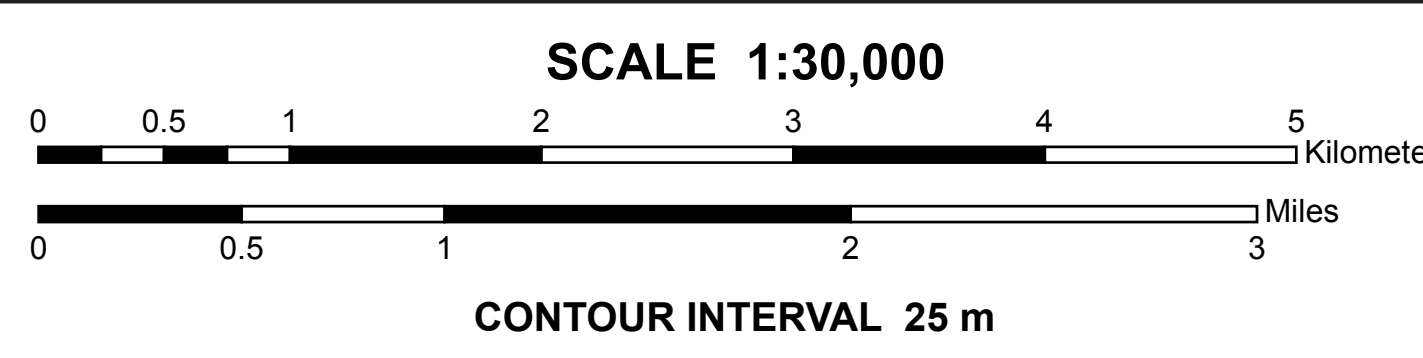


Lithologic Map Units	
Qrs	Quaternary fluvial deposits (Rio San Ignacio)
Qal	Quaternary alluvium
Qco	Quaternary colluvium
QPg	Plio-Quaternary gravels (post-tectonic)
Group 4 (post-tect)	
Mba	Basalt of Arivalpa (6.4 ± 1.9 Ma [K-Ar])
Mc3	Syn-tectonic volcanoclastic conglomerate #3
Ma4	Andesite #4 (vesicular basaltic-andesite flows)
Md	Tuff of Desemboque (10.4 ± 0.2 Ma [K-Ar])
Mb3	Basalt #3 (aphanitic, hyaline basalt)
Mr2	Rhyolite #2 (thick, gray-purple aphanitic lava flows)
Mb2	Basalt #2 (plag > opx >> amph)
Mst	yellow pumiceous sandstones and lithic tuffs
Md3	Dacite #3 (gray porphyritic flows, plag > alk = amph)
Mrcp	Rhyodacite of Cerro Prieta (pink, foliated lava flows)
Mcp	Tuff of Cerro Prieta (welded, pink, san > bio > qz)
Mc2	Volcanoclastic conglomerate #2
Ma3	Andesite #3 (basaltic andesite with no olivine; 11.8 ± 0.1 Ma [Ar/Ar])
Md2	Dacite #2 (common flow foliation and sanidine)
Md1	Dacite #1 (trachydacite flows with minor sanidine)
Mstf	Tuff of San Felipe (12.50 ± 0.1 Ma [U-Pb])
Mstl	Tuff of San Ignacio (12.56 ± 0.1 Ma [U-Pb])
Ma	Tuff of Arivalpa (maroon quartz-feldspar-lithic tuff)
Mr1	Rhyolite #1 (crystal-poor w/ diagnostic flow banding)
Ma2	Andesite #2 (aphyric purple trachyandesite flows)
Mc1	Mono-lithologic dacite conglomerate
Mdt	Dacitic lithic tuffs, breccias, and minor flows
Mdf	Porphyritic dacite flows (plag >> bio > qz)
Mss	Maroon epiclastic sandstones (grus)
Mtc	Tuff of Cerro Colorado (14.5 ± 0.3 Ma [U-Pb])
Ma1	Andesite #1 (vesicular basaltic-trachyandesite)
Mb1	Basalt #1 (px = oliv > plag)
	Rhyolite flows (Mr) and breccias (Mrb)
Undifferentiated volcanic rocks	
	Mru - rhyolite
	Mtu - tuffs and pyroclastics
	Mcu - volcanoclastic conglomerate
Group 3 (early rift)	
Toe	Exotic clast conglomerate (Gastil et al., 1973)
Group 2 (pre-rift)	
Ms	Cretaceous batholithic rocks
Kg	granite
Kgd	granodiorite
Kl	tonalite (69.4 ± 1.2 Ma [U-Pb])
Kd	quartz diorite
Group 1 (Oligo?)	
Ms	Mesozoic(?) metamorphic rocks
ms	metasedimentary
mcb	metacarbonate
mv	metavolcanic
Pzq	Paleozoic(?) Quartzite

Contacts	
---	contact (dashed where approximate, dotted where concealed)
- - -	fault (dashed where approximate, dotted where concealed)
⊥	high angle (or inferred high angle) normal fault
⊥	low angle normal fault
⊥	felsic dike (dashed where inferred)
⊥	intermediate dike (dashed where inferred)
Structures	
45°	strike and dip of bedding
9°	approximate strike and dip of bedding
⊥	strike of vertical fault
⊥	approximate strike and dip direction
⊥	fault with striae (arrow indicates trend of striae)
⊥	horizontal bedding
⊥	eutaxitic foliation
⊥	joint
⊥	vertical eutaxitic foliation
⊥	dike
⊥	metamorphic foliation
⊥	vertical metamorphic foliation
Symbols	
DS-21	Paleomagnetic drill site (site name shown)
S2G-114	Geochronologic sample site (sample name shown)
⋯	Unimproved dirt road
⋯	Improved dirt road
⋯	Paved highway
A-A'	Cross section line (Fig. 11, in text)
⊠	settlement

Datum: WGS 84  
 Projection: UTM Zone 12N  
 Cartographic contours were created in ArcGIS v. 9.3 using a 30m ASTER Global Digital Elevation Model that was smoothed and resampled to 10m resolution using the RST interpolation method.



**PLATE 1. GEOLOGIC MAP OF THE SIERRA BACHA, COASTAL SONORA, MEXICO**  
 Mapping and data compilation by Michael H. Darin (2010-2011)

10.4°

True North  
Magnetic North

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 MAN'S MOVE MOUNTAINS

(AT MAP CENTER, 2011)