

**FRANKLIN CRUISES FR 8/90, 5/92 AND 8/93
DATA DOCUMENTATION
JGOFS WESTERN EQUATORIAL PACIFIC PROCESS STUDY**

[1] General:

Parameter: Bacterial abundance by Epi-fluorescence microscopy
 Level 1: Yes
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 List of Parameters: Bacteria

Category	Cell type	Width/diam mm	Length mm	Volume* mm ³
A	small coccoid	0.2-0.4	---	0.012
B	large coccoid	0.4-0.7	---	0.078
C	coccoid rods	0.2-0.4	0.4-0.7	0.019
D	small rods	0.2-0.4	0.7-1.0	0.064
E	large rods	0.2-0.4	1.0-3.0	0.110
F	curved rods	0.2-0.4	1.0-3.0	0.110
G	vibrio like	0.2-0.4	1.0-3.0	0.110
Total				

* geometric mean of calculated volume for the smallest and largest cells in each category

List of Units: cells L⁻¹ * 10⁶

[2] Sampling:

Gear (e.g. CTD, pump, etc.): CTD; 10 litre niskin bottles
 Standard Depths: Hydrochemistry depths: see Hydrochemistry data
 Chemicals used: none
 Special Procedures: Niskins with silicone rubber o-rings and closure rubbers. Samples (10 mL) taken and fixed with 1 mL formaldehyde as soon as the CTD was on deck. Stored in the dark at 4°C until counted (within 6 months of sampling).
 Comments and Notes: Sampled in dim light.

[3] Analysis:

Instrument: Epi-fluorescence microscope
 Method: Acridine Orange direct counts
 Precision: Coefficient of variation estimated as 13%
 Comments:

[4] Results:

Quality of Data: FR 9008 and FR 9205 good. No samples on FR9308.
Known Problems: None

[5] Brief description of analytical method: See

Mackey, D. J., Parslow, J., Higgins, H. W., Griffiths, F. B. and O'Sullivan, J. E. (1995)
Plankton productivity and biomass in the western equatorial Pacific: biological
and physical controls. *Deep-Sea Research*, **42**, 499-533.

[6] Comments: