**LAMPIRAN**



Pembuatan Reaktor Pencucian Pasir



Pengeringan Media Pengayakan Pasir



Pengeringan Botol Setelah Dicuci Pengambilan Air Sampel



Reaktor Filtrasi

Lampiran Data Hasil Uji Laboratorium

Kadar awal fosfat = 3 mg/L

|  |  |
| --- | --- |
| Waktu Kontak (H)/Pengulangan (P) | Tinggi Media (T) |
| Arang Sekam Padi : Pasir Sungai (cm) | Reaktor Kontrol |
| 25 : 5 (T1) | 22,5 : 7,5 (T2) | 20 : 10 (T3) | 17,5 : 12,5 (T4) | 0 : 0 (T5) |
| 120 menit (H2 P1) | 3 | 2 | 1,5 | 1,5 | 2 |
| Pengulangan 2 (H2 P2) | 3 | 3 | 3 | 2 | 2 |
| Pengulangan 3 (H2 P3) | 3 | 3 | 3 | 2 | 1,5 |
| 180 menit (H3 P1) | 1,5 | 3 | 2 | 0,75 | 1,5 |
| Pengulangan 2 (H3 P2) | 3 | 2 | 2 | 2 | 1,5 |
| Pengulangan 3 (H3 P3) | 2 | 2 | 2 | 1,5 | 1,5 |

Scan Hasil Uji Lab dapat diakses : <https://drive.google.com/drive/folders/1_DXIVhhHemBeoBxOBZe2nQ59HtSIroZR?usp=drive_link>

Data Uji Analitik

| Waktu | Arang | Pasir | Kadar\_Fosfat | Penurunan\_Kadar\_Fosfat | Selisih\_Arang\_Pasir | Selisih\_Pasir\_Arang |
| --- | --- | --- | --- | --- | --- | --- |
| 120 | 25 | 5 | 3 | 0 | 20 | -20 |
| 120 | 25 | 5 | 3 | 0 | 20 | -20 |
| 120 | 25 | 5 | 3 | 0 | 20 | -20 |
| 120 | 22,5 | 7,5 | 2 | 1 | 15 | -15 |
| 120 | 22,5 | 7,5 | 3 | 0 | 15 | -15 |
| 120 | 22,5 | 7,5 | 3 | 0 | 15 | -15 |
| 120 | 20 | 10 | 1,5 | 1,5 | 10 | -10 |
| 120 | 20 | 10 | 3 | 0 | 10 | -10 |
| 120 | 20 | 10 | 3 | 0 | 10 | -10 |
| 120 | 17,5 | 12,5 | 1,5 | 1,5 | 5 | -5 |
| 120 | 17,5 | 12,5 | 1,5 | 1,5 | 5 | -5 |
| 120 | 17,5 | 12,5 | 2 | 1 | 5 | -5 |
| 120 | 0 | 0 | 2 | 1 | 0 | 0 |
| 120 | 0 | 0 | 2 | 1 | 0 | 0 |
| 120 | 0 | 0 | 1,5 | 1,5 | 0 | 0 |
| 180 | 25 | 5 | 1,5 | 1,5 | 20 | -20 |
| 180 | 25 | 5 | 3 | 0 | 20 | -20 |
| 180 | 25 | 5 | 2 | 1 | 20 | -20 |
| 180 | 22,5 | 7,5 | 3 | 0 | 15 | -15 |
| 180 | 22,5 | 7,5 | 2 | 1 | 15 | -15 |
| 180 | 22,5 | 7,5 | 2 | 1 | 15 | -15 |
| 180 | 20 | 10 | 2 | 1 | 10 | -10 |
| 180 | 20 | 10 | 2 | 1 | 10 | -10 |
| 180 | 20 | 10 | 2 | 1 | 10 | -10 |
| 180 | 17,5 | 12,5 | 0,75 | 2,25 | 5 | -5 |
| 180 | 17,5 | 12,5 | 2 | 1 | 5 | -5 |
| 180 | 17,5 | 12,5 | 1,5 | 1,5 | 5 | -5 |
| 180 | 0 | 0 | 1,5 | 1,5 | 0 | 0 |
| 180 | 0 | 0 | 1,5 | 1,5 | 0 | 0 |
| 180 | 0 | 0 | 1,5 | 1,5 | 0 | 0 |

**Hasil Analisis Data**

Regresi Linear

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T-Test: Two-Sample Assuming Equal Variances

|  | *Reaktor 1* | *Reaktor 2* |
| --- | --- | --- |
| Mean | 2,583 | 2,5 |
| Variance | 0,442 | 0,3 |
| Observations | 6,000 | 6 |
| Pooled Variance | 0,371 |  |
| Hypothesized Mean Difference | 0,000 |  |
| df | 10,000 |  |
| t Stat | 0,237 |  |
| P(T<=t) one-tail | 0,409 |  |
| t Critical one-tail | 1,812 |  |
| P(T<=t) two-tail | 0,817 |  |
| t Critical two-tail | 2,228 |  |

|  | *Reaktor 1* | *Reaktor 3* |
| --- | --- | --- |
| Mean | 2,583 | 2,25 |
| Variance | 0,442 | 0,375 |
| Observations | 6,000 | 6 |
| Pooled Variance | 0,408 |  |
| Hypothesized Mean Difference | 0,000 |  |
| df | 10,000 |  |
| t Stat | 0,904 |  |
| P(T<=t) one-tail | 0,194 |  |
| t Critical one-tail | 1,812 |  |
| P(T<=t) two-tail | 0,388 |  |
| t Critical two-tail | 2,228 |   |

|  | *Reaktor 1* | *Reaktor 4* |
| --- | --- | --- |
| Mean | 2,583 | 1,625 |
| Variance | 0,442 | 0,24375 |
| Observations | 6,000 | 6 |
| Pooled Variance | 0,343 |  |
| Hypothesized Mean Difference | 0,000 |  |
| df | 10,000 |  |
| t Stat | 2,835 |  |
| P(T<=t) one-tail | 0,009 |  |
| t Critical one-tail | 1,812 |  |
| P(T<=t) two-tail | 0,018 |  |
| t Critical two-tail | 2,228 |   |

|  | *Reaktor 1* | *Reaktor 5* |
| --- | --- | --- |
| Mean | 2,583 | 1,666666667 |
| Variance | 0,442 | 0,066666667 |
| Observations | 6,000 | 6 |
| Pooled Variance | 0,254 |  |
| Hypothesized Mean Difference | 0,000 |  |
| df | 10,000 |  |
| t Stat | 3,149 |  |
| P(T<=t) one-tail | 0,005 |  |
| t Critical one-tail | 1,812 |  |
| P(T<=t) two-tail | 0,010 |  |
| t Critical two-tail | 2,228 |   |

|  | *Reaktor 2* | *Reaktor 3* |
| --- | --- | --- |
| Mean | 2,500 | 2,25 |
| Variance | 0,300 | 0,375 |
| Observations | 6,000 | 6 |
| Pooled Variance | 0,338 |  |
| Hypothesized Mean Difference | 0,000 |  |
| df | 10,000 |  |
| t Stat | 0,745 |  |
| P(T<=t) one-tail | 0,237 |  |
| t Critical one-tail | 1,812 |  |
| P(T<=t) two-tail | 0,473 |  |
| t Critical two-tail | 2,228 |   |

|  | *Reaktor 2* | *Reaktor 4* |
| --- | --- | --- |
| Mean | 2,500 | 1,625 |
| Variance | 0,300 | 0,24375 |
| Observations | 6,000 | 6 |
| Pooled Variance | 0,272 |  |
| Hypothesized Mean Difference | 0,000 |  |
| df | 10,000 |  |
| t Stat | 2,907 |  |
| P(T<=t) one-tail | 0,008 |  |
| t Critical one-tail | 1,812 |  |
| P(T<=t) two-tail | 0,016 |  |
| t Critical two-tail | 2,228 |   |

|  | *Reaktor 2* | *Reaktor 5* |
| --- | --- | --- |
| Mean | 2,500 | 1,666666667 |
| Variance | 0,300 | 0,066666667 |
| Observations | 6,000 | 6 |
| Pooled Variance | 0,183 |  |
| Hypothesized Mean Difference | 0,000 |  |
| df | 10,000 |  |
| t Stat | 3,371 |  |
| P(T<=t) one-tail | 0,004 |  |
| t Critical one-tail | 1,812 |  |
| P(T<=t) two-tail | 0,007 |  |
| t Critical two-tail | 2,228 |   |

|  | *Reaktor 3* | *Reaktor 4* |
| --- | --- | --- |
| Mean | 2,250 | 1,625 |
| Variance | 0,375 | 0,24375 |
| Observations | 6,000 | 6 |
| Pooled Variance | 0,309 |  |
| Hypothesized Mean Difference | 0,000 |  |
| df | 10,000 |  |
| t Stat | 1,946 |  |
| P(T<=t) one-tail | 0,040 |  |
| t Critical one-tail | 1,812 |  |
| P(T<=t) two-tail | 0,080 |  |
| t Critical two-tail | 2,228 |   |

|  | *Reaktor 3* | *Reaktor 5* |
| --- | --- | --- |
| Mean | 2,250 | 1,666666667 |
| Variance | 0,375 | 0,066666667 |
| Observations | 6,000 | 6 |
| Pooled Variance | 0,221 |  |
| Hypothesized Mean Difference | 0,000 |  |
| df | 10,000 |  |
| t Stat | 2,150 |  |
| P(T<=t) one-tail | 0,029 |  |
| t Critical one-tail | 1,812 |  |
| P(T<=t) two-tail | 0,057 |  |
| t Critical two-tail | 2,228 |   |

|  | *Reaktor 4* | *Reaktor 5* |
| --- | --- | --- |
| Mean | 1,625 | 1,666666667 |
| Variance | 0,244 | 0,066666667 |
| Observations | 6,000 | 6 |
| Pooled Variance | 0,155 |  |
| Hypothesized Mean Difference | 0,000 |  |
| df | 10,000 |  |
| t Stat | -0,183 |  |
| P(T<=t) one-tail | 0,429 |  |
| t Critical one-tail | 1,812 |  |
| P(T<=t) two-tail | 0,858 |  |
| t Critical two-tail | 2,228 |   |