <u>RADIOAKTIVITAS</u>         |            |       |       |                              |                                                                 |   |
| 1.  | Aktivitas beta-total          | pCi/l      | -     | 100   | $\beta$ counting             | Counter geiger Muller                                           |   |
| 2.  | Strontium - 90                | pCi/l      | -     | 2     | $\beta$ counting             | Counter geiger Muller                                           |   |
| 3.  | Radium - 226                  | pCi/l      | -     | 1     | $\alpha$ counting            | $\alpha$ counter                                                |   |
|     | <u>PESTISIDA</u>              |            |       |       |                              |                                                                 |   |
| 1.  | Aldrin                        | mg/l       | nihil | 0,017 | Kromatografi                 | Kromatografi Gas (GC)<br>HPLC<br>Kromatografi lapis tipis (TLC) |   |
| 2.  | Chlordane                     | mg/l       | nihil | 0,003 | Kromatografi                 | idem                                                            |   |
| 3.  | DDT                           | mg/l       | nihil | 0,012 | Kromatografi                 | idem                                                            |   |
| 4.  | Dieldrin                      | mg/l       | nihil | 0,017 | Kromatografi                 | idem                                                            |   |
| 5.  | Endrin                        | mg/l       | nihil | 0,001 | Kromatografi                 | idem                                                            |   |
| 6.  | Heptachlor                    | mg/l       | nihil | 0,018 | Kromatografi                 | idem                                                            |   |
| 7.  | Heptachlor epoksida           | mg/l       | nihil | 0,018 | Kromatografi                 | idem                                                            |   |
| 8.  | Lindane                       | mg/l       | nihil | 0,056 | Kromatografi                 | idem                                                            |   |
| 9.  | Metoxy chlor                  | mg/l       | nihil | 0,055 | Kromatografi                 | idem                                                            |   |
| 10. | Organofosfat dan karbamat     | mg/l       | nihil | 0,100 | Kromatografi                 | idem                                                            |   |
| 11. | Toxaphene                     | mg/l       | nihil | 0,005 | Kromatografi                 | idem                                                            |   |

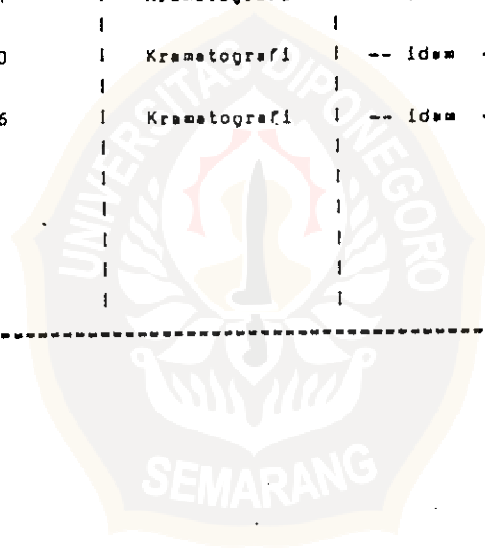


KU MUTU AIR PADA SUMBER AIR  
 KU MUTU AIR COLONGAN C

| 1                  | 2                                  | 3    | 4                                             | 5                                             | 6                                                       | 7                                                                                                |
|--------------------|------------------------------------|------|-----------------------------------------------|-----------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <u>F I S I K A</u> |                                    |      |                                               |                                               |                                                         |                                                                                                  |
| 1.                 | Temperatur                         | °C   | Temperatur air normal $\pm 3^{\circ}\text{C}$ | Pembacaan                                     | Termometer                                              |                                                                                                  |
| 2.                 | Residu terlarut                    | mg/l | 200                                           | Gravimetrik                                   | Timbangan analitik dan kertas saring 0,45 $\mu\text{m}$ |                                                                                                  |
| <u>K I M I A</u>   |                                    |      |                                               |                                               |                                                         |                                                                                                  |
| 1.                 | pH                                 |      | 6 - 9                                         | Potensiometrik                                | pH meter                                                |                                                                                                  |
| 2.                 | Tembaga (Cu)                       | mg/l | 0,02 - 0,02                                   | -Spektrofotometri serapan atom                | - Spektrofotometer<br>- AAS                             |                                                                                                  |
| 3.                 | Seng (Zn)                          | mg/l | 0,02                                          | -Spektrofotometri serapan atom                | - Spektrofotometer<br>- AAS                             |                                                                                                  |
| 4.                 | Krom heksavalen (Cr)               | mg/l | 0,05                                          | -Spektrofotometri serapan atom                | - AAS                                                   |                                                                                                  |
| 5.                 | Kadmium (Cd)                       | mg/l | 0,01                                          | -Spektrofotometri serapan atom                | - AAS                                                   |                                                                                                  |
| 6.                 | Raksa (Hg)                         | mg/l | 0,002                                         | -Spektrofotometri serapan atom                | - AAS                                                   |                                                                                                  |
| 7.                 | Timbal (Pb)                        | mg/l | 0,03                                          | -Spektrofotometri serapan atom                | - AAS                                                   |                                                                                                  |
| 8.                 | Arsen (As)                         | mg/l | 1                                             | -Spektrofotometri serapan atom                | - Spektrofotometer<br>- AAS                             |                                                                                                  |
| 9.                 | Selenium (Se)                      | mg/l | 0,05                                          | -Spektrofotometri serapan atom                | - Spektrofotometer<br>- AAS                             |                                                                                                  |
| 10.                | Sianida (CN)                       | mg/l | 0,02                                          | -Spektrofotometri serapan atom                | - Spektrofotometer                                      |                                                                                                  |
| 11.                | Sulfida (S)                        | mg/l | 0,002                                         | -Titrimetri                                   | - Buret                                                 |                                                                                                  |
| 12.                | Fluorida (F)                       | mg/l | 1,5                                           | -Spektrofotometri serapan atom                | - Spektrofotometer                                      |                                                                                                  |
| 13.                | Amoniak bebas (NH <sub>3</sub> -N) | mg/l | 0,016                                         | -Spektrofotometri serapan atom                | - Spektrofotometer                                      |                                                                                                  |
| 14.                | Nitrit (NO <sub>2</sub> -N)        | mg/l | 0,06                                          | -Spektrofotometri serapan atom                | - Spektrofotometer                                      |                                                                                                  |
| 15.                | Klorin bebas (Cl <sub>2</sub> )    | mg/l | 0,003                                         | -Spektrofotometri serapan atom                | - Spektrofotometer                                      |                                                                                                  |
| 16.                | Oksigen terlarut                   | mg/l | --                                            | -Titrimetri<br>-Potensialometri               | - Buret<br>- DO meter                                   | -Diyaratkan lebih besar dari 3. Diperbolehkan sama dengan 3, maksimum 8 jam dalam 1 (satu) hari. |
| 17.                | Senyawa aktif - biru metilen       | mg/l | 0,2                                           | -Spektrofotometri serapan atom                | - Spektrofotometer                                      |                                                                                                  |
| 18.                | Fenol                              | mg/l | 0,001                                         | -Spektrofotometri serapan atom                | - Spektrofotometer                                      |                                                                                                  |
| 19.                | Minyak dan lemak                   | mg/l | 1                                             | -Gravimetrik<br>-Spektrofotometri infra merah | - Timbangan analitik<br>- Spektrofotometer IR           |                                                                                                  |

## TU AIR GOLONGAN C.

| 1                     | 2                    | 3     | 4       | 5                 | 6                                                                       | 7                                          |
|-----------------------|----------------------|-------|---------|-------------------|-------------------------------------------------------------------------|--------------------------------------------|
| <u>RADIOAKTIVITAS</u> |                      |       |         |                   |                                                                         |                                            |
| 1.                    | Aktivitas beta total | pCi/l | 1000 *) | $\beta$ counting  | Counter geiger Muller                                                   | *) aktivitas tanpa adanya Sr-90 dan Ra-226 |
| 2.                    | Strontium - 90       | pCi/l | 10      | $\beta$ counting  | Counter geiger Muller                                                   |                                            |
| 3.                    | Radium - 226         | pCi/l | 3       | $\alpha$ counting | $\alpha$ counter                                                        |                                            |
| <u>PESTISIDA</u>      |                      |       |         |                   |                                                                         |                                            |
| 1.                    | D D T                | mg/l  | 0,002   | Kromatografi      | - Kromatografi Gas (GC)<br>- HPLC<br>- Kromatografi - lempa tipis (TLC) |                                            |
| 2.                    | Endrine              | mg/l  | 0,004   | Kromatografi      | -- idem --                                                              |                                            |
| 3.                    | B H D                | mg/l  | 0,21    | Kromatografi      | -- idem --                                                              |                                            |
| 4.                    | Methyl Parathion     | mg/l  | 0,10    | Kromatografi      | -- idem --                                                              |                                            |
| 5.                    | Malathion            | mg/l  | 0,16    | Kromatografi      | -- idem --                                                              |                                            |



## U MUTU AIR PADA SUMBER AIR

## U MUTU AIR GOLONGAN D

| 1   | PARAMETER                       | SATUAN         | KADAR<br>MAKSIMUM | METODE ANALISIS                 | PERALATAN                                    | KETERANGAN                                                                |
|-----|---------------------------------|----------------|-------------------|---------------------------------|----------------------------------------------|---------------------------------------------------------------------------|
| 1   | 2                               | 3              | 4                 | 5                               | 6                                            |                                                                           |
|     | <b>FISIKA :</b>                 |                |                   |                                 |                                              |                                                                           |
| 1.  | Temperatur                      | °C             | Temperatur normal | Pemuaian                        | Termometer                                   | Sesuai dengan kondisi setempat                                            |
| 2.  | Residu terlarut                 | mg/l           | 1000 - 2000       | Gravimetrik                     | Timbangan analitik dan kertas saring 0,45 µm | Tergantung dengan jenis tanaman                                           |
| 3.  | Daya Hantar Listrik             | mhos/cm (25°C) | 1750 - 2250       | Potensiometri                   | conductivity meter                           | 1750 untuk tanaman peka.<br>2250 untuk tanaman ejek tahan.                |
|     | <b>K I M I A :</b>              |                |                   |                                 |                                              |                                                                           |
| 1.  | pH                              | -              | 5 - 9             | Potensiometri                   | pH meter                                     |                                                                           |
| 2.  | Mangan (Mn)                     | mg/l           | 2                 | - Spektrofotometri serapan atom | - Spektrofotometer<br>- AAS                  |                                                                           |
| 3.  | Tembaga (Cu)                    | mg/l           | 0,2               | - Spektrofotometri serapan atom | - Spektrofotometer<br>- AAS                  |                                                                           |
| 4.  | S e n g (Zn)                    | mg/l           | 2                 | - Spektrofotometri serapan atom | - Spektrofotometer<br>- AAS                  |                                                                           |
| 5.  | K r o m (Cr)                    | mg/l           | 1                 | Spektrofotometri serapan atom   | AAS                                          |                                                                           |
| 6.  | Kadmium (Cd)                    | mg/l           | 0,01              | Spektrofotometri serapan atom   | AAS                                          |                                                                           |
| 7.  | Raksa (Hg)                      | mg/l           | 0,005             | Spektrofotometri serapan atom   | AAS                                          |                                                                           |
| 8.  | Tiabal (Pb)                     | mg/l           | 1                 | Spektrofotometri serapan atom   | AAS                                          |                                                                           |
| 9.  | Arsen (As)                      | mg/l           | 1                 | - Spektrofotometri serapan atom | - Spektrofotometer<br>- AAS                  |                                                                           |
| 10. | Selenium (Se)                   | mg/l           | 0,05              | - Spektrofotometri serapan atom | - Spektrofotometer<br>- AAS                  |                                                                           |
| 11. | N i k e l (Ni)                  | mg/l           | 0,5               | - Spektrofotometri serapan atom | - Spektrofotometer<br>- AAS                  |                                                                           |
| 12. | Kobalt (Co)                     | mg/l           | 0,2               | - Spektrofotometri serapan atom | - Spektrofotometer<br>- AAS                  |                                                                           |
| 13. | Boron (B)                       | mg/l           | 1                 | - Spektrofotometri serapan atom | - Spektrofotometer<br>- AAS                  |                                                                           |
| 14. | Na (Qaram % alkali)             | mg/l           | 60                | Flame fotometri                 | flame fotometer                              |                                                                           |
| 15. | Sodium Adsorption Ratio ( SAR ) | mg/l           | 10 - 18           | Perhitungan                     | Kalkulator                                   | Maksimum 10 untuk tanaman peka.<br>Maksimum 18 untuk tanaman kurang peka. |
| 16. | Residual Sodium Carbonat (RSC)  | mg/l           | 1,25-2,5          | Perhitungan                     | Kalkulator                                   | Maksimum 1,25 utk tanaman peka,<br>Maksimum 2,5 utk tanaman kurang peka.  |
|     | <b>RADIOAKTIVITAS :</b>         |                |                   |                                 |                                              |                                                                           |
| 1.  | Aktivitas beta total            | pCi/l          | 1000 *)           | β counting                      | Counter Geiger Muller                        | *) Aktivitas tanpa adanya Sr-90 dan Ra-226                                |
| 2.  | Strontium - 90                  | pCi/l          | 10                | β counting                      | Counter Geiger Muller                        |                                                                           |
| 3.  | Radium - 226                    | pCi/l          | 3                 | α counting                      | α counter                                    |                                                                           |

Keterangan :

1. Golongan A merupakan golongan air yang dapat digunakan sebagai air minum langsung tanpa pengolahan lebih dahulu.
2. Golongan B merupakan golongan air yang dapat digunakan sebagai air baku yang dapat diolah sebagai air minum dan keperluan rumah tangga lainnya.
3. Golongan C merupakan golongan air yang digunakan untuk kepentingan perikanan dan peternakan.
4. Golongan D merupakan golongan air yang digunakan untuk kepentingan pertanian dan dapat dimanfaatkan untuk usaha perkotaan, industri dan PLTA.

Tipe perairan menurut kadar oksigen terlarut (DO) (Lee *et al*, 1978 dalam Astuti, 1987):

1.  $DO \geq 6$  ppm berarti perairan tidak tercemar.
2. DO antara 3 – 5,9 ppm berarti perairan tercemar ringan.
3. DO antara 2 – 2,9 ppm berarti perairan tercemar sedang.
4. DO antara 1 – 1,9 ppm berarti perairan tercemar berat.
5.  $DO < 1$  ppm berarti perairan tercemar sangat berat.

Lampiran 5. Foto Lokasi Pengambilan Sampel di bulan Oktober 1998 dan Maret 1999.



Gambar A. Foto Lokasi Stasiun I di Jalan Pramuka, Pudak Payung, kelurahan Karanggeneng



Gambar B. Foto Lokasi Stasiun II di jembatan pintu masuk kebun binatang Tinjomoyo



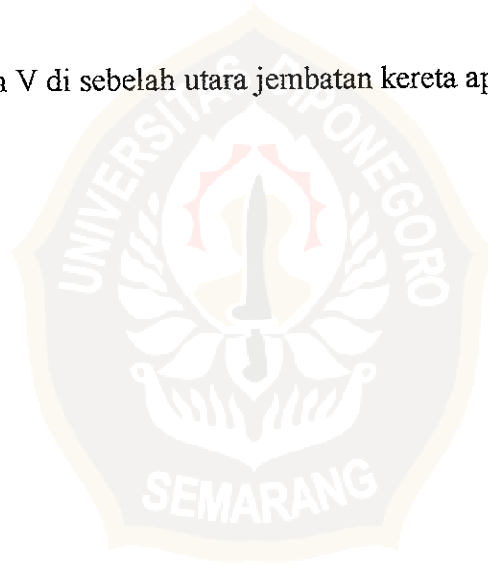
Gambar C. Foto Lokasi Stasiun III di daerah Tugu Suharto, kelurahan Sampangan



Gambar D. Foto Lokasi Stasiun IV di atas bendungan Plered, kelurahan Lemah Gempal



Gambar E. Foto Lokasi Stasiun V di sebelah utara jembatan kereta api, kelurahan Plombokan





Lampiran 6. Kemelimpahan dan keanekaragaman diatom bentik di Sungai Garang-Banjir Kanal Barat Semarang pada bulan Oktober 1998 dan Maret 1999

| No.              | Nama Spesies                                | Stasiun I |        | Stasiun II |        | Stasiun III |        | Stasiun IV |        | Stasiun V |        |
|------------------|---------------------------------------------|-----------|--------|------------|--------|-------------|--------|------------|--------|-----------|--------|
|                  |                                             | Ni 1.1    | Ni 2.1 | Ni 1.2     | Ni 2.2 | Ni 1.3      | Ni 2.3 | Ni 1.4     | Ni 2.4 | Ni 1.5    | Ni 2.5 |
| <b>Centrales</b> |                                             |           |        |            |        |             |        |            |        |           |        |
| 1                | <i>Aulacoseira granulata</i> (Ehrenberg)    | 104       | 109    | 172        | 396    | 125         | 55     | 250        | 31     | 438       | 188    |
| 2                | <i>Thalassiosira</i> sp                     | 52        | 31     | 16         | 42     | 156         | 16     | 0          | 31     | 563       | 750    |
| <b>Pennales</b>  |                                             |           |        |            |        |             |        |            |        |           |        |
| 3                | <i>Achnanthes coarctata</i> (Breb)          | 10        | 0      | 0          | 0      | 0           | 0      | 0          | 0      | 0         | 63     |
| 4                | <i>Amphora fontinalis</i> Hust.             | 0         | 31     | 0          | 21     | 0           | 0      | 0          | 0      | 0         | 0      |
| 5                | <i>Achnanthes inflata</i> (Kutz)            | 0         | 0      | 0          | 0      | 0           | 0      | 0          | 0      | 0         | 125    |
| 6                | <i>Achnanthes lanceolata</i> (Breb)         | 10        | 0      | 0          | 0      | 0           | 0      | 0          | 0      | 0         | 0      |
| 7                | <i>Achnanthes minutissima</i> (Kutz)        | 52        | 0      | 0          | 0      | 0           | 0      | 0          | 0      | 0         | 0      |
| 8                | <i>Amphora ovalis</i> (Kutz)                | 146       | 16     | 188        | 21     | 83          | 31     | 0          | 125    | 938       | 0      |
| 9                | <i>Amphora veneta</i> Kutz.                 | 167       | 219    | 273        | 42     | 125         | 0      | 63         | 0      | 63        | 63     |
| 10               | <i>Bacillaria paradoxa</i> (Gmelin)         | 0         | 31     | 8          | 10     | 0           | 16     | 63         | 0      | 188       | 0      |
| 11               | <i>Caloneis bacillum</i> (Grun)             | 0         | 234    | 23         | 83     | 104         | 39     | 63         | 313    | 438       | 438    |
| 12               | <i>Caloneis clevei</i> (Lagerst.)           | 10        | 0      | 8          | 0      | 31          | 0      | 0          | 0      | 0         | 63     |
| 13               | <i>Cocconeis placentolata</i> Ehr.          | 156       | 250    | 47         | 31     | 0           | 23     | 63         | 188    | 0         | 0      |
| 14               | <i>Cymatopleura solea</i> (Breb)            | 0         | 0      | 0          | 0      | 10          | 0      | 0          | 0      | 0         | 0      |
| 15               | <i>Cymbella aspera</i> (Ehr)                | 31        | 0      | 0          | 0      | 31          | 0      | 31         | 0      | 0         | 0      |
| 16               | <i>Cymbella cymbiformis</i> (Ag.)Kutz.)     | 0         | 47     | 47         | 10     | 21          | 8      | 156        | 0      | 188       | 0      |
| 17               | <i>Cymbella hustedti</i> Krasske            | 10        | 0      | 0          | 0      | 52          | 0      | 0          | 63     | 0         | 63     |
| 18               | <i>Cymbella minuta</i> Hilse ex Rabh.       | 0         | 0      | 0          | 42     | 10          | 0      | 0          | 0      | 0         | 0      |
| 19               | <i>Cymbella mulleri</i> (Muller)            | 10        | 0      | 8          | 0      | 0           | 0      | 0          | 0      | 0         | 0      |
| 20               | <i>Cymbella naviculiformis</i> Auersw       | 0         | 0      | 31         | 0      | 0           | 8      | 94         | 0      | 0         | 125    |
| 21               | <i>Cymbella rainierensis</i> Sovereign      | 0         | 0      | 39         | 10     | 0           | 0      | 0          | 63     | 125       | 438    |
| 22               | <i>Cymbella tumida</i> (Breb.)              | 83        | 31     | 0          | 0      | 10          | 8      | 125        | 0      | 125       | 0      |
| 23               | <i>Cymbella turgidula</i> Grun.             | 0         | 0      | 16         | 10     | 63          | 0      | 125        | 0      | 0         | 0      |
| 24               | <i>Cymbella ventricosa</i> Kutz.            | 188       | 63     | 16         | 0      | 83          | 0      | 313        | 0      | 313       | 250    |
| 25               | <i>Diploneis elliptica</i> (Kutz.)          | 10        | 63     | 0          | 0      | 0           | 0      | 31         | 0      | 188       | 1000   |
| 26               | <i>Diploneis ovalis</i> (Hilse)             | 0         | 0      | 8          | 0      | 63          | 0      | 0          | 0      | 63        | 0      |
| 27               | <i>Diploneis smithii</i> (Breb.)            | 0         | 109    | 0          | 0      | 0           | 0      | 0          | 31     | 0         | 0      |
| 28               | <i>Diploneis subovalis</i> Cleve            | 0         | 0      | 0          | 0      | 0           | 0      | 63         | 0      | 125       | 63     |
| 29               | <i>Epithemia sorex</i> Kutz.                | 0         | 0      | 0          | 0      | 10          | 0      | 0          | 0      | 0         | 0      |
| 30               | <i>Epithemia turgida</i> (Ehr.)Kutz.        | 0         | 0      | 8          | 0      | 0           | 0      | 0          | 0      | 0         | 0      |
| 31               | <i>Epithemia zebra</i> (Ehr)                | 21        | 0      | 0          | 21     | 10          | 16     | 0          | 31     | 0         | 63     |
| 32               | <i>Eunotia lunaris</i> (Ehr.) Grun.         | 10        | 0      | 0          | 0      | 0           | 0      | 0          | 0      | 0         | 0      |
| 33               | <i>Eunotia serpentina</i> (Ehr)             | 135       | 109    | 86         | 0      | 156         | 0      | 1688       | 125    | 2313      | 625    |
| 34               | <i>Fragillaria</i> sp                       | 73        | 0      | 0          | 0      | 10          | 0      | 219        | 0      | 0         | 0      |
| 35               | <i>Frustulia vulgaris</i> (Thwaites)De Toni | 146       | 47     | 23         | 0      | 104         | 0      | 563        | 31     | 1250      | 375    |
| 36               | <i>Frustulia rhomboides</i> (Ehr.)De Toni   | 31        | 0      | 8          | 0      | 73          | 0      | 0          | 0      | 1188      | 0      |
| 37               | <i>Gomphonema augur</i> Ehr.                | 0         | 31     | 117        | 21     | 21          | 16     | 0          | 0      | 0         | 0      |
| 38               | <i>Gomphonema gracile</i> Ehr.              | 0         | 0      | 0          | 0      | 0           | 0      | 0          | 0      | 0         | 188    |
| 39               | <i>Gomphonema parvulum</i> (Kutz)           | 0         | 0      | 0          | 0      | 0           | 0      | 63         | 0      | 0         | 0      |
| 40               | <i>Gomphonema lanceolatum</i> Ehr.          | 31        | 78     | 16         | 0      | 63          | 0      | 63         | 0      | 250       | 63     |
| 41               | <i>Gyrosigma kutzingii</i> (Grun.)Cleve     | 10        | 16     | 0          | 21     | 10          | 0      | 219        | 63     | 188       | 0      |
| 42               | <i>Gyrosigma scalpoides</i> (Rabh.)Cleve    | 0         | 0      | 0          | 0      | 0           | 0      | 0          | 31     | 0         | 125    |
| 43               | <i>Gyrosigma spencerii</i> (W. Smith)Cleve  | 10        | 0      | 0          | 0      | 0           | 0      | 0          | 0      | 0         | 0      |
| 44               | <i>Hantzschia amphioxys</i> Ehr.            | 333       | 500    | 266        | 260    | 760         | 70     | 750        | 500    | 1750      | 1688   |
| 45               | <i>Mastogloia elliptica</i> (Ag.)Cleve      | 21        | 0      | 0          | 0      | 0           | 0      | 0          | 0      | 188       | 0      |
| 46               | <i>Navicula</i> sp                          | 104       | 297    | 156        | 188    | 229         | 125    | 500        | 531    | 438       | 938    |
| 47               | <i>Navicula cuspidata</i> Kutz.             | 385       | 984    | 117        | 146    | 385         | 156    | 2969       | 1813   | 3250      | 2063   |
| 48               | <i>Navicula cryptocephala</i> Kutz.         | 0         | 0      | 0          | 0      | 0           | 0      | 188        | 0      | 188       | 0      |
| 49               | <i>Navicula oxygva</i> (Greg.)Grun.         | 63        | 31     | 78         | 0      | 83          | 0      | 406        | 156    | 875       | 125    |
| 50               | <i>Navicula gothlandica</i> Grun.           | 0         | 0      | 0          | 0      | 0           | 0      | 0          | 31     | 0         | 63     |
| 51               | <i>Navicula helvetica</i> Brun.             | 31        | 0      | 0          | 0      | 0           | 0      | 0          | 31     | 0         | 0      |
| 52               | <i>Navicula lanceolata</i> (Ag.)Kutz        | 21        | 31     | 0          | 10     | 0           | 0      | 0          | 94     | 0         | 500    |
| 53               | <i>Navicula mutica</i> Kutz.                | 0         | 0      | 0          | 21     | 0           | 0      | 0          | 0      | 0         | 63     |
| 54               | <i>Navicula placentula</i> (Ehr.)Grun.      | 21        | 0      | 0          | 21     | 0           | 0      | 0          | 63     | 0         | 0      |
| 55               | <i>Navicula pupula</i> (Kutz)               | 177       | 266    | 8          | 31     | 156         | 94     | 563        | 188    | 1063      | 188    |
| 56               | <i>Navicula pygmaea</i> Kutz.               | 0         | 0      | 0          | 0      | 0           | 0      | 63         | 0      | 63        | 0      |

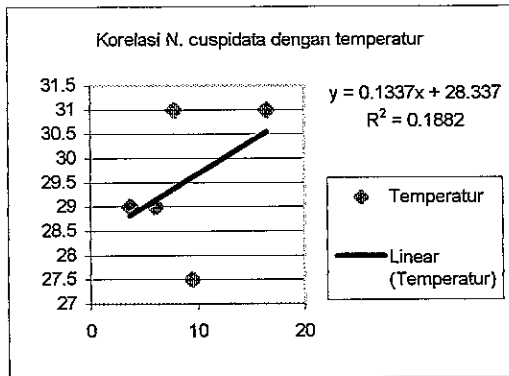


|     |                                              |        |        |        |        |        |        |        |        |        |        |
|-----|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 57  | <i>Navicula radiosa</i> Kutz.                | 42     | 0      | 0      | 0      | 0      | 23     | 0      | 125    | 250    | 0      |
| 58  | <i>Navicula viridula</i> Kutz.               | 146    | 375    | 0      | 0      | 0      | 0      | 500    | 625    | 1000   | 188    |
| No. | Nama Spesies                                 | Ni 1.1 | Ni 2.1 | Ni 1.2 | Ni 2.2 | Ni 1.3 | Ni 2.3 | Ni 1.4 | Ni 2.4 | Ni 1.5 | Ni 2.5 |
| 59  | <i>Neidium affine</i> (Ehr.)Cleve            | 21     | 16     | 0      | 10     | 21     | 0      | 0      | 31     | 0      | 563    |
| 60  | <i>Nitzschia aff. flexa</i> (Schumann)       | 0      | 0      | 0      | 0      | 0      | 0      | 31     | 0      | 63     | 0      |
| 61  | <i>Nitzschia dissipata</i> (Kutz.)Grun.      | 10     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| 62  | <i>Nitzschia levidensis</i> (W.Smith.)Grun   | 10     | 0      | 8      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| 63  | <i>Nitzschia lorenziana</i> Grun.            | 0      | 16     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| 64  | <i>Nitzschia palea</i> (Kutz)                | 1146   | 2219   | 797    | 802    | 1365   | 797    | 4219   | 4094   | 10313  | 8000   |
| 65  | <i>Nitzschia sigma</i> (Kutz.)W.Smith        | 52     | 266    | 23     | 0      | 52     | 55     | 750    | 313    | 1750   | 1313   |
| 66  | <i>Nitzschia sigmoidea</i> (Ehr.)W.Smith     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 250    |
| 67  | <i>Nitzschia tryblionella</i> Hantzsch       | 73     | 0      | 8      | 0      | 94     | 0      | 94     | 0      | 63     | 0      |
| 68  | <i>Nitzschia recta</i> (Hantzsch)            | 83     | 578    | 0      | 146    | 10     | 125    | 156    | 438    | 250    | 1375   |
| 69  | <i>Pinnularia borealis</i> Ehr.              | 0      | 0      | 0      | 0      | 10     | 0      | 31     | 0      | 0      | 125    |
| 70  | <i>Pinnularia gibba</i> Ehr.                 | 10     | 31     | 31     | 42     | 21     | 0      | 250    | 31     | 188    | 813    |
| 71  | <i>Pinnularia subsolaris</i> (Grun.)Cleve    | 10     | 16     | 0      | 0      | 0      | 16     | 0      | 0      | 0      | 0      |
| 72  | <i>Pinnularia virdis</i> (Nitzsch) Ehr       | 188    | 94     | 31     | 125    | 448    | 86     | 938    | 125    | 1438   | 1375   |
| 73  | <i>Pleurosigma elongatum</i> (W. Smith)      | 0      | 0      | 23     | 0      | 52     | 0      | 188    | 0      | 125    | 0      |
| 74  | <i>Rhoicosphenia abbreviata</i> Kutz.        | 94     | 31     | 156    | 21     | 250    | 16     | 31     | 0      | 188    | 188    |
| 75  | <i>Rhopalodia musculus</i> (Kutz.)O.Muller   | 0      | 0      | 23     | 0      | 0      | 0      | 31     | 63     | 125    | 0      |
| 76  | <i>Rhopalodia novae zealandiae</i> Hust.     | 10     | 0      | 16     | 10     | 10     | 0      | 31     | 0      | 250    | 0      |
| 77  | <i>Stauroneis pachycephala</i> Cleve         | 63     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 63     | 0      |
| 78  | <i>Stauroneis phoenicentron</i> (Nitzsch)Ehr | 10     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 313    | 0      |
| 79  | <i>Suriella angusta</i> Kutz.                | 0      | 31     | 39     | 21     | 0      | 0      | 31     | 31     | 125    | 0      |
| 80  | <i>Suriella multiplicata</i> Cleve-Euler     | 10     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| 81  | <i>Suriella ovalis</i> Breb.                 | 10     | 16     | 0      | 10     | 21     | 0      | 0      | 0      | 0      | 188    |
| 82  | <i>Suriella spinifera</i> Hust.              | 94     | 78     | 55     | 31     | 83     | 31     | 188    | 0      | 188    | 125    |
| 83  | <i>Suriella tenera</i> Greg.                 | 0      | 0      | 70     | 10     | 104    | 0      | 0      | 0      | 0      | 0      |
| 84  | <i>Synedra ulna</i> (Nitzsch) Ehr            | 448    | 1156   | 227    | 1250   | 365    | 914    | 469    | 813    | 500    | 9000   |
|     | Jumlah Total Individu (ind./gram)            | 5198   | 8547   | 3289   | 3938   | 5948   | 2742   | 17625  | 11219  | 33938  | 34188  |
|     | Jumlah Jenis                                 | 53     | 38     | 40     | 34     | 44     | 24     | 42     | 33     | 44     | 40     |
|     | Indeks Keanekaragaman (H')                   | 3.16   | 2.69   | 2.88   | 2.38   | 2.96   | 2.11   | 2.803  | 2.384  | 2.835  | 2.601  |
|     | Indeks Pemerataan (e)                        | 0.78   | 0.74   | 0.78   | 0.65   | 0.78   | 0.66   | 0.75   | 0.68   | 0.75   | 0.71   |

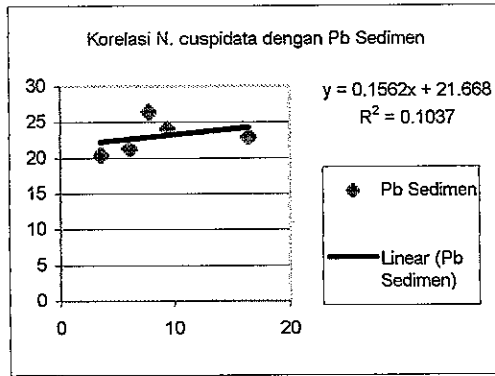


Tabel 2. Data Klimatologi Wilayah Kotamadya Semarang

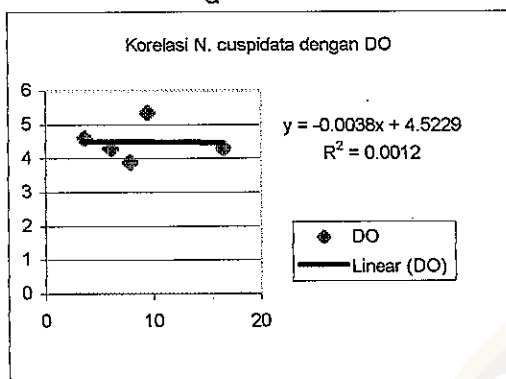
| Triwulan I  | Temp.<br>(°C) | Kecepatan Angin<br>(m/det) |      | Arah<br>Angin | Lama Penyinaran |             | Tek.<br>Udara | Hari<br>Hujan | Curah<br>Hujan (mm) |
|-------------|---------------|----------------------------|------|---------------|-----------------|-------------|---------------|---------------|---------------------|
|             |               | 0,5 m                      | 10 m |               | 08.00-16.00     | 06.00-18.00 |               |               |                     |
| Agustus     | 28,2          | 4,2                        | 7,65 | SE            | 93              | 74          | 1009,8        | 11            | 108                 |
| September   | 28,5          | 3,75                       | 3,75 | SE            | 75              | 61          | 1009,7        | 8             | 112                 |
| Oktober     | 28,4          | 3,35                       | 5,65 | SE            | 65              | 49          | 1009,0        | 19            | 229                 |
| Triwulan II |               |                            |      |               |                 |             |               |               |                     |
| Januari     | 26,7          | 1,5                        | 2,6  | NW            | 46              | 34          | 1007,4        | 27            | 360                 |
| Februari    | 26,5          | 2,4                        | 5,6  | NW            | 48              | 37          | 1009          | 17            | 243                 |
| Maret       | 27,2          | 1,45                       | 2,5  | NW            | 57              | 42          | 1006,8        | 20            | 290                 |

Lampiran 8. Korelasi antara *N. cuspidata* dengan beberapa faktor fisik-kimia perairan.

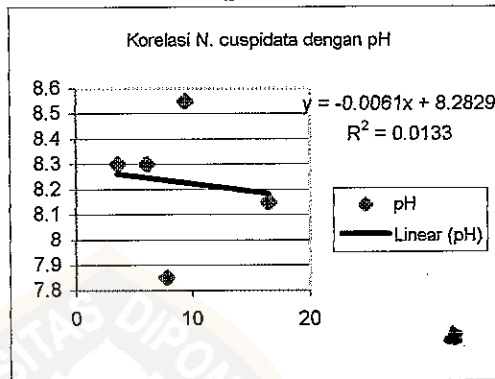
a



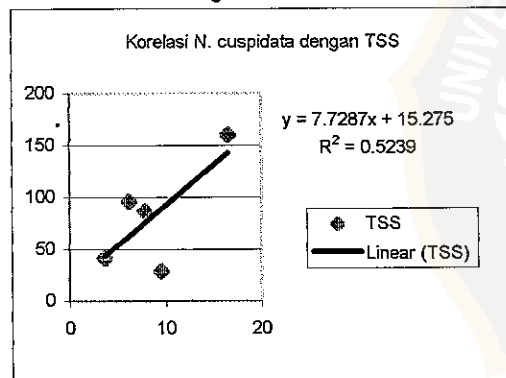
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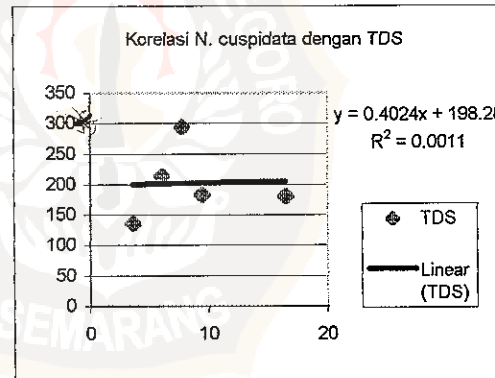
c



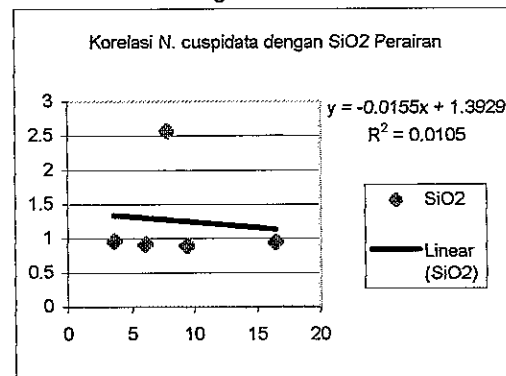
d



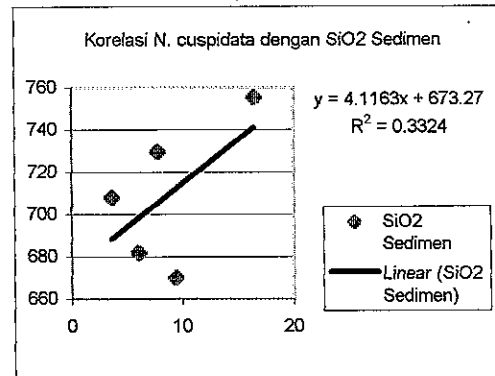
e



f



g



h