

Table 5-2 Summary of 3/4" Bubble Tubing™ Test Results

| DATE: RUN: | 30-Jun-11 10 | 30-Jun-11 11 | 1-Jul-11 12 | 5-Jul-11 13 | 5-Jul-11 14 | 6-Jul-11 15 | 7-Jul-11 16 | 8-Jul-11 17 | 8-Jul-11 18 |
|---------------------------------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Barometric Pres. (PSIA) | 14.44 | 14.43 | 14.43 | 14.42 | 14.40 | 14.40 | 14.36 | 14.33 | 14.34 |
| Ambient Temperature (°F) | 78.4 | 77.6 | 77.1 | 80.9 | 81.3 | 79.2 | 80.7 | 76.1 | 82.0 |
| Relative Humidity (%) | 0.52 | 0.50 | 0.54 | 0.55 | 0.53 | 0.57 | 0.60 | 0.60 | 0.57 |
| Line Pressure (PSIG) | 7.82 | 7.10 | 6.76 | 6.38 | 5.53 | 5.10 | 4.70 | 5.75 | 3.81 |
| Line Temperature (°F) | 110 | 91 | 86 | 111 | 97 | 88 | 92 | 105 | 96 |
| Water Temp. (°C) | 23.31 | 23.60 | 23.84 | 25.60 | 25.82 | 25.86 | 25.69 | 25.08 | 25.66 |
| Number Of Aeration Devices | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Air Release Depth (ft) | 15.00 | 15.00 | 15.00 | 10.00 | 10.00 | 10.00 | 5.17 | 5.17 | 5.17 |
| Blower HP/wire | 0.60 | 0.29 | 0.13 | 0.48 | 0.23 | 0.10 | 0.20 | 0.47 | 0.08 |
| Average Air Flow (SCFM) | 10.41 | 5.56 | 2.60 | 10.01 | 5.48 | 2.50 | 5.50 | 10.64 | 2.67 |
| Average Air Flow (SCFM/ft) | 0.10 | 0.06 | 0.03 | 0.10 | 0.05 | 0.03 | 0.05 | 0.11 | 0.03 |
| C*20 Standard Conditions | 10.69 | 10.72 | 10.69 | 10.14 | 10.14 | 10.13 | 9.60 | 9.62 | 9.59 |
| Tank Volume (Ft³) | 5,310 | 5,310 | 5,310 | 3,464 | 3,464 | 3,464 | 1,963 | 1,963 | 1,963 |
| TDS (mg/L) | 308 | 382 | 481 | 583 | 685 | 792 | 764 | 764 | 940 |
| KLa20 (hr⁻¹) | 0.91 | 0.57 | 0.30 | 1.03 | 0.67 | 0.40 | 0.80 | 1.31 | 0.50 |
| TDS Corrected Results | | | | | | | | | |
| KLa20 (hr⁻¹) | 0.97 | 0.61 | 0.32 | 1.08 | 0.69 | 0.41 | 0.81 | 1.34 | 0.50 |
| SOTR (Lb O₂/Hr) | 3.4 | 2.1 | 1.1 | 2.4 | 1.5 | 0.9 | 1.0 | 1.6 | 0.6 |
| SOTE OBSERVED (%) | 31.8% | 37.3% | 42.1% | 22.7% | 26.5% | 34.6% | 16.8% | 14.4% | 21.3% |
| SOTE (%/Ft) | 2.12% | 2.49% | 2.81% | 2.27% | 2.65% | 3.46% | 3.26% | 2.78% | 4.11% |
| SAE (Lb O₂/Hr/HP) | 5.74 | 7.35 | 8.67 | 4.92 | 6.53 | 9.19 | 4.80 | 3.40 | 7.39 |
| Metric Results (TDS Corrected) | | | | | | | | | |
| Air Flow (Nm³/h) | 16.36 | 8.74 | 4.08 | 15.73 | 8.61 | 3.93 | 8.63 | 16.71 | 4.20 |
| SOTR (g/Hr) | 1555.0 | 974.6 | 514.4 | 1070.0 | 682.6 | 407.5 | 434.7 | 718.8 | 267.2 |
| SOTE - %/m | 6.95% | 8.15% | 9.21% | 7.46% | 8.69% | 11.36% | 10.69% | 9.13% | 13.50% |

Figure 5-7 is a plot of air flow rate (SCFM/100' of tubing) versus the Mass Transfer Coefficient (K_{La20} - hr⁻¹).

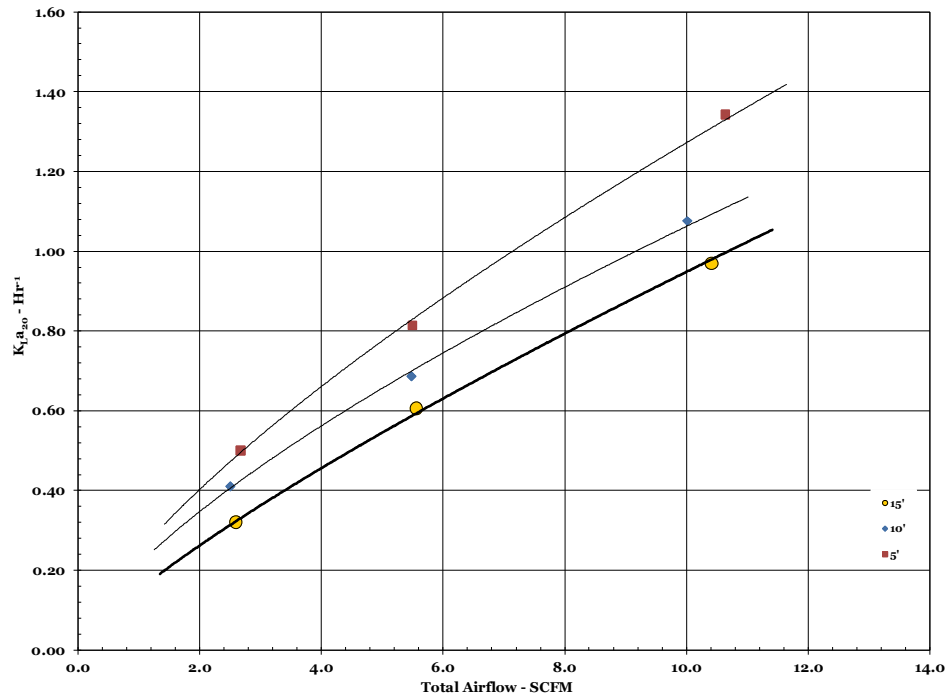


Figure 5-7 SCFM/100' of tubing v. K_{La20} - 3/4" Bubble Tubing™

Figure 5-8 is a plot of air flow rate (SCFM/100' of tubing) versus Standard Oxygen Transfer Rate (SOTR – Lb. O₂/Hr./100' of tubing).

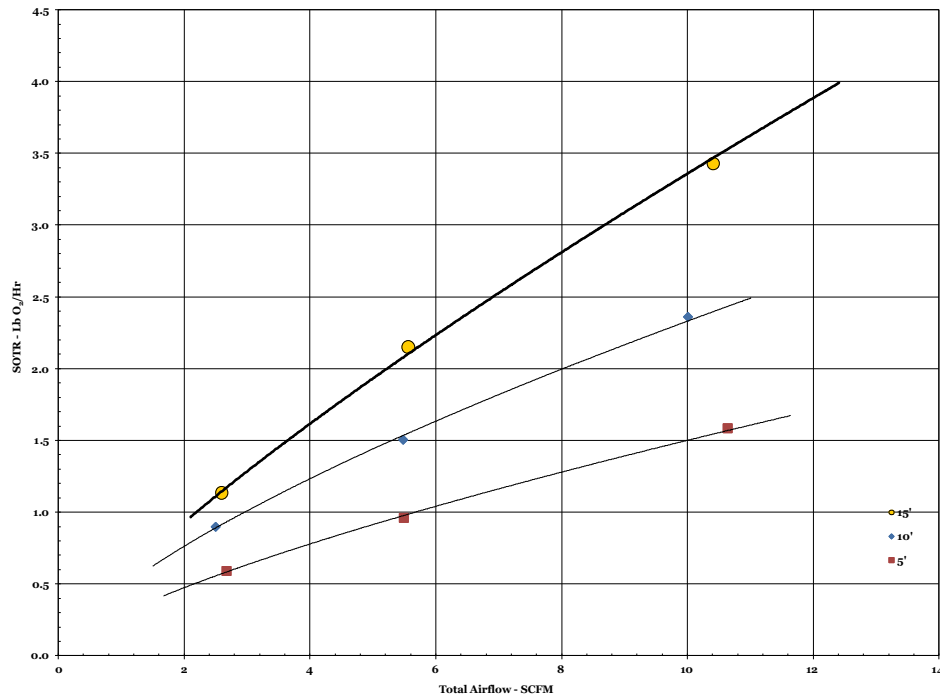


Figure 5-8 SCFM/100' of tubing v. SOTR/100' of tubing - 3/4" Bubble Tubing™

Figure 5-9 is a plot of air flow rate (SCFM/100' of tubing) versus Standard Oxygen Transfer Efficiency (SOTE – %).

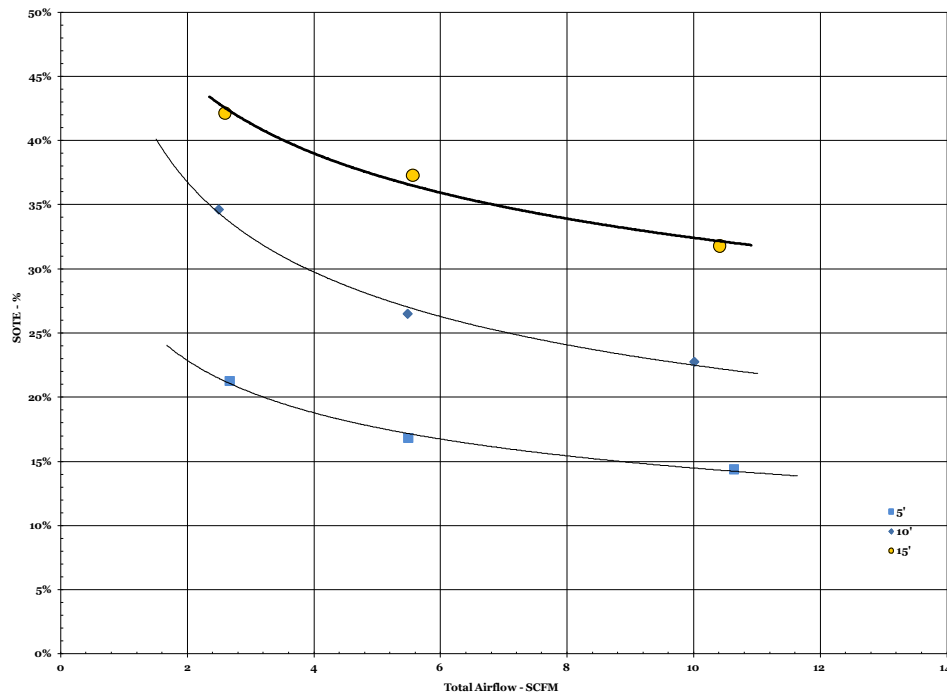


Figure 5-9 SCFM/100' of tubing v. SOTE - 3/4" Bubble Tubing™

Figure 5-10 is a plot of air flow rate (SCFM/100' of tubing) versus Standard Oxygen Transfer Efficiency (SOTE - %/Ft. of Submergence).

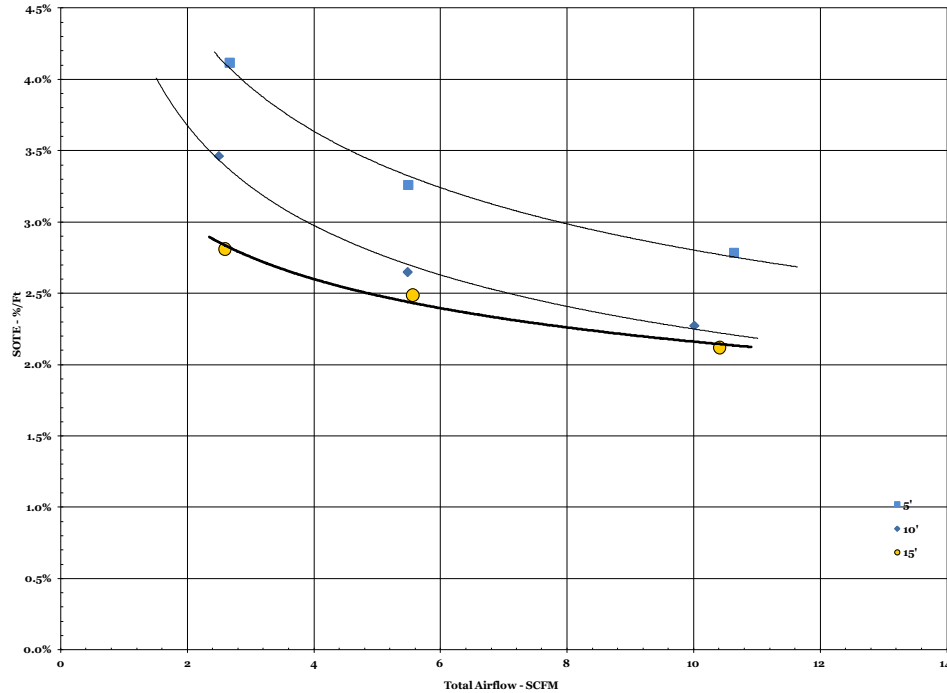


Figure 5-10 SCFM/100' of tubing v. SOTE/Ft. of Submergence - 3/4" Bubble Tubing™

Figure 5-17 is a plot of air flow rate (Nm³/h/100' of tubing) versus Standard Oxygen Transfer Efficiency (SOTE - %/m of Submergence).

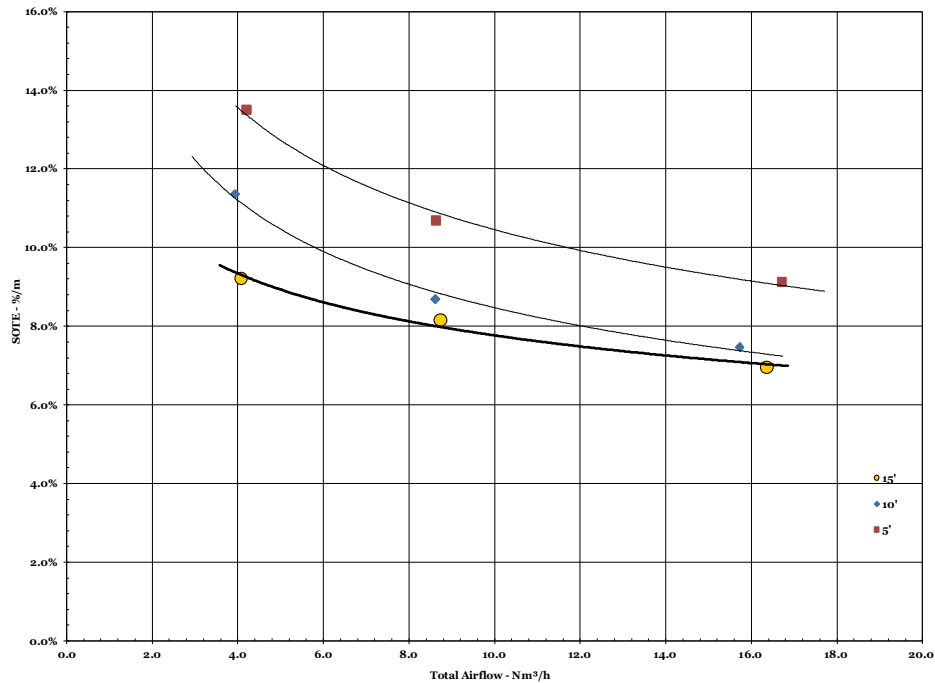


Figure 5-11 SCFM/100' of tubing v. SOTE - 3/4" Bubble Tubing™

Figure 5-18 is a plot of air flow rate (SCFM/100' of tubing) versus Standard Aerator Efficiency (SAE – Lb. O₂/Hr./HP_{wire}).

