



Digital Database of Microfossil Localities in Alameda and Contra Costa Counties, California

USGS No.	FIELD No.	OTHER No.	COLLECTOR	DATE RECEIVED	STATE
Mf8072	90-CB-3232		Earl Brabb	1990	CA
LONGITUDE	LATITUDE	UTM X	UTM Y	7.5' QUADRANGLE	
-121.996	37.943	588237.471	4199771.821	Clayton	
LOCATION					
Contra Costa Co.; sample was taken from the west side of Ignacio Valley Road, about 50 feet east of sign "Welcome to Walnut Creek"					
LITHOLOGIC UNIT		COMMENTS		TECTONIC BLOCK	
Nortonville Shale Member of the Kreyenhagen Formation (Tnv)		primarily gray shale		VI	
FOSSIL GROUPS EXAMINED					
<input checked="" type="checkbox"/> benthic foraminifers <input type="checkbox"/> planktic foraminifers <input checked="" type="checkbox"/> nanoplankton <input type="checkbox"/> diatoms <input type="checkbox"/> radiolarians					
ASSOCIATED FOSSILS AND OTHER DEBRIS					
CN					
PALEONTOLOGIST		REPORT DATE	SLIDES	RESIDUE	REPOSITORY
Kristin McDougall; David Bukry		2/2/1992; 6/10/2011	1	1	Micropaleo. Coll., USGS, Flagstaff, AZ
PERIOD/EPOCH	STAGE/AGE	ZONE/BIOSTRATIGRAPHIC UNIT		ECOLOGY	
late-middle Eocene	early Narizian Stage	CP13		lower middle bathyal (1500-2000 m)	
AGE COMMENTS					
Cosmopolitan species <i>Amphimorphina ignota</i> , <i>Bulimina alazaensis</i> , <i>Cibicoides subspiratus</i> , and <i>Karreriella elongata</i> indicate an age of early to middle Eocene equivalent to planktic foraminiferal zones P9 to P13. An early Narizian Stage is indicated by the presence of the local species <i>Bulimina sculptilis</i> and typical forms of <i>Lenticulina welchi</i> which first appears in the Narizian; <i>Amphimorphina becki</i> and the abundant occurrence of <i>Bulimina alazaensis</i> which are restricted to the early Narizian and <i>Cibicoides martinzensis</i> which last appears in the early Narizian. The early Narizian assignment is probably coeval with planktic foraminiferal zones P12 to P14. A middle Eocene age equivalent to planktic foraminiferal zones P12 to P13 is therefore suggested by the benthic foraminiferal assemblage					
ECOLOGY COMMENTS					
GENERAL COMMENTS					
REFERENCES					
Bukry, D. Brabb, E.E., Powell, C.L., II, Jones, D.L., and Graymer, R.W., 1998, Recent Tertiary and Cretaceous Nannoplankton collections from the San Francisco Bay Region, U.S. Geological Survey Open-File Report 98-497, 33 pp.					