GEOLOGY AND STRUCTURE OF THE NORTH BOQUERÓN BAY- PUNTA MONTALVA FAULT SYSTEM

by

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ABSTRACT

The North Boquerón Bay-Punta Montalva Fault Zone is an active fault system that cuts across the Lajas Valley in southwestern Puerto Rico. The fault zone has been recognized and mapped based upon detailed analysis of geophysical data, satellite images and field mapping. The fault zone consists of a series of Cretaceous bedrock faults that reactivated and deformed Miocene limestone and Quaternary alluvial fan sediments. The fault zone is seismically active (ML < 5.0) with numerous locally felt earthquakes. Focal mechanism solutions and structural field data suggest strain partitioning with predominantly east-west left-lateral displacements with small normal faults oriented mostly toward the northeast. Evidence for recent displacement consists of fractures and small normal faults oriented mostly northeast found in intermittent streams that cut through the Quaternary alluvial fan deposits along the southern margin of the Lajas Valley, Areas of preferred erosion, within the alluvial fan, trend toward the west-northwest parallel to the on-land projection of the North Boquerón Bay Fault. Beyond the faulted alluvial fan and southeast of the Lajas Valley, the Northern Boquerón Bay Fault joins with the Punta Montalva Fault. The Punta Montalva Fault is defined by a strong topographic WNW lineament along which stream channels are displaced left laterally 200 meters and Miocene strata are steeply tilted to the south. Along the western end of the fault zone in northern Boquerón Bay, the older strata are only tilted 3° south and are covered by flat lying Holocene sediments. Focal mechanisms solutions along the western end suggest NW-SE shortening, which is inconsistent with left lateral strain partitioning along the fault zone. The limited deformation of older strata and inconsistent strain partitioning may be explained by a westerly propagation of the fault system from the southwest end. The limited geomorphic structural expression along the North Boquerón Bay Fault segment could also be because most of the displacement along the fault zone is older than the Holocene and that the rate of displacement is low, such that the development of fault escarpments and deformation all along the fault zone has yet to occur.

RESUMEN

La Zona de fallamiento del área de Punta Montalva y el Norte de la Bahía de Boquerón es un sistema de fallas activas que atraviesa el Valle de Lajas, al suroeste de Puerto Rico. La zona de la falla ha sido reconocida y caracterizada en el análisis detallado de los datos geofísicos, imágenes satelitales y cartografía. La zona de la falla consiste en una serie de fallas en lecho rocoso del Cretácico que han sido reactivadas y deforman calizas del Mioceno y sedimentos de abanicos aluviales del Cuaternario. La zona de la falla es sísmicamente activa (ML <5,0) con numerosos terremotos localmente sentidos. Soluciones de mecanismos focales y datos estructurales de campo sugieren partición de la deformación en los que predominan desplazamientos laterales izquierdos E-O, con pequeñas fallas normales orientadas principalmente hacia el noreste. La evidencia de desplazamientos recientes consiste en pequeñas fracturas y fallas normales orientadas en su mayoría hacia el NE se encuentran en arroyos intermitentes que cortan depósitos de abanicos aluviales cuaternarios a lo largo del borde sur del Valle de Lajas. Áreas de erosión preferencial, en el abanico aluvial, con tendencia hacia el noroeste, de forma paralela a la proyección en tierra de la Falla del Norte de la Bahía Boquerón. Más allá de de las fallas del abanico aluvial, al sureste del Valle de Lajas, la Falla del Norte de la bahía de Boquerón se une con la Falla de Punta Montalva. La Falla de Punta Montalva se define por una fuerte lineación topográfica hacia el ONO a lo largo de los canales de arroyos desplazados lateralmente a la izquierda unos 200 metros y los estratos del Mioceno fuertemente inclinados hacia el sur. A lo largo del extremo occidental de la zona de falla, en el norte de la bahía de Boquerón, los estratos del Terciario, están inclinados unos 3 ° S y están cubiertos por sedimentos del Holoceno. Soluciones de mecanismos focales a lo largo del extremo occidental sugieren acortamiento hacia el NO-SE, que es incompatible con la partición de deformación lateral izquierda. La deformación limitada de los estratos más antiguos y la partición de la deformación incongruente puede ser explicada por una propagación del sistema hacia el oeste. La limitada expresión geomorfológica a lo largo del norte de la bahía de Boquerón puede deberse a que la mayoría de los desplazamientos a lo largo de la zona de falla es más antigua que el Holoceno y que el índice de desplazamiento es bajo, de manera que el desarrollo de escarpes de fallas y deformaciones a lo largo del zona de la falla todavía no ha sucedido.

To my family . . .

"…si eso le sirve de consuelo, si antes de cada acción pudiésemos prever todas sus consecuencias, nos pusiésemos a pensar en ellas seriamente, primero en las consecuencias inmediatas, después, las probables, más tarde las posibles, luego las imaginables, no llegaríamos siquiera a movernos de donde el primer pensamiento nos hubiera hecho detenernos. Los buenos y los malos resultados de nuestros dichos y obras se van distribuyendo, se supone que de forma bastante equilibrada y uniforme, por todos los días del futuro, incluyendo aquellos, infinitos, en los que ya no estaremos aquí para poder comprobarlo, para congratularnos o para pedir perdón, hay quien dice que eso es la inmortalidad de la que tanto se habla."

-José Saramago-Ensayos sobre la ceguera

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1 INTRODUCTION

Puerto Rico, the smallest of the Greater Antilles, is approximately 160 km east-west and 50 km north-south, and located within the complex boundary between the North American Plate and the Caribbean Plate (Figure 1.1). Puerto Rico has a 500 year history that has recorded damaging earthquakes every century (Clinton et al., 2006). A population density of 441 inhabitants per square kilometer (the highest in the United States), increases concern over the effects of catastrophic events such as those caused by earthquakes.

Major earthquakes producing damage in Puerto Rico are those occurred in 1615, 1670, 1751, 1776, 1787 (~M 8.0, Puerto Rico Trench), 1867 (~M7.3, Anegada Passage), and more recently the 1918 earthquake (~M 7.3, Mona Passage) (Clinton et al., 2006). Observations and analysis made by Clinton et al. (2006), demonstrates that although southwestern Puerto Rico is the most seismically active area on the island, the seismic activity cannot be directly related to previously mapped faults. Most of the seismicity in southwestern Puerto Rico occurs at shallow depths.

Field mapping and trenching by Prentice and Mann (2005) demonstrate that surface rupture has occurred during the last 5000 yrs. on a segment of a previously undocumented normal fault near the southern edge of the Lajas Valley, in the municipality of Cabo Rojo (Figure 1.2). Based on shallow reflection studies, Meltzer and Almy (2000) suggested that the Lajas Valley is bounded on the south by a transtensional strike-slip fault. Although recognized at depth in seismic profile off-shore Puerto Rico, the fault does not possess an obvious surface expression and does not appears to have had Neogene or recent displacement (Grindlay et al., 2005b).

The South Lajas Valley Fault is the only inland seismogenic source included in the most recent seismic hazard map for Puerto Rico published by the U.S. Geological Survey (Muller et al., 2003). In the seismic hazard map, the South Lajas Valley fault is considered active in its extend from the southwestern edge of the Lajas Valley in a northeast direction and later changing its trend in a more west-east direction through the entire extend of the valley, with a total fault length of 50-km (Prentice, 2000; Muller et al., 2003; LaForge and MacCann, 2005).

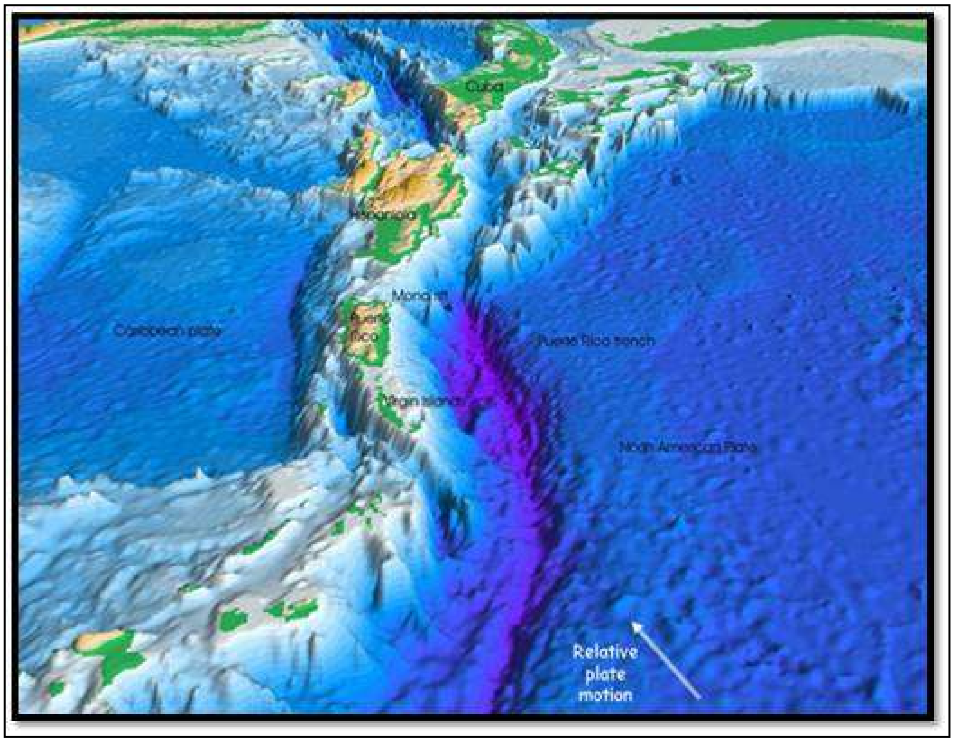

Figure 1.1: Neotectonics of the Puerto Rico-Virgin Islands area, Caribbean North America interactions (USGS, 2007).

Ocasio (undergraduate research study, 2004) proposed the existence of the north-northwest-south-southeast trending fault along the northern end of Boquerón Bay. Recognition of the fault was primarily based on analysis of total magnetic-intensity data collected offshore of southwestern Puerto Rico by Western Geophysical Co. and supported by offshore seismic reflection profiles. Geophysical investigation of the extension of the offshore fault on land into the Lajas Valley was the foundation of several undergraduate research projects which include:

- *Multichannel Analysis of Surface Waves (MASW) of the North Boquerón Bay Fault* by C. Roig in 2004.
    - Collected geophysical data in the Boquerón area providing evidence of the prolongation of the North Boquerón Bay Fault inland southwestern Puerto Rico.
- *Multichannel Analysis of Surface Waves (MASW) delineation study of the North Boquerón Bay Fault Zone (NBBFZ)* by A. Martinez in 2005.
    - Collected geophysical data in the Boquerón area supporting findings of Roig (2004), and supporting that the North Boquerón Bay Fault continues inland southwestern Puerto Rico.
- *Multi-channel Analysis of Surface Waves (MASW) of the North Boquerón Bay Fault Zone (NBBFZ)* in the Central Part of the Lajas Valley by A. Martinez in 2006.
    - Collected geophysical data in central Lajas Valley suggesting that the North Boquerón Bay Fault continues further into the east and cutting sediments within the Lajas Valley.
- *Seismic Reflection Study of the North Boquerón Bay Fault Zone* by A. Rivera in 2006.
    - Collected a seismic reflection profile at the Boquerón area. The profile identified pinching-out sediments at the same location as the proposed North Boquerón Bay Fault.

Although a fault escarpment could not be recognized within the Lajas Valley, geomorphic and geologic features suggest the North Boquerón Bay fault extends across the valley. Following the trend of the fault reveals geomorphologic and geologic features supporting the prolongation of the fault.

Projection of the North Boquerón Bay fault trend towards the south-southeast beyond the Lajas Valley brings it to alignment with the Punta Montalva Fault, a pronounced west-northwest trending fault that extends from Punta Montalva to Ensenada Las Pardas, south of Guánica (Addarich Martinez, 2008; Roig et al., 2009).

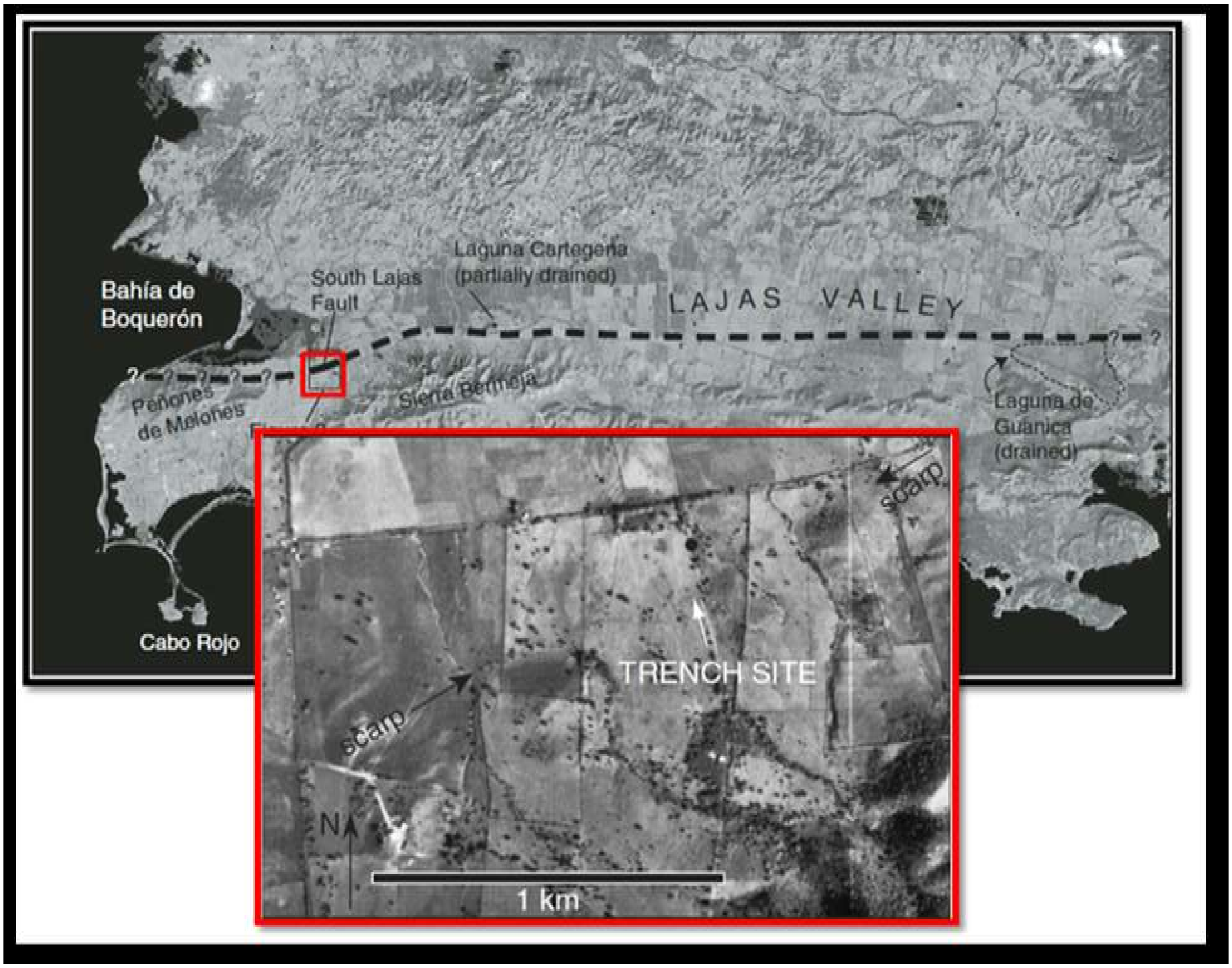

Figure 1.2: Delineation of the South Lajas Valley Fault, in southwestern Puerto Rico. Inset shows the trench site where Holocene displacement was documented (after Prentice and Mann, 2005).

The Punta Montalva Fault is characterized by steeply tilted Miocene Limestone, and an offset drainage indicative of left-lateral strike-slip faulting. This research investigation demonstrates that the occurrence of recent earthquakes and Quaternary deformation features along the combined North Boquerón Bay Fault and Punta Montalva Fault suggests that the these fault zones may be an important seismic hazard source as the presently considered South Lajas Fault Zone.

The scope of this thesis is to delineate and describe the North Boquerón Bay, and Punta Montalva Fault Zones by:

- Generation of lineament maps of southwestern Puerto Rico using:
    - Aerial photographs
    - High resolution Orthoimagery
    - Synthetic Aperture Radar- RADARSAT-1 imagery
    - Landsat Thematic Mapper
        - Estimating the average orientation of linear features for southwestern Puerto Rico
- Determine inland extension of the proposed North Boquerón Bay Fault
    - Collecting geophysical survey lines:
        - Multichannel Analysis of Surface Waves
        - High resolution seismic reflection
        - Ground Penetrating Radar
- Estimating the length, width, depth, strike and dip of the Fault plane, and type of faulting using:
    - Field Mapping of exposed fault planes
    - Kinematic analysis of structural data
- Estimate local stress regimes
- Relate seismic activity to the North Boquerón Bay- Punta Montalva fault.

The information gathered in this thesis could be used to update the seismic hazard map of southwestern Puerto Rico in addition to the South Lajas Valley fault which is a potential seismogenic source. We propose that the North Boquerón Bay-Punta Montalva Fault Zone is an active fault system that cuts across the Lajas Valley in southwestern Puerto Rico.

2 PREVIOUS WORKS

2.1 Study Area

2.1.1 Geology and Geologic Structure of Southwest Puerto Rico

The Lajas Valley, in southwestern Puerto Rico, is an east-west trending large, flat lowland, 30 km long, 1.5-9.0 km wide, linear depression bounded by abrupt mountains fronts on its northern and southern edges that rise to a maximum elevation of 298 and 250 meters above mean sea level respectively, and characterized by closed drainage depressions of the former Laguna Cartagena, Laguna de Guánica, and Ciénaga El Anegado (Figure 2.1; Prentice and Mann, 2005). The origin of the Lajas Valley is thought to be related to block faulting (Mattson, 1960; Veve and Taggart, 1996).

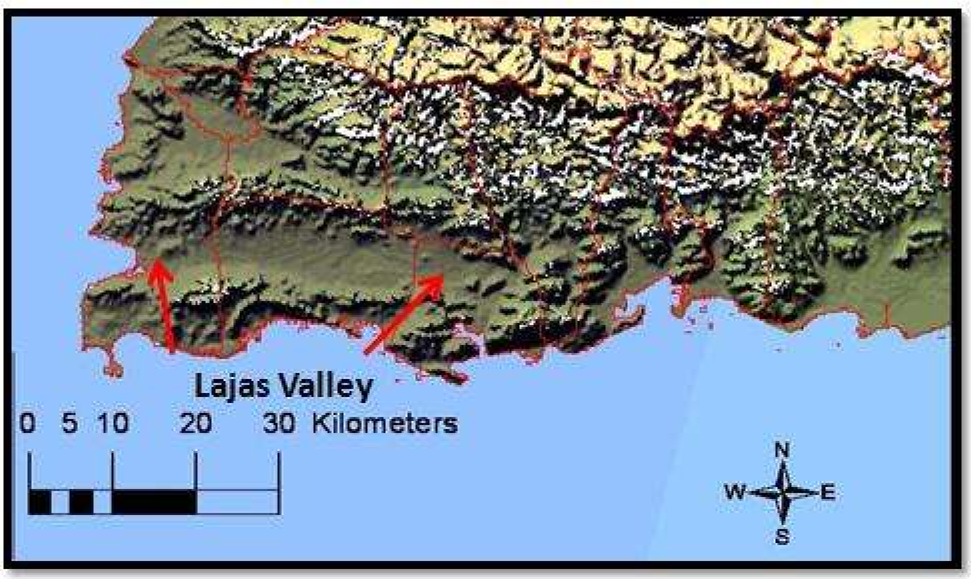

Figure 2.1: Color shaded relief topographic map of southwestern Puerto Rico. Showing the extension of the Lajas Valley, towns are included (from USGS NED).

Kaye (1957) described in his article *Notes on the Structural Geology of Puerto Rico*, the general structure and geology of the island. He also described the occurrence of Tertiary rocks buried under alluvium, and cropping on the northern side of the Lajas Valley in southwestern Puerto Rico. Tertiary rocks are described as being slightly deformed. On the map accompanying the article, Kaye distinguished the occurrence of a sharp escarpment extending from north of the Boquerón Bay in an east-west direction towards the central area of the valley (Figure 2.2). Accordingly the escarpment is probably related to high angle faults. However, the escarpment corresponds to the boundary of the Boquerón Mangrove forest and the Lajas Valley.

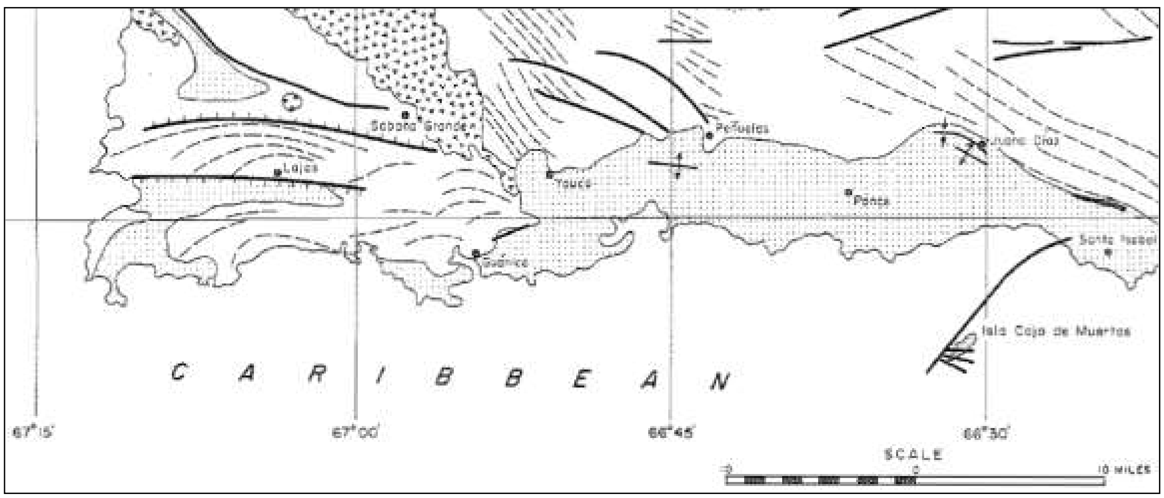

Figure 2.2: Map showing some known and inferred structural features of southwestern Puerto Rico by Kaye, 1957. Kaye identified what he interprets as a fault escarpment within the Boquerón area. This escarpments corresponds to the boundary of the Boquerón Mangrove Forest and the Lajas Valley.

In 1960, Pessagno conducted a preliminary survey of the stratigraphy, paleoecology, and micropaleontology of the Cretaceous and lower Tertiary rocks of southwestern Puerto Rico, including the Parguera limestone. In this work, Pessagno (1960) observes the complexity of deformation along southwestern Puerto Rico. Later studies conducted by Mattson (1960), on the *Geology of the Mayaguez Area, Puerto Rico*, highlight the complexity on explaining the structure of the Lajas Valley. Mattson (1960) alludes to the possible fault controls on the valley and documents faulting along the borders of the Lajas Valley. Mattson (1960) mapped and described two major faults in southwestern Puerto Rico: Cordillera and San German fault zones. He suggested a left-lateral displacement along these faults.

The geology of the Lajas Valley area comprise four major lithologically distinct rock groups and includes the Bermeja Complex of Jurassic to Early Cretaceous age (Mattson and Pessagno, 1979); a suite of volcanic, volcaniclastic, plutonic, and sedimentary rocks of Late Cretaceous age; limestone formations of Late Cretaceous to Tertiary age; and alluvial deposits of Quaternary age (Figure 2.3; Mattson, 1960; Volkmann 1984a; Volckmann, 1984b; Shcellekens, 1998).

The Sierra Bermeja Complex consists of serpentinite containing rafts of chert and metabasalts. According to Schellekens (1998), the complex is composed of four types of rocks: serpentinized peridotite, the Las Mesas greenstone (spilite), Las Palmas Hornblende Schist and Amphibolite (amphibolite); and the Cajul Basalts and Mariquita Chert (silicified volcanic rock and/ or chert). The Bermeja Complex encompasses the older rocks found in Puerto Rico. Based on radiolarian and radiometric stratigraphy the Bermeja Complex can be subdivided into Jurassic to Early Cretaceous volcano-stratigragraphy associations (Mattson and Pessagno, 1979; Schellekens, 1998). Radiolarians in the oldest rocks suggest an origin at about 28° to 30° latitude, either North or South, in the Pacific Ocean (Mattson and Pessagno, 1979; Schellekens, 1998; Nicolas et al., 2007). Jurassic abyssal cherts suggests that the original ocean floor, on which the radiolarian cherts must have been deposited, could be present as well, and may possibly be represented by the amphibolites in the Complex. Las Mesas Greenstone, a micro-

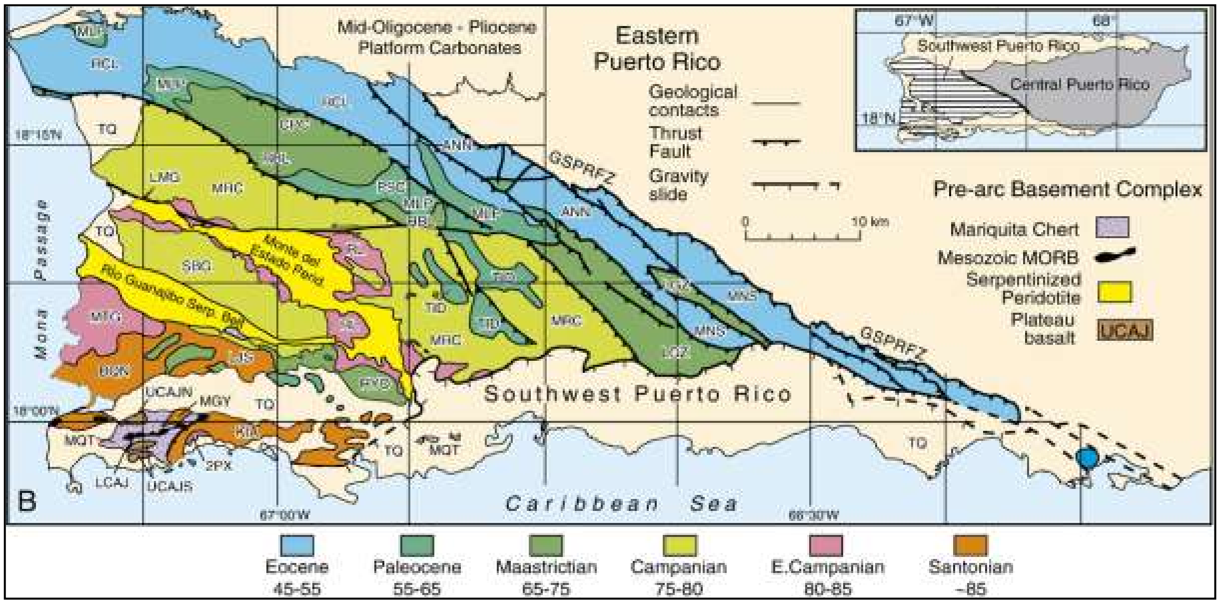

Figure 2.3: General Geologic Map of Southwestern Puerto Rico; TQ, Quaternary–Tertiary cover. Other features mentioned in the text are identified as follows: MQT, Mariquita chert; GSPRFZ, Greater Southern Puerto Rico Fracture Zone. LCAJ represents the Lower Cajul formation tholeiitic lavas; UCAJ the Upper Cajul Formation plateau basalts, and MGY the Maguayo Stock, Ann Anon Fm., MNS Monserratte Fm., RCL Rio Culebrinas Fm., TID Tertiary intrusives?, MLP Mal Paso Fm., PSC Palma Escrita FM., CPC Concepcion Fm., RYO El Rayo Fm., LGZ Lago Garzas Fm., RBL Rio Blanco Fm., SBG Sabana Grande Fm., SBG-PA Porphyritic Andesite, MRC Maricao Basalt, MTG Montegrande Fm., RL Rio Loco Fm.(back-forearck), 2PX Two-pyroxenes basalts (Rio Loco –like), BQN Boqueron Fm., LJS Lajas Fm., KIA ?Late Cretaceous Intrusives, UCAJS Upper Cajul Basalt, UCAJN Upper Cajul Basalt (plateau basalts), LCAJ Lower Cajul Basalt, AMPH Las Palmas Amphibolite (after Jolly et al., 2007).

gabbro, and several metabasaltic dikes belonging to the Bermeja Complex were considered to represent Early Cretaceous island arc volcanisms (Schellekens, 1998).

According to Schellekens (1998), in the southern part of the South Igneous Province, lying uncomformably on the Bermeja Complex is the Maguayo volcano-stratigraphy association, which contain basaltic to dacitic volcanic and volcaniclastic rocks overlain by limestones with fossils ages ranging from Late Santonian to Campanian. The age of the volcanics rocks is inferred to be Santonian- Campanian on the basis of the 85 Ma age of the (probably comagmatic) shallow intrusive Maguayo Porphyry, and biostatigraphic age of the overlying limestones. These limestones are overlain by the Monte Grande- El Rayo volcano-stratigraphy association, which consists of basaltic to andesitic flow rocks and volcaniclastic rocks, overlain by limestones of middle Maastrichtian age. The remainder of the Southern Igneous Province consists of stratified rocks of Late Cretaceous and early Tertiary age that were intruded by (mostly) shallow stocks (Schellekens, 1998).

According to Graves (1991) the basement rock under the central Lajas Valley is igneous rock (quartz diorite or andesite), while volcanic, volcaniclastic, plutonic, and sedimentary rocks crop on the ridges to the north of the Lajas Valley (Volckmann, 1984a). Limestone of Tertiary and Cretaceous age and quartz sand deposits of Tertiary age are found locally in the surrounding ridges. The limestone deposits described by Volckmann (1984a) in the Lajas region are the Cotuí Limestone, Sabana Grande Formation, the Parguera Limestone, Melones Limestone, Ponce Limestone, and Guanajibo Formation.

In 1965, Almy described the Parguera Limestone of Cretaceous age. In his work, Almy (1965) subdivided the Parguera Limestone in three members: Bahia Fosforesente (Lower) member, Punta Papayo (Middle) member and the Isla Magueyes (Upper) member.

The Bahia Fosforesente member is the basal member, consisting of a calcarenite non-carbonate calcarenite. Glauconite appears in the section and increases upward (Almy, 1965). Accordingly, the basal contact is sharp; the upper one is gradational, with the contact drawn at the first mudstone interbed. Limestone facies are very coarse-grained, bioclastic, somewhat lenticular, and carbonate (Almy, 1965). On the other hand, the Punta Papayo member is described by Almy (1965) as medium- bedded, very fine-grained, foraminiferal mudstones. The mudstones are interbedded with medium-grained to fine-grained calcarenites, especially between the upper and lower boundaries of the units. Increase of volcanic material occurs eastwards (Almy, 1965). Fauna found in the mudstone is indicative of open-ocean water invasion, explained by Almy (1965) by a cessation of volcanic activity and deepening of the basin along faults.

The Isla Mameyes member is poorly sorted volcanoclastic limestone that grades upwards into a very coarse-grained, well-sorted, bioclastic limestone (Almy, 1965). The Isla Mameyes member lies with probable erosional contact upon the Punta Papayo member (Almy, 1965). Tertiary Quartz sand deposits consist of extremely angular, moderately sorted, quartz grains and minor amounts of hematite, limonite, or clay. Alluvial deposits of Holocene and Pleistocene age fill the valley and consist mainly of silt and clay and have fine sand lenses grading into sand and gravel fan deposits on the north and south sides of the valley. Results of test drilling in the Lajas Valley revealed that the alluvial deposits can exceed 64 meters in thickness (Graves, 1991) (Figure 2.4).

2.1.1.1 *Neotectonics and Seismicity of Southwestern Puerto Rico*

Geologic and seismic studies indicate that the Caribbean is moving eastward relative to the Americas (Figure 2.5; Mann et al. 1990, and references therein). This movement is accommodated by left-lateral faults along its northern boundary within continental, island-arc, and oceanic lithosphere, bounding the North American Plate. Right-lateral faults along its southern boundary within continental, island arc, and oceanic lithosphere, bounds the South America Plate (Mann et al. 1990). Oceanic lithosphere of North and South America descends along the eastern edge of the Caribbean at the Lesser Antilles subduction zone, and oceanic lithosphere of the Cocos Plate descends along the western edge at the Middle America subduction zone (Mann et al. 1990).

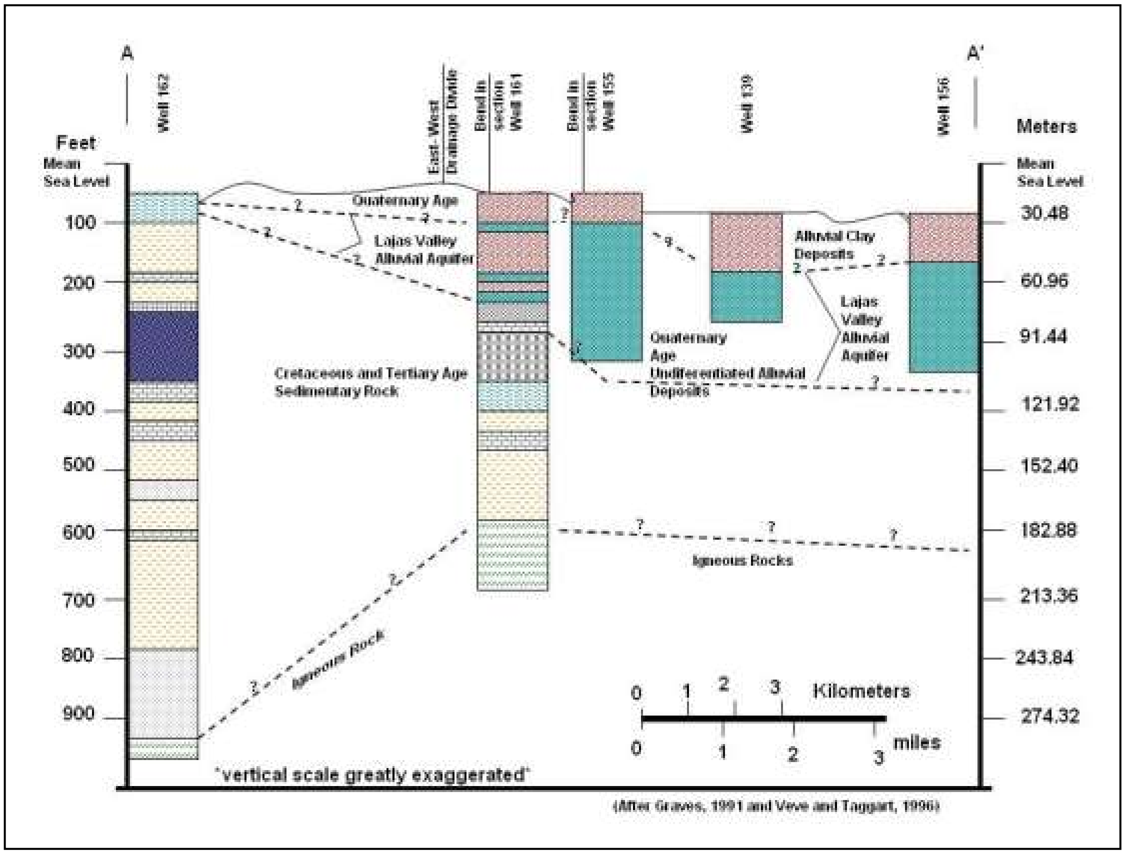

Figure 2.4: Generalized hydrogeologic section of the Lajas Valley. Note that alluvial deposits can exceed 64 meters (after Graves, 1991; Veve and Taggart, 1996).

Puerto Rico, together with the northern Virgin Islands, is the sub-aerially exposed part of the Puerto Rico-Virgin Islands (PRVI) microplate that lies within the seismically active Caribbean-North American plate boundary zone (Byrne et al., 1985; Schellekens, 1998). GPS geodesy results support the presence of an independently translating PRVI microplate within the northeastern Caribbean with ~85% of the relative motion occurring between the Puerto Rico-northern Virgins Islands and North America, and ~15% between Puerto Rico- northern Virgin Island and the Caribbean, along on-land faults or along the Muertos trough(Figure 2.6; Jansma and Mattioli, 2005; Jansma et al., 2000).

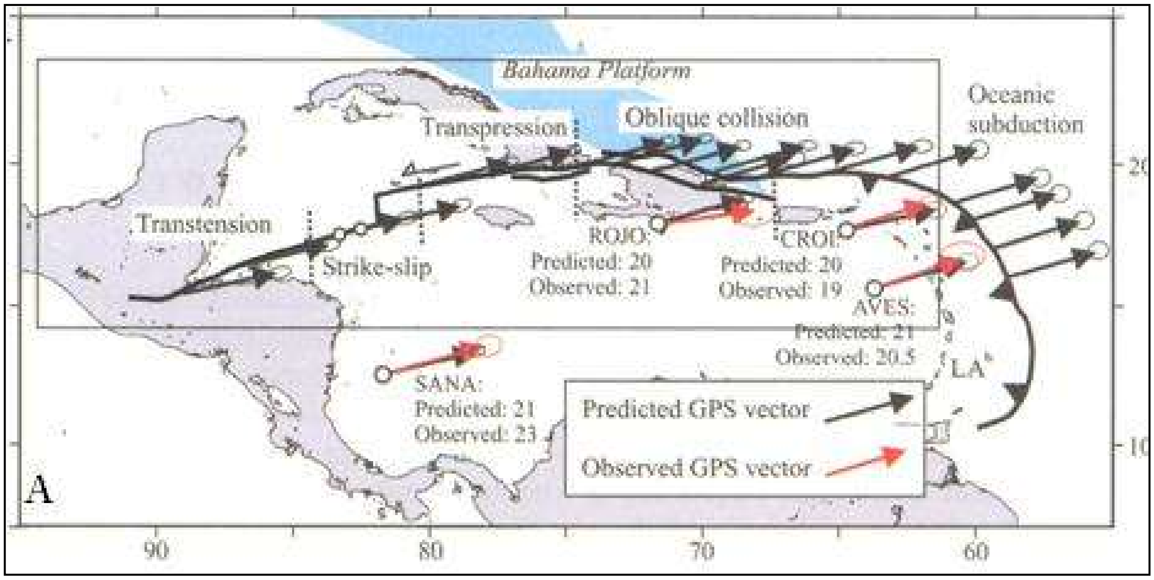

Figure 2.5: Caribbean- North America GPS velocity predictions (black arrows) versus observed (red arrows), note types of faulting and structural styles along the northern plate boundary between North America and the Caribbean; from transpression, strike-slip, oblique collision and oceanic subduction (after Mann, 2005).

The Puerto Rico- Virgin Islands microplate is bounded to the north by the 19°N fault zone, which dips south and is characterized by normal motion. The eastern boundary of the PRVI microplate is delimited by the extensional Virgin Island Basin and the Anegada Passage that follow a southwest-northeast orientation. The western boundary is delimited by the extensional Mona Canyon (Byrne et al., 1985). And the southern boundary of the micro-plate is unclear; yet, it has been related to the seismically active southwestern area of Puerto Rico, and the Muertos trough, located at southwest Puerto Rico- Virgin Islands region.

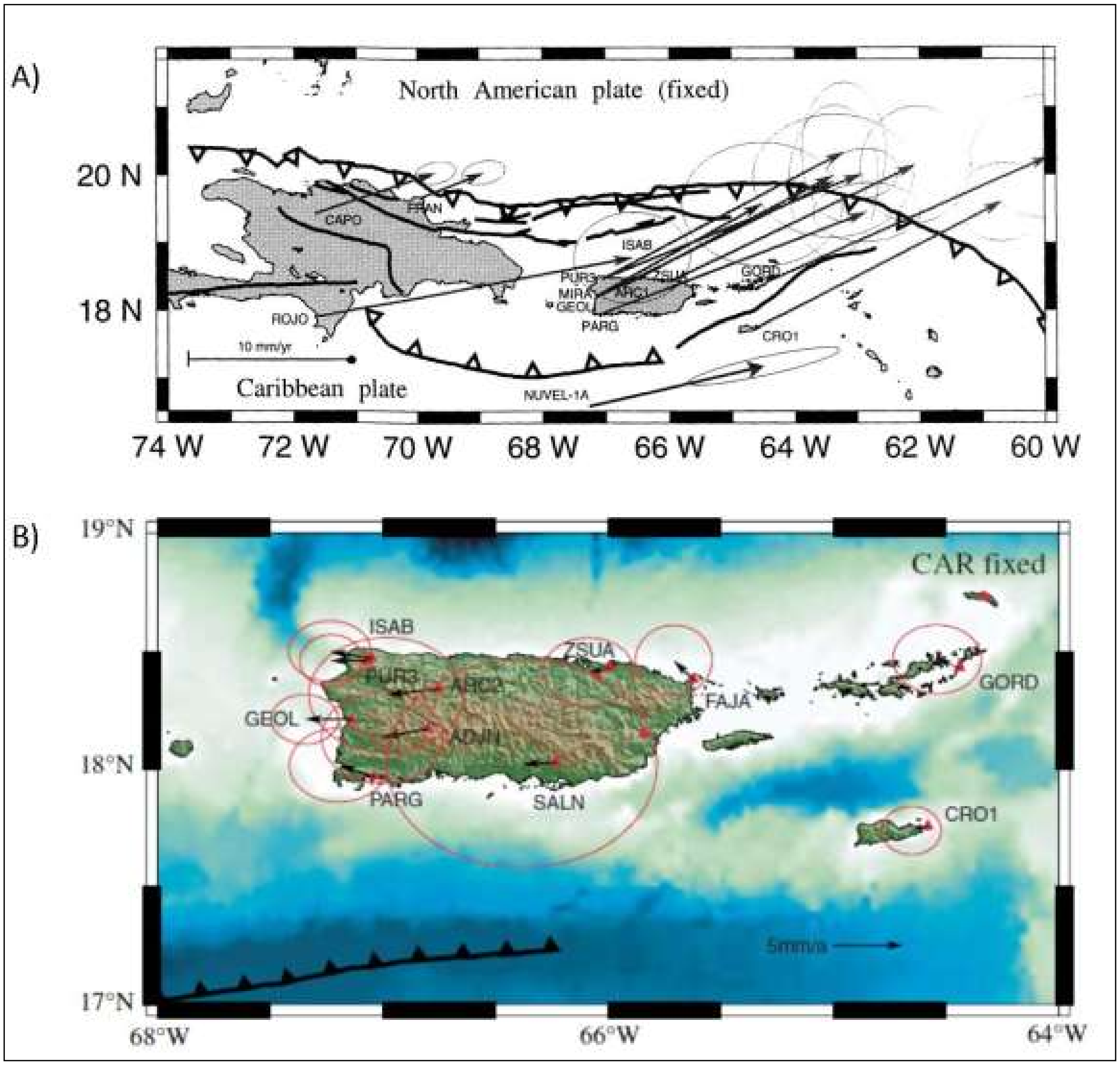

Figure 2.6: GPS studies results: (A) showing the relative motion of the Caribbean Plate with respect to the North American Plate (after Jansma et al., 2000), and (B) showing the relative motion of the Puerto Rico- Virgin Island microplate with respect to the Caribbean plate (after Jansma and Mattioli, 2005).

A compilation of information regarding stress patterns and deformation areas was made by Mann et al. (2005) to design a model describing Neogene and present tectonics in southern Puerto Rico. A change in post-Miocene stress direction is documented by Mann et al. (2005) along Miocene rocks where two phases of deformation are described: a first phase where N-NE direction of extension prevailed, and a second phase where the direction of compression trends to the NE. Mann et al. (2005) suggest that southern Puerto Rico is undergoing compression in the northeast-southwest direction at present time (Figure 2.7).

Mattson (1960) mapped and described two major faults in southwestern Puerto Rico: Cordillera and San German fault zones. He suggested a left-lateral displacement along these faults. However, the United States Geological Survey geologic quadrangle maps of the area (Volckmann 1984a; 1984b, 1984c), do not show faults bounding the Lajas Valley, except for a 5-km-long east-west to northeast-trending bedrock fault separating Mesozoic units in the far western part of the valley, south of Bahia de Boquerón. These maps do not show faults displacing Quaternary deposits.

Studies documenting deformation along the Lajas Valley during the Quaternary suggest the existence of the South Lajas Valley Fault (Prentice at al., 2000; Prentice and Mann, 2005). Prentice and Mann (2005) identify the South Lajas Valley fault zone, a 1-km-long, 1.5–3.0-m-high scarp cutting an alluvial fan on the south side of the Lajas Valley. The fault has a northeasterly trend that is oblique to the east-west trend of the Lajas Valley and does not project parallel to the east west- trending, southern edge of the Lajas Valley or in the direction of Boquerón Bay (Grindlay et al., 2005). Holocene displacement has been documented along a segment of the South Lajas Valley fault using paleoseismic trenching (figure 2.8; Prentice and Mann, 2005).

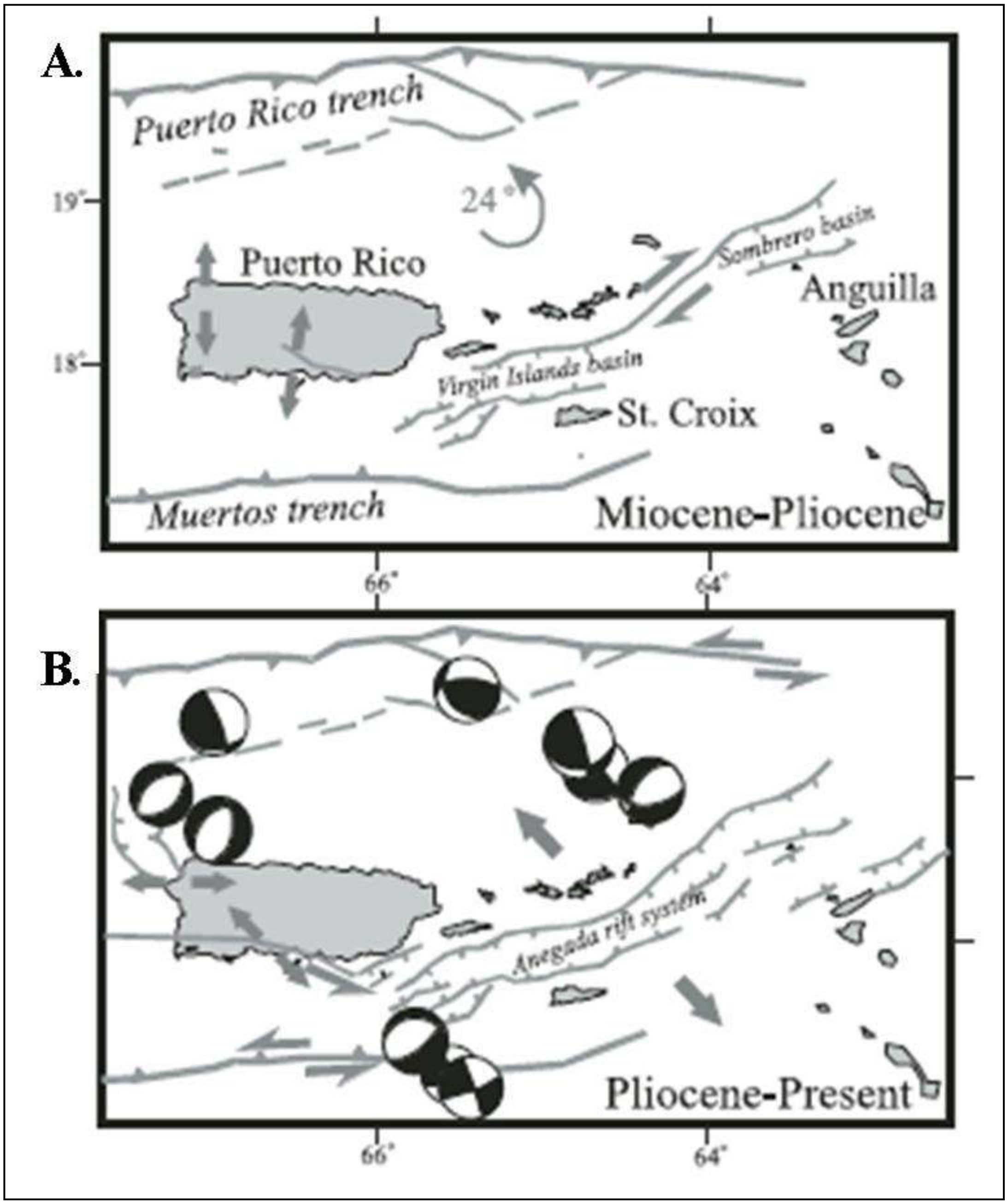

Figure 2.7: Proposed regional tectonic interpretation by Mann et al. (2005) for the first phase of Miocene-Pliocene, north-south extension during 24° of counterclockwise rotation of the Puerto Rico block and right-lateral shear along the Anegada Passage (Virgin Islands and Sombrero basins) during collision between Hispaniola and the Bahama carbonate platform(A), and (B) second phase regional tectonic interpretation of Pliocene-Present northeast-southwest extension southern Puerto Rico and opening across the Anegada rift system. Harvard earthquake focal mechanisms show that present-day deformation is dominated by normal and strike-slip faulting (after Mann et al., 2005).

Trenching by Prentice and Mann (2005) revealed two fault zones, ~1 m apart, that disrupt Quaternary alluvial fan deposits, radiocarbon dated at ~5000 yr B.P. The presence of two colluvial wedges indicates the occurrence of at least two earthquakes during the past 7000 yr (Prentice and Mann, 2005). Relations indicate normal faulting, valley-side down with a component of strike-slip motion (Figure 2.8). On the basis of a single trench exposure, horizontal component of displacement was not determined between right-lateral or left-lateral strike-slip (Prentice and Mann, 2005). According to Grindlay et al. (2005) the South Lajas Valley fault does not possess an obvious surface expression and either does not appear to continue offshore or it has not had Neogene or recent displacement.

Nevertheless, the South Lajas Valley Fault was included in the most recent seismic hazard map of the U.S. Geological Survey (Muller et al., 2003) as a potential seismogenic source. Although Quaternary displacement was documented along a segment of the South Lajas Valley Fault, the fault is considered as active in its extend from the southwestern edge of the Lajas Valley in a west-east direction through the entire extend of the valley (~50Km) (Figure 2.9; Muller et al., 2003).

The Lajas Valley has been the foci of several undergraduate research projects from the Department of Geology of the University of Puerto Rico, Mayaguez Campus. In 1999, De Chaudens described and interpreted the structure of two alluvial streams north of Sierra Bermeja. In her work, De Chaudens, interprets aerial photos and collects structural data of features crosscutting alluvial sediments and bedrock. De Chaudens interprets these structures as results of NE compression. In 2004, Ocasio, re-analyzed and re-interpreted total intensity magnetic and seismic reflection data collected by Western Geophysical (PRWRA, 1974). Ocasio interpreted one of the total magnetic intensity anomalies as the boundary of a previously unmapped WNW-trending offshore fault, and called the fault the North Boquerón Bay Fault Zone (NBBFZ). The magnetic and seismic reflection data suggest that the fault is a deep seated structure within the crust. Ocasio (2004) used aerial photographs to suggest on-shore left-lateral displacement within the Lajas Valley. Geophysical investigation of the extension of the offshore fault on land into the Lajas Valley was the foundation of additional undergraduate research projects of the Department of Geology of the University of Puerto Rico (Roig, 2004; Martinez, 2004; Martinez, 2005; Rivera, 2006; Roig and Asencio, 2007). The data collected provide evidence of the inland extension of the North Boquerón Bay fault.

At the south of the eastern end of the Lajas Valley, the Punta Montalva fault has been identified by Addarich- Martinez (2008). The identification of steeply inclined (60°S) within the Punta Montalva area and traced throughout the eastern end of the peninsula at Ensenada Las Pardas leads to suggest the presence of a fault (Figure 2.10). Although the fault is not named by Addarich- Martinez (2008) this research investigation refers to the fault as the Punta Montalva fault, due to its geographical location.

Albeit the Lajas Valley comprises the highest level of onshore seismicity of Puerto Rico (Mann, 2005), observations and analysis made by Clinton et al. (2006), shows that this seismic activity does not concur with previously mapped faults along the area (Figure 2.11). Most of this seismicity occurs at shallow depths.

In 2005, Huerfano et al. conducted a detailed analysis of hypocenters of 828 shallow earthquakes (depth $\leq$ 50 km) provided by the Puerto Rico Seismic Network (PRSN) and located within the southwestern Puerto Rico seismic zone to determine the stress patterns of the area and their relationship with tectonism and local geology. Huerfano et al. (2005) calculated a suite of

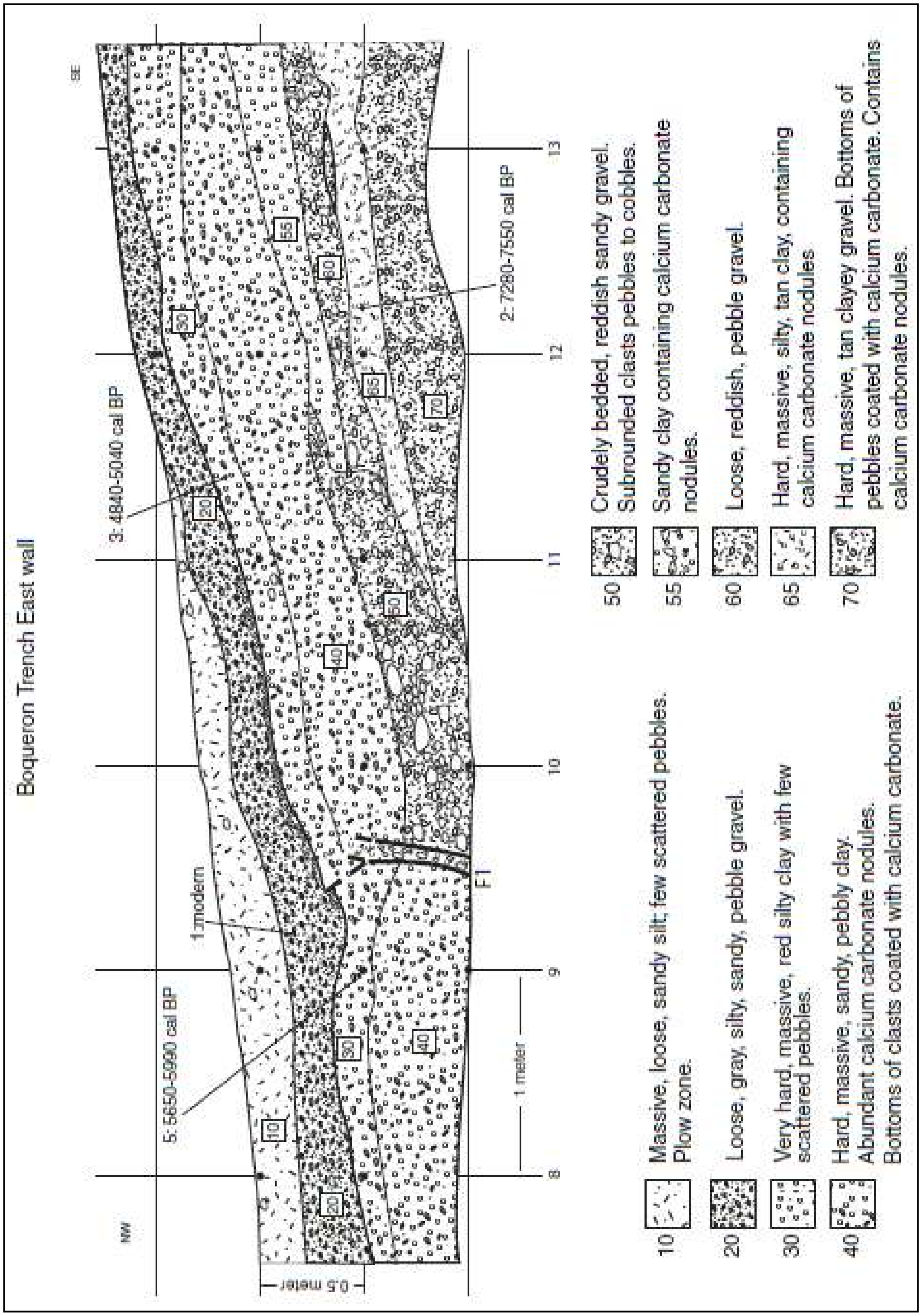

Figure 2.8: Log of excavation along a segment of the SLVF (after Prentice and Mann, 2005).

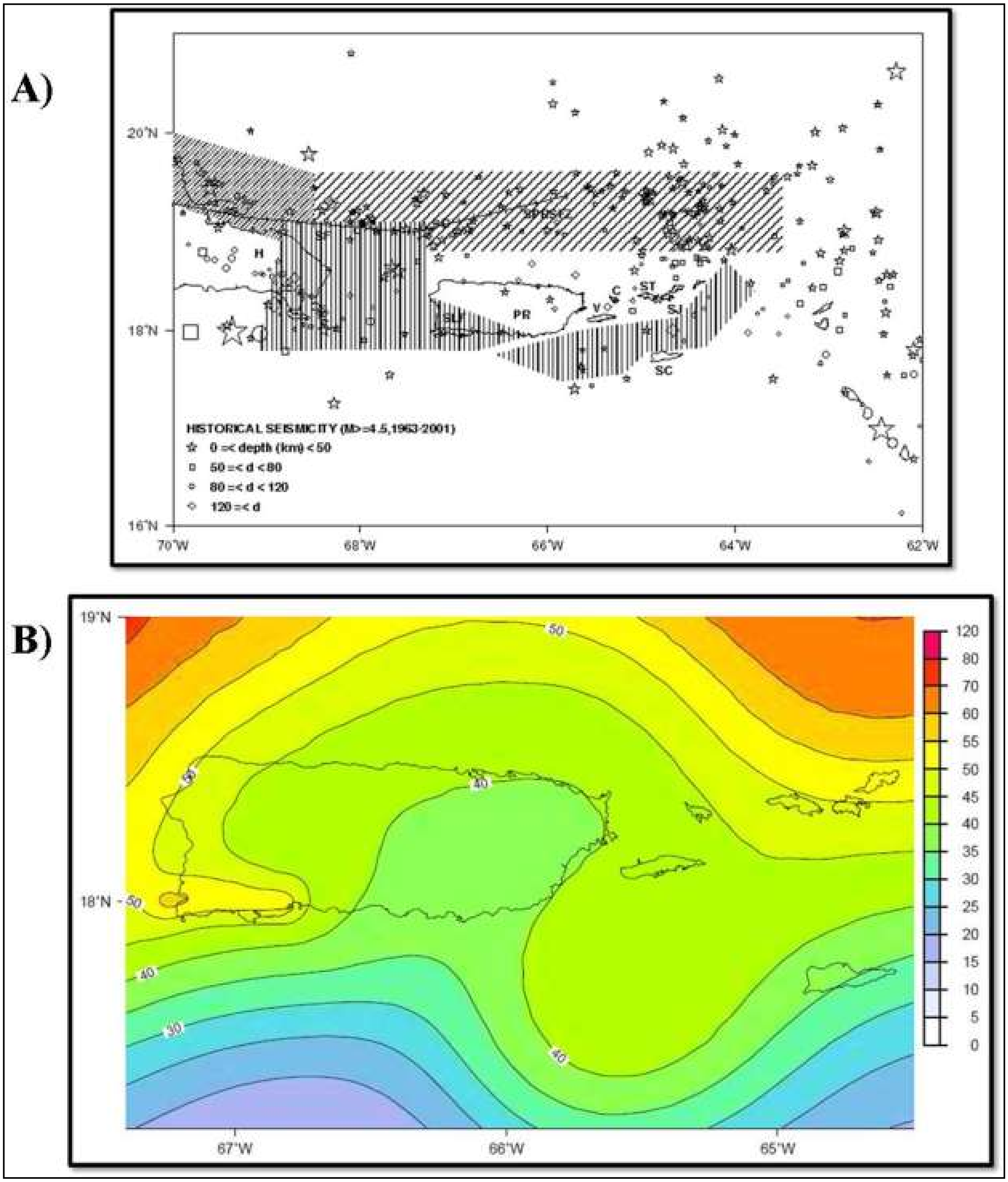

Figure 2.9: Map showing seismogenic sources used in the 2003 Seismic Hazard Map for the Puerto Rico region (A). Note that the only onland seismogenic source is the South Lajas Valley Fault. The resulting seismic hazard map is shown in (B), with a 50 yrs recurrence (after Muller et al., 2003).

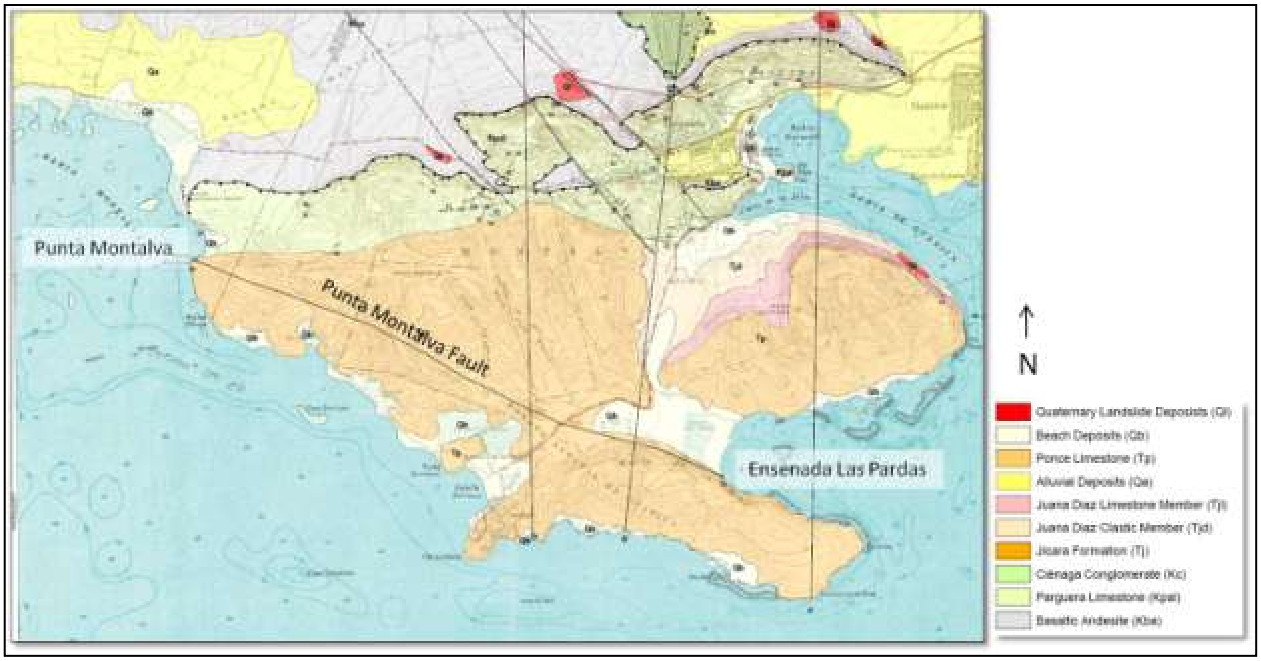

Figure 2.10: Geological map of the Punta Montalva area showing the location of the Punta Montalva Fault (after Addarich-Martinez ©2008).

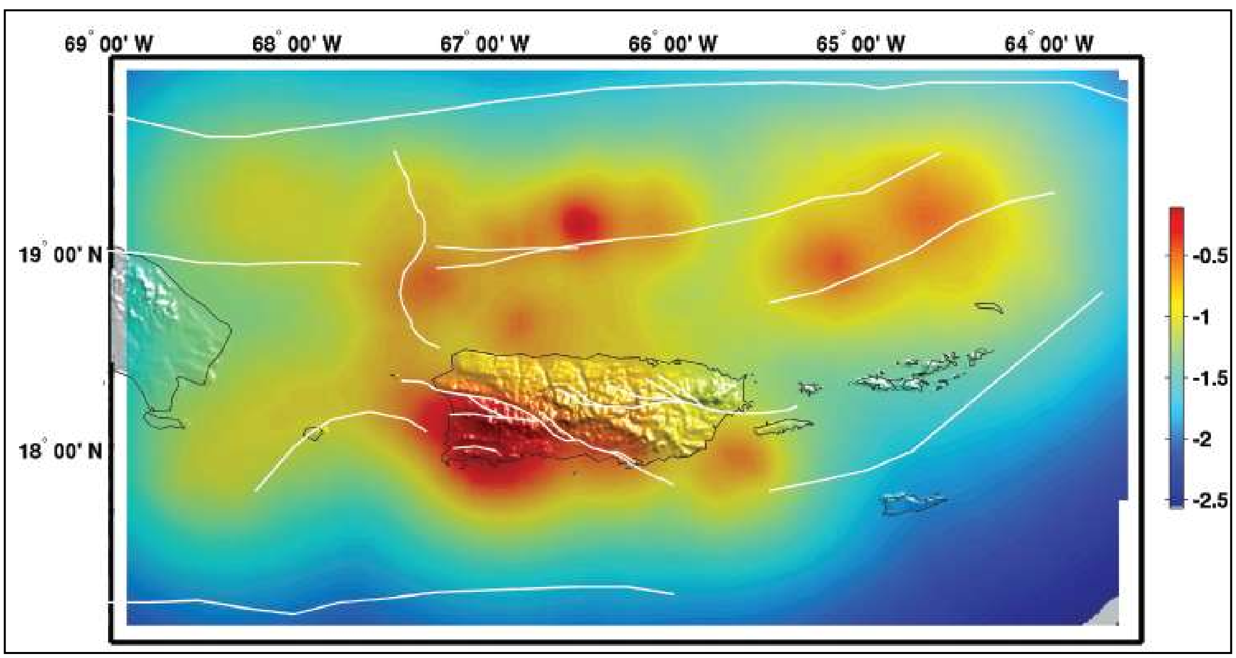

Figure 2.11: Density of seismicity in the area of Puerto Rico, PRSN catalog, January 1986–March 2006. Color bar is in units of log (earthquakes per square kilometers). Local seismicity is concentrated in southwest Puerto Rico (from Clinton et al., 2006).

first motion composite focal mechanisms based on the distribution of seismicity, geology, and topographic features. On average, their solutions (Figure 2.12) resemble the expected stress patterns obtained from regional plate motion and/or geophysical studies indicative of northwest-southeast stress fields associated with the regime of extension in the Mona Passage and the oblique convergence of the major plates (Huerfano et al., 2005). However, there are local topographic and geologic features like Cordillera Central, Monte Grande, and Sierra Bermeja that are best explained in terms of internal deformation of the southwestern Puerto Rico seismic zone (Huerfano et al., 2005).

Huerfano et al. (2005) suggest that the deformation, in Southwestern Puerto Rico, is absorbed by the Great Southern Puerto Rico Fault Zone, allowing the southwestern Puerto Rico seismic zone to extend in a northwest-southeast direction under lateral stresses and a small component of uplift.

Alternatively, computations of composite focal solutions, made by Huerfano et al., 2005, for the groups with intermediate depth (25-50km) events are representative of the oblique compression due to the convergence of the major plates of North America and the Caribbean plates. In this case, the southwestern Puerto Rico seismic zone, or the Puerto Rico–Virgin Islands are depth-deforming in response to active east-northeast-west-southwest compressional stresses (Huerfano et al., 2005).

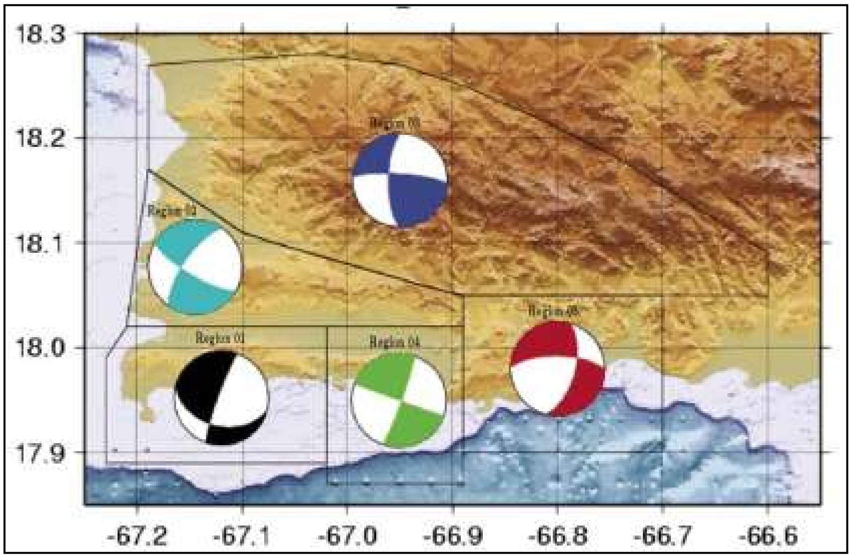

Figure 2.12: Composite focal mechanism computed for shallow earthquakes (<25km depth). Earthquakes are classified by regions related to geomorphological features, white quadrangles shows direction of compression (see next chapter for further details; after Huerfano et al. 2005).

3 METHODOLOGY

The North Boquerón Bay- Punta Montalva fault zones were recognized and mapped based upon detailed analysis of (a) satellite and aerial imagery, (b) geophysical data, (c) field mapping, and (d) seismicity.

3.1 Satellite and Aerial Imagery

This thesis uses a combination of stereographic aerial photos, high resolution orthoimagery, synthetic aperture radar RADARSAT-1, and Landsat Thematic Mapper 5 images of southwestern Puerto Rico for the generation of lineament maps of the study area. The generation of lineament maps was accomplished by using a combination of ArcGIS 9.2 ©, ENVI 4.3 © and Google Earth © software and programs.

Black and white aerial photographs from different dates are used to: 1) study the geomorphology of the study area, and 2) identify drainage patterns and lineament that might be related to the geological structure of southwestern Puerto Rico.

Satellite images (RADARSAT-1 and Landsat TM 5) require pre-processing. The synthetic aperture radar image requires antenna calibration, filter application, and georeferencing (Campbell, 2002); whereas the Landsat TM 5 image requires the application of atmospheric correction (Campbell, 2002). All pre-processing of data were conducted using ENVI 4.3 ©.

3.2 Geophysical Data

This investigation gathered and processed geophysical data to obtain shallow subsurface images of the onshore fault. The present work uses two techniques: (a) the Multichannel Analysis of Surface Waves (MASW) described by Park et al. (1999) and Park et al. (2007); and (b) the Ground Penetrating Radar (GPR) described by Daniels (1989) and Baker (2007). Location of the sites where GPR data was collected is shown in figure 3.1.

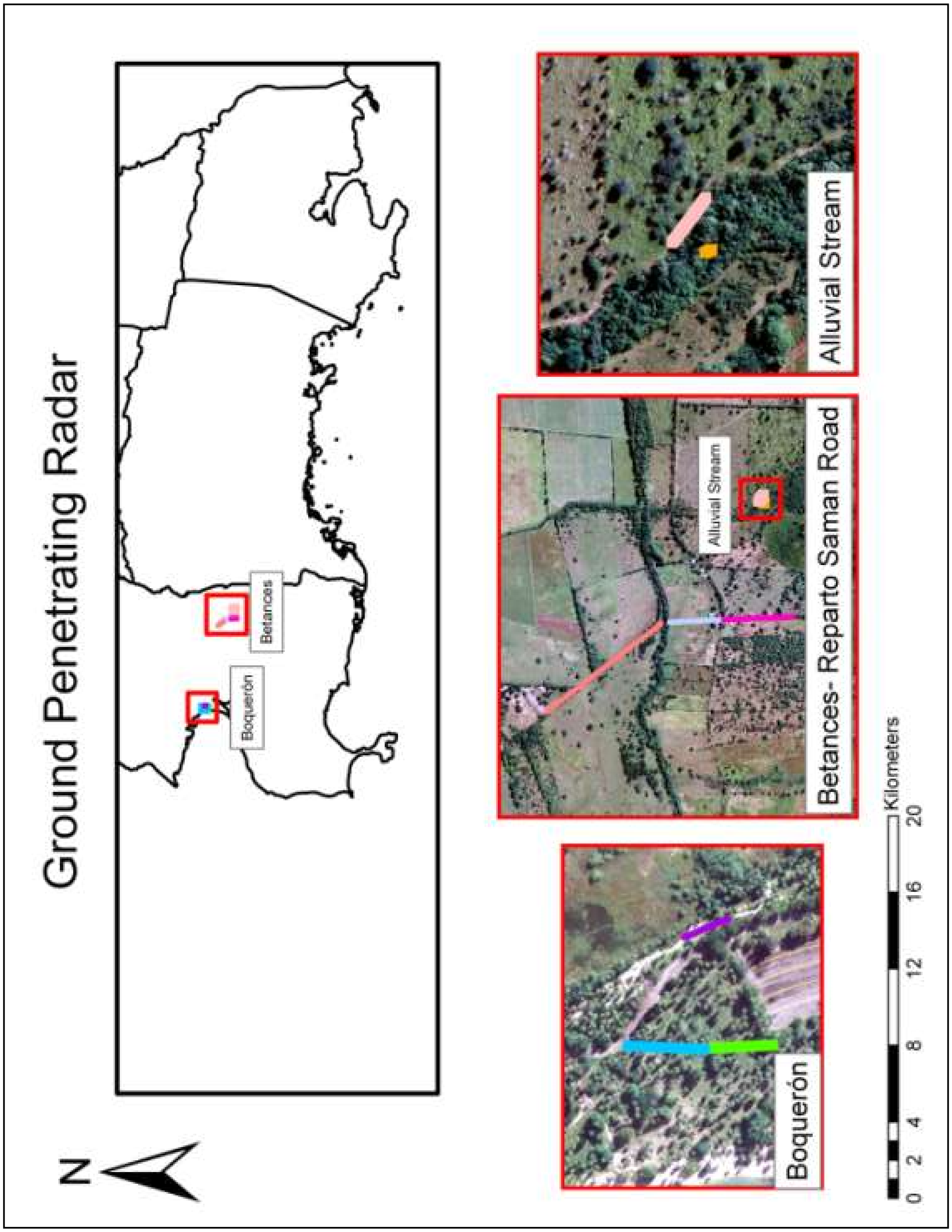

Figure 3.1: GPR data was acquired Two locations within the Boquerón public beach, and two locations north of Sierra Bermeja

The Multichannel Analysis of Surface Waves (MASW) uses the frequency- dependent properties (dispersive) of the Rayleigh-type surface waves for imaging and characterizing near-shallow subsurface. This investigation uses the general parameters as described by Park et al., 1999. Field parameters are described in Appendix A-1. Location of where seismic data was collected is shown in Figure 3.2.

On the other hand, the Ground Penetrating Radar (GPR) uses the propagating electromagnetic waves that respond to changes in the electromagnetic properties of shallow subsurface. The propagation velocity of electromagnetic waves is determined by the relative permittivity contrast between the background material and the target or differences between layers. Relative permittivity is the ability of a material to store and then permit the passage of electromagnetic energy when a field is imposed on the material, and can be measured in the lab or in situ (Neal, 2004; Baker et al., 2007). Detailed description of field data acquisition parameters is shown in Appendix A-2.

3.3 Field Mapping

One of the most powerful uses of geophysics is for exploration. At a well or outcrop, one pretty much know the geology. Cuttings, cores, and logs tells us about the lithology, and structure. The problem is often, knowing what happens as we move away from the wells or outcrops (Avseth, et al., 2010). This is the role of geophysics, one can extrapolate to geologically plausible conditions that might exist from the outcrop, explaining how the geophysical signature might change. In the case of the present study, geological field mapping, and outcrop descriptions provide a source of additional information. Sites visited include: A. the Alluvial Stream, B. Laguna Cartagena, C. the Lajas Valley, and D. Punta Montalva (Figure 3-2).

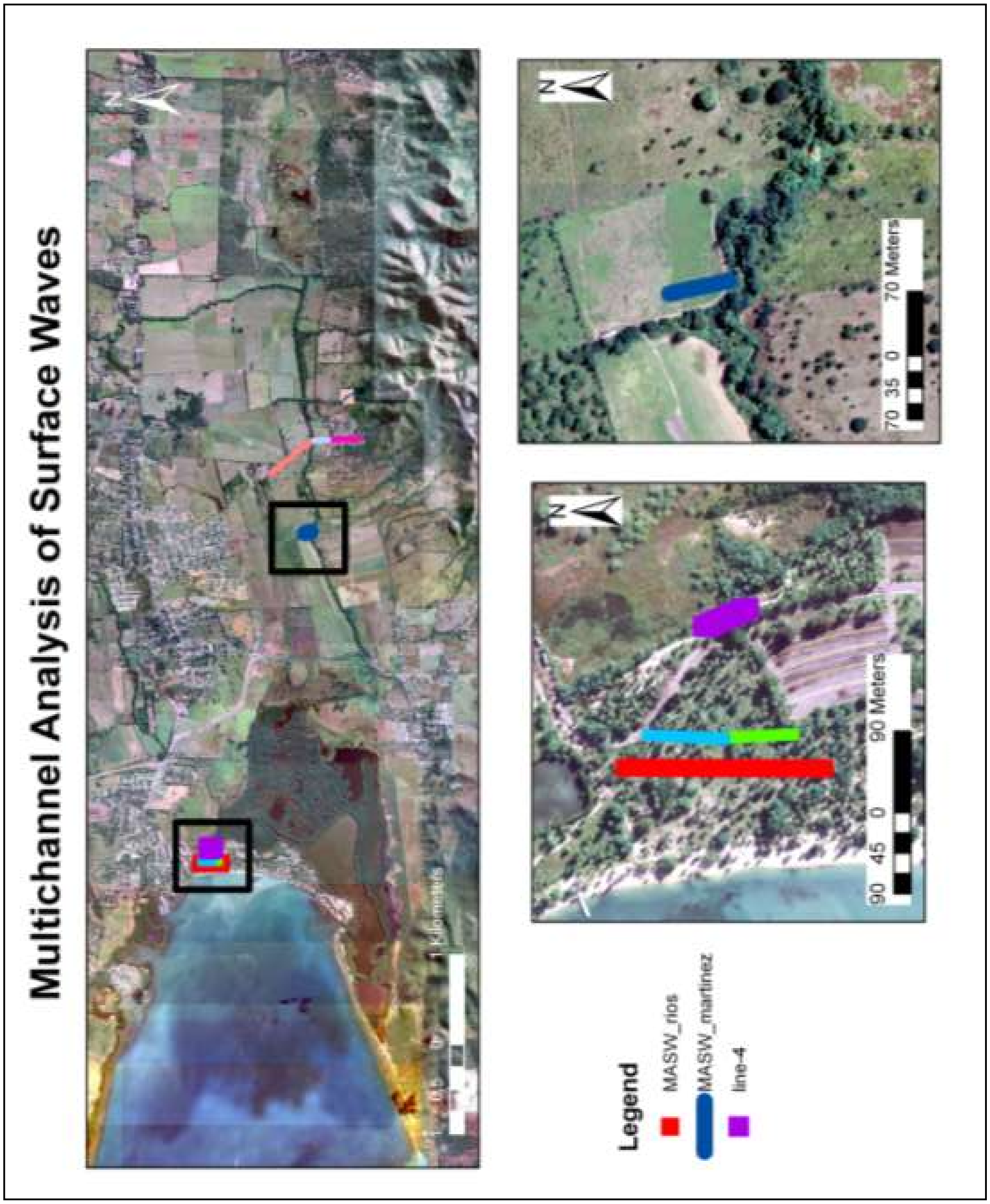

Figure 3.2: Location of sites where seismic data was collected. Along red line seismic reflection data was collected together with MASW data.Figure 3.3: Location GPR data was acquired Two locations within the Boquerón public beach, and

a. Paleoseismology Methods and Outcrop Descriptions

Paleoseismology is the study of past earthquakes that have been preserved in the geological record. It includes studies of geomorphology as well as descriptions of the geological record of past events (McCalpin and Nelson, 1996). Traditional paleoseismic studies require excavating trenches; however in this study, fault exposures along the alluvial fan drainage channel, and in a road cut were incorporated into the analysis.

Paleoseismological descriptions were conducted along two outcrops: (1) the Alluvial stream site (A in figure 3.1) and (2) along a road cut in south-central Lajas Valley (C in figure 3.1). Description of outcrops was made following recommendations by McCalpin (1996).

Figure 3.4: Location of field sites visited along the Lajas Valley, southwestern Puerto Rico.

3.3.1 Structure Analysis and Kinematic Studies

For each site visited measurements of strikes and dips of fractures and faults were collected. Measurements of trend and plunge of some antiforms and synforms found in the Lajas Valley site were collected as well. In the alluvial fan channels north of Laguna Cartagena Natural

Reserve shear foliations were measured. The structural data collected for each site was plotted on equal area stereonet in order to evaluate the geometry of the deformation strain at the sites (Marshak and Mitra, 1998).

3.4 First Motion Focal Mechanisms

The Puerto Rico Seismic Network's online database documents that from 1986 to 2008 the southwestern Puerto Rico has experienced at least 70 felt earthquakes. Of the 70 reported felt-earthquakes, 11 events are located coincident and parallel to the combined trend of North Boquerón Bay (NBB) and Punta Montalva Faults (PMF) (Table 3.1).

First motion focal mechanisms of small earthquakes located along the trend of the North Boquerón Bay Fault and the Punta Montalva Fault were determined from P-wave first motion polarities using the FOCMEC (FOCal MEChanism Determinations) software. The FOCMEC program, coded in Fortran 77, performs an efficient, systematic search of the focal sphere and reports acceptable solutions based on selection criteria for the number of polarity errors (Snoke, 2003). The search of the focal sphere is uniform in angle, with selectable step size and bounds. The program Focmec produces two output files: a complete summary of information about all acceptable solutions, and a summary file which can be used as an input to other programs for further analysis or display. Details on earthquake events and results from FOCMEC are shown on Appendix A-3.

Table 3.1: List of felt earthquakes reported by the PRSN. These earthquakes fallow the NBBF trend.

Event Number	Date Year-month-day	Hour:min:sec	Lat DD	Lon DD	Depth	Mag
07	1991-12-26	07:29:17.30	18.030	-67.310	20.0	3.3
26	1999-11-13	22:27:46.02	17.934	-66.964	10.7	4.1
30	2000-08-19	08:15:51.06	17.917	-66.939	3.9	3.6
37	2003-03-22	19:44:49.42	18.036	-67.190	3.9	3.4
39	2003-03-22	20:20:53.69	18.029	-67.168	5.2	3.3
42	2003-03-23	23:16:33.11	18.005	-67.155	0.8	3.5
47=56	2007-03-15	03:21:59.65	17.988	-67.059	5.1	3.55
49	2004-11-04	02:03:22.59	18.030	-67.124	12.50	2.82
52	2006-03-08	17:06:06.30	17.968	-66.970	7.93	3.14
53	2006-04-18	13:31:21.33	17.994	-67.072	10.75	3.23
60=48	2007-05-01	03:27:2.72	18.042	-67.219	34.68	3.92
70	2008-03-28	21:15:05.14	17.918	-66.944	7.28	3.02

4 RESULTS AND INTERPRETATIONS

The following sections presents the results and interpretations of the data collected. The information is presented by geographical location first describing the general geomorphology of the Lajas Valley and southwestern Puerto Rico, and then moving from east-to west starting from: (1) Punta Montalva, South Central Lajas Valley site, (2) south of Laguna Cartagena, (3) alluvial stream channel, (4) Reparto Saman road, and at the western end (5) Boquerón.

4.1 General Geomorphology of the Lajas Valley and Southwestern Puerto Rico

Analysis of aerial photographs, high resolution orthoimages, synthetic aperture radar (SAR) RADARSAT-1 and Landsat TM 7 images were used in the generation of lineament maps of southwestern Puerto Rico.

Figure 4.1 shows the lineament map resulting from the analysis of aerial photographs and High Resolution Orthoimages. The averaged orientation of lineaments yields N84°E. Additionally, a synthetic aperture radar RADARSAT-1 image was used to generate lineament maps (Figure 4.2). Average orientation of lineaments identified in the RADARSAT-1 image yields N86°E.

A Landsat TM 7 image was used for the generation of lineament maps as well. First, the statistics of bands was computed and a RGB color image was generated displaying the mean, the skewness and the standard deviation of the data (Figure 4.3). The average orientation of lineaments yields N68°E. Furthermore, combination of false color Landsat images over the RADARSAT-1 image provided the means to generate additional lineament maps. Figure 4.4 shows a lineament map generated with the combination of bands 6, 5, and 4 in RGB false color of Landsat over the RADARSAT-1 image. The average orientation of lineaments is N56°E.

Meanwhile the combination of bands 7, 4, and 1 in RGB false color of Landsat over the RADARSAT-1 image yields N58°E.

When values of average orientation of lineaments are compared, variations occur in a range of values. Differences of orientation of images generated by the Landsat images together with the combination with Radarsat-1 image range from 2° up to 10°. Values for obtained from the High resolution orthoimages and the radarsat-1 differ in 2°. However, all lineament maps yield a NE direction.

4.2 Punta Montalva

Within the Punta Montalva area, Addarich Martinez (2008) identified steeply inclined Miocene Ponce Limestone Formation. The inclined Miocene strata can be traced to the end of the peninsula of Guánica at Ensenada Las Pardas.

Observation of aerial photographs and topographic map of the area reveals the presence of a displaced stream (Figure 4.6). The displaced stream exhibit left-lateral strike-slip displacement of the order of 200 m. The location of the displaced stream corresponds to the location of the Punta Montalva fault.

Following the trend of the Punta Montalva fault towards the east, and pass the displaced stream, reveals the presence of a displaced valley (Figure 4.7). The displacement of the valley suggests left-lateral strike-slip as the displaced stream. The magnitude of displacement along the displaced stream and valley is in the order of 200 m (Figure 4.8).

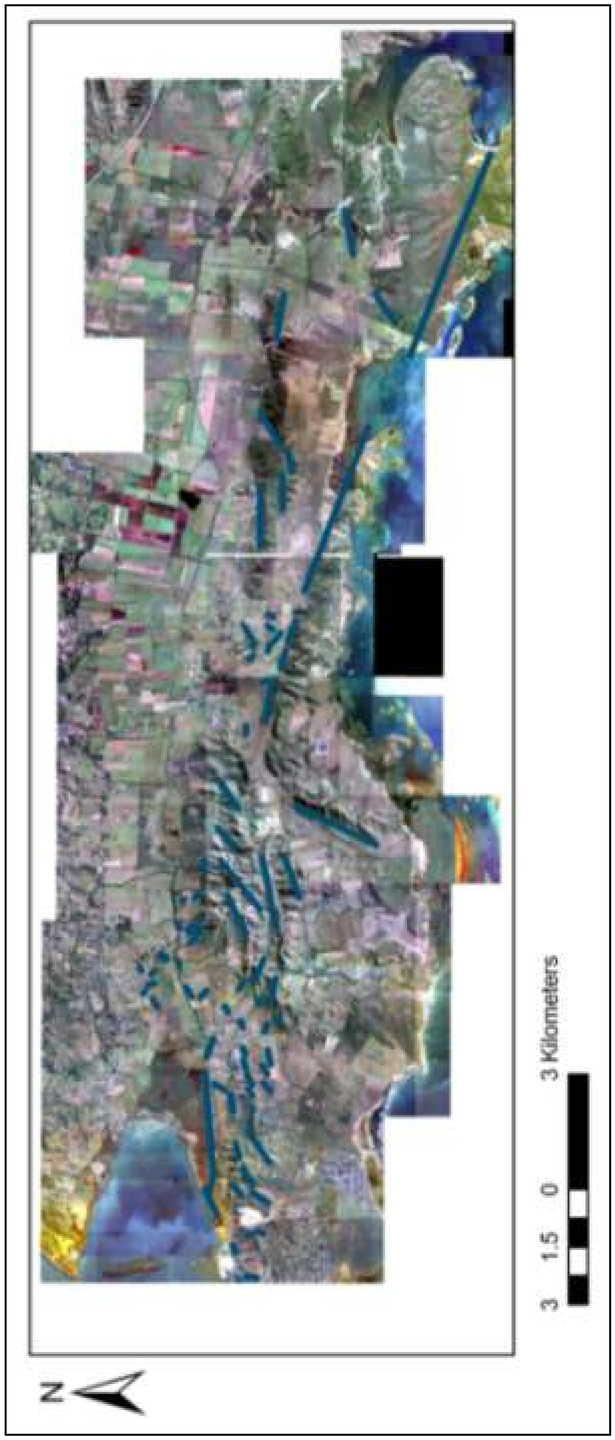

Figure 4.1: Lineament map of SWPR using High Resolution Orthoimagery.

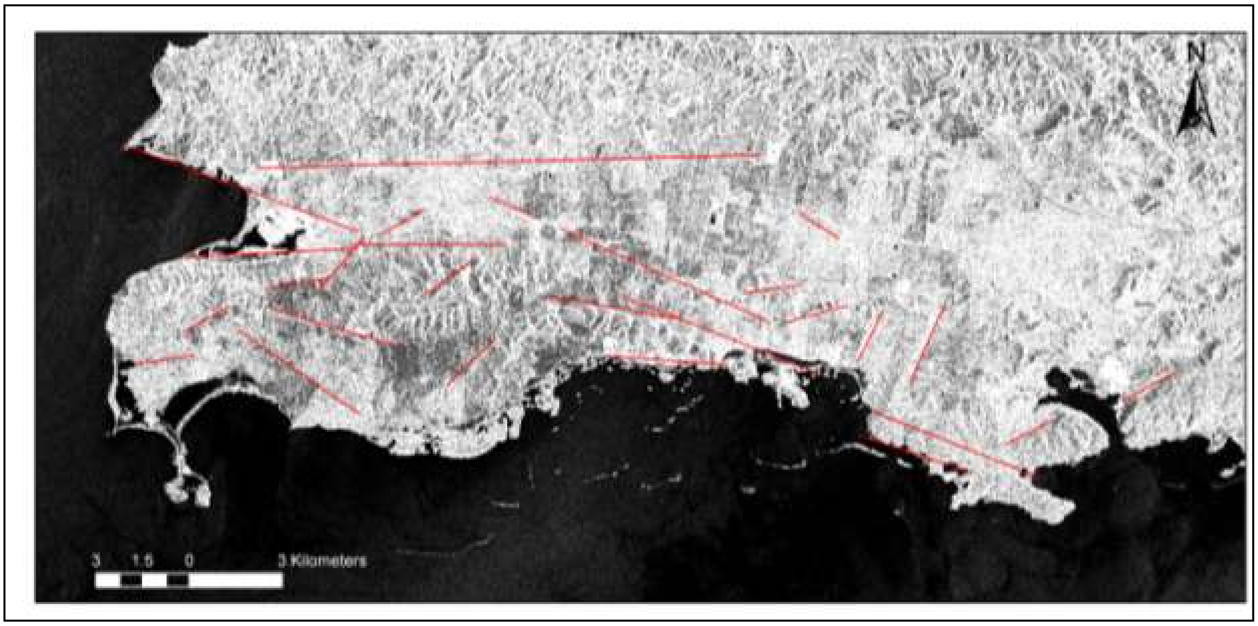

Figure 4.2: Lineament map of SWPR using RADARSAT-1.

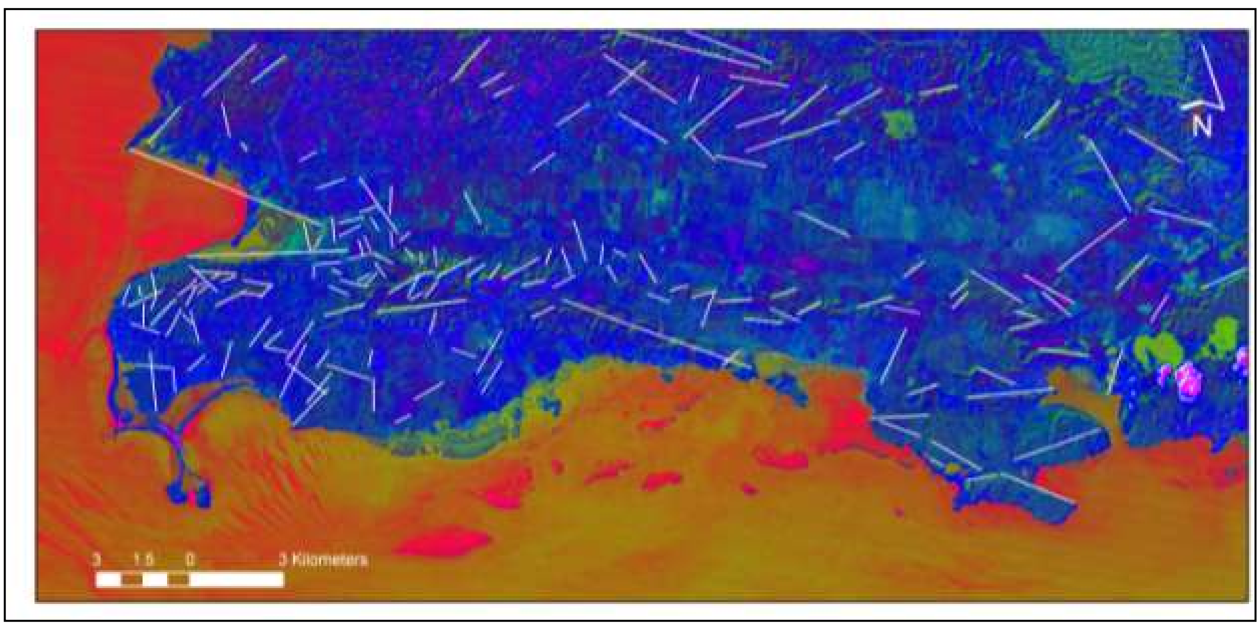

Figure 4.3: Lineament map of SWPR using Landsat TM 7. Displayed in RGB are the mean, the kurtosis, and the standard deviation.

Figure 4.4: Lineament map of SWPR using false color Landsat TM 7 image over Synthetic Aperture Radar RADARSAT-1 image. Landsat bands displayed in RGB are bands 6, 5, and 7.

Figure 4.5: Lineament map of SWPR using false color Landsat TM 7 image over Synthetic Aperture Radar RADARSAT-1 image. Landsat bands displayed in RGB are bands 7 , 4 , and 1.

Figure 4.6: Google Earth © image of displaced stream along the Punta Montalva Fault in Guánica, southwestern Puerto Rico.

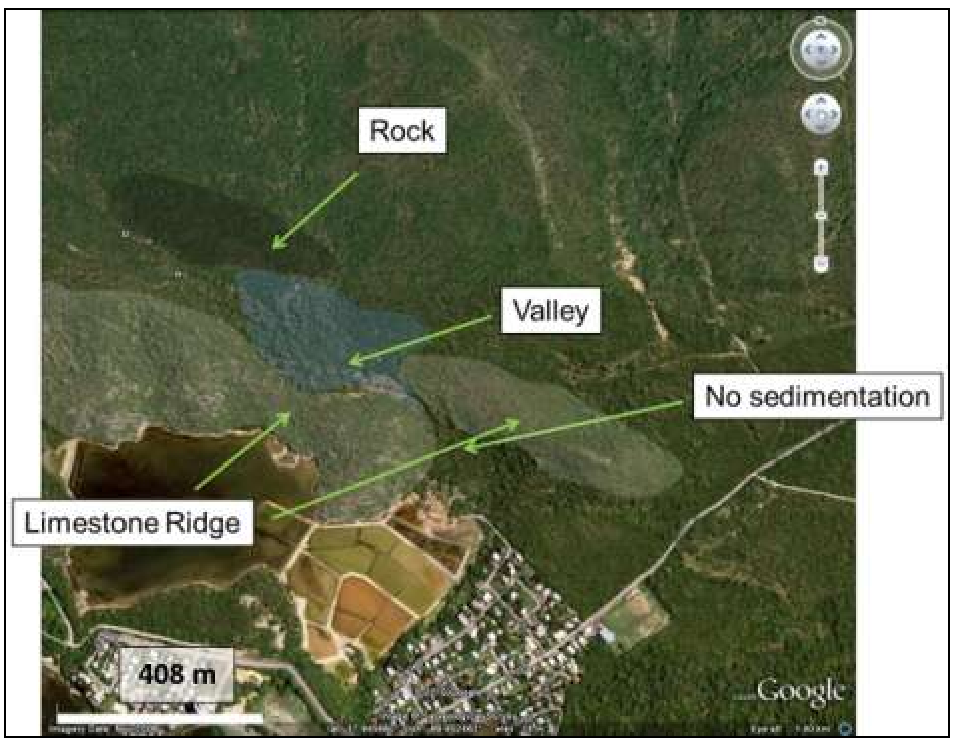

Figure 4.7: Google Earth © image of displaced valley together with related features in the Punta Montalva Fault.

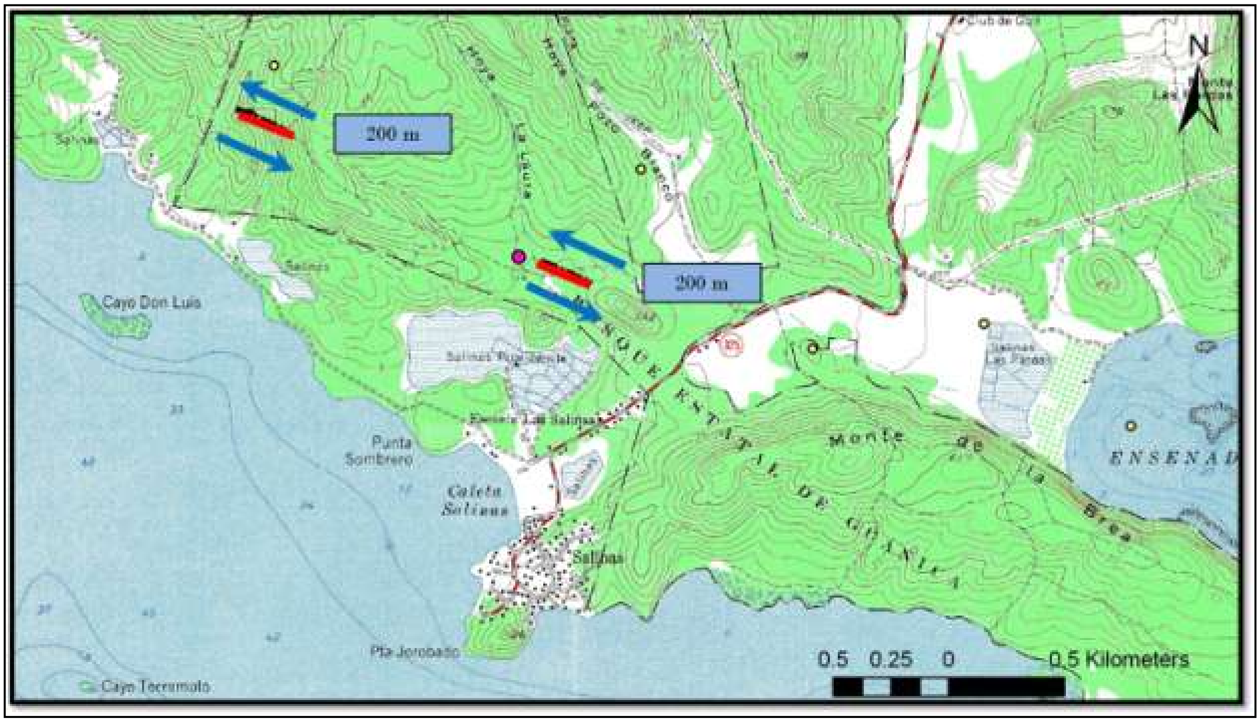

Figure 4.8: Displaced stream and valley showing left-lateral strike-slip displacement along the Punta Montalva fault. Both the stream and valley exhibit a magnitude of displacement in the order of 200 m.

Within the Punta Montalva area, lineaments where identified (Figure 4.9). These lineaments trend parallel to the Punta Montalva fault. Due to their close proximity to the location of the fault, these lineaments are interpreted as the topographic expression of the fault. Along this trend, and parallel to it, several earthquakes are located. Of these events 4 where reported as felt. First motion focal mechanisms for felt events suggest strike-slip displacement and N-NE direction for compression. Deepest felt earthquake along the area is 10.7 km, and corresponds to event #26, south of the fault. Followed by #70, south of the fault as well, then event #52, north of the fault; and the shallowest event #30. This suggests the fault has a dip.

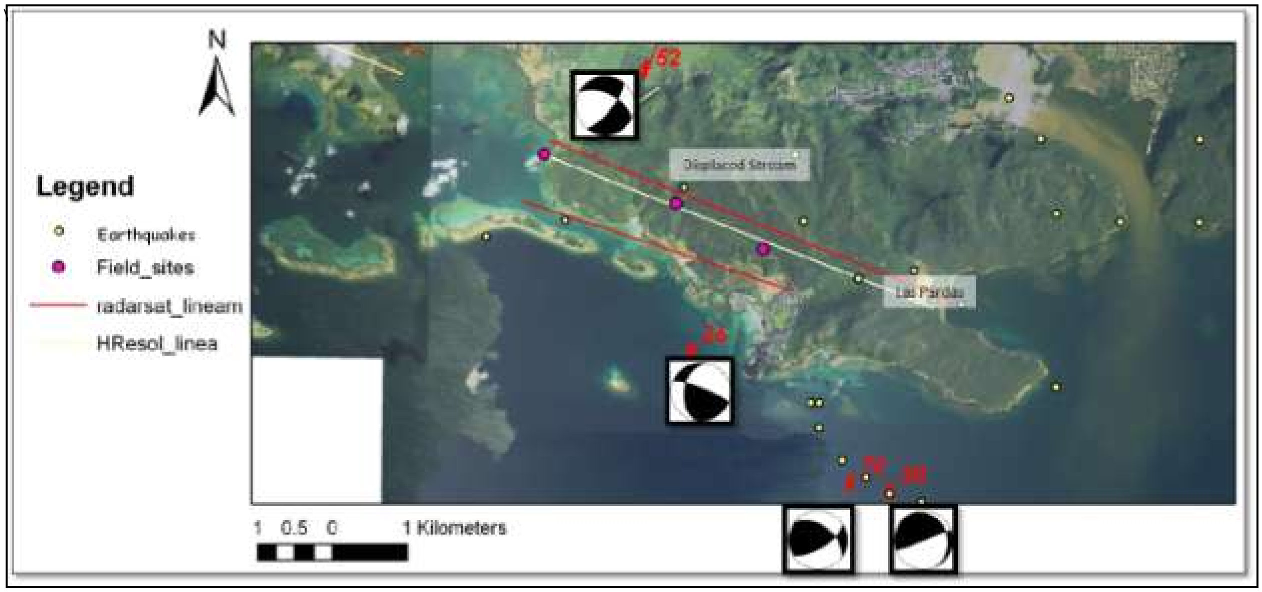

Figure 4.9: Lineaments and earthquakes related to the Punta Montalva fault.

4.3 Central Lajas Valley

Following the trend of Punta Montalva fault towards the west, reveals geomorphological features that suggest the fault extends into the Lajas Valley. A small bedrock hill composed of highly deformed sedimentary layers of Cretaceous Parguera Formation (Figure 4.10) lies along the same trend in the valley, northwest of Punta Montalva. An outcrop trending N-S, and located on the west side, is cut by large WNW trending vertical faults (Figure 4.11). Stratigraphic relations across the faults suggest left-lateral displacement. Other structures (Figure 4.12- 4.17; Appendix B) at the site are consistent with NE-SW directed shortening and NW-SE extension (Figure 4.18).

While no earthquake location falls within the exact location of the outcrop; 3 events are in the proximity, of these, 2 were reported as felt. Event #56 occurred at 5.1 km depth, while #53 occurred at a depth of 10.75 km. Both (Figure 4.19) events suggest strike-slip rupture with compression in a NE direction (Figure 4.19). Several lineaments were identified south of the site, in a closer location to the earthquakes location, suggesting the location of faults.

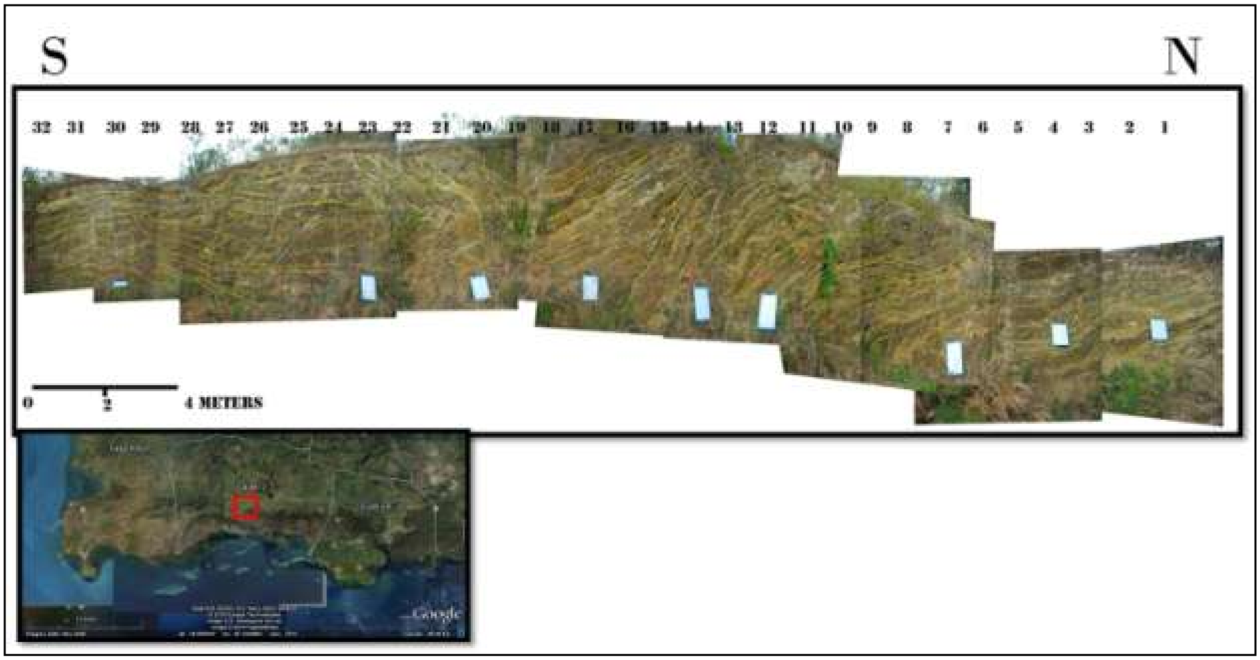

Figure 4.10: Location of Central Lajas Valley site and image showing interpreted outcrop.

4.4 Alluvial Streams

4.4.1 South of Laguna Cartagena

Further west in central Lajas Valley, exposures of fault planes and deformation structures are identified. Several outcrops occur along intermittent alluvial streams draining north, towards the Laguna Cartagena Natural Reserve (south of the Laguna, Figure 4.20). In the area fractures are identified along alluvial deposits (LC1) striking N-S and dipping vertically (Figure 4.21), and at location LC2 an intrusion is observed probably corresponding to the Maguayo Porphyry described by Volkmann, (1984b) (Figure 4.21).

Location LC3 (western stream) was characterized by faulted bedrock striking in a northwest-southeast direction, and dipping south (Figure 4.21). Foliation at this location exhibited counter-clockwise rotation suggesting left-lateral- reverse faulting.

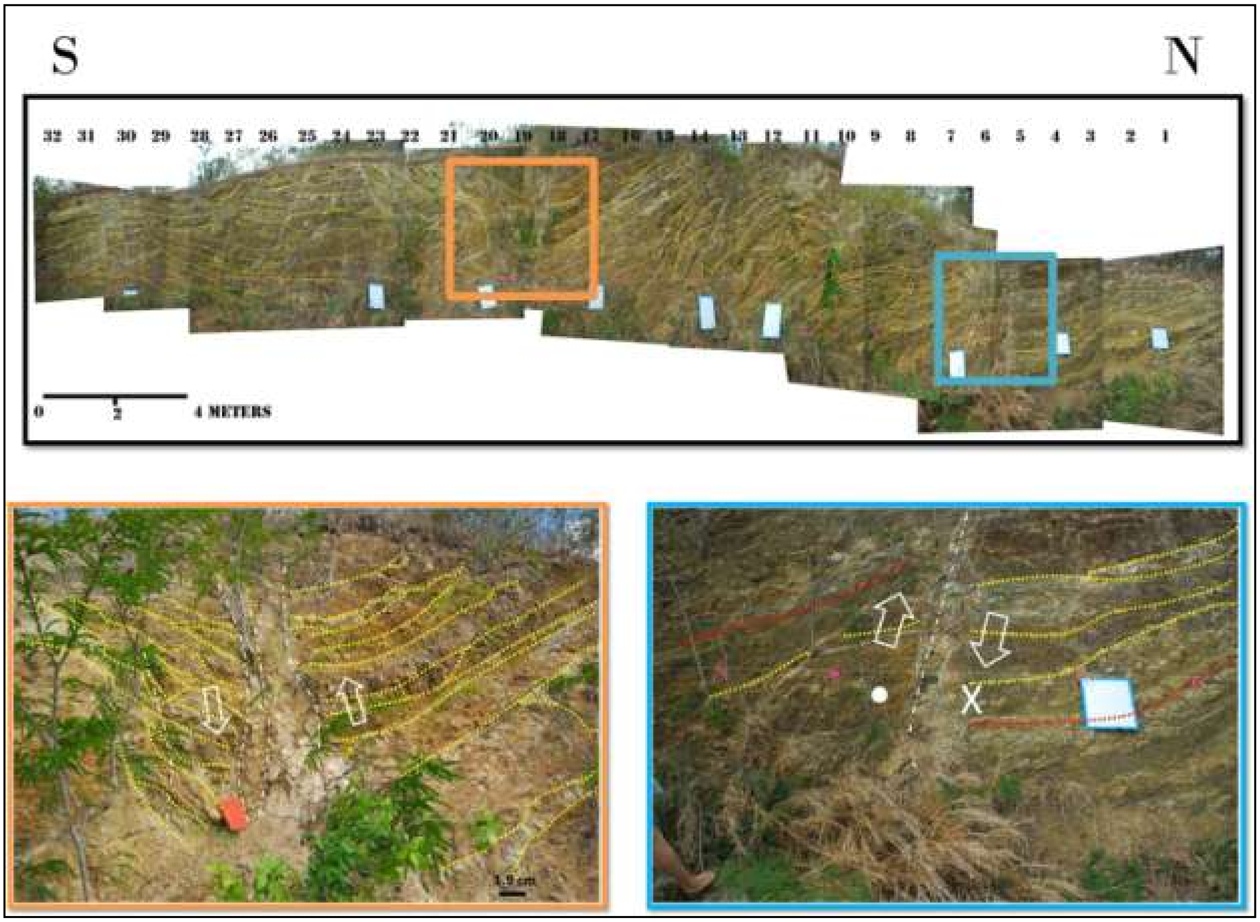

Figure 4.11: Major faults along the Central Lajas Valley Site. Both structures strike parallel to the Punta Montalva Fault and suggest reverse and left-lateral strike –slip.

LC4 and LC5 displayed foliated rocks (Figure 4.21). Attitudes of foliations were measured at LC3, LC4, and LC5 sites (Appendix B). Rose diagrams showing the distribution of foliation are shown in Figure 4.22. From the stereonets (Figure 4.22) orientation of the local stress regime is derived, suggesting a NE-SW direction for shortening.

No earthquakes are located within the area. However lineaments were identified with the high resolution orthoimages. The location of the lineaments suggests they are related to Sierra Bermeja.

4.4.2 Alluvial Fan Channel –Camino El Zapato

Continuing the trend of Punta Montalva fault towards the west, along an alluvial fan channel, additional structures can be found. Along the channel, 2 sites where studied: the downstream channel, and the upstream channel (Figure 4.23).

4.4.2.1 Downstream channel

At the downstream channel an outcrop, exhibiting deformation structures, was identified. The outcrop interpretation and description is shown in Figure 4.24. The outcrop is characterized by extensional features and normal faulting oriented to the NE. The full length of the exposure is 10 meters. Along the 10 m outcrop layers appear to pinch-out, and contains fractures, and faults for which displacement was measured, ranging from 8cm to 25 cm. Layering was described and identified in the basis of color and texture: percent of gravel, sand, silt and clay (Figure 4.25).

Next to this outcrop, 1 ground penetrating radar (GPR) line was collected; just next to the outcrop wall, at the channel bottom (GPR-line7; Figure 4.26). Features identified along GPR-line007 can be correlated with features found across the exposure (Figure 4.27) and show that the fault displace ground surface. Fractures have a NNE orientation, and dips vertical to almost vertical. From the stereonets (Figure 4.28) orientation of the local stress regime is derived, suggesting a NE-SW compression.

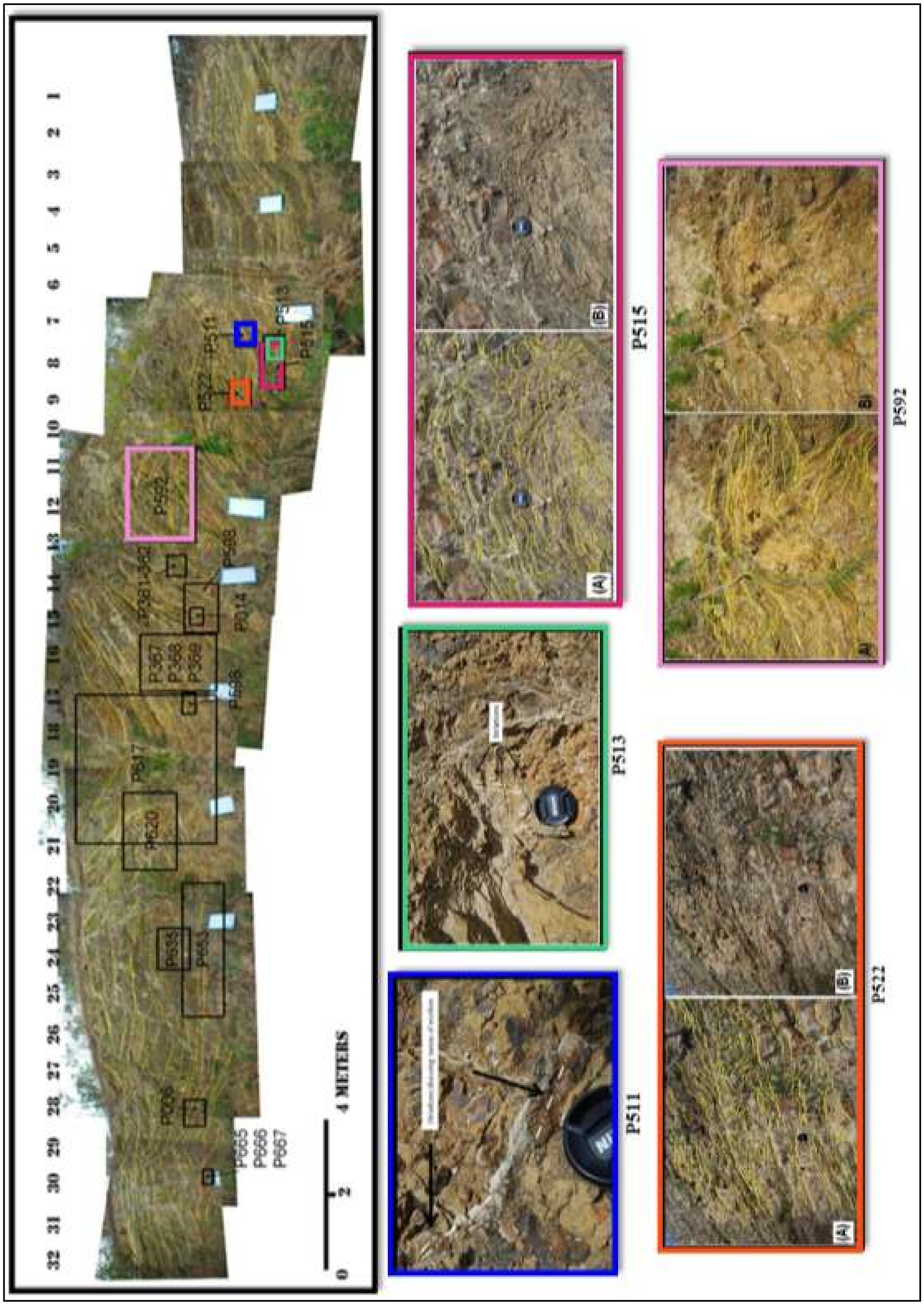

Figure 4.12: Structural features found in Central Lajas Valley Site. See Appendix B-1 for complete descriptions.

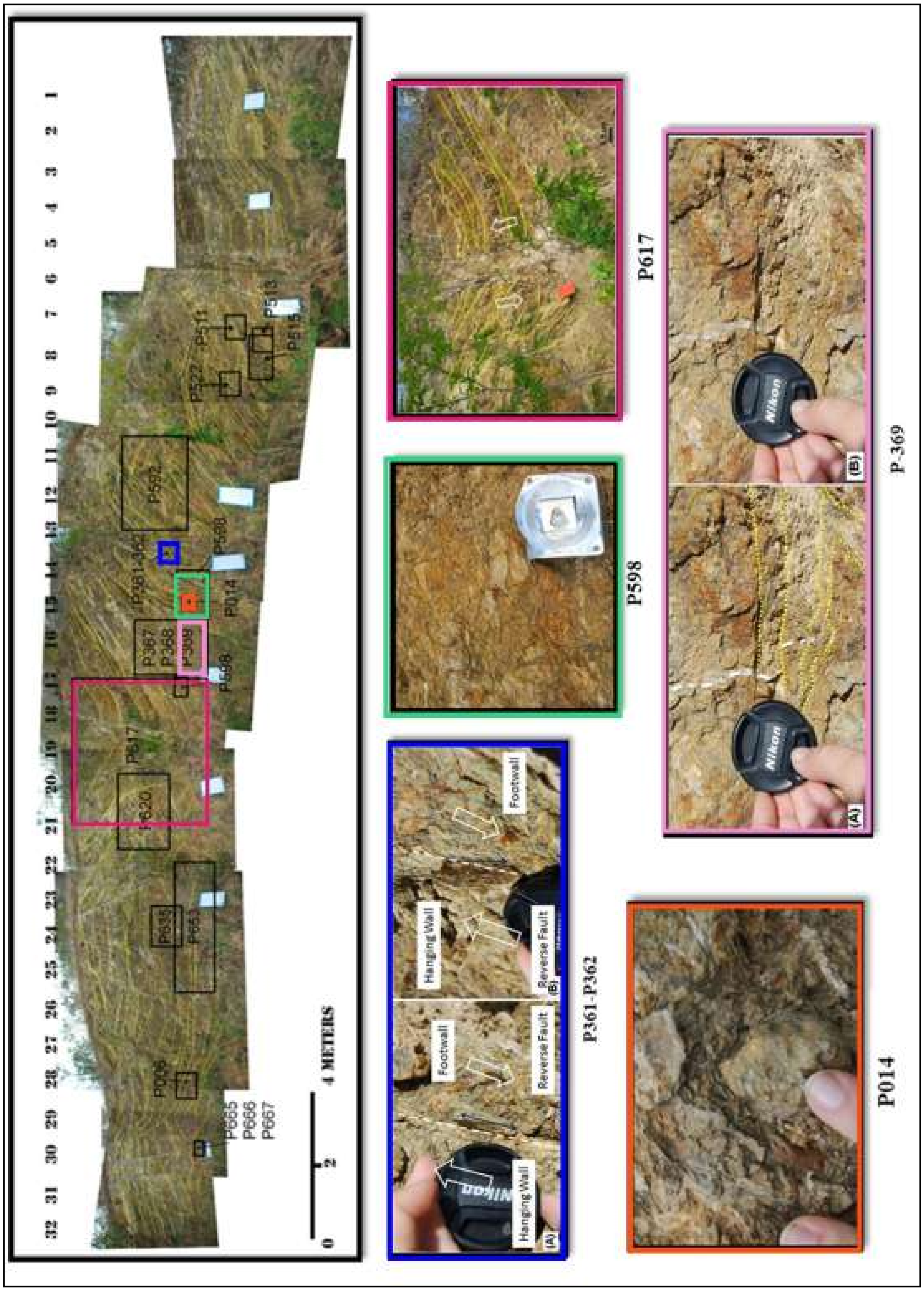

Figure 4.13: Structural features found in Central Lajas Valley Site. See Appendix B-1 for complete descriptions.

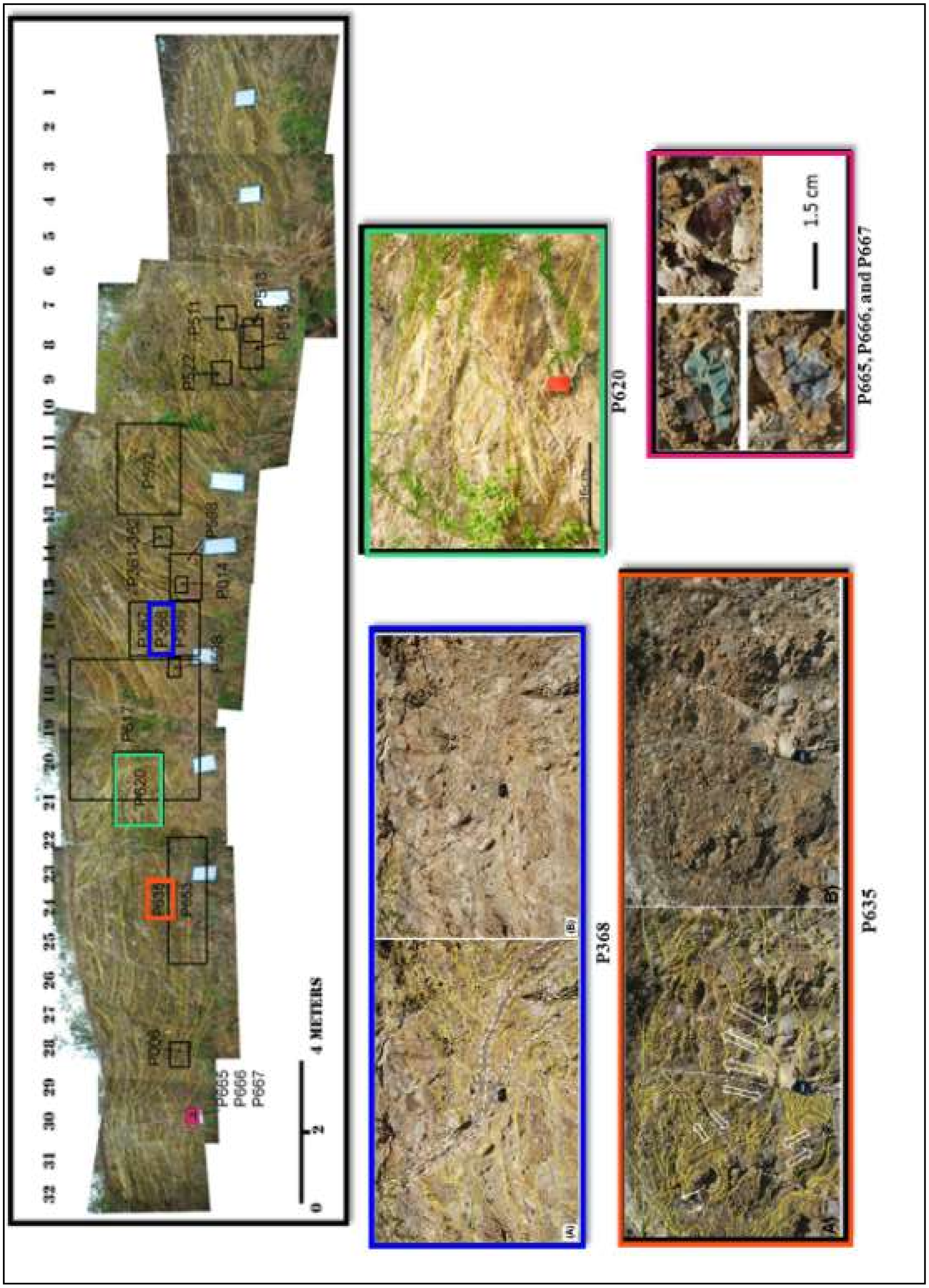

Figure 4.14: Structural features found in Central Lajas Valley Site. See Appendix B-1 for complete descriptions.

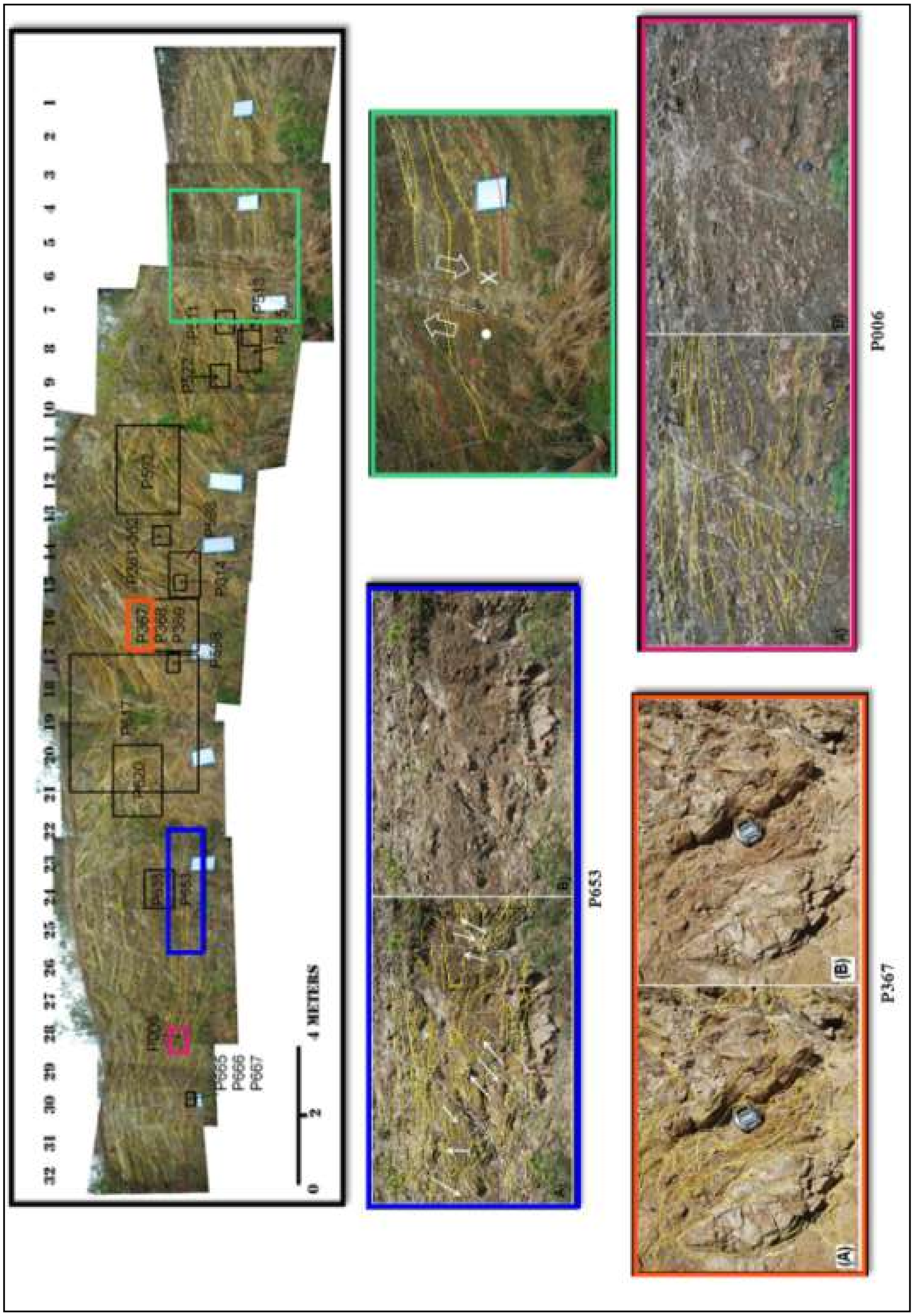

Figure 4.15: Structural features found in Central Lajas Valley Site. See Appendix B-1 for complete descriptions.

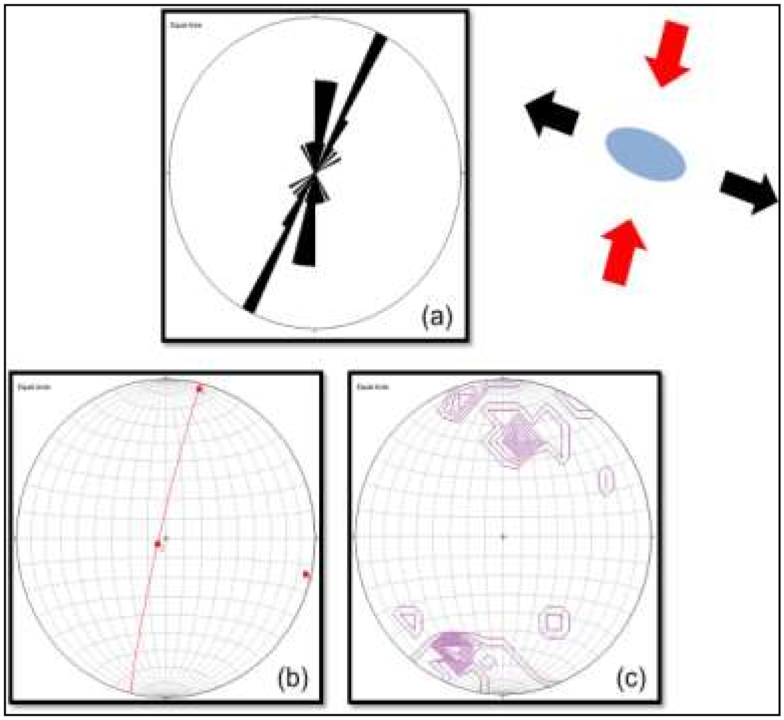

Figure 4.16: Structural data of joints and veins for the Lajas Site.

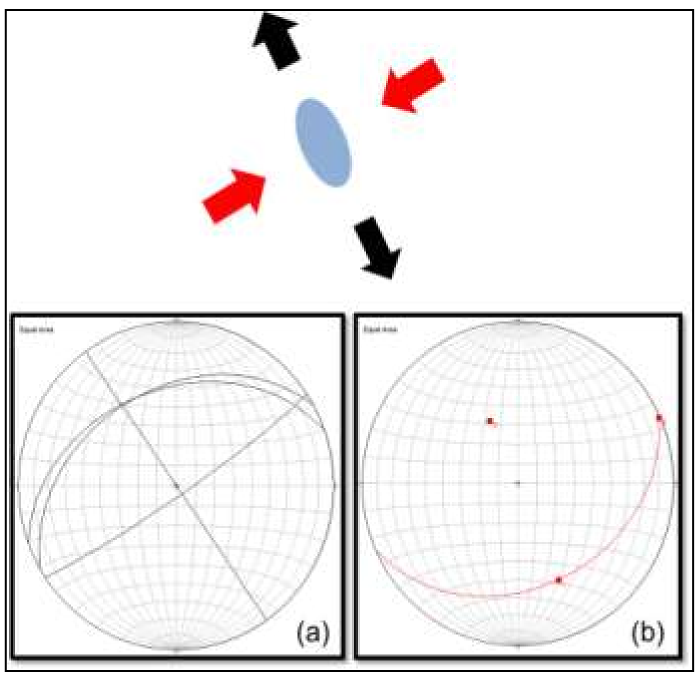

Figure 4.17: Structural data of folds for the Lajas Site.

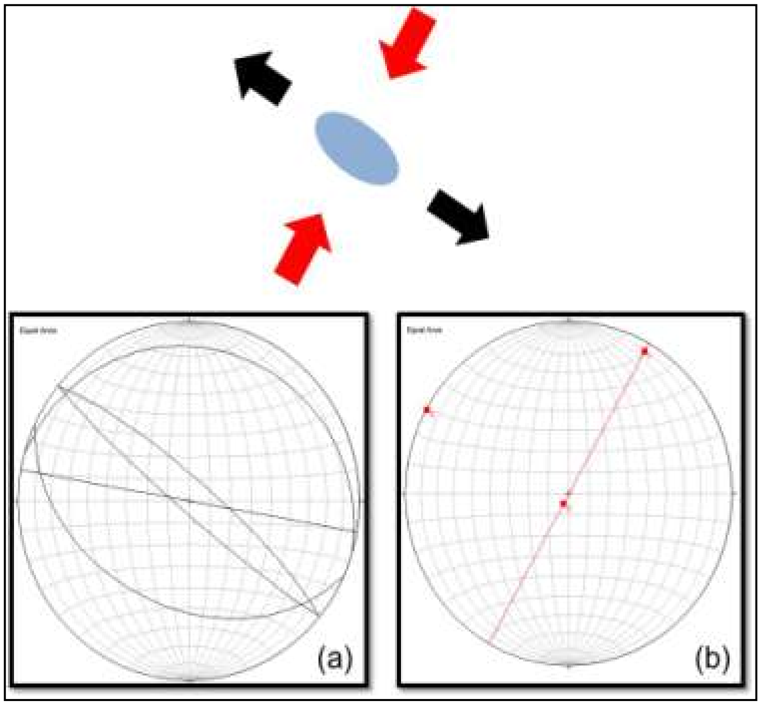

Figure 4.18: Structural data of folds for the Lajas Site.

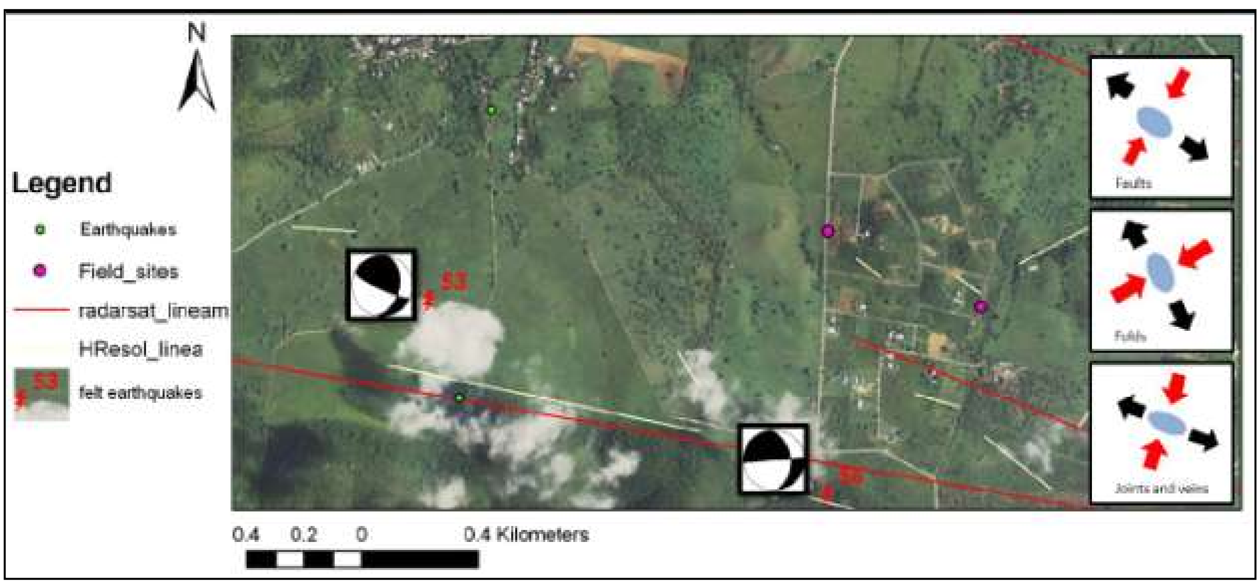

Figure 4.19: Focal Mechanism and structural data in the Central Lajas Valley site suggest N-NE direction of compression. Lineaments were identified with the High resolution orthoimages and the RADARSAT-1 images.

4.4.2.2 Upstream channel

Further upstream, an erosional gully was identified. The erosional gully trends to the NW, parallel to the Punta Montalva fault. Observations of sediments and clasts in the gully reveal the presence of pebbles and gravel oriented vertically (Figure4.29).

Observations of aerial photographs and the topographic map (Figure 4.30) reveals that the channel is displaced (Figure 4.30). According to the USGS topographic quadrangle, the displacement is in the order of 67.87 meters, and the sense of displacement is left-lateral strike-slip. Structural analyses (Figure 4.31) suggest an N-NE direction of compression. Neither earthquakes nor lineaments were located in the area.

4.4.3 Reparto Saman Road

Further, GPR-lines were collected in a road to the west side of the Alluvial Channel, along Camino Saman, in the Reparto Saman area in Betances, Cabo Rojo-Lajas boundary; Figure 4.32). The lines were conducted in the south-north direction; one along an unpaved section, south of the Camino Saman, and two along paved sections of the road.

Along GPR-Line012 a series of disrupted reflectors were identified. These reflectors show displacement (as shown in the thin red arrows in Figure 4.33) and are interpreted as faults. Note that there is a zone of preferred erosion (Figure 4.33) which correlates with an interpreted normal fault in the ground penetrating radar section. Along the GPR-line012 additional faults are identified. These interpreted faults along GPR-line012 were not correlated to fractures along the area because the outcrops visited along the alluvial deposits are located further south and due to the NE orientation, projecting these structures to the area, locate them further north to the location of the GPR-line012.

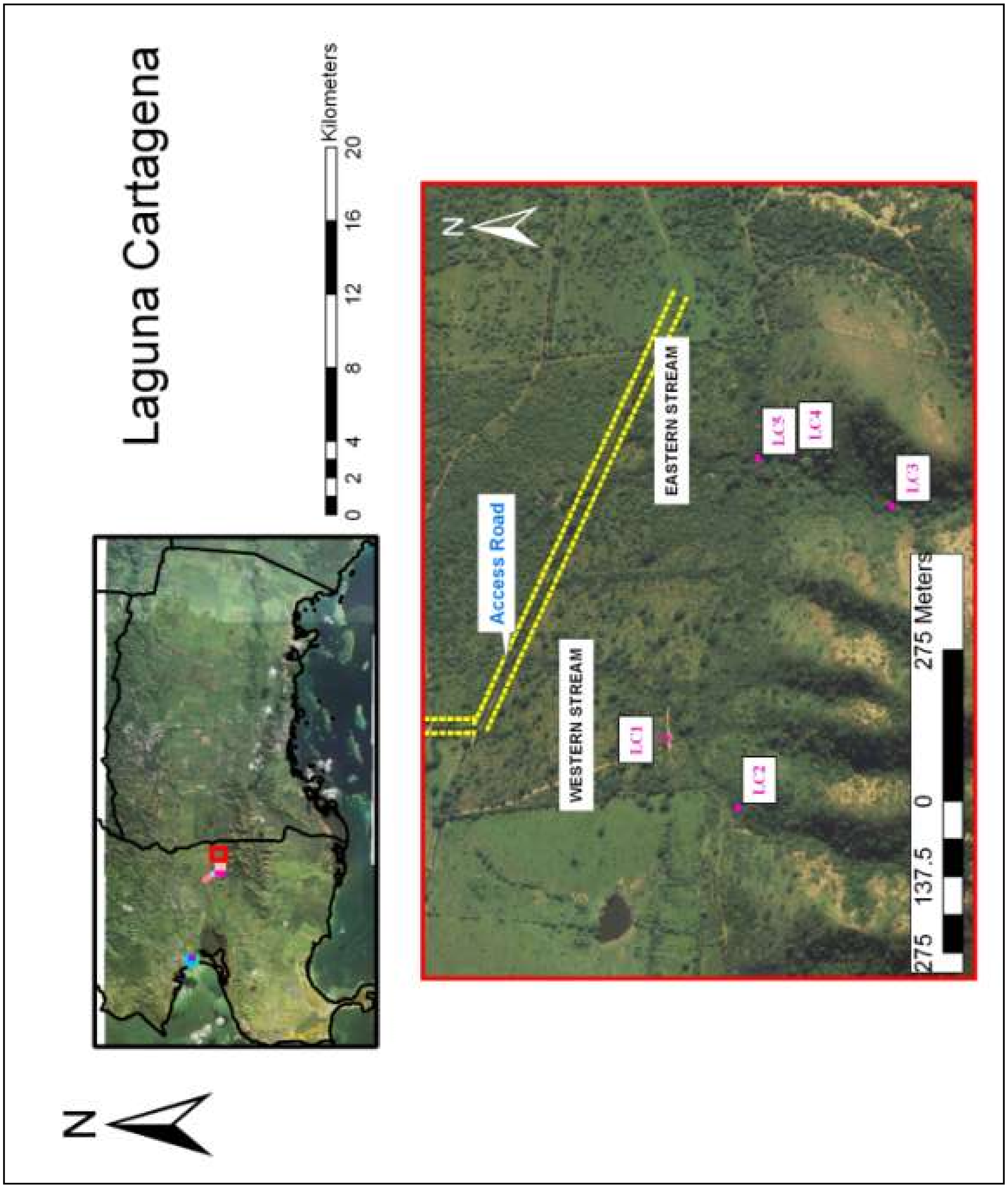

Figure 4.20: Location of sites visited south of Laguna Cartagena and Location of East and West streams.

Figure 4.21: Features identified along the Laguna Cartagena Site.

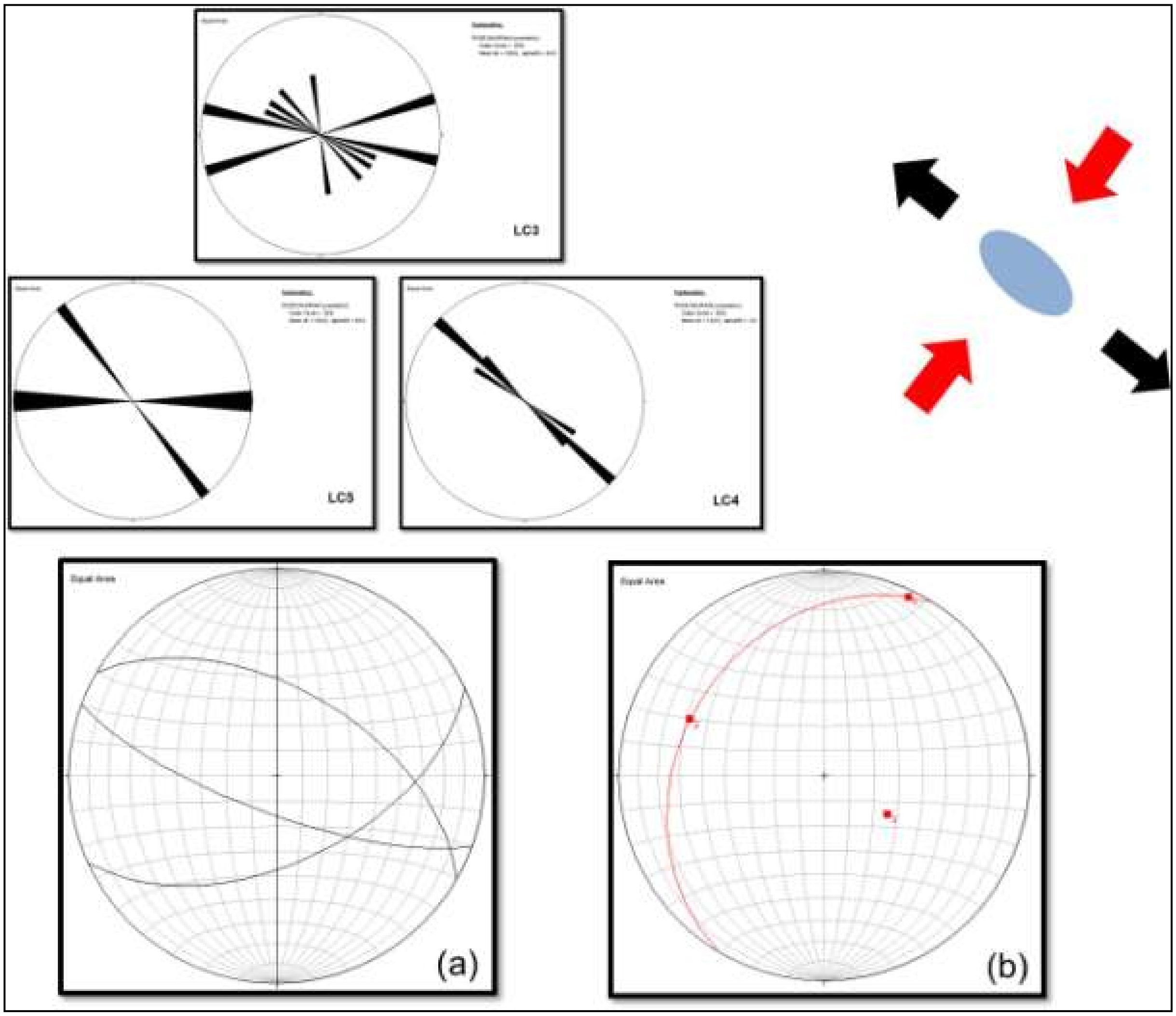

Figure 4.22: Rose Diagrams for data collected in locations LC3, LC4 and LC5. Equal area stereonet of planes collected at the site (a), cylindrical best fit of data (b), and interpretation of local stress pattern.

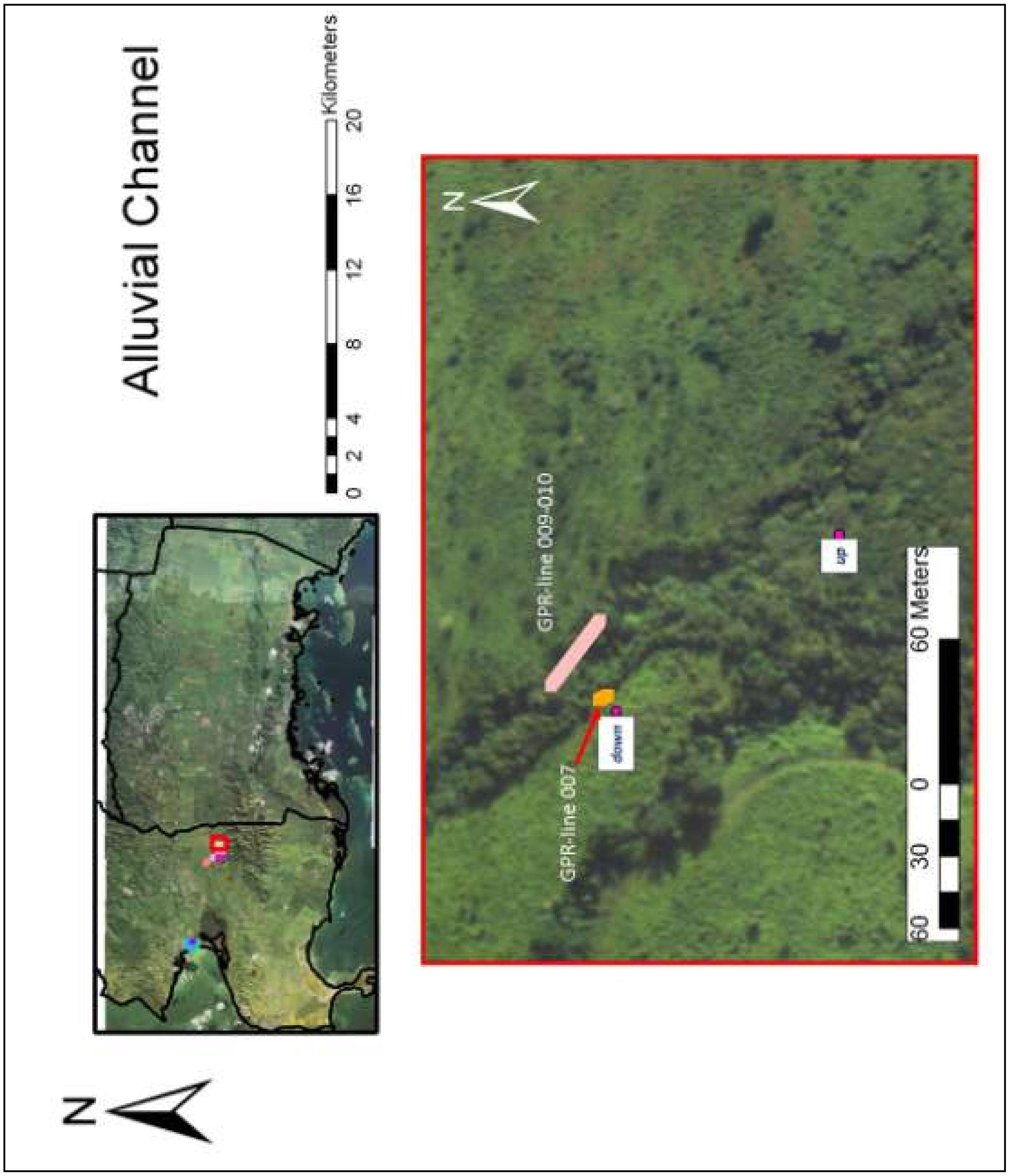

Figure 4.23:Location of Alluvial Channel site. GPR data and outcrop description was collected at the downstream location, while structural data was collected upstream.

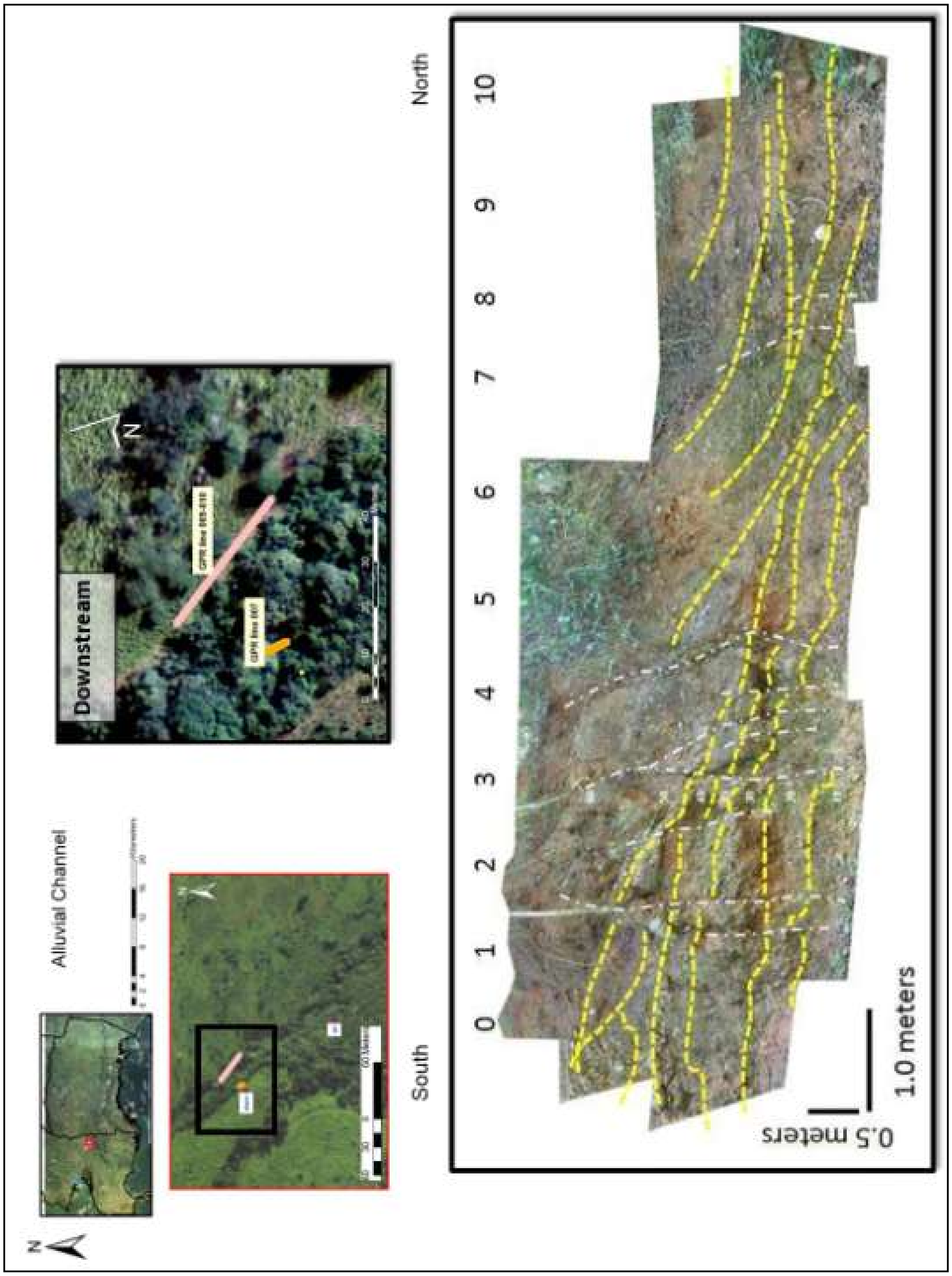

Figure 4.24: Location and interpretation of the Alluvial Channel Outcrop.

Unit	Graphic Description	Thickness (relative to ground surface)	Description
Unit 60		??? cm	Breccia, clast supported. Sandy Silt matrix. Reddish tan where weathered. Clasts are mostly chert.
Unit 50		??? cm	Breccia, clast supported. Sandy Silt matrix. Reddish tan where weathered. Clasts are mostly chert.
Unit 40		123-150 cm	Breccia, clast supported. Sandy Silt matrix with some pebble size. Reddish tan where fresh, darker brown on weathered surface. Clasts are mostly chert.
Unit 35		100-123 cm	Breccia, clast supported. Sandy Silt matrix. Reddish tan where fresh, greenish tan on weathered surface. Clasts are grayish to reddish tan, mostly chert. Clasts become coarser than layers below, some reaching 12 cm in size.
Unit 30		40-100 cm	Breccia, clast supported. Sandy Silt matrix. Reddish tan where fresh, greenish tan on weathered surface. Clasts are grayish to reddish tan, mostly chert. Between 70-80 cm there are vertically oriented clast.
Unit 20		20-40 cm	Breccia, clast supported. Sandy Silt matrix with pebbles and cob-bles. Reddish tan where fresh, greenish tan on weathered surface. Clasts are grayish to reddish tan, mostly chert.
Unit 10		0-20 cm	Breccia, clast supported. Sandy Silt matrix. Orange tan color on fresh surfaces, greenish tan on weathered surface. Clasts composed mostly of chert.

Figure 4.25: Statigraphic Comlum describing deposits in the outcrop of the Alluvial Channel-downstream site.

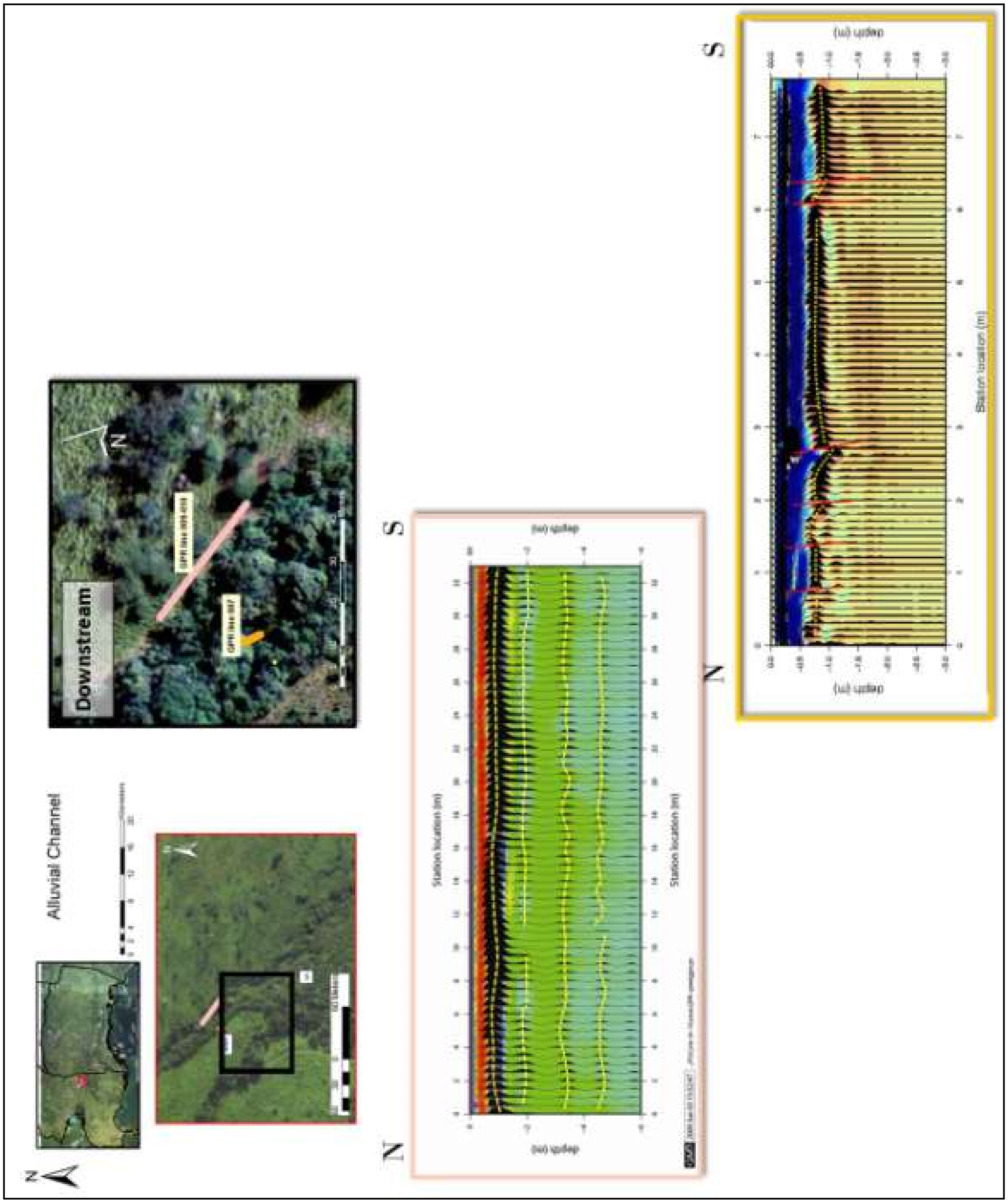

Figure 4.26: GPR data collected along the Alluvial Channel-downstream site. Pink line corresponds to the line collected on the eastern side of the outcrop, while orange line corresponds to the line collected on the channel bottom, next to the outcrop.

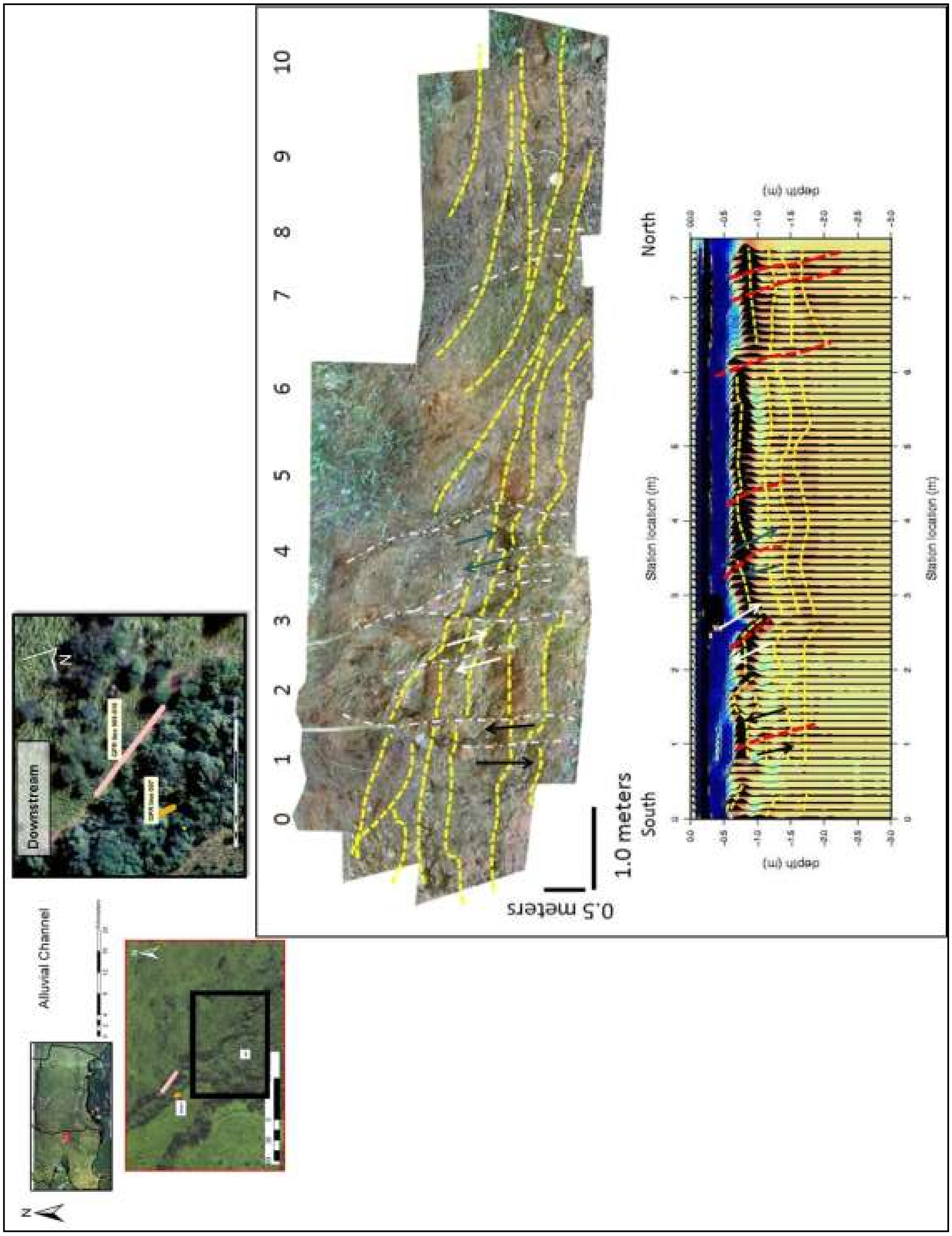

Figure 4.27: GPR data correlated with outcrop data. GPR data suggest the faults identified along the outcrop continue for at least 1 meter below the surface.

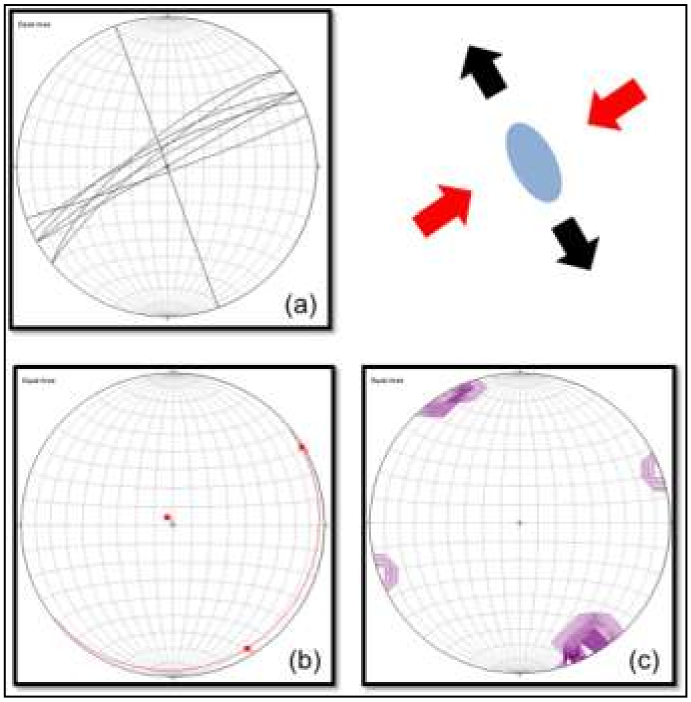

Figure 4.28: Alluvial fan –downstream site structural data and interpretation.

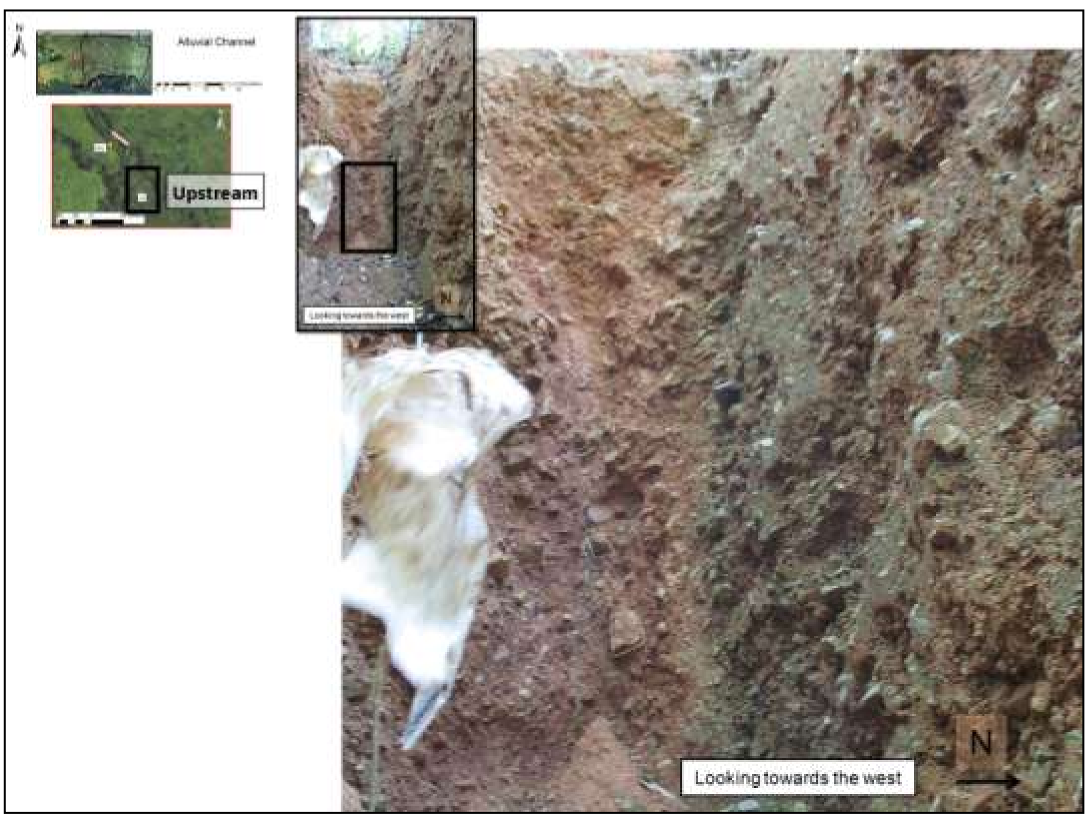

Figure 4.29: Alluvial Channel-Upstream Site. The erosional gully trends parallel to the Punta Montalva fault. Some clasts appear to be oriented vertically.

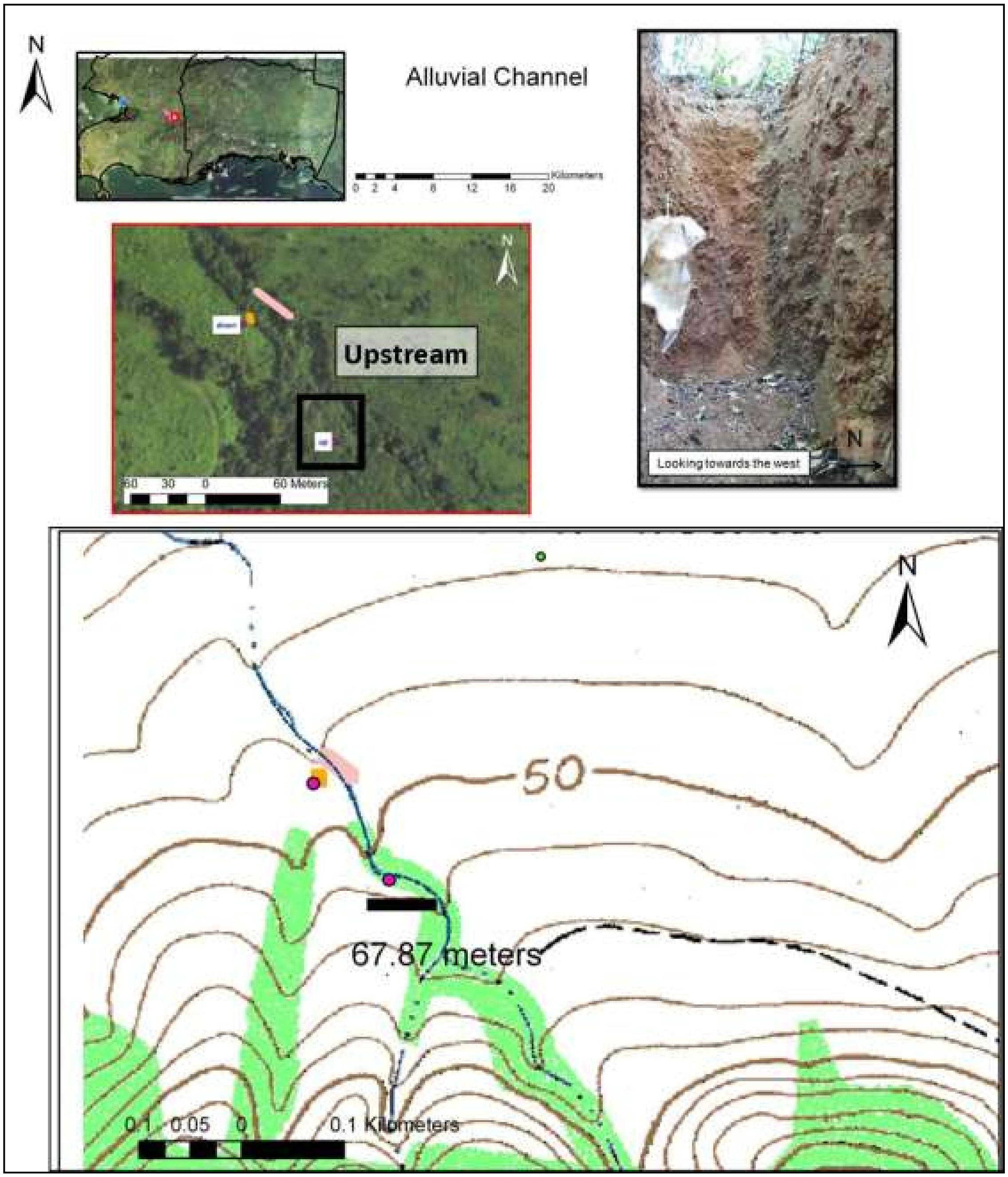

Figure 4.30: Alluvial Channel-upstream site showing left-lateral strike-slip displacement of the order of 67.87 meters.

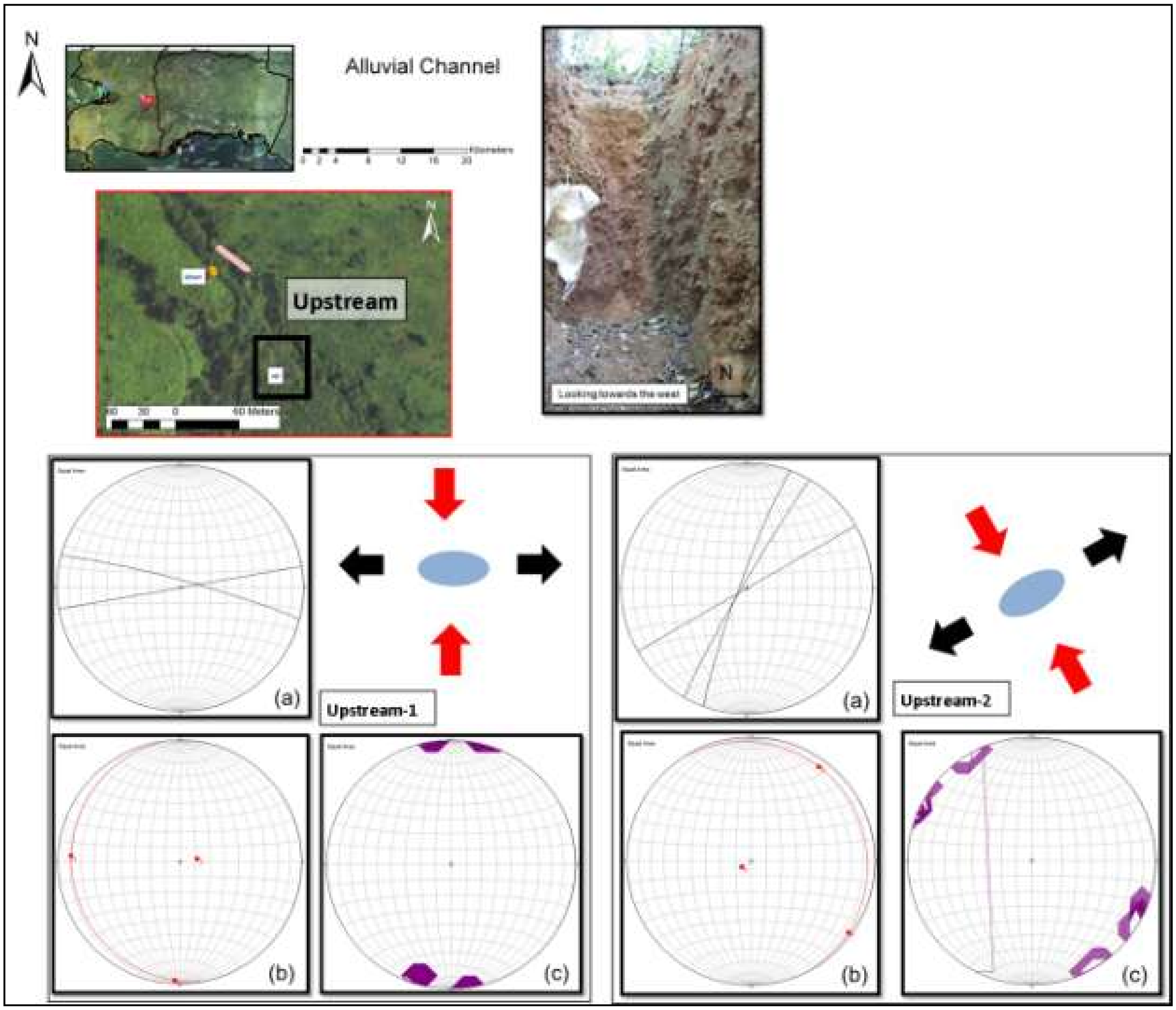

Figure 4.31: Structural data for Alluvial Channel-Upstream Site. Data was collected at two locations, and interpreted as extensional features.

GPR-line 013 was collected with a 50 MHz antenna and does not provide subsurface information, because of high amplitude hyperbolas from buried pipes mask the subsurface signal (Figure 4.34).

GPR-line 015 extends from the metal bridge to Reparto Saman intersection at the south, (Figure 4.35) shows a series of discontinuous reflectors, for which faulting could not be interpreted. The main concern with the GPR-line015 was the presence of a metal fence parallel to the line and the presence of big metal objects such as a parabolic TV antenna and a small cargo metal framed cart. Metals objects can affect the ground penetrating radar data, and thus this line is considered with caution, but it seems unlikely that the lines were affected by the objects since a distance of >5m from the metal objects. GPR-line015 shows a series of discontinuous reflectors, which unfortunately cannot be related to any other structure along the area; with the exception of the reflectors located north of the section (red arrow). When the South Lajas Valley Fault is projected eastward (as suggested by Prentice and Mann, 2005; La Forge and McCann, 2005; Muller et al., 2003), it crosses GPR-line015.

4.5 Airplane track

Further west, a Multichannel Analysis of Surface Wave (MASW) line was conducted, close to an airplane track in the central western area of the Lajas Valley. Location and interpretation of the MASW is shown in Figure 4.36. Neither lineaments nor earthquakes were identifies within this location. The MASW shows a 15 meter wide low velocity zone at 25 meter depth, that was interpreted as the North Boquerón Bay Fault Zone.

4.6 Boquerón Public Beach

Within the Boquerón Public beach facilities, GPR, MASW and high resolution seismic reflection was collected to image the North Boquerón Bay Fault (Figure 4.37). GPR (BQ-2) and

MASW (MASW-2) were collocated at the eastern side of the facility. GPR (BQ-1) is one continuous lines, collocated with the high resolution seismic reflection line.

Both MASW profiles shows an approximately 10-20 meters wide low velocity zone with shear wave velocity ranging 100-250 m/sec.

Two interpretations are possible for the low velocity zone: (a) an abandoned channel, and (b) a fault zone. We prefer the fault zone interpretation because the low velocity zone coincides with the onshore projection of the North Boquerón Bay Fault. In a recent paper by Ivanov et al, 2006, also argues that a fault zone can be characterized by a lower shear-wave velocity than the competent bedrock. Therefore we interpreted the low shear-wave velocity zone as evidence supporting the onshore expression of the North Boquerón Bay Fault. Both the MASW and shallow seismic reflection profiles image the same stratigraphy and structure. MASW-01 shows a ~2.5-m thick low velocity layer (~100m/sec) continuously across the profile suggesting relative constant sedimentary thickness across the faulted structure and deposition before deformation. Both, the MASW and shallow seismic reflection profiles, shows that the sedimentary section above the crest of the fault structure thins and onlap onto their flanks marking the onset of faulting.

GPR profile (BQ-1;Figure 4.38) was acquired in between the 2 MASW profiles as shown in figure 4.37. In Figure 4.39, the GPR profile is also shown. Discontinues reflectors of BQ-1 shows the lateral extension of the North Boquerón Bay Fault.

Lineaments in the area where identified (Figure 4.40). These lineaments are interpreted to be related to the North Boquerón Bay Fault, identified in the geophysical data. Focal mechanisms computed for felt events suggest a NW direction of compression (Figure 4.40).

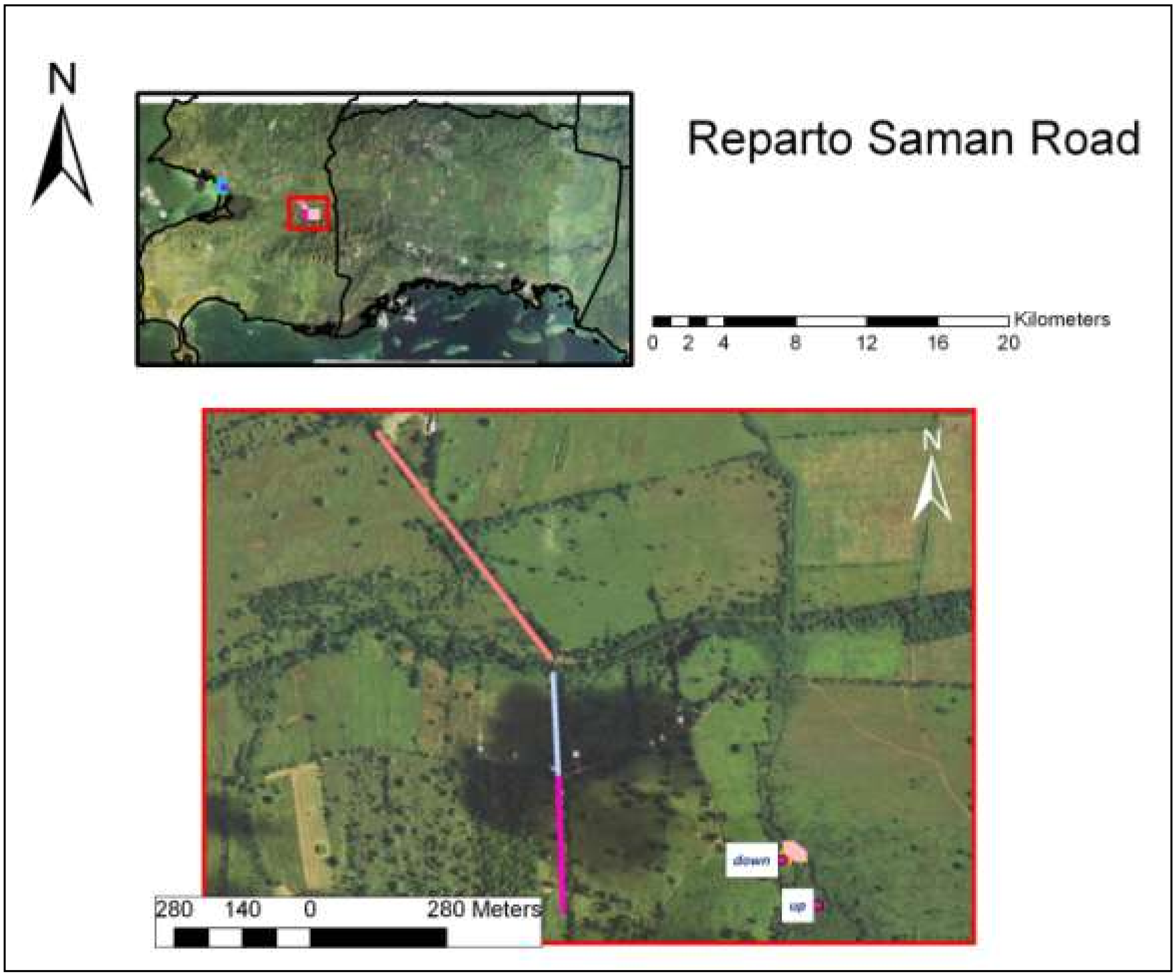

Figure 4.32: Location of the Reparto Saman Road with location were GPR data was collected.

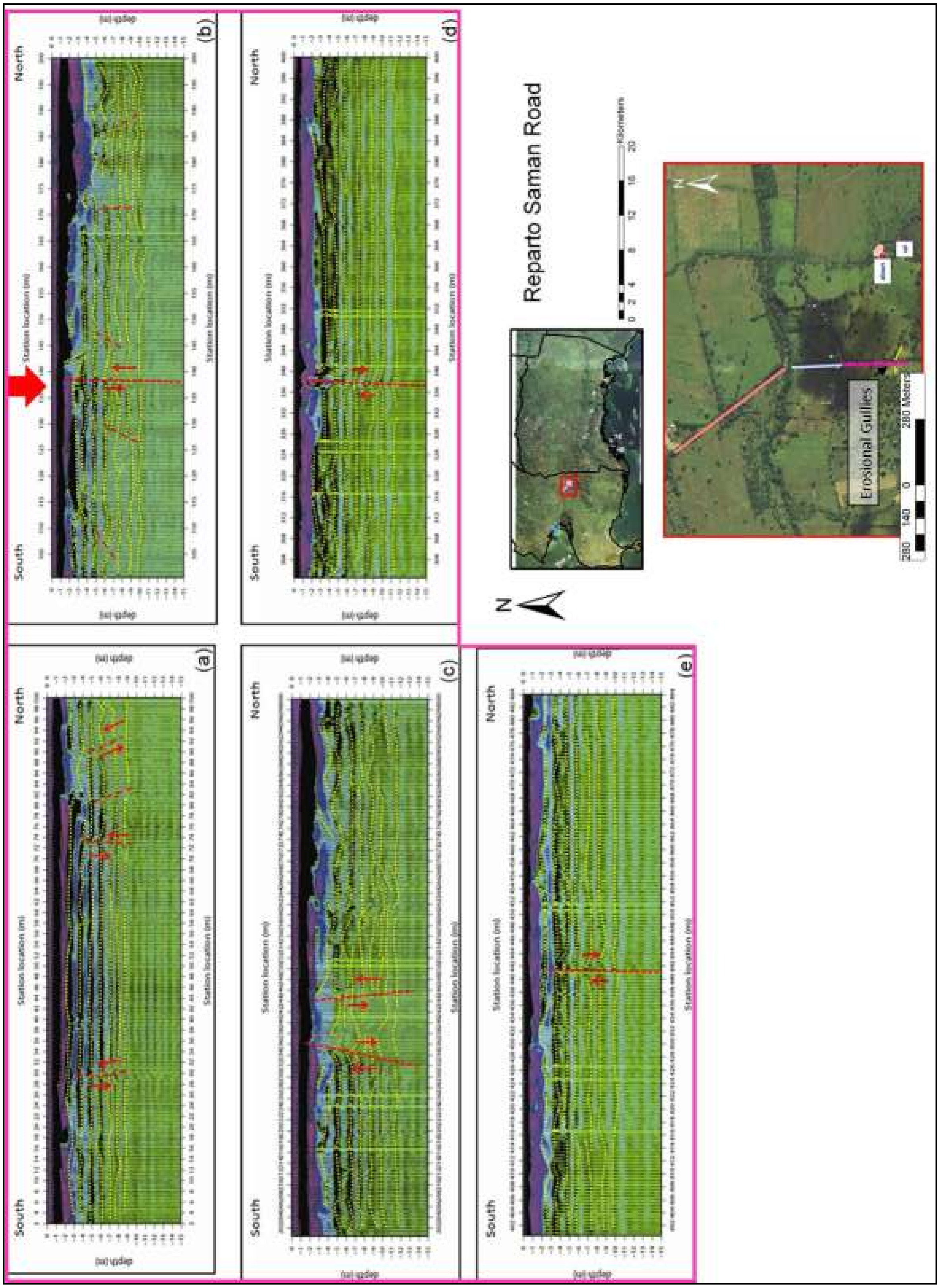

Figure 4.33: GPR-line 12 along the southern Reparto Saman Road. Location of disrupted reflectors correlates with the location of 2 erosional gullies.

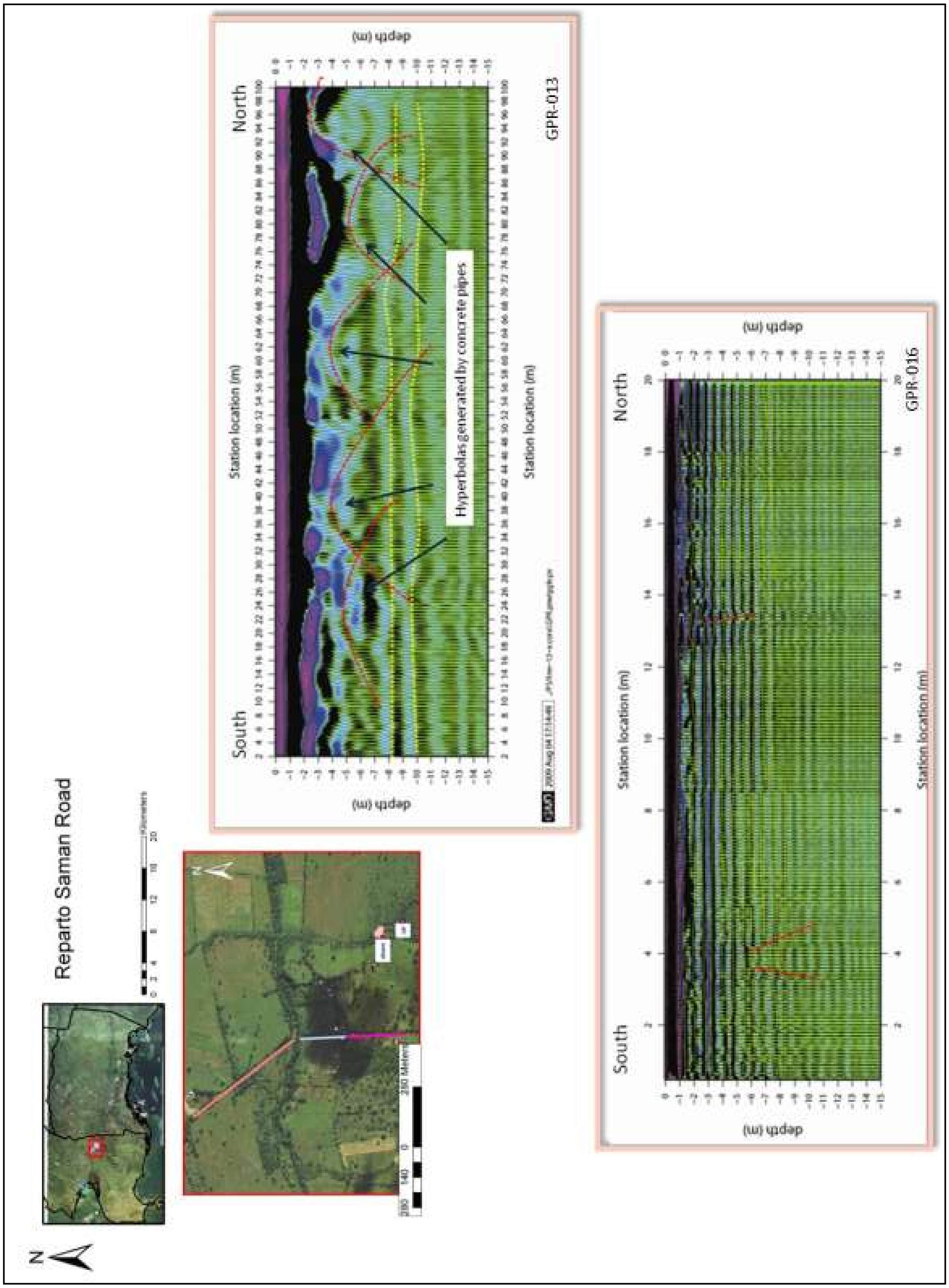

Figure 4.34: Location and results from GPR-lines 13 and 16. These lines were not used in the investigation (see text for explanation).

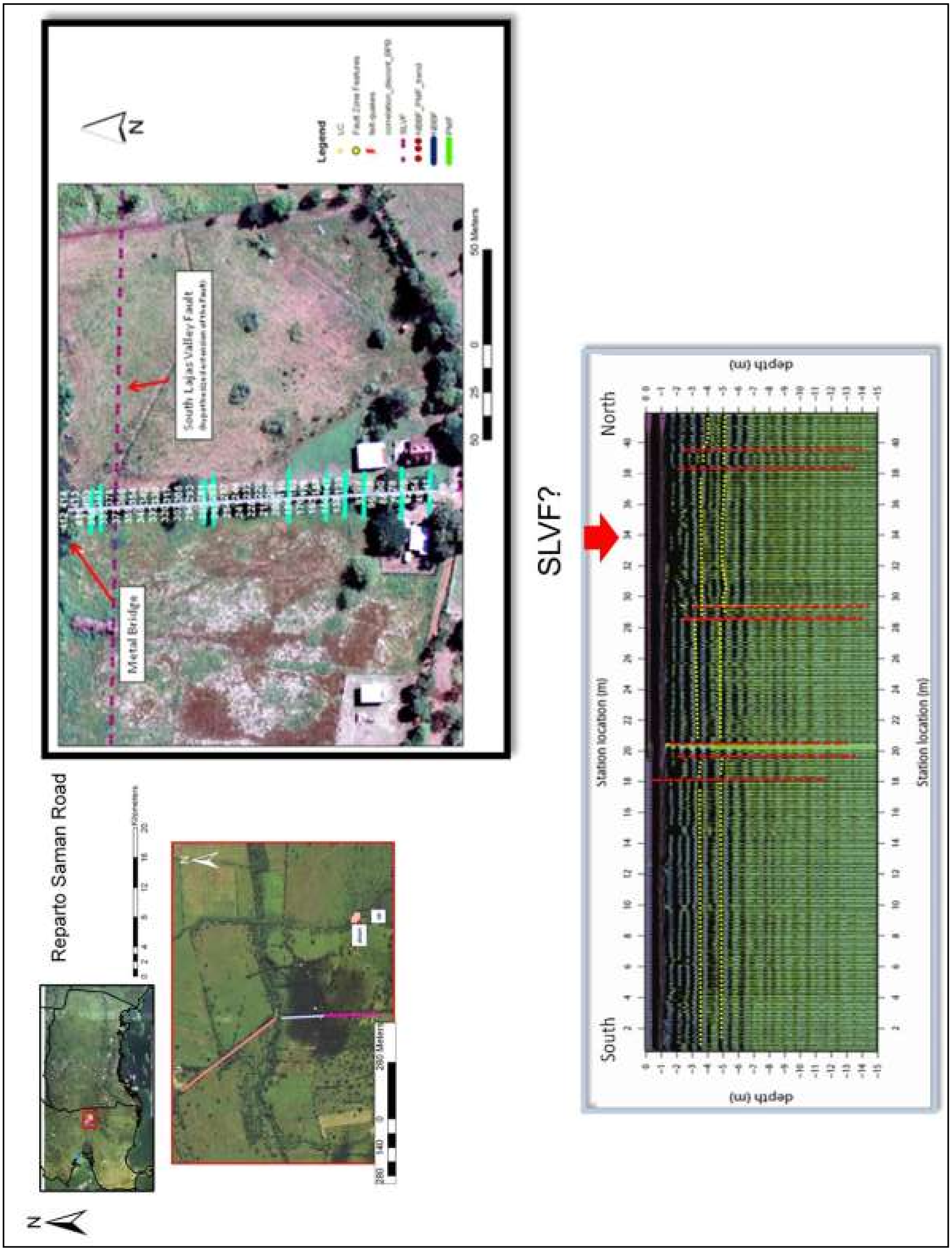

Figure 4.35: Location and interpretation of GPR-line 15.See text for explanation.

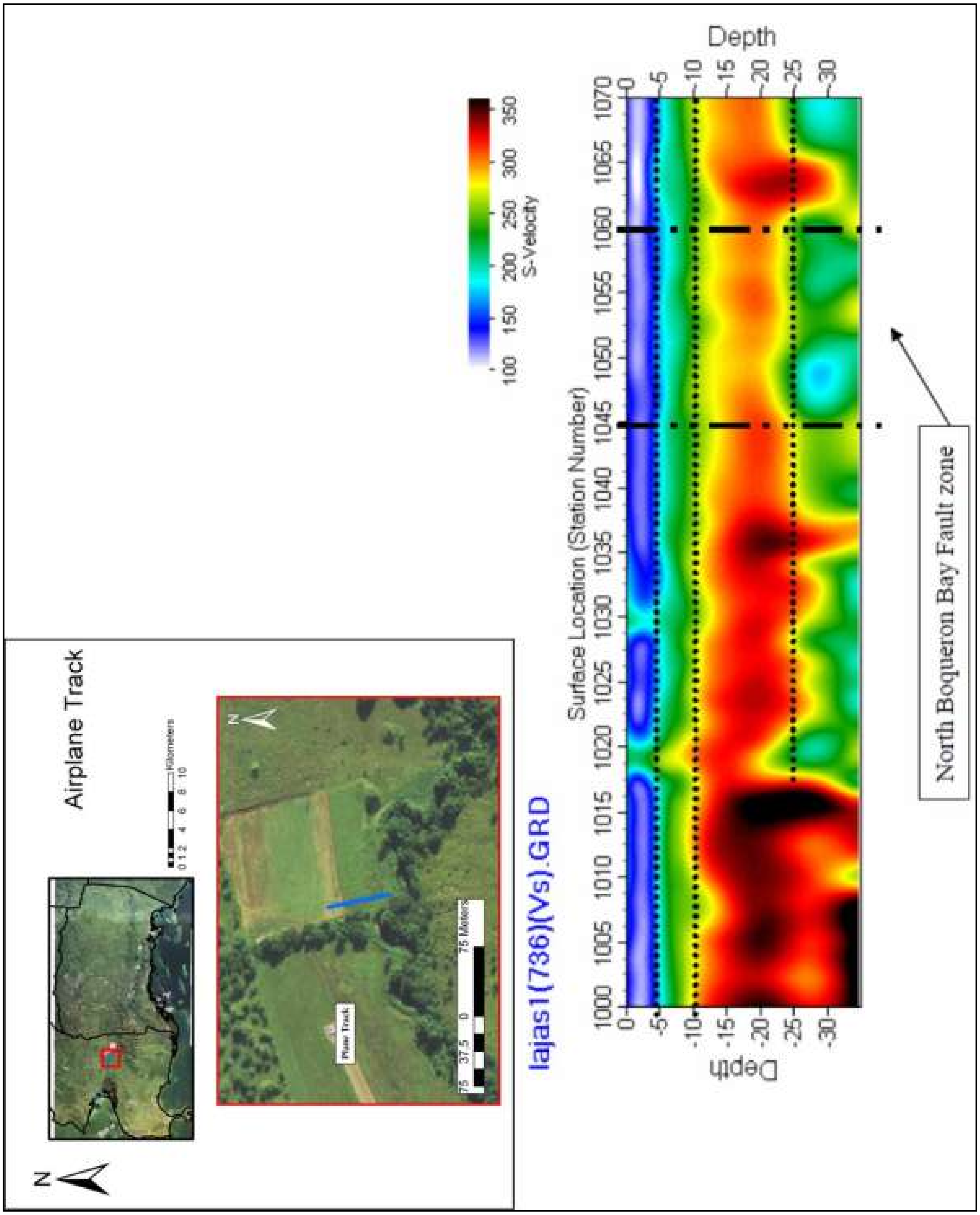

Figure 4.36: Location and interpreted MASW line collected at the SW side opf theairplane track in Lajas Valley.

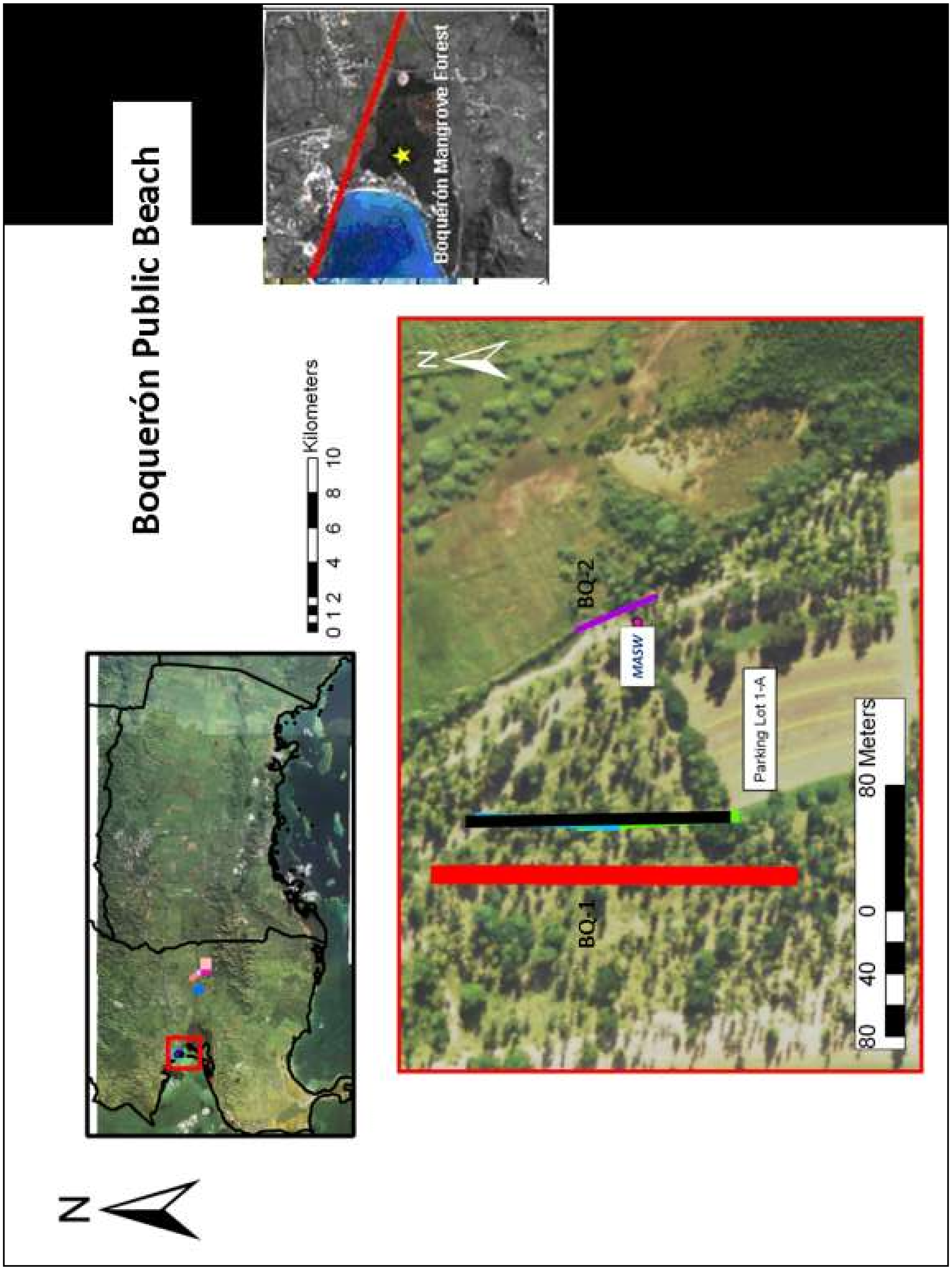

Figure 4.37: Location of geophysical data, showing the GPR lines (black), MASW (red and violet). High seismic resolution line was collocated at the red line.

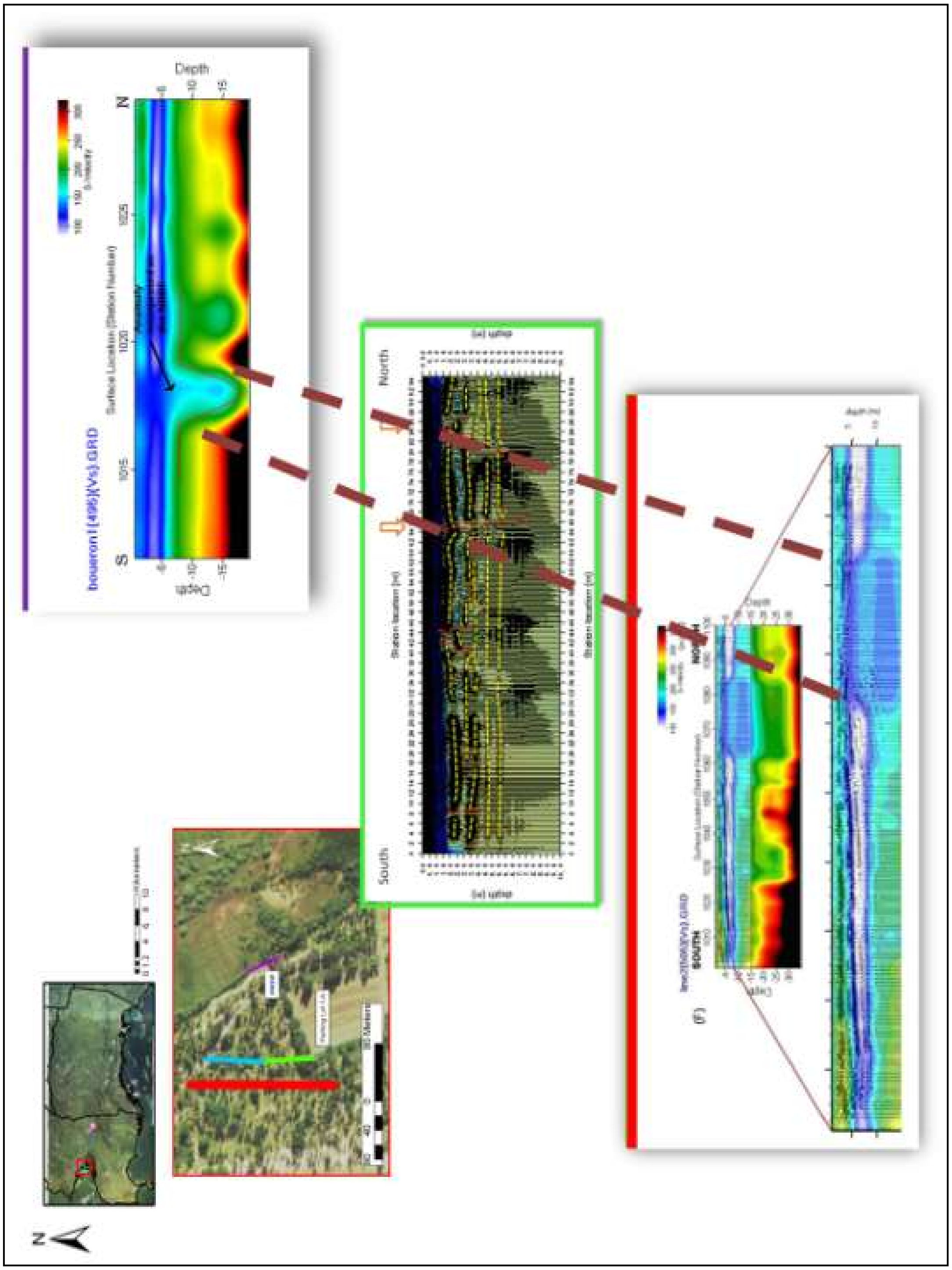

Figure 4.38: Location and interpretation of GPR data collected within the Boquerón Public Beach. Disrupted reflectors are identified as the North Boquerón Bay Fault, and can be correlated within GPR lines.

C. Roig-Silva, 2010

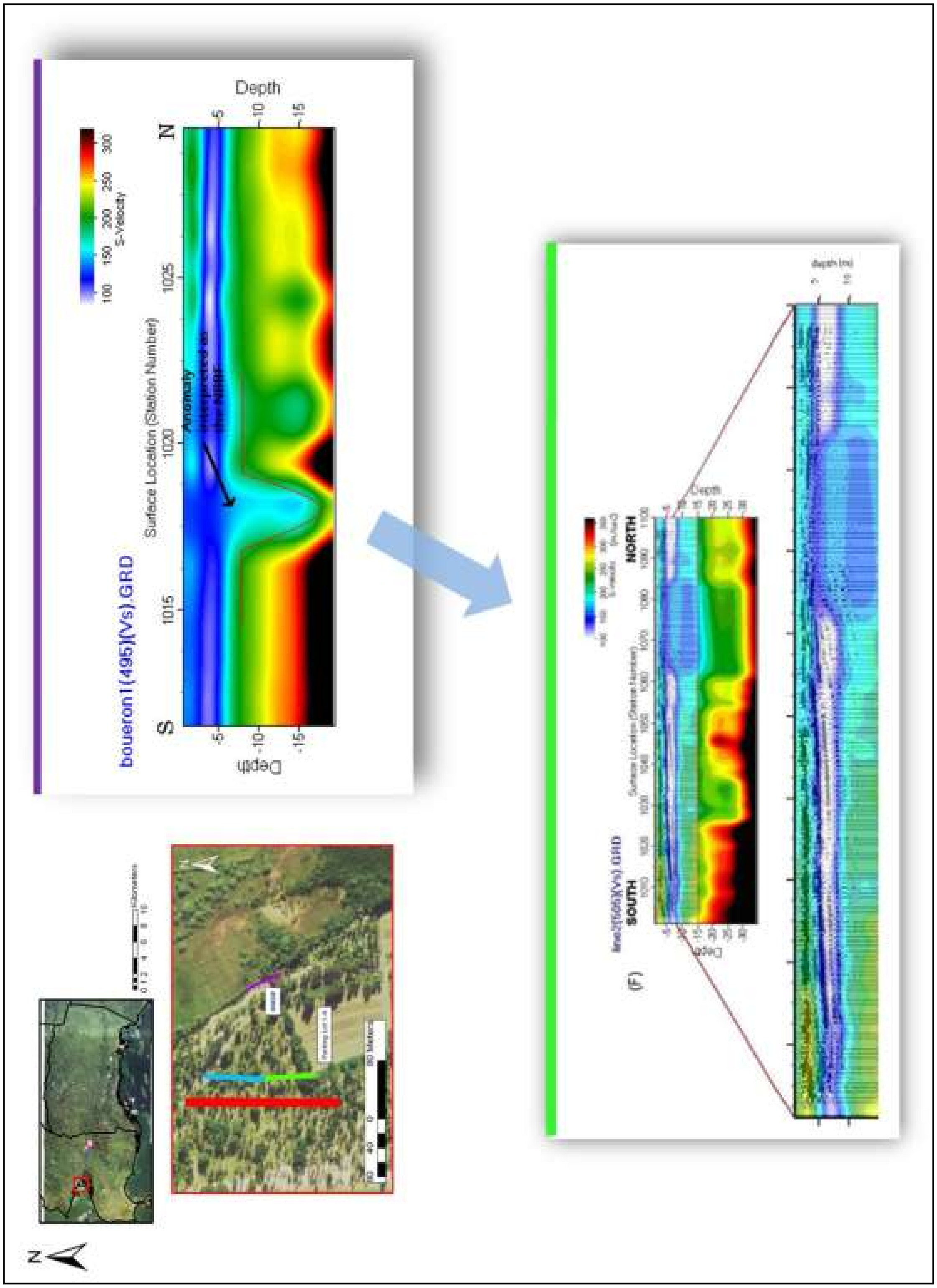

Figure 4.39: Location and interpretation of the Multichannel Analysis of Surface waves and the seismic reflection data. A decrease in lateral shear wave is interpreted as the North Boquerón Bay. This anomaly correlates with sediments pinching out in the seismic reflection data.

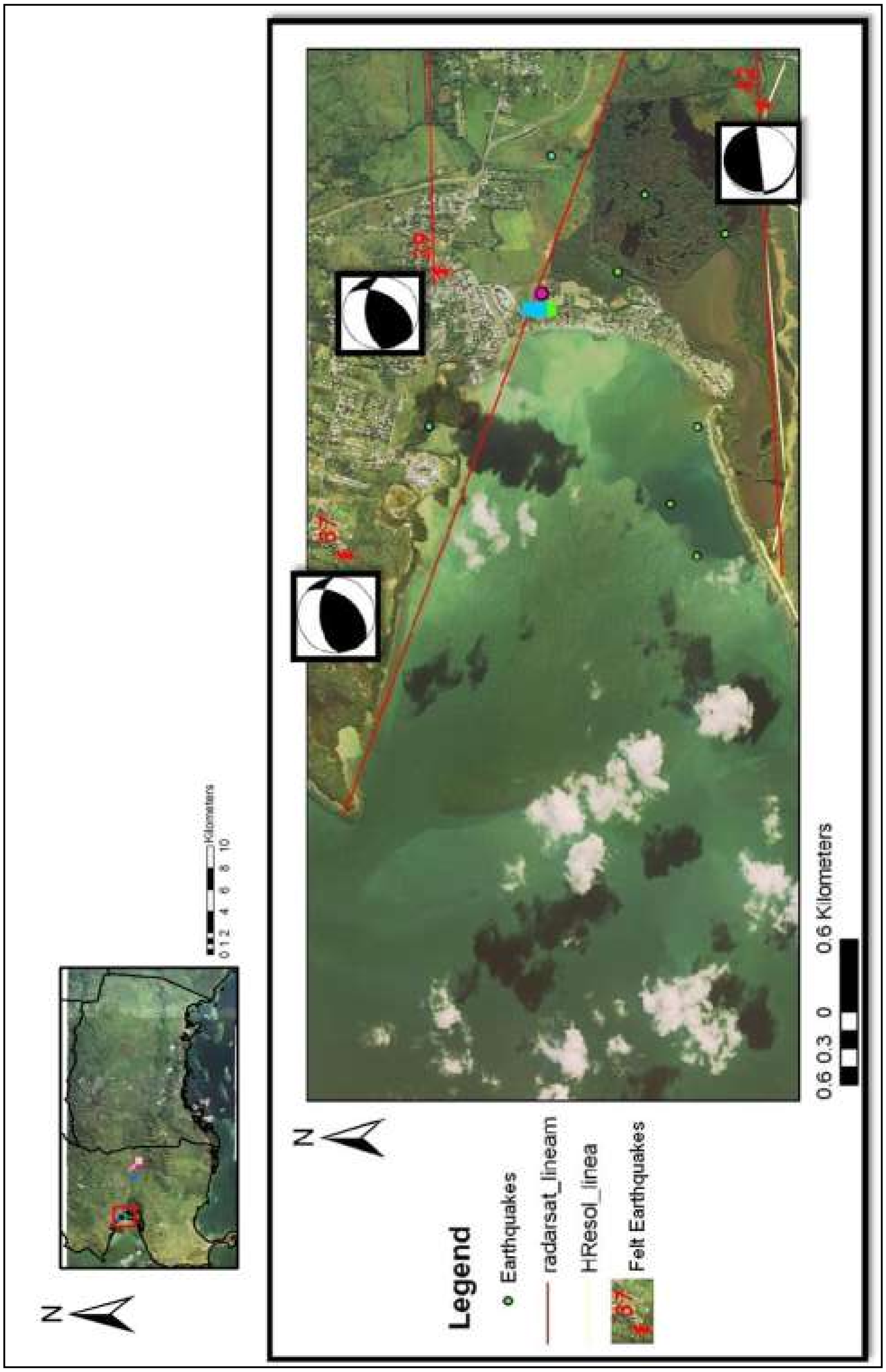

Figure 4.40: Focal mechanisms of gelt earthquakes suggest NW direction of compression. Lineament were identified along the proposed location of the North Boquerón Bay Fault.

5 DISCUSSION AND CONCLUSIONS

5.1 Punta Montalva

The full extent of the Punta Montalva fault was mapped based on the occurrence of steeply inclined Miocene Ponce Limestone at Punta Montalva in the west and Ensenada Las Pardas on the east side (Addarich Martinez, 2008; Figure 5.1) of a pronounce WNW trending topographic lineament. The lineament is defined by aligned ridges and stream valleys and is marked by the left lateral displacement stream channels on the order of 200 meters. The displacement of an aligned ridge across the mouth of two streams has trapped alluvial sediment in a fan behind the ridge along the fault.

Local seismic in the Punta Montalva area can be correlated with the proposed Punta Montalva fault. Four of the seismic events in the area were reported as felt, for which first motion focal mechanisms have been computed. Solutions for the focal mechanisms suggest compression direction, varying from NE-SW to N-S and WNW left lateral faulting. The computed stress directions and sense of motion are consistent with previously computed composite focal mechanism solutions of Huerfano et al., 2005.

5.2 Central Lajas Valley

When the Punta Montalva fault is extended west-northwest across the Montalva Bay it is aligned with a bedrock fault mapped as the Parguera Limestone (Kpl) and the basaltic andesite (Kba) (Figure 5.2). This fault is postulated to curve northward into some small hills that lie between the Parguera synclinal hills and the eastern end of Sierra Bermeja. The northward bending of the fault suggests a restraining bend along the continuation of Punta Montalva Fault. The exposures in the hills along this fault bend are mostly deformed Parguera Limestone. The attitude of faults, folds and joints and veins are consistent with NE-SW shortening in a left-lateral restraining bend. Larger left lateral faults trend WNW towards the Sierra Bermeja. Although no evidence for recent fault displacement was observed, recent seismic events were located along the fault alignment and south of the fault bend including 2 felt events one of which suggest ENE-WSW direction of compression and left-lateral faulting. Outcrop data varies from NNE-SSW to NE-SW direction of shortening.

5.3 Laguna Cartagena

If the continuation of the fault is extended further to the north-northwest from the restraining bend it cuts across the eastern end of the Sierra Bermeja where it aligns with a small mapped fault with apparent left lateral displacement (Volckmann, 1984c). On the other side of Sierra Bermeja it coincides with bedrock shear zones near the top of the alluvial fans south of Laguna Cartagena (Figure 5.3). Foliation measurements in bedrock suggest left-lateral displacement for bedrock fault. Sense of movement across the alluvium fault was not determined for this location. The data suggests a NE-SW direction of shortening, consistent with the continuation of the Punta Montalva Fault towards the northwest.

No earthquakes are located along this area; lineaments are identified but in an NE direction, parallel to the orientation of the structural features found along the streams.

5.4 Alluvial fan stream

Coincident with the extension of the Punta Montalva Fault towards the northwest, and the North Boquerón Bay Fault to the southeast, across the alluvial fan, north of Sierra Bermeja, is a deflected stream with left lateral displacement of the order of 67.87 meters (Figure 5.4). An entrenched erosional gully, located at the stream bend, trends towards the WNW and parallel to the coalignment of the two faults. Exposures downstream reveals a series of NE-trending extensional fractures and normal faults cutting Quaternary alluvium. Displacement along these

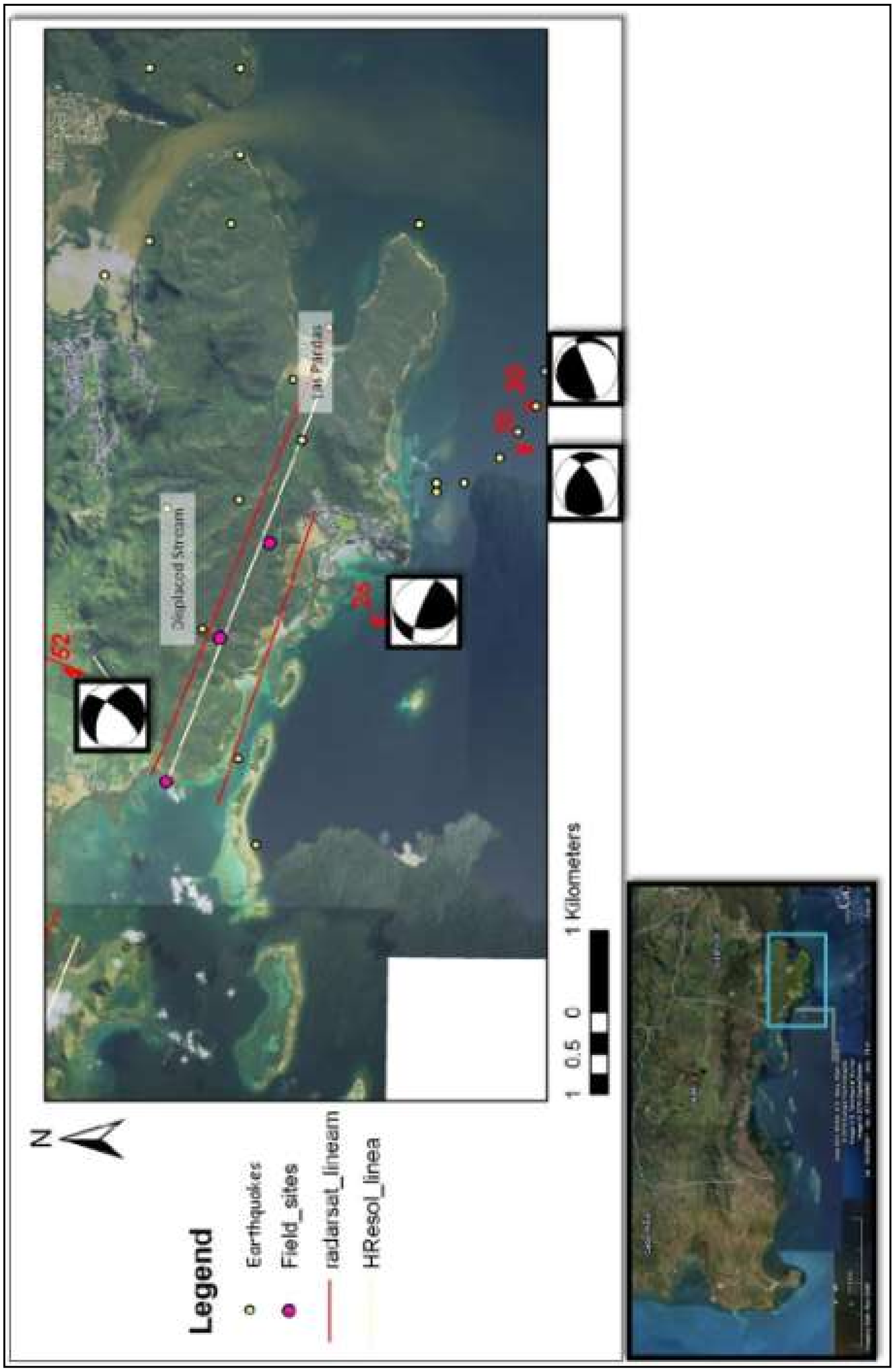

Figure 5.1: Punta Montalva area.

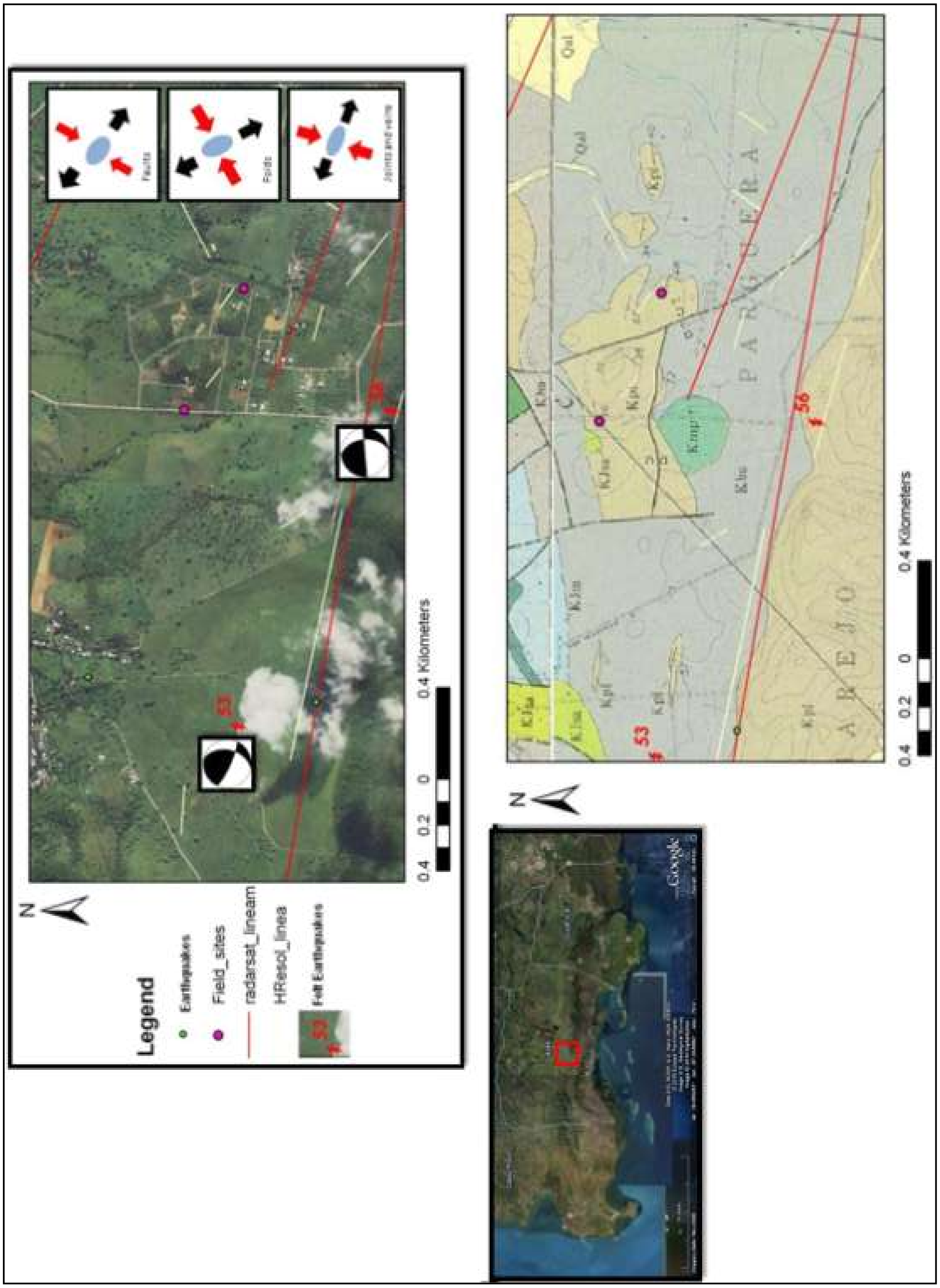

Figure 5.2: Lajas Site.

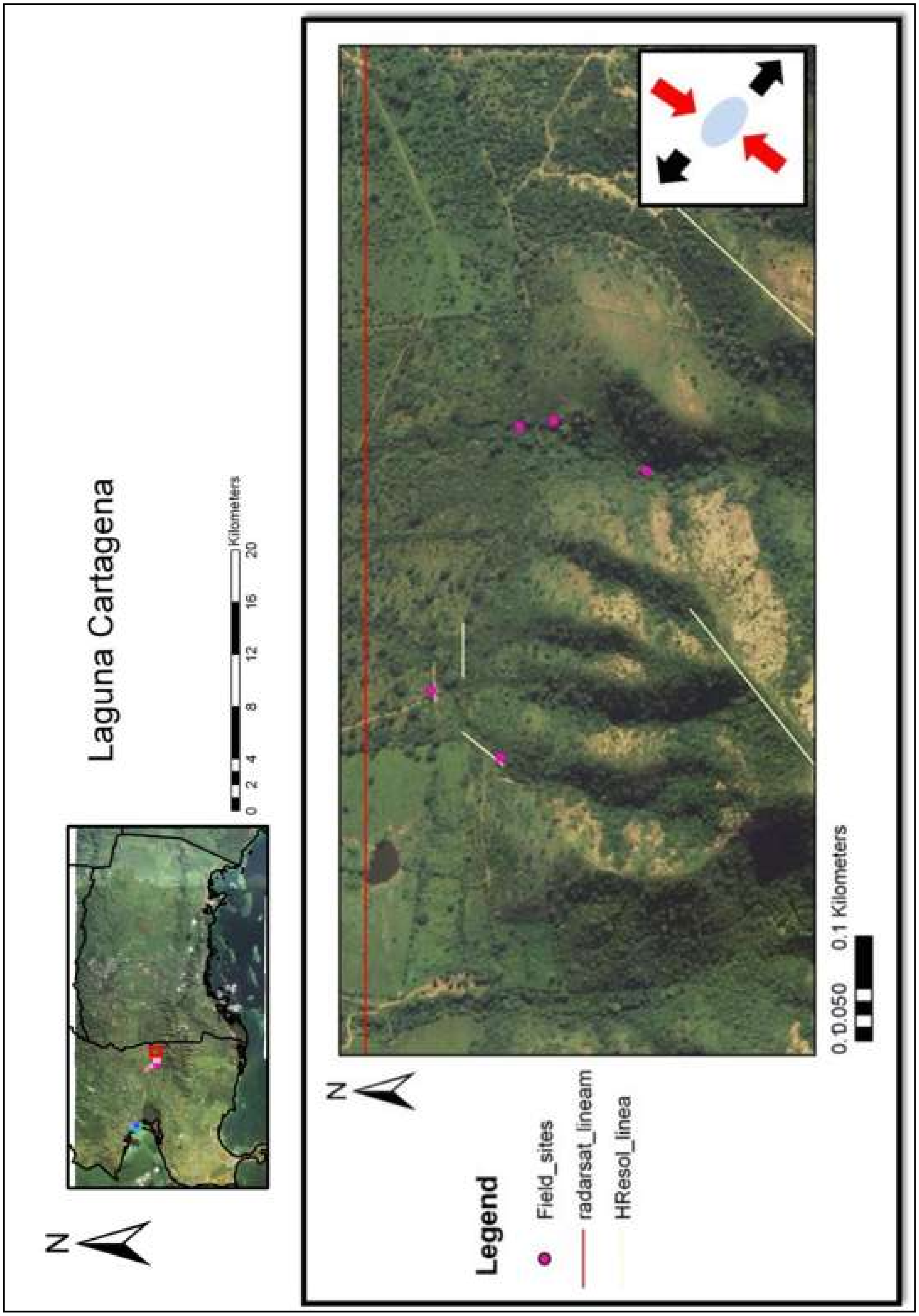

Figure 5.3: Laguna Cartagena site.

faults ranges from 8-25 centimeters. Ground penetrating radar data shows normal faults cuts the channel bed sediments and extends at least 1 meter below the stream bottom. No faults were observed to cut the upper 6 meters of sediments below the upper alluvial fan surface above the stream channel. The displacement of the channel, and the NE orientation of the extensional features is consistent with NW-SE extension and left-lateral transtension.

5.5 Reparto Samán Road

The ground penetrating radar lines collected along the Reparto Samán road provide additional information related to the structures found within the study area. GPR-line 012 identifies a series of buried reverse and normal faults; one of which appear to “reach” the surface, and is manifested by erosional lineaments (Figure 5.5). The NW trending erosional lineament consist of erosional gullies. The orientation of the gullies suggest structural controls. Earthquakes within the area, are located parallel the erosional features. These events were not reported as felt.

5.6 Boquerón Bay and Boquerón Public Beach

At the northwestern end of the Lajas Valley and trending parallel to the Punta Montalva Fault is the North Boquerón Bay Fault (Figure 5.6). The North Boquerón Bay Fault has been mapped and described based on geophysical data. Total magnetic intensity data and seismic data collected offshore western Puerto Rico, was used to map the North Boquerón Bay. Ocasio (2004) reanalyzed Total Magnetic Intensity data and identified and proposed the North Boquerón Bay Fault. Based on geomorphological features, Ocasio (2004) suggested the North Boquerón Bay Fault continued to onshore Puerto Rico, towards the Boquerón Public Beach and into the Lajas Valley. Previous studies conducted by Dietrich (1995) identify several faults offshore Boquerón Bay, one which correlated with a topographic lineament north of Boquerón Bay.

Results from side scan sonar data collected by Grindlay et al. (2005) at Boquerón Bay documents 3ºS inclined carbonate platform along the projection of the North Boquerón Bay fault (Figure 5.7). Some of these reflectors are faulted. The authors do not identify faults cutting younger sediments along the area. The location of the faults correlate with the location of the North Boquerón Bay Fault, suggesting the North Boquerón Bay Fault has not had recent displacement.

Subsequently, shallow subsurface geophysical data was collected in the Boquerón Public Beach to identify whether the fault continued onshore Puerto Rico. Multichannel Analysis of Surface Waves, seismic reflection and ground penetrating radar provide evidence of the fault. The fault is characterized by topographic lineaments north of Boquerón Bay, offshore Puerto Rico, and the sharp contact of the Boquerón Mangrove Forest and alluvial sediments just west of the Boquerón Public Beach.

First motion focal mechanisms computed for felt events located parallel to the North Boquerón Bay Fault suggest a NNW-SSE direction of shortening. The NNW-SSE direction of shortening does not agrees with previously published data by Huerfano et al. (2005) that show NE-SW direction of compression.

5.7 Compilation of data and interpretations

Based on data collected in this investigation and previously published data the Punta Montalva Fault and the North Boquerón Bay Fault are interpreted to form a major through going left-lateral strike slip fault zone that cuts across the southwest corner of Puerto Rico. The fact that the Punta Montalva-North Boquerón Bay Fault Zone cuts across the geomorphic grain of the area and follows bedrock faults suggests the fault is a young incipient system that has developed by reactivation of older extinct faults. This is supported by the lack of geomorphic expression and limited deformation of Quaternary sediments.

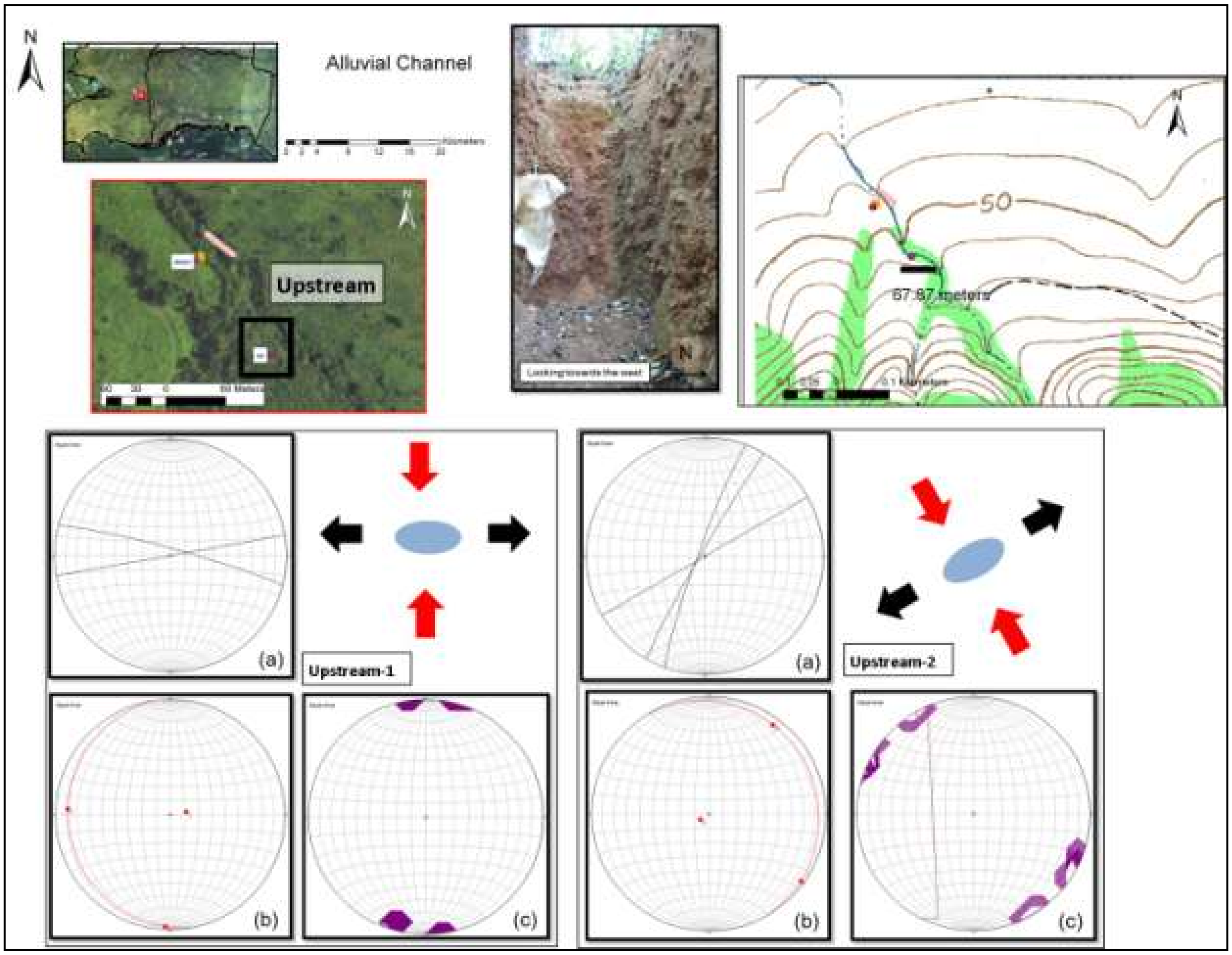

Figure 5.4: Alluvial stream site.

The reactivation of the structure has deformed younger sediment and subsequently, the sediment deposited on top of the fault has not been entirely deformed by the older bedrock fault; the sediments accommodate the displacement by creating a series of normal faults oriented towards the northeast-southwest (Wilcox et al., 1973; Figure 5.8). The NE trending section of the South Lajas Valley fault and normal faults identified in the alluvial channel are interpreted to be a results of such process.

Most focal mechanisms along the area show NE direction of compression in agreement with the Post-Miocene stress regime proposed by Mann et. al (2005) and GPS data reported by Jansma and Mattioli (2005) (see chapter 2, section 2.1.1.1 for further details). However, first motion focal mechanisms of events located at the Boquerón area suggest a NW-SE direction of compression. Variations in the stress field may be explained with the fault propagating towards the west (Figure 5.9). Most displacement has occurred on the Punta Montalva fault (200m) whereas only 67.89 meters is apparent in the alluvial fan channel north of Sierra Bermeja

5.8 Conclusions

The Punta Montalva Fault, in the southeastern end of the Lajas Valley, and the North Boquerón Bay Fault, in the northeastern end of the valley, are defined and identified in the basis of aerial photographs, geophysical data, field mapping and seismic activity. If the trend of both faults is followed towards the central area of the valley, a series of geomorphological and geological features are identified suggesting that both faults are part of a bigger fault zone cutting through the Lajas Valley (Figure 5.10). The present investigation suggests that old bedrock structures within the Lajas Valley are being reactivated into a new fault zone: the North Boquerón Bay- Punta Montalva Fault Zone. The fault exhibits a left-lateral strike-slip sense of motion.

The information gathered suggests that the Punta Montalva fault is propagating towards the west, reactivating old structures in favorable orientation. Undeformed sediment along the area may accommodate the displacement with normal faulting trending towards the NE whereas variations in the stress regimes on the western side of the fault are a result of the differential displacement along the fault.

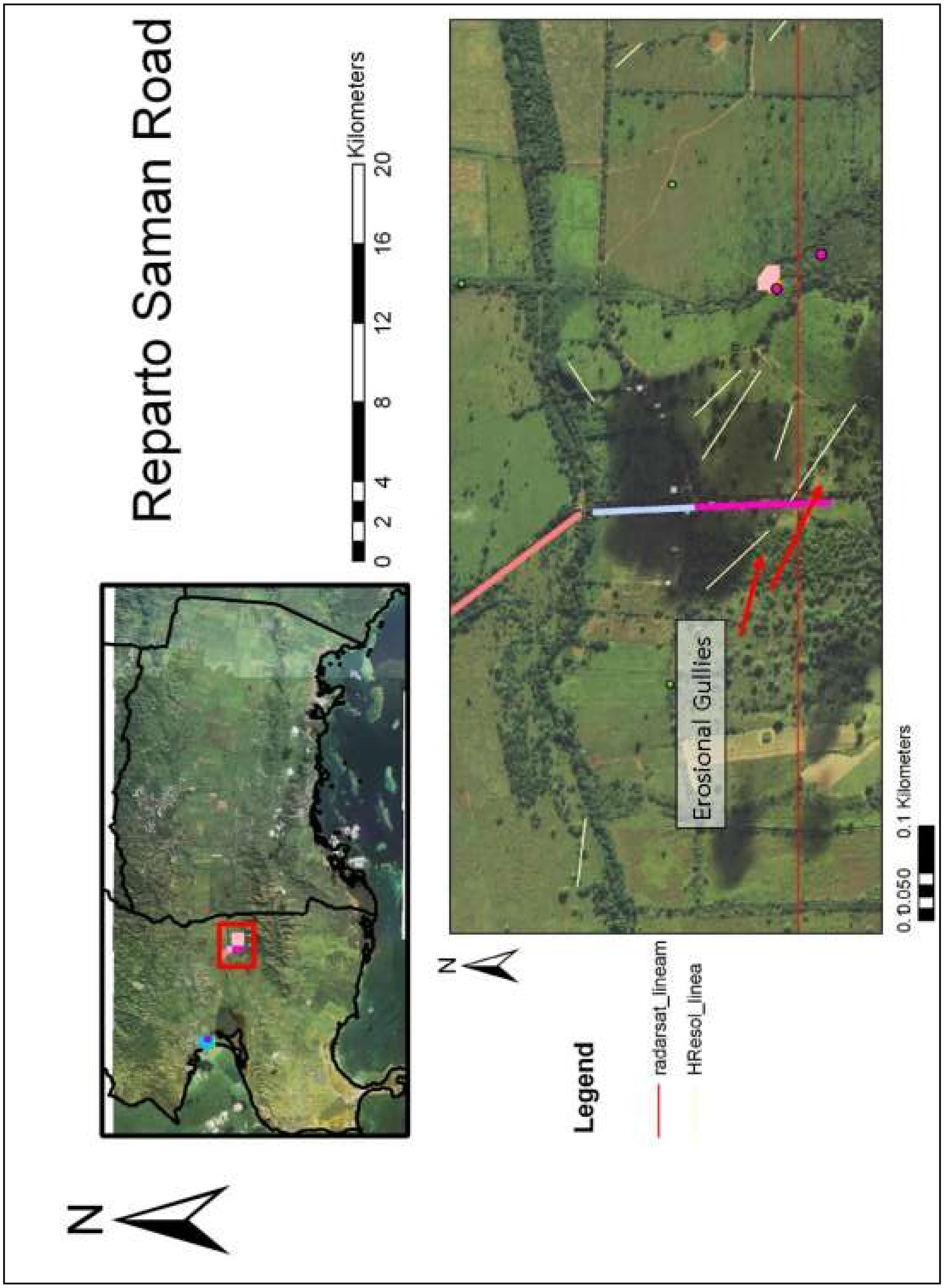

Figure 5.5: Reparto Saman road. Lineations obtained from high resolution images and RADARSAT-1.

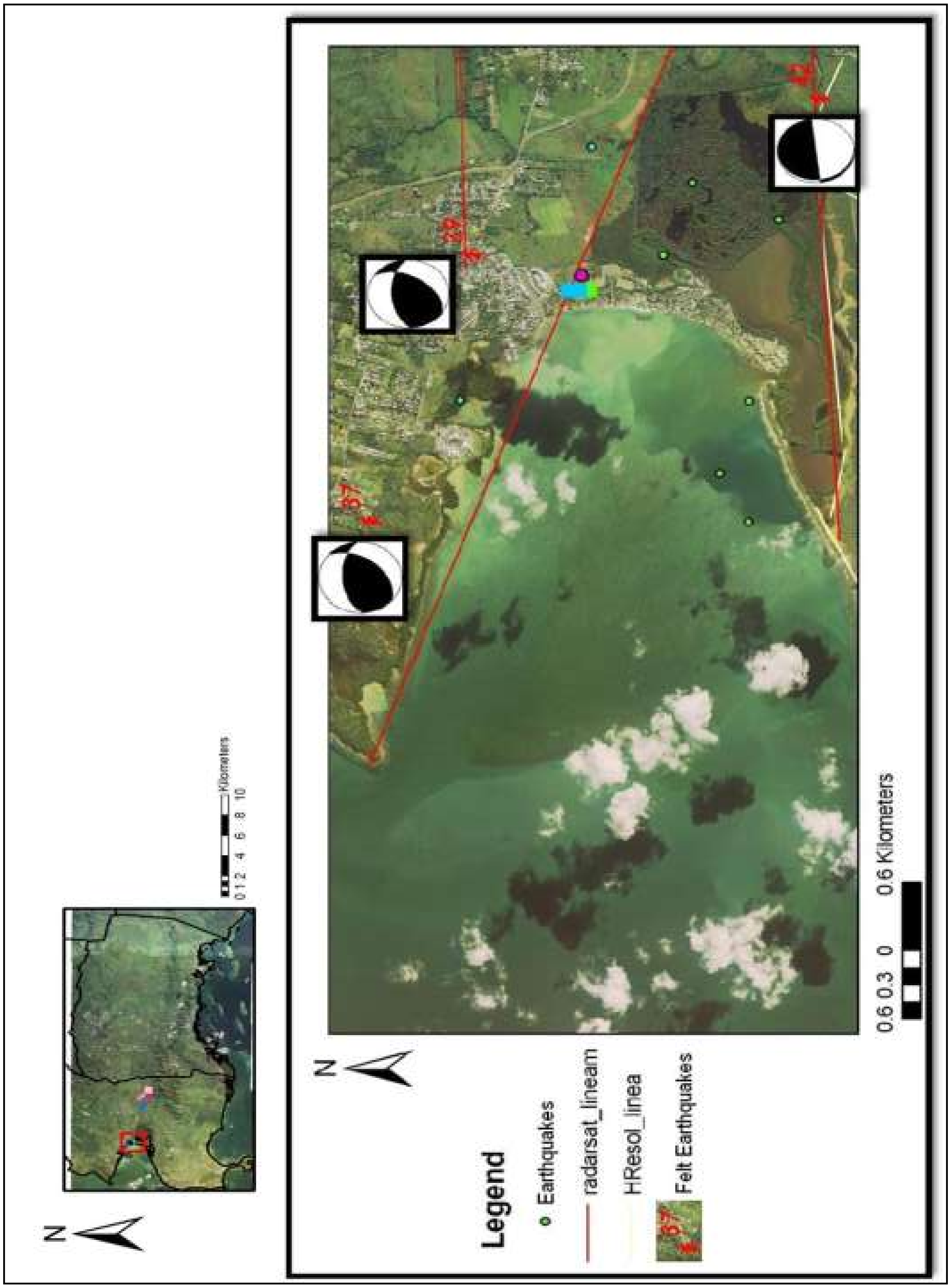

Figure 5.6: Lineation identified in the lineations map correlates with the location of the North Boquerón Bay fault in geophysical data

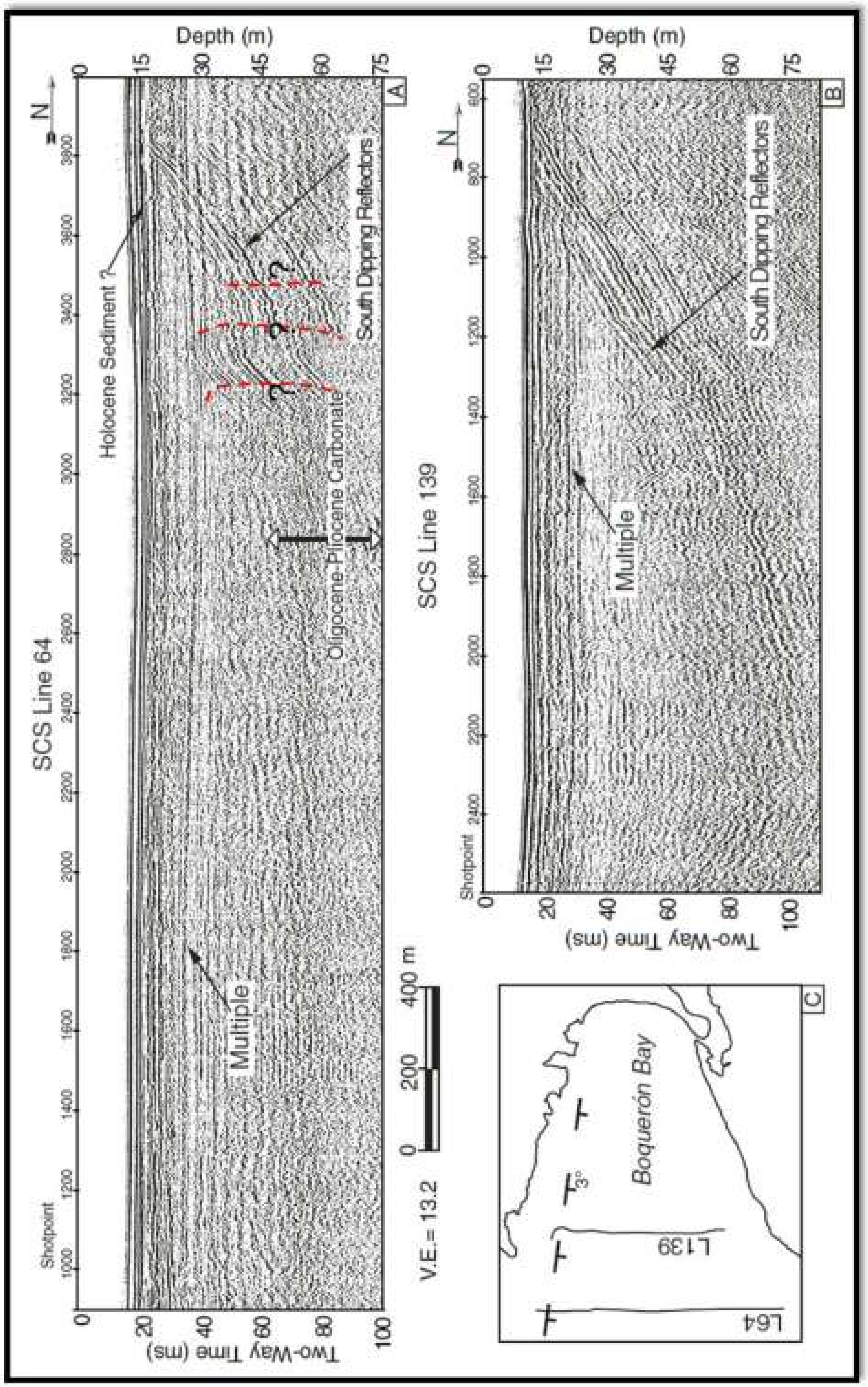

Figure 5.7: Side-scan sonar collected along the Boquerón Bay by Grindlay et al., 2005.

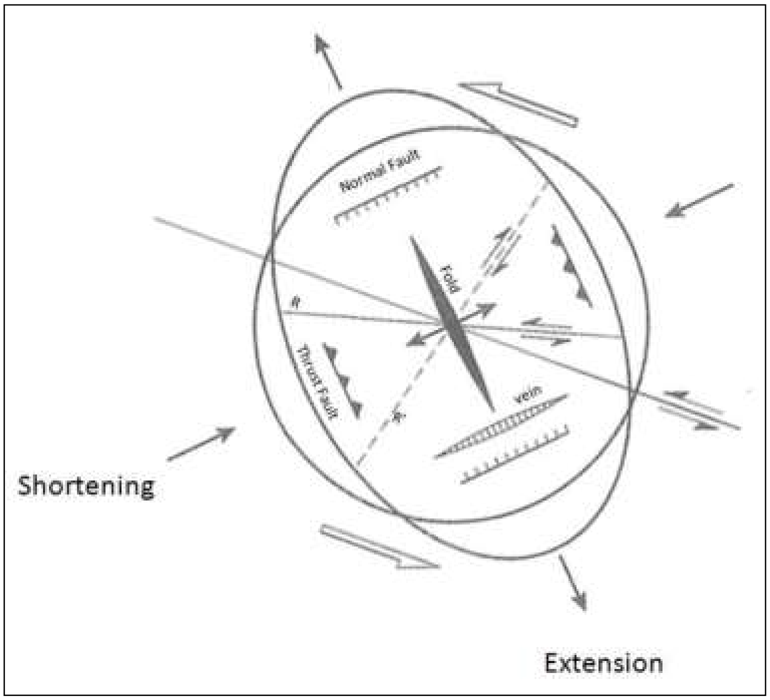

Figure 5.8: Model of deformation for left-lateral strike-slip environments. Normal faults and veins are expected to develop in a NE-SW orientation, while thrust faults and folds develop in a NW-SE direction.

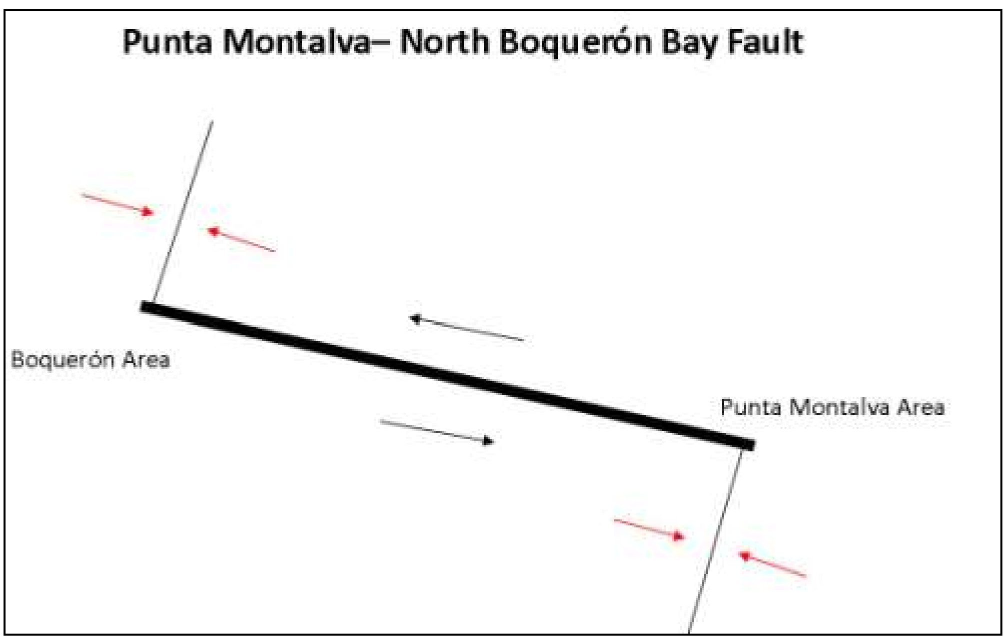

Figure 5.9: Stress model for the Punta Montalva-North Boquerón Bay Fault Zone. Note that if the PM-NBBFZ is a left-lateral strike slip, the variation in the direction of compression along the fault tips is expected. Thus NW direction of compression in the Boquerón Area.

Left lateral displacement of a stream drainage along the Punta Montalva Fault is on the order of a few hundred meters whereas an alluvial channel in the western central Lajas Valley shows left-lateral displacement of the order of a few tenths meters. At the western offshore end the Northern Boquerón Bay Fault is covered with flat lying Holocene sediments. The information suggests most displacement along the Punta Montalva- North Boquerón Bay Fault Zone was pre-Holocene and that the rate of displacement is low such that the development of fault escarpments all along the fault zone has yet to occur.

Seismicity along southwestern Puerto Rico is indicative that the fault system is active. Many recorded earthquakes, including some reported as felt, are located parallel to deformational features related to the North Boquerón Bay-Punta Montalva fault system.

Specific dates for last displacement and estimation of strain accumulation along the fault are extremely needed in order to assess seismic hazard potential of the fault.

Southwestern Puerto Rico is being developed in a fast rate and the population increases every summer when people visit the area for touristic purposes. Construction of residential projects and tall buildings are ongoing along the Lajas Valley and the Cabo Rojo area. Since most of the constructions is on along alluvial and marine sediment it is worrying the effects an earthquake along the fault would cause.

In January 12, 2010, Port au Prince, Haiti suffered the catastrophic effects of an earthquake, a city built on alluvial sediment, and not having the adequate infrastructure. It is in our hands to prevent these catastrophes by developing a full understanding of the geological hazards and considering these hazards in the development of building codes. Let’s not wait until the disaster has already occurred to take action and consider the geology in our plans after it is too late.

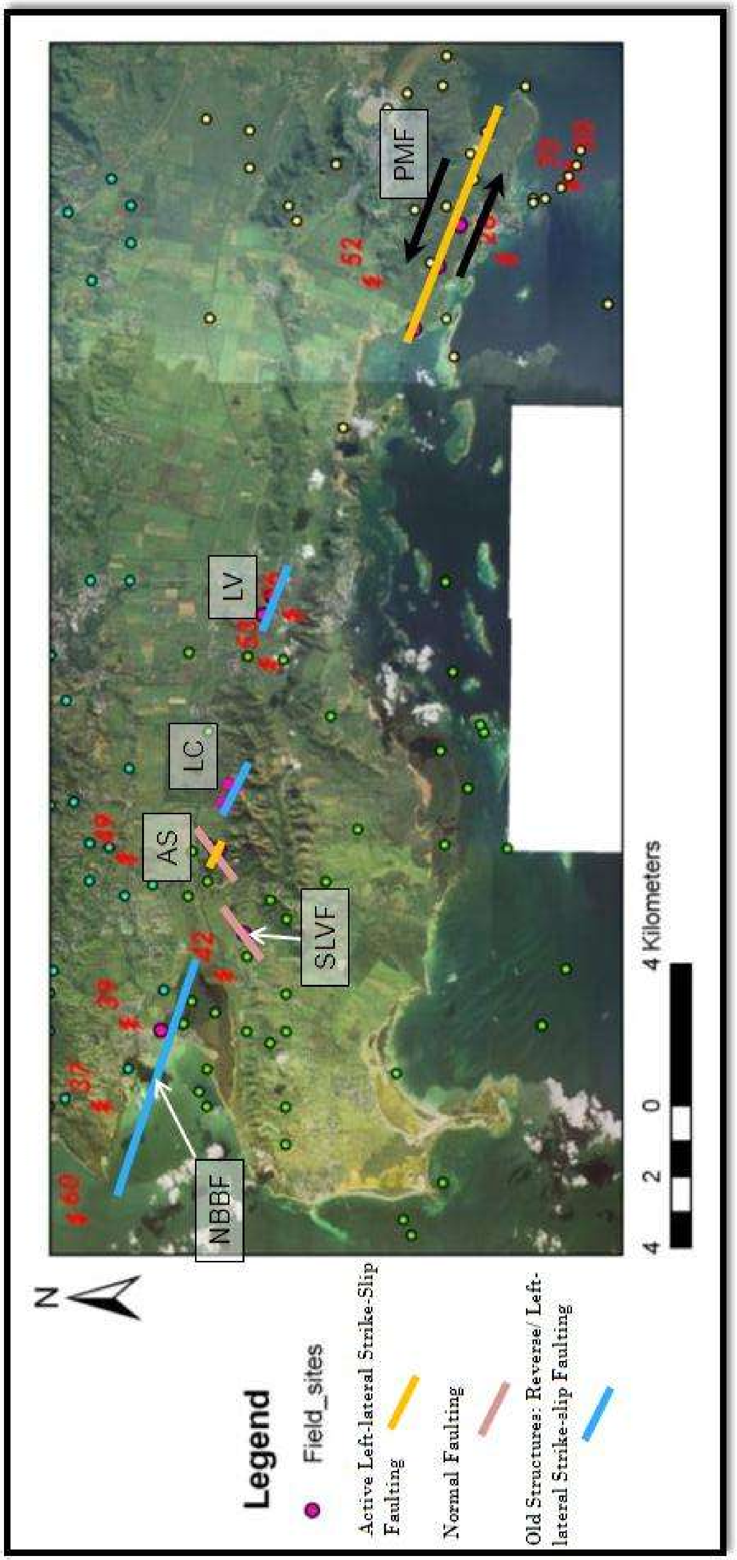

Figure 5.10: Summary of the features of the Boquerón Bay-Punta Montalva Fault zone.

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APPENDIX A

A.FIELD PARAMETERS

1. Multichannel Analysis of Surface Waves and High resolution Seismic

   a. *Multichannel Analysis of Surface Waves*

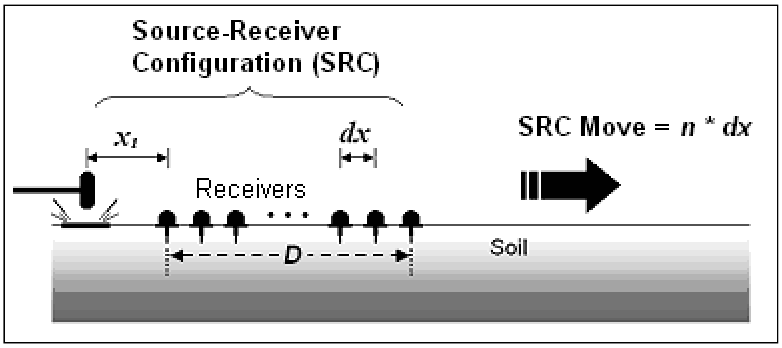

Figure a.1: Multichannel Analysis of Surface Waves source-receiver configuration (after KGS, 2008).

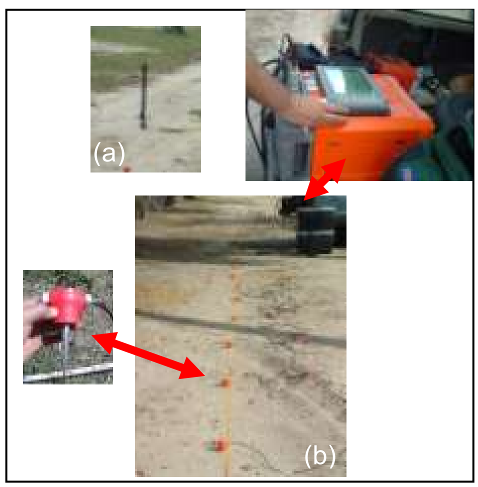

Figure a.2: MASW field configuration 16 lbs. Sledge hammer (a); 4.5 Hz geophones spaced 1 meter apart (b).

b. *Seismic Reflection*

Table A.1: Seismic Reflection Field Acquisition Parameters.

Field Acquisition Parameters	Value:
Geophone Spacing:	1-meter
Shot Spacing:	1-meter
Shot –depth:	0.3-meters
Split-Spread Source Offset:	1-meter
Sampling Time:	1024 msec.
Sampling Interval:	1 msec.
Receiver Type:	10-(Hz)
Receiver Coupling:	Spike
Source Type:	BETSY seisgun, using 8 gauge blanks

c. *Ground Penetrating Radar*

(1) Ground Penetrating Radar record acquisition along Southwestern Puerto Rico

Data was acquired during the University of Puerto Rico-University of South Carolina Ground Penetrating Radar Field Experience celebrated during May 25- 30th, 2008. The UPR-USC Ground Penetrating Radar Field Experience was sponsored by the Society of Exploration Geophysics (SEG) during the Project of Special Merit Grant.

This study used the Pulse Ekko by Sensors and Software, Inc. (Figure A-3), and combined the use of full ballistic separation which allowed for a variable antenna separation and orientation, to conduct trans-illumination and multi-offset surveys, and permits work in rough, poorly accessible areas. The equipment was also mounted in a cart (Figure A-4) when sites were accessible and relatively flat, such as roads or smooth grass.

During our study, a total of 16 survey lines where collected in southwestern Puerto Rico. Sixteen survey lines were placed in the area of the Boquerón Public Beach (Figure A-5), where we collected 4 lines and 2 common-midpoints gathers (CMP; Figure A-6) using the 50MHz antennas, *2* lines were run along a drainage channel of an alluvial fan (Figure A-7) on the southern side of the Lajas Valley (referred to from now on as the alluvial stream). One line was collected inside the drainage channel, together with a common-midpoints gather (using the 200MHz), and another line was collected along the top of the drainage channel using the 50MHz antennas (on the opposite side wall of the outcrop), together with its common-midpoints gather analysis. The last site where we conducted the survey lines was along a small road few kilometers west of the Outcrop site and south of Reparto Saman; herein referred to as "Road" (Figure A-8). Four survey lines were conducted at this site, two used the 50 MHz antennas, and the other two used the 200MHz antennas as well as a CMP gather using the 50 MHZ antennas. The site is characterized by a metal bridge across an irrigation canal that is used as a reference in order to better locate some of these lines.

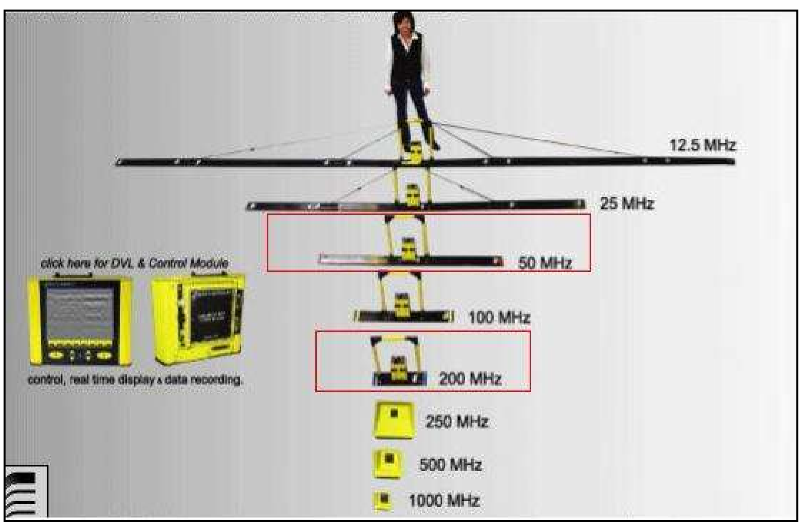

Figure c.1: Sketch of the GPR concept. The GPR generates a pulse which is transmitted into the subsurface, once the pulse encounters a heterogeneity the pulse will be reflected to the receiver antenna (after Benson, 1995).

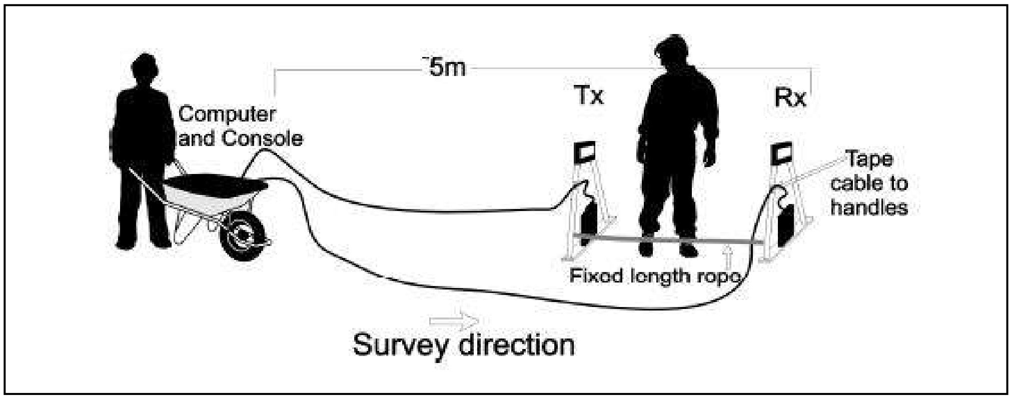

Figure c.2: Sketch of the GPR concept. The GPR generates a pulse which is transmitted into the subsurface, once the pulse encounters a heterogeneity the pulse will be reflected to the receiver antenna (after Benson, 1995).

Figure c.3: Boquerón Public Beach. Location of the GPR line surveys conducted in the Boquerón Public Beach.

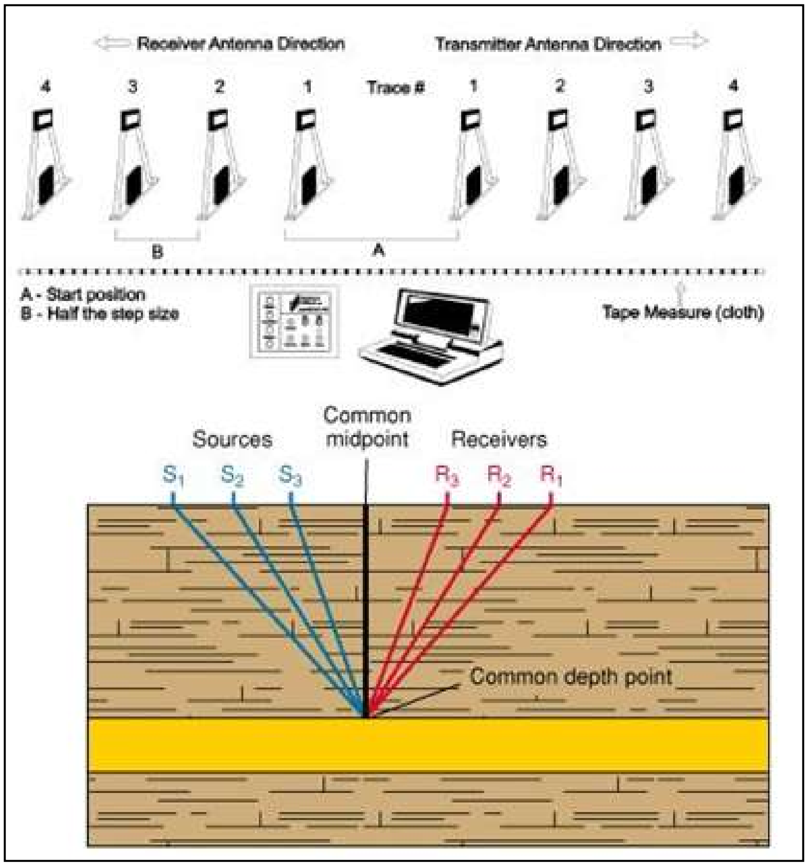

Figure c.4: Antenna and receiver geometry to acquire a Common Mid-Point gather, and a sketch on how the EM wave travels though the subsurface and reflected back to the receiver.

Figure c.5: Location of the GPR survey lines conducted along the alluvial stream.

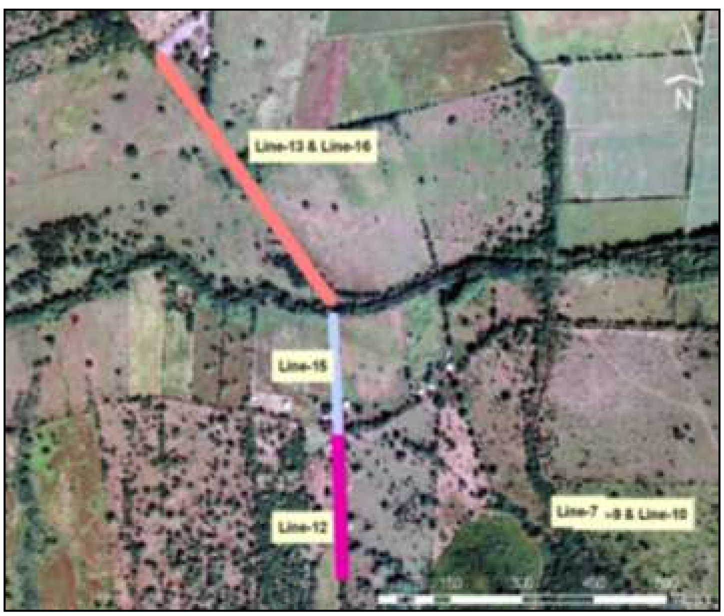

Figure c.6: Reparto Saman Road. Location of GPR survey lines along the Reparto Saman road.

Collection of CMP gathers at each site is necessarily in order to generate a velocity model for each line location, since for ground penetrating radar systems, depth of penetration is site specific and varies with variations in lithology. Each line acquired was processed using Ekko View Deluxe, and Ekko View, proprietary software of Sensors and Softwares, Inc., licensed to the University of South Carolina.

Application of a low-pass Band pass filter of 20% was used to reduce the noise of each line. Furthermore, a velocity model was generated for each site surveyed and thus converted each radargram from 2-way travel time to depth.

Table A.1: Velocity Analysis for Line-001 and Line-002, from CMP line-006.

RMS	**Time**	**Interval Velocity**	**Thickness**	**Depth**
0.105	0.0	0.105	0	0
0.105	11.823	0.074	0.437944	0.437944
0.085	37.693	0.085	1.099475	1.537419
0.085	81.349	0.051	1.620346	3.157765
0.066	100.752	0.066	0.640299	3.798064
0.066	171.895	0.038	1.333931	5.131995
0.041	251.122	0.010	0.396135	5.52813
0.038	325.000	0.009	0.316845	5.844974
0.029	525.992	0.010	1.37435	7.219324
0.010	600.369	0.010	0.371885	7.591209
0.010	800.479	0.010	1.00055	8.591759

Table A.2: Velocity Analysis for Line-004, from CMP line-005.

RMS	**Time**	**Interval Velocity**	**Thickness**	**Depth**
0.129684	0	0.130257	0	0
0.130257	22.99038	0.130257	1.497333	1.497333
0.130257	49.00931	0.130257	1.694579	3.191912
0.130257	73.92105	0.096466	1.201567	4.393479
0.122234	100.4936	0.052635	0.699316	5.092795
0.112492	123.7442	0.11398	1.325075	6.41787
0.113065	200.6941	0.113065	4.350136	10.76801
0.113065	199.5869	0.113065		

Table A.3: Velocity analysis for line-007, from line-008.

RMS	Time	Interval Velocity	Thickness	Depth
0.038	0	0.038	0	0
0.038	15.627	0.12038 7	0.94064	0.94064
0.1	45.386	0.1	1.48795	2.42859
0.1	99.116	0.1	2.6865	5.11509
0.1	125	0.1		

Table A.4 : Velocity analysis for line-009-010, from line-011.

RMS	Time	Interval Velocity	Thickness	Depth
0.049	20.19	0.050	0.72	0.72
0.050	50.03	0.048	1.53	2.25
0.049	74.13	0.127	6.64	8.17
0.11	200.39	0.105	15.76	22.40
0.11	499.96	0.105		

Table A.5: Velocity analysis for line-012, line-013, line-015, and line-016, from line-014.

RMS	Time	Interval Velocity	Thickness	Depth
0.170	3.11	0.170	6.75	6.75
0.170	106.67	0.130	7.87	14.62
0.091	280.06	0.090	6.06	13.93
0.091	416.13	0.090	8.32	14.38
0.090	600.36	0.090		

d. *Focal Mechanisms*

(1) Felt Earthquakes

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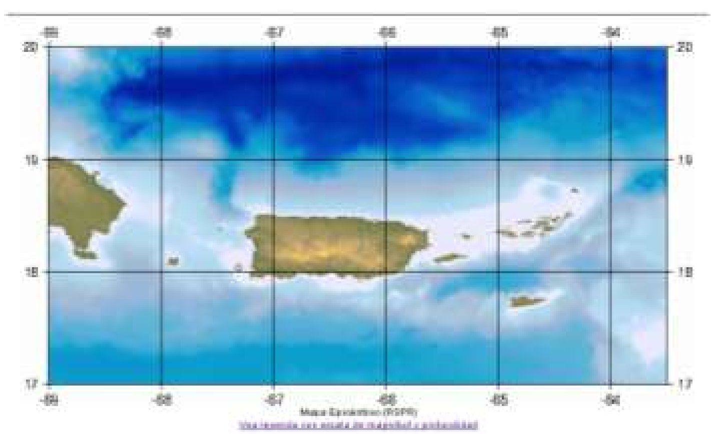
Resultado de la búsqueda de sismos

```
Year mo da    origin      lat n     lon w    depth  rms    erh    erz gap xmag fmag
1991-12-26  729 17.30 18  1.82  67 18.78  20.0 1.16  7.22 31.61 316  3.8 3.3

  sta dist azm   an p/s w   sec+ccor (tobs -tcal -dly  =res) wt   xmg fmg
 mgp  23.9  96  90 iPd 1 20.75 0.00  3.45  5.09 0.00 -1.64 1.35 3.8 3.4
 mep  37.4  69  90 iPd 1 22.50 0.00  5.20  6.80 0.00 -1.60 1.35
                   S   2 25.21 0.00  7.91 11.90 0.00 -3.99 0.00
 lrs  57.5  59  90 iPd 1 25.75 0.00  8.45  9.34 0.00 -0.89 1.35 4.0 3.3
                   S   2 31.11 0.00 13.81 16.35 0.00 -2.54 0.56
 porp 71.6  87  90 eP  2 28.00 0.00 10.70 11.13 0.00 -0.43 0.90 3.5 2.9
                   S   2 35.50 0.00 18.20 19.48 0.00 -1.28 0.90
 apr  77.8  52  90 iPd 1 29.50 0.00 12.20 11.92 0.00  0.28 1.35 3.8 3.4
                   S   2 39.11 0.00 21.81 20.86 0.00  0.95 0.90
 cllp 78.1  86  90 iPu 1 29.25 0.00 11.95 11.96 0.00 -0.01 1.35 3.8 2.8
                   S   2 37.38 0.00 20.08 20.93 0.00 -0.85 0.90
 sjg 123.2  85  90 iP- 1 36.00 0.00 18.70 17.67 0.00  1.03 1.35 3.7 3.5
                   S   2 48.90 0.00 31.60 30.92 0.00  0.67 0.90
 csb 125.6  76  90 iPd 1 36.25 0.00 18.95 17.97 0.00  0.98 1.35
                   S   2 49.88 0.00 32.58 31.45 0.00  1.13 0.90
 cpd 147.8  89  90 eP- 1 39.50 0.00 22.20 20.78 0.00  1.42 1.35 3.8 3.5
                   S   3 56.82 0.00 39.52 36.36 0.00  3.15 0.04
 lpr 155.7  78  90 iP  2 40.75 0.00 23.45 21.77 0.00  1.68 0.90 3.8 3.5
                   S   3 57.88 0.00 40.58 38.10 0.00  2.48 0.30
```



Mapa Epicéntrico (RSPR)

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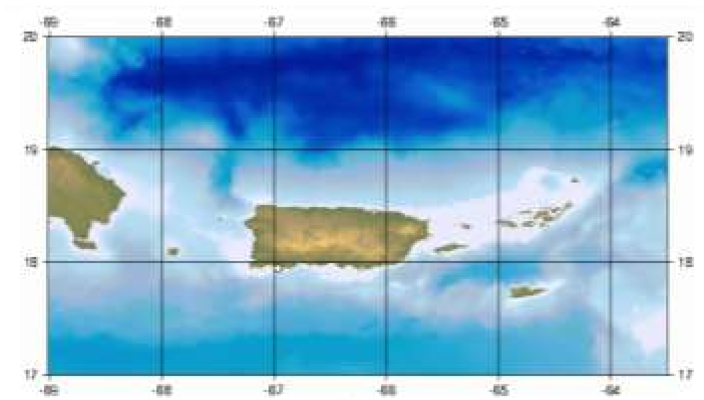
Resultado de la búsqueda de sismos

Year mo da	origin	lat n	lon w	depth	rms	erh	erz	gap	Xma	Fma	MM
1999-11-13	2227 46.02	17 56.06	66 57.86	10.7	.40	3.25	2.58	218	3.8	4.1	IV

sta	dist	azm	an	p/s	w	sec+ccor	(tobs	-tcal	-dly	=res)	wt	xmg	fmg	info
MGP	15.5	302	112	IPU	1	49.08 .00	3.06	3.41	.00	-.35	1.02	3.8	4.1	.000
LSP	30.0	335	98	IPU	1	51.41 .00	5.39	5.57	.00	-.18	1.02			.000
PORP	37.1	68	95	IPD	1	52.02 .00	6.00	6.67	.00	-.67	.96	3.4	4.0	.000
LRS	41.8	17	95	IPU	1	53.05 .00	7.03	7.39	.00	-.36	1.02			.000
CELP	43.6	68	94	IPD	1	53.00 .00	6.98	7.66	.00	-.68	.94			.000
APR	63.3	23	66	+PU	1	56.44 .00	10.42	10.55	.00	-.13	1.02	3.9	4.2	.000
SJG	88.3	77	55	EP+	1	59.53 .00	13.51	13.91	.00	-.40	1.02	3.9	4.1	.000
CSB	94.1	65	55	EP-	1	60.46 .00	14.44	14.64	.00	-.20	1.02			.000
CPD	111.6	84	55	EP-	1	63.11 .00	17.09	16.85	.00	.24	1.02	4.0	4.1	.000



Mapa Epicéntrico (RSPR)
Vea leyenda con escala de magnitud y profundidad

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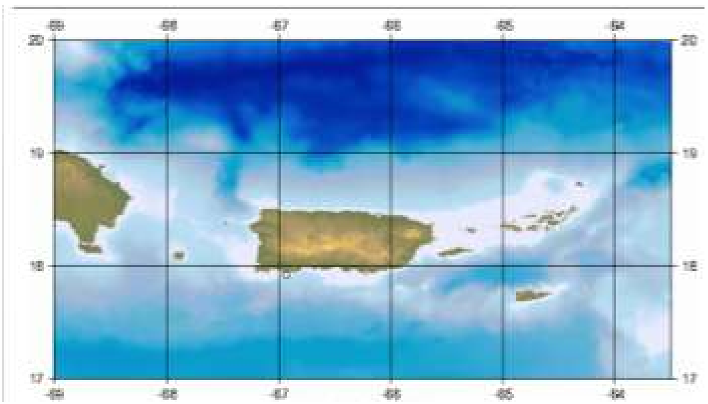
Resultado de la búsqueda de sismos

Year mo da	origin	lat n	lon w	depth	rms	erh	erz	gap	xmA	fmC	Ints
2000-08-19	0815 51.06	17 54.99	66 56.32	3.9	.08	.83	.58	228	3.8	3.6	

sta	chn	dist	azm	an	p/s	w	sec+ccor	(tobs-tcal	-dly	=res)	wt	xmg	fmg	info
MGP	SHZ	18.9	303	94	IPU	1	54.93 .00	3.87 3.76	.00	.11	1.08		3.8	

LSP	SHZ	33.0	332	92	IP+	1	57.28	.00	6.22	6.33	.00	-.11	1.08		
PORP	SHZ	35.4	64	92	IPD	1	57.87	.00	6.81	6.77	.00	.04	1.08		3.5
CELP	SHZ	41.9	65	57	IPD	1	58.86	.00	7.80	7.78	.00	.02	1.08		
LRS	SHZ	43.0	13	57	IP+	1	58.91	.00	7.85	7.96	.00	-.11	1.08	3.6	3.0
					S	2	65.09	.00	14.03	13.93	.00	.10	.72		
APR	SHZ	64.1	20	57	IP+	1	62.32	.00	11.26	11.20	.00	.06	1.08		3.8
					S	2	69.92	.00	18.86	19.60	.00	-.74	.00		
SJG	SHZ	86.2	75	44	IP-	1	65.40	.00	14.34	14.41	.00	-.07	1.08		3.7
					S	2	76.34	.00	25.28	25.22	.00	.06	.72		
CPD	SHZ	109.1	82	44	IP+	1	69.11	.00	18.05	17.31	.00	.74	.00	3.9	3.8



Mapa Epicéntrico (RSPR)

Vea leyenda con escala de magnitud y profundidad

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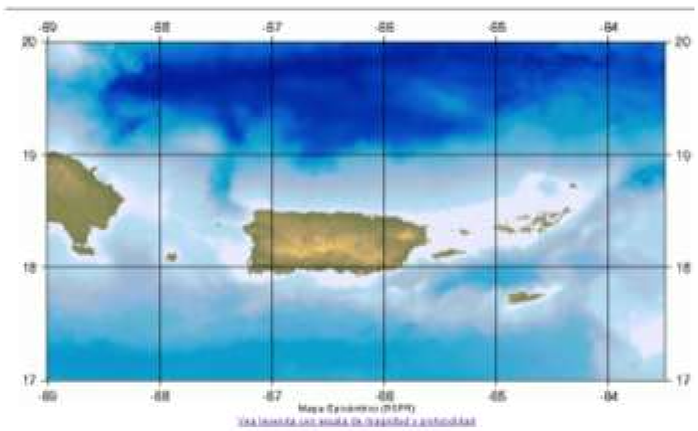
Resultado de la búsqueda de sismos

Year mo da	origin		lat n		lon w		depth	rms	erh	erz	gap	xmA	fmC	Ints
2003-03-22	1944	49.42	18	2.15	67	11.43	3.9	.48	2.24	1.19	215		3.4	III

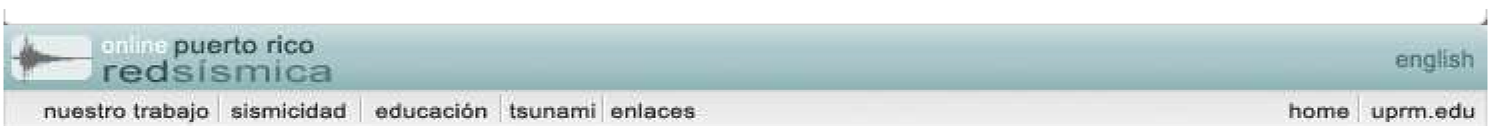
Comment: Felt in Combate, Cabo Rojo, Puerto Rico

sta	chn	dist	azm	an	p/s	w	sec	+ccor	(tobs	-tcal	-dly	=res)	wt	xmg	fmg	info
MGP	SHZ	11.2	106	99	IPD	1	-8.39	.00	2.19	2.38	.00	-.19	1.20		3.2	
MGP	BHZ	11.2	106	99	IPD	1	-8.21	.00	2.37	2.38	.00	-.01	1.20			
MGP	BHE	11.2	106	99	S	2	-6.11	.00	4.47	4.16	.00	.31	.80			
LSP	SHZ	19.3	35	94	EP-	1	-6.25	.00	4.33	3.85	.00	.48	1.20			
LRS	SHZ	46.4	51	57	IPU	1	-2.72	.00	7.86	8.46	.00	-.60	1.20			
					S	2	4.26	.00	14.84	14.80	.00	.04	.80			
IDE	SHZ	50.6	321	57	IPD	1	-2.09	.00	8.49	9.12	.00	-.63	1.20			
IDE	SHE	50.6	321	57	S	2	6.13	.00	16.71	15.96	.00	.75	.80			
PORP	SHZ	58.5	88	57	EP-	1	-1.32	.00	9.26	10.34	.00	-1.08	.79		3.2	

```
                        S  2   6.98  .00 17.56 18.09  .00  -.53  .80
OBIP BHZ  58.5  87  57 IPD 1   -.14  .00 10.44 10.34  .00   .10 1.20
OBIP BHN  58.5  87  57  S  2   7.75  .00 18.33 18.09  .00   .24  .80
CELP SHZ  64.8  86  57 IPD 1    .31  .00 10.89 11.29  .00  -.40 1.20
                        S  2   9.25  .00 19.83 19.76  .00   .07  .80
SJG  SHZ 110.3  85  44 EP+ 1   6.87  .00 17.45 17.45  .00   .00 1.20     3.7
                        S  2  20.25  .00 30.83 30.54  .00   .29  .80
SJG  BHZ 110.3  85  44 EP+ 1   6.99  .00 17.57 17.45  .00   .12 1.20
SJG  BHE 110.3  85  44  S  2  20.37  .00 30.95 30.54  .00   .41  .80
CSB  SHZ 112.8  75  44 EP+ 1   7.07  .00 17.65 17.78  .00  -.13 1.20
                        S  2  19.88  .00 30.46 31.11  .00  -.65  .80
CPD  BHZ 134.8  89  44 EP- 1  10.91  .00 21.49 20.56  .00   .93 1.08
CPD  BHE 134.8  89  44  S  2  25.06  .00 35.64 35.98  .00  -.34  .80
HUMP BHZ 142.2  85  44 EP+ 1  11.67  .00 22.25 21.50  .00   .75 1.20
MTP  BHE 172.8  87  44 EP+ 1  16.98  .00 27.56 25.37  .00  2.19  .00
```



Mapa Epicéntrico (RSPR)



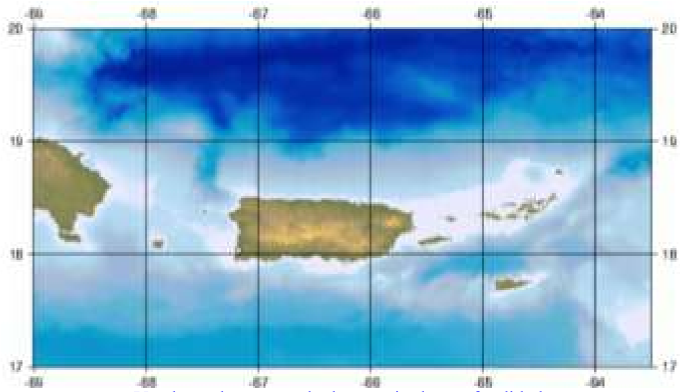
Resultado de la búsqueda de sismos

```
Year mo da   origin     lat n    lon w   depth  rms   erh   erz gap xmA fmC Ints
2003-03-22 2020 53.69 18  1.74  67 10.07   5.2  .54  2.59  1.02 214     3.3 III

Comment: Felt in Cabo Rojo

 sta chn  dist azm  an p/s w  sec+ccor  (tobs-tcal  -dly  =res) wt  xmg fmg info
MGP  SHZ   8.7 105 114 IPD 1 -4.46  .00  1.85  2.01  .00  -.16 1.22     3.2
MGP  BHZ   8.7 105 114 EP- 1 -4.38  .00  1.93  2.01  .00  -.08 1.22
LSP  SHZ  18.7  27  99 EP+ 1 -2.69  .00  3.62  3.77  .00  -.15 1.22
MPR  BHZ  20.6   8  98 EP- 1 -1.63  .00  4.68  4.10  .00   .58 1.22
LRS  SHZ  45.0  49  57 IPU 1  1.92  .00  8.23  8.13  .00   .10 1.22     3.1
                        S  2  7.34  .00 13.65 14.23  .00  -.58  .81
IDE  SHZ  52.8 319  57 EP- 2  2.11  .00  8.42  9.32  .00  -.90  .81
```

```
PORP SHZ  56.2  87  57 EP- 1  2.42  .00  8.73  9.86  .00 -1.13  .99     3.0
OBIP BHZ  56.2  87  57 EP- 1  3.64  .00  9.95  9.86  .00   .09 1.22
OBIP BHE  56.2  87  57  S  2 11.96  .00 18.27 17.25  .00  1.01  .77
CELP SHZ  62.5  85  57 EP- 1  3.68  .00  9.99 10.82  .00  -.83 1.22
                        S  2 12.10  .00 18.41 18.93  .00  -.53  .81
SJG  SHZ 108.0  85  44 EP+ 1 10.51  .00 16.82 17.00  .00  -.18 1.22     3.6
SJG  BHZ 108.0  85  44 EP+ 1 11.18  .00 17.49 17.00  .00   .49 1.22
CSB  SHZ 110.8  74  44 EP+ 1 10.98  .00 17.29 17.35  .00  -.06 1.22
                        S  2 23.75  .00 30.06 30.36  .00  -.31  .81
CPD  SHZ 132.4  89  44 EP+ 2 13.78  .00 20.09 20.10  .00  -.01  .81     3.5
CPD  BHZ 132.4  89  44 EP+ 2 14.69  .00 21.00 20.10  .00   .90  .81
HUMP BHZ 139.9  84  44 EP+ 1 15.53  .00 21.84 21.04  .00   .80 1.22
HUMP BHE 139.9  84  44  S  2 32.27  .00 38.58 36.82  .00  1.76  .00
MTP  BHZ 170.4  87  44 EP- 1 20.55  .00 26.86 24.91  .00  1.95  .00
```



Vea leyenda con escala de magnitud y profundidad

B.

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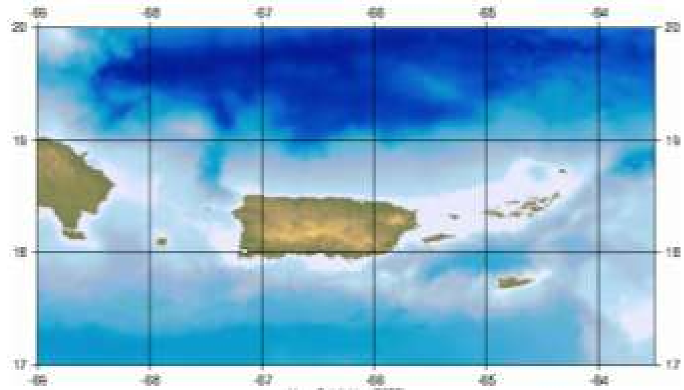
Resultado de la búsqueda de sismos

```
Year mo da   origin     lat n    lon w   depth  rms   erh   erz gap xmA fmC Ints
2003-03-23 2316 33.11 18   .31  67  9.31    .8  .58  3.72  1.62 292     3.5 III

Comment: Felt in Combate, Cabo Rojo, Puerto Rico

 sta chn  dist azm  an p/s w  sec+ccor  (tobs-tcal  -dly  =res) wt  xmg fmg info
MGP  SHZ   7.0  87  96 IPD 1 35.08  .00  1.97  1.56  .00   .41 1.17     3.4
LSP  SHZ  20.6  20  54 EP+ 1 37.96  .00  4.85  4.30  .00   .55 1.17
LRS  SHZ  45.8  45  43 IPU 1 41.16  .00  8.05  8.80  .00  -.75 1.17     3.4
                        S  2 48.09  .00 14.98 15.40  .00  -.42  .78
PORP SHZ  55.0  84  43 IPD 1 42.54  .00  9.43 10.22  .00  -.79 1.17     3.2
                        S  2 50.50  .00 17.39 17.89  .00  -.50  .78
CELP SHZ  61.4  82  43 IPD 1 43.60  .00 10.49 11.19  .00  -.70 1.17
                        S  2 52.45  .00 19.34 19.58  .00  -.25  .78
```

```
SJG   SHZ 106.9   83   34 IPU 1 50.48   .00 17.37 17.53  .00   -.16 1.17      3.8
                         S  2 64.15   .00 31.04 30.68  .00    .36  .78
CSB   SHZ 110.2   73   34 EP+ 1 51.30   .00 18.19 17.95  .00    .24 1.17
                         S  2 65.16   .00 32.05 31.41  .00    .63  .78
CPD   SHZ 131.2   88   34 EP+ 1 54.46   .00 21.35 20.60  .00    .75 1.17      3.8
                         S  2 70.06   .00 36.95 36.05  .00    .90  .77
```



Mapa Epicéntrico (RSPR)

[Vea leyenda con escala de magnitud y profundidad]

Resultado de la búsqueda de sismos

```
YEAR MO DA   --ORIGIN--   --LAT N-   --LON W--   DEPTH    RMS    ERH    ERZ   XMAG   FMAG   PMAG   INT
2007-03-15   0321 59.65   17 59.27    67   3.51    5.10   0.26   1.29   1.16          3.55   3.55D  V

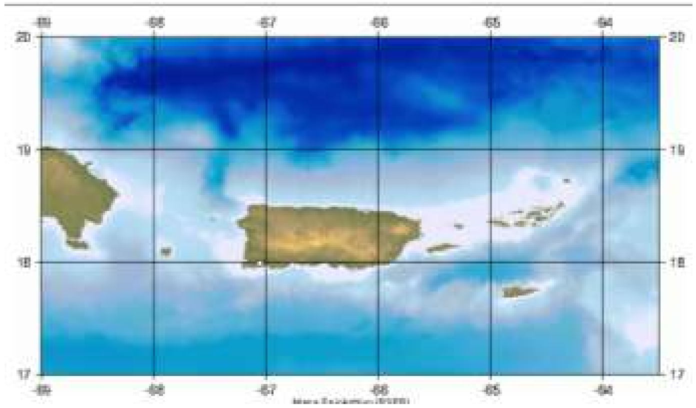
SOURCE
NSTA NPHS   DMIN  MODEL GAP  ITR NFM  NWR NWS  NVR REMRKS-AVH   N.XMG-XMMAD-T    N.FMG-FMMAD-T   L F
X
  30    31    5.8   PR1   191    9   18   14    5   31      Q  PPD    0.00   0.00      18.00   0.28  D

XMAG2-N.XMG2-XMMAD-T-S   FMAG2-N.FMG2-FMMAD-T-S   PREF.MAG-N.PMAG-PRMAD-T
                          3.55   18.00   0.28  Z          3.55   18.00   0.28  D

REGION= Southwestern Puerto Rico
Comments: Felt in Southwestern and Western P

STA NET COM CR DIST AZM   AN P/S WT    SEC  (TOBS -TCAL -DLY   =RES)   WT    SR   INFO   CAL DUR-W-
FMAG-T -AMP-U-PER-W-XMAG-T
CRPR PR BHZ   A   5.8 291 125 EP+ 1   61.16   1.51   1.54 0.00 -0.03   1.14      0.322 0.73   55
2.72  Z
CRPR PR BHN   A   5.8 291 125 ES   1   62.87   3.22   2.74 0.00   0.48   1.14S     0.490
GBPR PR SHZ   A  19.1   94   99 EP+ 1   63.36   3.71   3.83 0.00 -0.12   1.14      0.532 1.40  137
3.35  Z
```

```
LSP  PR SHZ  A 21.0 353  98 EP- 1  63.93  4.28  4.18 0.00  0.10  1.14     0.178 1.40 186
3.64 Z
MPR  PR BHZ  A 26.2 341  96 EP+ 1  64.44  4.79  5.12 0.00 -0.33  1.14     0.116 0.73  62
2.96 Z
MPR  PR BHE  A 26.2 341  96 ES  1  68.70  9.05  9.11 0.00 -0.06  1.14S    0.420
LRS  PR SHZ  A 40.5  33  57 EP+ 1  67.18  7.53  7.45 0.00  0.08  1.14     0.091 1.40 200
3.83 Z
AOPR PR BHE  A 51.2  39  57 ES  1  76.21 16.56 16.18 0.00  0.38  1.14S    0.332
AOPR PR BHZ  A 51.2  39  57 EP+ 1  68.74  9.09  9.09 0.00  0.00  1.14     0.092 0.73  75
3.23 Z
CELP PR SHZ  A 51.7  79  57 EP+ 1  68.61  8.96  9.16 0.00 -0.20  1.14     0.144 1.40 185
3.77 Z
AGPR PR BHE  A 53.4 355  57 ES  1  76.53 16.88 16.79 0.00  0.09  1.14S    0.468
AGPR PR BHZ  A 53.4 355  57 EP+ 1  68.78  9.13  9.43 0.00 -0.30  1.14     0.218 0.73  78
3.27 Z
ICM  PR BHN  A 57.9 100  57 ES  1  78.11 18.46 18.01 0.00  0.45  1.11S    0.349
ICM  PR BHZ  A 57.9 100  57 EP+ 1  69.49  9.84 10.12 0.00 -0.28  1.11     0.240 0.00  74
2.49 Z
SJG  PR SHZ  A 97.1  81  44 EP+ 1  75.23 15.58 15.64 0.00 -0.06  0.06     0.000 1.40 194
3.86 Z
SJG  IU BHZ  A 97.2  81  44 EP+ 1  75.15 15.50 15.64 0.00 -0.14  0.06     0.000 0.73 108
3.61 Z
SJG  IU BHN  A 97.2  81  44 ES  1  88.31 28.66 27.84 0.00  0.82* 0.00S    0.000
CPD  PR BHZ  A121.2  87  44 EP+ 1  78.88 19.23 18.69 0.00  0.54* 0.00     0.000 0.73  91
3.48 Z
CPD  PR BHN  A121.2  87  44 ES  1  93.82 34.17 33.27 0.00  0.90* 0.00S    0.000
HUMP PR BHZ  A129.1  82  44 EP+ 1  79.92 20.27 19.69 0.00  0.58* 0.00     0.000 0.73  97
3.55 Z
HUMP PR BHN  A129.1  82  44 ES  1  95.29 35.64 35.05 0.00  0.59* 0.00S    0.000
CBYP PR BHZ  A131.0  75  44 EP+ 1  80.02 20.37 19.93 0.00  0.44  0.00     0.000 0.00 103
3.60 Z
CBYP PR BHN  A131.0  75  44 ES  1  95.77 36.12 35.48 0.00  0.64* 0.00S    0.000
MTP  PR BHZ  A159.9  85  44 EP- 1  84.50 24.85 23.59 0.00  1.26* 0.00     0.000 0.73 133
3.87 Z
MTP  PR BHN  A159.9  85  44 ES  1 102.67 43.02 41.99 0.00  1.03* 0.00S    0.000
HATO DR SHZ  A261.0 291  44 EP+ 1  96.62 36.97 36.38 0.00  0.59* 0.00     0.000 0.00 134
3.25 Z
                                ES  1 125.03 65.38 64.76 0.00  0.62* 0.00S    0.000
TBVI PR SHZ  A262.7  79  44 EP- 1  97.76 38.11 36.60 0.00  1.51* 0.00     0.000 1.40 113
3.55 Z
TBVI PR SHE  A262.7  79  44 ES  1 125.14 65.49 65.15 0.00  0.34  0.00S    0.000
SDDR CU BHZ  A460.4 285  44 EP+ 1 124.34 64.69 61.62 0.00  3.07* 0.00     0.000 0.00 127
4.49 Z
SDDR CU BHN  A460.4 285  44 ES  1 167.70108.05109.68 0.00 -1.63* 0.00S    0.000
```



Mapa Epicéntrico (RSPR)

Vea leyenda con escala de magnitud y profundidad

Resultado de la búsqueda de sismos

```
YEAR MO DA   --ORIGIN--   --LAT N-   --LON W--   DEPTH    RMS    ERH    ERZ   XMAG   FMAG   PMAG   INT
2007-05-01   0327   2.72  18   2.52    67 13.19  34.68   0.15   0.91   1.19          3.92   3.92D  VI

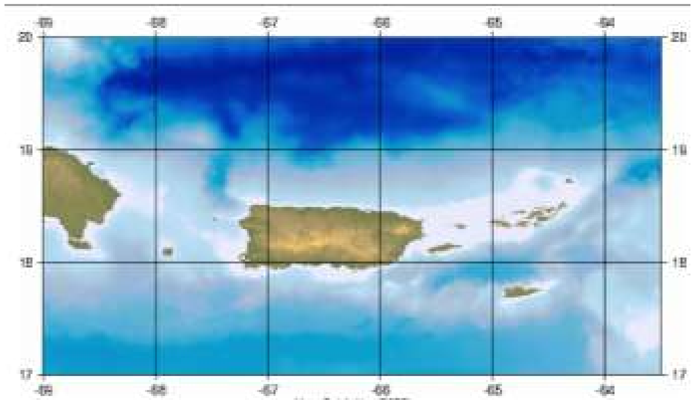
SOURCE
NSTA NPHS   DMIN MODEL GAP ITR NFM NWR NWS NVR REMRKS-AVH  N.XMG-XMMAD-T   N.FMG-FMMAD-T  L F
X
  33   33   12.3   PR1  168  12  24  14   4  33     Q  PPG   0.00  0.00     23.00  0.23 D

XMAG2-N.XMG2-XMMAD-T-S  FMAG2-N.FMG2-FMMAD-T-S  PREF.MAG-N.PMAG-PRMAD-T
                         3.92  23.00  0.23 Z        3.92  23.00  0.23 D

REGION= Southwestern Puerto Rico
Comments: Felt in Puerto Rico

STA NET COM CR DIST AZM  AN P/S WT   SEC (TOBS -TCAL -DLY  =RES)  WT   SR  INFO  CAL DUR-W-
FMAG-T -AMP-U-PER-W-XMAG-T
CRPR PR BHN  A 12.3 108 157 ES  1  12.67  9.95  9.77 0.00  0.18  0.64S   0.367
CRPR PR BHZ  A 12.3 108 157 IPU     7.99  5.27  5.49 0.00 -0.22  1.28    0.350 0.73  84
3.17 Z
LSP  PR SHZ  A 20.5  43 144 IPD     8.71  5.99  5.99 0.00  0.00  1.28    0.150 1.40 195
3.70 Z
MPR  PR BHN  A 20.6  24 144 ES  1  13.71 10.99 10.68 0.00  0.31  0.63S   0.269
MPR  PR BHZ  A 20.6  24 144 IPD     8.63  5.91  6.00 0.00 -0.09  1.28    0.192 0.73 105
3.42 Z
GBPR PR SHZ  A 36.8 101 126 IPD    10.24  7.52  7.45 0.00  0.07  1.28    0.308 1.40 155
3.59 Z
LRS  PR SHZ  A 48.3  55 117 IPD    11.22  8.50  8.69 0.00 -0.19  1.28    0.189 1.40 201
3.86 Z
AGPR PR BHZ  A 48.5  13 117 IPD    11.45  8.73  8.71 0.00  0.02  1.28    0.337 0.73 166
```

```
3.97 Z
AGPR PR BHN  A 48.5  13 117 ES  1  18.38 15.66 15.50 0.00  0.16  0.64S    0.255
AOPR PR BHZ  A 59.7  55 111 IPD    12.64  9.92 10.01 0.00 -0.09  1.22     0.228 0.73 131
3.76 Z
AOPR PR BHN  A 59.7  55 111 ES  1  20.64 17.92 17.82 0.00  0.10  0.61S    0.192
CELP PR SHZ  A 67.9  86 108 IPU    13.88 11.16 10.98 0.00  0.18  1.02     0.242 1.40 227
3.99 Z
IMO  PR SHZ  A 73.2 276 106 IPD    14.52 11.80 11.62 0.00  0.18  0.84     0.728 1.40 154
3.64 Z
ICM  PR BHZ  A 75.8 102 105 IPU    14.94 12.22 11.94 0.00  0.28  0.75     0.184 0.00 164
3.25 Z
SJG  PR SHZ  A113.5  86  99 IPU    19.67 16.95 16.59 0.00  0.36  0.00     0.000 1.40 198
3.92 Z
SJG  IU BHZ  A113.5  85  99 IPU    19.66 16.94 16.60 0.00  0.34  0.00     0.000 0.73 145
3.92 Z
SJG  IU BHN  A113.5  85  99 ES  1  32.69 29.97 29.55 0.00  0.42  0.00S    0.000
CPD  PR BHZ  A138.1  90  97 IPU    20.05 17.33 19.68 0.00 -2.35* 0.00     0.000 0.73 129
3.84 Z
CPD  PR BHN  A138.1  90  97 ES  1  37.51 34.79 35.03 0.00 -0.24  0.00S    0.000
HUMP PR BHZ  A145.4  85  97 EP+ 1  23.32 20.60 20.60 0.00  0.00  0.00     0.000 0.73 146
3.96 Z
HUMP PR BHN  A145.4  85  97 ES  1  40.07 37.35 36.67 0.00  0.68* 0.00S    0.000
CBYP PR BHZ  A146.5  79  97 EP+ 1  18.23 15.51 20.73 0.00 -5.22* 0.00     0.000 0.00 134
3.88 Z
MTP  PR BHZ  A176.6  87  95 EP+ 1  19.85 17.13 24.52 0.00 -7.39* 0.00     0.000 0.73 173
4.15 Z
STVI PR BHZ  A242.2  81  93 EP+ 1  36.18 33.46 32.79 0.00  0.67* 0.00     0.000 0.00 183
4.27 Z
STVI PR BHN  A242.2  81  93 ES  1  61.65 58.93 58.37 0.00  0.56* 0.00S    0.000
HATO DR SHZ  A242.9 291  93 EP- 1  36.43 33.71 32.88 0.00  0.83* 0.00     0.000 0.00 197
3.60 Z
SMN1 PR BHZ  A251.1 301  93 EP- 1  38.08 35.36 33.92 0.00  1.44* 0.00     0.000 0.00 175
4.24 Z
CDVI PR BHZ  A262.0  96  93 EP+ 1  36.68 33.96 35.30 0.00 -1.34* 0.00     0.000 0.73 185
4.30 Z
TBVI PR SHZ  A278.5  81  93 EP+ 1  40.88 38.16 37.38 0.00  0.78* 0.00     0.000 1.40 163
3.92 Z
TBVI PR SHN  A278.5  81  93 ES  1  69.46 66.74 66.54 0.00  0.20  0.00S    0.000
NAVI DR SHZ  A313.0 290  92 EP+ 1  45.35 42.63 41.75 0.00  0.88* 0.00     0.000
ABVI PR SHZ  A313.8  75  92 EP+ 1  46.01 43.29 41.84 0.00  1.45* 0.00     0.000 1.40 213
4.20 Z
SDDR CU BHZ  A442.3 285  92 EP+ 1  62.09 59.37 58.11 0.00  1.26* 0.00     0.000 0.00 206
4.92 Z
```



Mapa Epicéntrico (RSPR)
[Vea leyenda con escala de magnitud y profundidad]

Resultado de la búsqueda de sismos

```
YEAR MO DA   --ORIGIN--   --LAT N-   --LON W--   DEPTH   RMS   ERH   ERZ  XMAG  FMAG  PMAG  INT
2004-11-04  0203 22.59  18  1.79   67  7.46  12.50  0.12  0.62  0.29  3.01  2.82  2.82D II

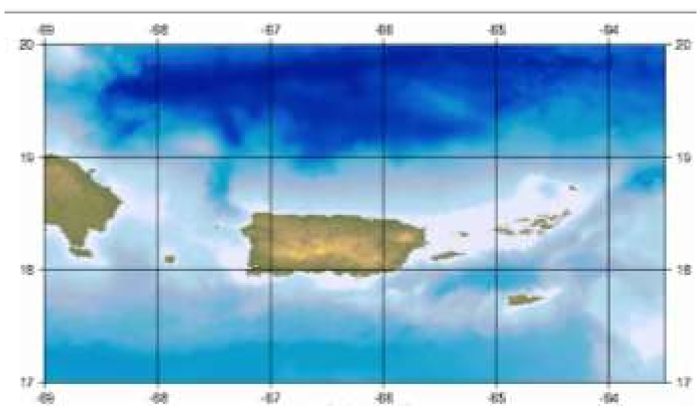
SOURCE
NSTA NPHS  DMIN MODEL GAP ITR NFM NWR NWS NVR REMRKS-AVH  N.XMG-XMMAD-T   N.FMG-FMMAD-T  L F
X
  24   28   4.5   PR1  233  11  15  16   7  28     Q  PPH  11.00  0.38     15.00  0.16 D

XMAG2-N.XMG2-XMMAD-T-S  FMAG2-N.FMG2-FMMAD-T-S  PREF.MAG-N.PMAG-PRMAD-T
 3.01  11.00  0.38 L     2.82  15.00  0.16 Z        2.82  15.00  0.16 D

REGION= Southwestern Puerto Rico

STA NET COM CR DIST AZM  AN P/S WT   SEC (TOBS -TCAL -DLY  =RES)  WT   SR  INFO  CAL DUR-W-
FMAG-T -AMP-U-PER-W-XMAG-T
MGP  PR HHZ  A  4.5 123 157 EP+ 1  24.77  2.18  2.38 0.00 -0.20  1.07     0.272 0.73  30
2.16 Z
MGP  PR HHE  A  4.5 123 157 ES  1  26.87  4.28  4.24 0.00  0.04  1.07S    0.518 0.73
1608C1.00   3.01 L
LSP  PR SHZ  A 16.7  14 117 EP- 1  26.39  3.80  3.69 0.00  0.11  1.07     0.107 1.40  65
2.66 Z
MPR  PR HHZ  A 20.2 356 111 EP+ 1  26.71  4.12  4.19 0.00 -0.07  1.07     0.166 0.73  18
1.79 Z
MPR  PR HHN  A 20.2 356 111 ES  1  30.27  7.68  7.46 0.00  0.22  1.07S    0.315 0.73
1310C1.00   3.11 L
LRS  PR SHZ  A 41.4  45  98 IPD    29.91  7.32  7.36 0.00 -0.04  2.13     0.249 1.40  72
2.90 Z   163C1.00   3.01 L
                            ES  1  35.69 13.10 13.10 0.00  0.00  1.07S    0.469
AGPR PR HHZ  A 48.5   1  66 EP+ 1  30.84  8.25  8.35 0.00 -0.10  1.07     0.242 0.73  33
2.48 Z
```

```
AGPR PR HHE  A 48.5   1  66 ES  1  37.43 14.84 14.86 0.00 -0.02  1.07S    0.349 0.73
231C1.00   2.61 L
PORP PR SHZ  A 51.8  85  66 IPU    31.54  8.95  8.82 0.00  0.13  2.13     0.416 1.40  68
2.86 Z   317C1.00   3.41 L
                            ES  1  38.66 16.07 15.70 0.00  0.37  0.00S    0.000
AOPR PR HHZ  A 52.6  48  66 EP- 1  31.49  8.90  8.94 0.00 -0.04  1.07     0.069 0.73  39
2.63 Z
AOPR PR HHE  A 52.6  48  66 ES  1  38.37 15.78 15.91 0.00 -0.13  1.07S    0.225 0.73
1593C1.00   3.50 L
OBIP PR HHZ  A 54.9  88  66 EP- 1  31.76  9.17  9.26 0.00 -0.09  1.06     0.111 0.73  25
2.23 Z
OBIP PR HHE  A 54.9  88  66 ES  1  38.94 16.35 16.48 0.00 -0.13  1.06S    0.226 0.73
35C1.00   1.87 L
CELP PR SHZ  A 57.9  84  66 EP- 1  32.39  9.80  9.69 0.00  0.11  1.04     0.096 1.40  57
2.70 Z   251C1.00   3.39 L
                            ES  1  40.12 17.53 17.25 0.00  0.28  0.90S    0.162
SJG  PR SHZ  A103.5  84  55 EP+ 1  38.73 16.14 15.67 0.00  0.47  0.00     0.000 1.40  73
2.98 Z
SJG  IU BHZ  A103.6  84  55 EP- 1  38.63 16.04 15.68 0.00  0.36  0.00     0.000 0.73  45
2.82 Z
SJG  IU BHE  A103.6  84  55 ES  1  50.68 28.09 27.91 0.00  0.18  0.00S    0.000
CSB  PR SHZ  A106.3  74  55 EP- 1  39.40 16.81 16.02 0.00  0.79* 0.00     0.000 1.40  65
2.87 Z   143C1.00   3.61 L
                            ES  1  52.00 29.41 28.52 0.00  0.89* 0.00S    0.000
HUMP PR HHZ  A135.5  84  55 EP+ 1  43.31 20.72 19.72 0.00  1.00* 0.00     0.000 0.73  47
2.89 Z
HUMP PR HHE  A135.5  84  55 ES  1  58.43 35.84 35.10 0.00  0.74* 0.00S    0.000
CBYP PR HHZ  A136.8  78  55 EP- 1  43.75 21.16 19.89 0.00  1.27* 0.00     0.000 0.73  64
3.18 Z
CBYP PR HHN  A136.8  78  55 ES  1  60.90 38.31 35.40 0.00  2.91* 0.00S    0.000 0.73
91C1.00   3.01 L
MTP  PR HHZ  A166.6  87  55 EP+ 1  48.51 25.92 23.66 0.00  2.26* 0.00     0.000 0.73  59
3.14 Z
MTP  PR HHE  A166.6  87  55 ES  1  65.27 42.68 42.11 0.00  0.57* 0.00S    0.000 0.73
41C1.00   2.86 L
```



Mapa Epicéntrico (RSPR)

[Vea leyenda con escala de magnitud y profundidad]

[red sísmica] :: [política de privacidad] :: [univ. de puerto rico recinto de mayagüez] :: [wdt] :: copyrights 2005

Resultado de la búsqueda de sismos

```
YEAR MO DA   --ORIGIN--  --LAT N-  --LON W--  DEPTH   RMS   ERH   ERZ  XMAG  FMAG  PMAG  INT
2006-03-08  1706  6.80  17 58.10   66 58.19   7.93  0.13  1.86  1.64        3.14  3.14D III

SOURCE
NSTA NPHS  DMIN MODEL GAP ITR NFM NWR NWS NVR REMRKS-AVH  N.XMG-XMMAD-T   N.FMG-FMMAD-T  L F
X
   9   10  13.4  PR1  210  12   7   8   1  10     Q  PPG   0.00  0.00      7.00  0.04 D

XMAG2-N.XMG2-XMMAD-T-S  FMAG2-N.FMG2-FMMAD-T-S  PREF.MAG-N.PMAG-PRMAD-T
                         3.14   7.00  0.04 Z        3.14   7.00  0.04 D

REGION= Southern Puerto Rico
Comments: Felt in Guanica and Lajas, PR

STA NET COM CR DIST AZM  AN P/S WT   SEC (TOBS -TCAL -DLY  =RES)  WT   SR  INFO  CAL DUR-W-
FMAG-T -AMP-U-PER-W-XMAG-T
MGP  PR SHZ  A 13.4 289 116 IPU     9.76  2.96  3.00 0.00 -0.04  1.07     0.948 1.40 102
3.05 Z
LSP  PR SHZ  A 26.0 332  57 IPD    11.68  4.88  4.95 0.00 -0.07  1.07     0.482 1.40 103
3.14 Z
LRS  PR SHZ  A 38.1  20  57 IPD    13.55  6.75  6.81 0.00 -0.06  1.07     0.629 1.40 100
3.18 Z
CELP PR SHZ  A 43.0  74  57 IPD    14.39  7.59  7.56 0.00  0.03  1.07     0.491 1.40  94
3.14 Z
                                ES  1  19.70 12.90 13.46 0.00 -0.56* 0.00S    0.000
AGPR PR BHZ  A 57.2 345  57 IPU    16.82 10.02  9.75 0.00  0.27  1.04     0.272 0.73  73
3.21 Z
AGPR PR BHE  A 57.2 345  57 ES  1  23.89 17.09 17.35 0.00 -0.26  0.53S    0.336
SJG  PR SHZ  A 88.2  79  44 IPD    21.01 14.21 14.14 0.00  0.07  1.07     0.419 1.40  85
3.10 Z
SJG  IU BHZ  A 88.2  79  44 IPD    20.83 14.03 14.14 0.00 -0.11  1.07     0.419 0.73  83
3.36 Z
SJG  IU BHN  A 88.2  79  44 ES  1  32.47 25.67 25.17 0.00  0.50* 0.00S    0.000
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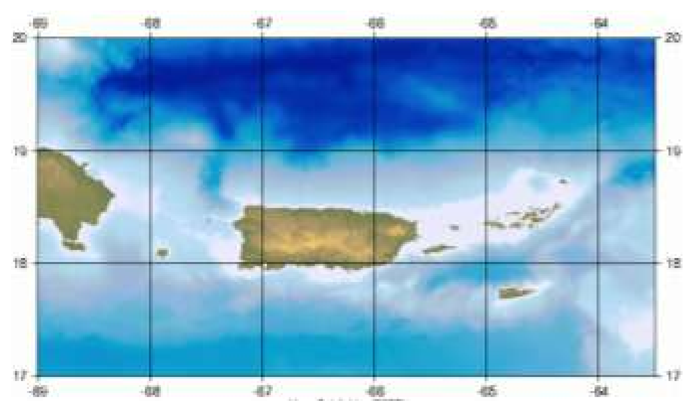

Resultado de la búsqueda de sismos

```
YEAR MO DA  --ORIGIN--  --LAT N-  --LON W--  DEPTH   RMS   ERH   ERZ  XMAG  FMAG  PMAG  INT
2006-04-18  1331 21.33  17 59.63   67  4.29  10.75  0.05  0.64  0.68        3.23  3.23D III

SOURCE
NSTA NPHS  DMIN MODEL GAP ITR NFM NWR NWS NVR REMRKS-AVH  N.XMG-XMMAD-T   N.FMG-FMMAD-T  L F
X
  22   23   2.4  PR1  189  19  15  12   4  23     Q  PPH   0.00  0.00     12.00  0.13 D

XMAG2-N.XMG2-XMMAD-T-S  FMAG2-N.FMG2-FMMAD-T-S  PREF.MAG-N.PMAG-PRMAD-T
                         3.23  12.00  0.13 Z        3.23  12.00  0.13 D

REGION= Southwestern Puerto Rico
Comments: Felt in the western Puerto Ric

STA NET COM CR DIST AZM  AN P/S WT   SEC (TOBS -TCAL -DLY  =RES)  WT   SR  INFO  CAL DUR-W-
FMAG-T -AMP-U-PER-W-XMAG-T
MGP  PR SHZ  A  2.4 310 165 IPU    23.41  2.08  2.03 0.00  0.05  1.56     0.520 1.40 126
3.18 Z
CRPR PR BHZ  A  4.2 289 154 EP+ 1  23.28  1.95  2.12 0.00 -0.17  0.78     0.157 0.73  70
2.93 Z
CRPR PR BHE  A  4.2 289 154 ES  1  25.12  3.79  3.77 0.00  0.02  0.78S    0.336
LSP  PR SHZ  A 20.2 356 105 IPD    25.40  4.07  4.10 0.00 -0.03  1.56     0.289 1.40 111
3.17 Z
MPR  PR BHZ  A 25.2 344 100 EP+ 1  25.81  4.48  4.85 0.00 -0.37  0.00     0.000 0.73  41
2.57 Z
MPR  PR BHN  A 25.2 344 100 ES  1  29.56  8.23  8.63 0.00 -0.40  0.00S    0.000
LRS  PR SHZ  A 40.7  36  95 IPD    28.57  7.24  7.23 0.00  0.01  1.56     0.211 1.40 116
3.33 Z
OBIP PR BHZ  A 49.6  83  94 IPD    29.88  8.55  8.58 0.00 -0.03  1.56     0.433 0.73  94
3.43 Z
OBIP PR BHE  A 49.6  83  94 ES  1  36.90 15.57 15.27 0.00  0.30  0.00S    0.000
AOPR PR BHZ  A 51.5  40  93 IPD    30.15  8.82  8.88 0.00 -0.06  1.56     0.215 0.73  78
3.26 Z
AOPR PR BHN  A 51.5  40  93 ES  1  37.16 15.83 15.81 0.00  0.02  0.78S    0.516
AGPR PR BHZ  A 52.6 356  93 IPU    30.41  9.08  9.04 0.00  0.04  1.56     0.486 0.73  50
2.86 Z
AGPR PR BHN  A 52.6 356  93 ES  1  37.44 16.11 16.09 0.00  0.02  0.78S    0.245
CELP PR SHZ  A 52.9  80  66 EP- 1  30.52  9.19  9.09 0.00  0.10  0.78     0.208 1.40 114
3.33 Z
ICM  PR HHZ  A 59.4 100  66 EP- 1  31.70 10.37 10.00 0.00  0.37  0.00     0.000 0.73  89
3.39 Z
ICM  PR HHN  A 59.4 100  66 ES  1  39.03 17.70 17.80 0.00 -0.10  0.75S    0.378
SJG  PR SHZ  A 98.4  82  55 IPD    37.02 15.69 15.18 0.00  0.51* 0.00     0.000 1.40  94
3.20 Z
                            ES  1  48.32 26.99 27.02 0.00 -0.03  0.03S    0.000
SJG  IU BHZ  A 98.4  82  55 EP- 1  36.85 15.52 15.19 0.00  0.33  0.00     0.000 0.73  94
```

```
3.49 Z
SJG  IU BHN  A 98.4  82  55 ES  1  48.88 27.55 27.04 0.00  0.51* 0.00S    0.000
CULB PR BHN  A190.1  80  55 EP+ 1  50.28 28.95 26.78 0.00  2.17* 0.00     0.000
STVI PR BHZ  A227.6  79  55 EP- 1  56.01 34.68 31.53 0.00  3.15* 0.00     0.000
TBVI PR SHZ  A263.9  79  55 EP+ 1  60.60 39.27 36.13 0.00  3.14* 0.00     0.000
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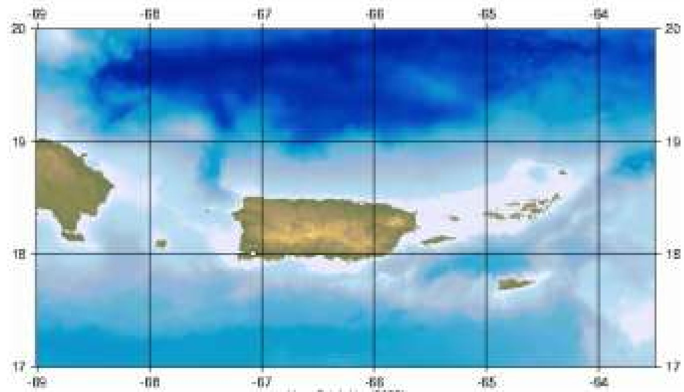

Mapa Epicéntrico (RSPR)

[Vea leyenda con escala de magnitud y profundidad]

Resultado de la búsqueda de sismos

```
YEAR MO DA  --ORIGIN--  --LAT N-  --LON W--  DEPTH   RMS   ERH   ERZ  XMAG  FMAG  PMAG  INT
2008-03-28  2115  5.14  17 55.09   66 56.63   7.28  0.14  0.68  0.56        3.02  3.02D III

SOURCE
NSTA NPHS  DMIN MODEL GAP ITR NFM NWR NWS NVR REMRKS-AVH  N.XMG-XMMAD-T   N.FMG-FMMAD-T  L F
X
  23   24   9.3  PR1  207  21  15  19   7  24     Q# PPE   0.00  0.00     11.00  0.22 D

XMAG2-N.XMG2-XMMAD-T-S  FMAG2-N.FMG2-FMMAD-T-S  PREF.MAG-N.PMAG-PRMAD-T
                          3.02  11.00  0.22 Z        3.02  11.00  0.22 D

REGION= Southern Puerto Rico

STA NET COM CR DIST AZM  AN P/S WT   SEC (TOBS -TCAL -DLY  =RES)  WT   SR  INFO  CAL DUR-W-
FMAG-T -AMP-U-PER-W-XMAG-T
GBPR PR SHZ  A   9.3  47 124 EP+ 1   7.70  2.56  2.30 0.00  0.26  0.94     0.576 1.40  72
2.71 Z
CRPR PR BHN  A 20.1 300  57 ES  1  12.56  7.42  7.28 0.00  0.14  0.94S    0.407
CRPR PR BHZ  A 20.1 300  57 EP+ 1   9.32  4.18  4.09 0.00  0.09  0.94     0.249 0.73  30
2.26 Z
LSP  PR SHZ  A 32.2 333  57 EP- 1  10.97  5.83  5.96 0.00 -0.13  0.94     0.082 1.40  87
3.02 Z
OBIP PR BHZ  A 38.3  68  57 IPD    11.85  6.71  6.90 0.00 -0.19  1.89     0.267 0.73  48
2.80 Z
```

```
OBIP PR BHN  A 38.3  68  57 ES   1  17.91 12.77 12.28 0.00  0.49  0.00S    0.000
MPR  PR BHZ  A 38.5 328  57 EP+ 1  11.91  6.77  6.93 0.00 -0.16  0.94     0.095
CELP PR SHZ  A 42.3  65  57 IPD     12.62  7.48  7.52 0.00 -0.04  1.89     0.247 1.40  82
3.02 Z
LRS  PR SHZ  A 42.6  14  57 IPD     12.80  7.66  7.56 0.00  0.10  1.89     0.227 1.40  78
2.97 Z
ICM  PR BHZ  A 44.9  93  57 EP- 1  13.08  7.94  7.91 0.00  0.03  0.94     0.162 0.00  58
2.25 Z
ICM  PR BHN  A 44.9  93  57 ES   1  19.92 14.78 14.08 0.00  0.70* 0.00S    0.000
AOPR PR HNZ  A 51.5  22  57 EP+ 1  14.00  8.86  8.93 0.00 -0.07  0.94     0.056 0.73  45
AOPR PR HNN  A 51.5  22  57 ES   1  20.91 15.77 15.90 0.00 -0.13  0.94S    0.416
AGPR PR BHZ  A 63.3 344  57 IPU     15.87 10.73 10.75 0.00 -0.02  1.89     0.260 0.73  75
3.24 Z
AGPR PR BHN  A 63.3 344  57 ES   1  24.34 19.20 19.14 0.00  0.07  0.94S    0.289
SJG  PR SHZ  A 86.7  75  44 EP- 1  18.96 13.82 14.03 0.00 -0.21  0.82     0.075 1.40  93
3.18 Z
                            ES   1  30.41 25.27 24.97 0.00  0.30  0.82S    0.221
SJG  IU BHZ  A 86.8  75  44 EP- 1  19.08 13.94 14.04 0.00 -0.10  0.82     0.075 0.73  61
3.08 Z
SJG  IU BHN  A 86.8  75  44 ES   1  30.44 25.30 24.99 0.00  0.31  0.82S    0.221
CPD  PR BHZ  A109.8  82  44 EP+ 1  22.86 17.72 16.95 0.00  0.77* 0.00     0.000 0.73  77
3.32 Z
CPD  PR BHN  A109.8  82  44 ES   1  35.47 30.33 30.17 0.00  0.16  0.38S    0.051
HUMP PR HNZ  A118.6  77  44 EP+ 1  23.89 18.75 18.07 0.00  0.68* 0.00     0.000 0.73  78
HUMP PR HNN  A118.6  77  44 ES   1  37.19 32.05 32.16 0.00 -0.11  0.21S    0.014
CBYP PR HNZ  A121.6  71  44 EP+ 1  23.97 18.83 18.45 0.00  0.38  0.09     0.000 0.73  86
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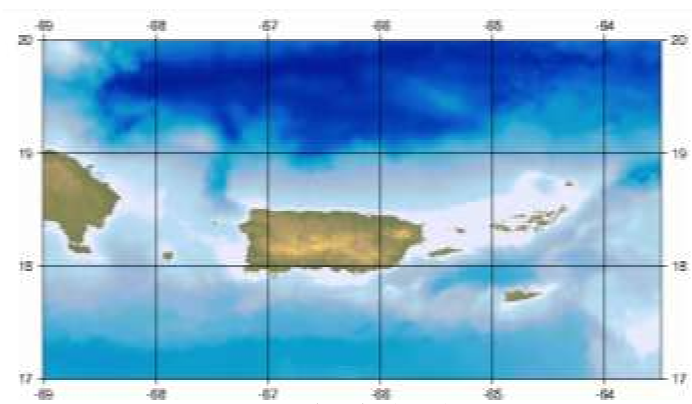

Mapa Epicéntrico (RSPR)
Vea leyenda con escala de magnitud y profundidad

(2) Results from FocMec

Event # 07: allowing a polarity error of 0.1[1]

yield 100 solutions.

SSun Oct 11 12:07:56 2009 for program FOCMEC
07
Input from a file 07.inp
1991-12-26 (07)

Statn Azimuth TOAng Key Log10 (S/P) NumPol DenTOAng Comment
MGP 96.0 90.0 D
MEP 69.0 90.0 D
LRS 59.0 90.0 D
APR 52.0 90.0 D
CLLP 86.0 90.0 U
SJG 85.0 90.0 -
CSB 76.0 90.0 D
CPD 89.0 90.0 -
Including emergent polarity picks
Polarities/Errors: P 008/ .1 SV 000/ .0 SH 000/ .0 Threshh. = .10
There are no amplitude ratio data
The minimum, increment and maximum B axis trend are .00 5.00 355.00
The limits for the B axis plunge are .00 5.00 90.00
The limits for the angle of the A axis are .00 5.00 85.00

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Dip,Strike,Rake 5.00 40.00 90.00
Dip,Strike,Rake 85.00 220.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 130.00 5.00 310.00 85.00
Lower Hem. Trend & Plunge of B 40.00 .00
Lower Hem. Trend, Plunge of P,T 310.00 40.00 130.00 50.00
MRR = .17 MTT = -.07 MPP = -.10 MRT = -.63 MRP = -.75 MTP = -.09
Angle of "A" with vertical B trend plane is 5.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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[1] Focal Mechanisms where initially computed allowing 0 polarity error; when acceptable solutions where not found the polarity error was increased, allowing the smaller polarity error possible to obtain solutions.

Dip,Strike,Rake 85.00 40.00 90.00
Dip,Strike,Rake 5.00 220.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 130.00 85.00 310.00 5.00
Lower Hem. Trend & Plunge of B 40.00 .00
Lower Hem. Trend, Plunge of P,T 130.00 40.00 310.00 50.00
MRR = .17 MTT = -.07 MPP = -.10 MRT = .63 MRP = .75 MTP = -.09
Angle of "A" with vertical B trend plane is 85.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 5.00 45.00 90.00
Dip,Strike,Rake 85.00 225.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 135.00 5.00 315.00 85.00
Lower Hem. Trend & Plunge of B 45.00 .00
Lower Hem. Trend, Plunge of P,T 315.00 40.00 135.00 50.00
MRR = .17 MTT = -.09 MPP = -.09 MRT = -.70 MRP = -.70 MTP = -.09
Angle of "A" with vertical B trend plane is 5.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 85.00 45.00 90.00
Dip,Strike,Rake 5.00 225.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 135.00 85.00 315.00 5.00
Lower Hem. Trend & Plunge of B 45.00 .00
Lower Hem. Trend, Plunge of P,T 135.00 40.00 315.00 50.00
MRR = .17 MTT = -.09 MPP = -.09 MRT = .70 MRP = .70 MTP = -.09
Angle of "A" with vertical B trend plane is 85.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 5.00 50.00 90.00

Dip,Strike,Rake 85.00 230.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 140.00 5.00 320.00 85.00
Lower Hem. Trend & Plunge of B 50.00 .00
Lower Hem. Trend, Plunge of P,T 320.00 40.00 140.00 50.00
MRR = .17 MTT = -.10 MPP = -.07 MRT = -.75 MRP = -.63 MTP = -.09
Angle of "A" with vertical B trend plane is 5.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 85.00 50.00 90.00
Dip,Strike,Rake 5.00 230.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 140.00 85.00 320.00 5.00
Lower Hem. Trend & Plunge of B 50.00 .00
Lower Hem. Trend, Plunge of P,T 140.00 40.00 320.00 50.00
MRR = .17 MTT = -.10 MPP = -.07 MRT = .75 MRP = .63 MTP = -.09
Angle of "A" with vertical B trend plane is 85.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 5.00 55.00 90.00
Dip,Strike,Rake 85.00 235.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 145.00 5.00 325.00 85.00
Lower Hem. Trend & Plunge of B 55.00 .00
Lower Hem. Trend, Plunge of P,T 325.00 40.00 145.00 50.00
MRR = .17 MTT = -.12 MPP = -.06 MRT = -.81 MRP = -.56 MTP = -.08
Angle of "A" with vertical B trend plane is 5.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 10.00 55.00 90.00
Dip,Strike,Rake 80.00 235.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 145.00 10.00 325.00 80.00
Lower Hem. Trend & Plunge of B 55.00 .00
Lower Hem. Trend, Plunge of P,T 325.00 35.00 145.00 55.00
MRR = .34 MTT = -.23 MPP = -.11 MRT = -.77 MRP = -.54 MTP = -.16
Angle of "A" with vertical B trend plane is 10.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 80.00 55.00 90.00
Dip,Strike,Rake 10.00 235.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 145.00 80.00 325.00 10.00
Lower Hem. Trend & Plunge of B 55.00 .00
Lower Hem. Trend, Plunge of P,T 145.00 35.00 325.00 55.00
MRR = .34 MTT = -.23 MPP = -.11 MRT = .77 MRP = .54 MTP = -.16
Angle of "A" with vertical B trend plane is 80.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 85.00 55.00 90.00
Dip,Strike,Rake 5.00 235.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 145.00 85.00 325.00 5.00
Lower Hem. Trend & Plunge of B 55.00 .00
Lower Hem. Trend, Plunge of P,T 145.00 40.00 325.00 50.00
MRR = .17 MTT = -.12 MPP = -.06 MRT = .81 MRP = .56 MTP = -.08
Angle of "A" with vertical B trend plane is 85.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 5.00 60.00 90.00
Dip,Strike,Rake 85.00 240.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 150.00 5.00 330.00 85.00
Lower Hem. Trend & Plunge of B 60.00 .00
Lower Hem. Trend, Plunge of P,T 330.00 40.00 150.00 50.00
MRR = .17 MTT = -.13 MPP = -.04 MRT = -.85 MRP = -.49 MTP = -.08
Angle of "A" with vertical B trend plane is 5.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 10.00 60.00 90.00
Dip,Strike,Rake 80.00 240.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 150.00 10.00 330.00 80.00
Lower Hem. Trend & Plunge of B 60.00 .00
Lower Hem. Trend, Plunge of P,T 330.00 35.00 150.00 55.00
MRR = .34 MTT = -.26 MPP = -.09 MRT = -.81 MRP = -.47 MTP = -.15
Angle of "A" with vertical B trend plane is 10.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 15.00 60.00 90.00
Dip,Strike,Rake 75.00 240.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 150.00 15.00 330.00 75.00
Lower Hem. Trend & Plunge of B 60.00 .00
Lower Hem. Trend, Plunge of P,T 330.00 30.00 150.00 60.00
MRR = .50 MTT = -.38 MPP = -.12 MRT = -.75 MRP = -.43 MTP = -.22
Angle of "A" with vertical B trend plane is 15.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 75.00 60.00 90.00
Dip,Strike,Rake 15.00 240.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 150.00 75.00 330.00 15.00
Lower Hem. Trend & Plunge of B 60.00 .00
Lower Hem. Trend, Plunge of P,T 150.00 30.00 330.00 60.00
MRR = .50 MTT = -.37 MPP = -.12 MRT = .75 MRP = .43 MTP = -.22
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 80.00 60.00 90.00
Dip,Strike,Rake 10.00 240.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 150.00 80.00 330.00 10.00
Lower Hem. Trend & Plunge of B 60.00 .00
Lower Hem. Trend, Plunge of P,T 150.00 35.00 330.00 55.00
MRR = .34 MTT = -.26 MPP = -.09 MRT = .81 MRP = .47 MTP = -.15
Angle of "A" with vertical B trend plane is 80.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 85.00 60.00 90.00
Dip,Strike,Rake 5.00 240.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 150.00 85.00 330.00 5.00
Lower Hem. Trend & Plunge of B 60.00 .00
Lower Hem. Trend, Plunge of P,T 150.00 40.00 330.00 50.00
MRR = .17 MTT = -.13 MPP = -.04 MRT = .85 MRP = .49 MTP = -.08
Angle of "A" with vertical B trend plane is 85.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 5.00 65.00 90.00
Dip,Strike,Rake 85.00 245.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 155.00 5.00 335.00 85.00
Lower Hem. Trend & Plunge of B 65.00 .00
Lower Hem. Trend, Plunge of P,T 335.00 40.00 155.00 50.00
MRR = .17 MTT = -.14 MPP = -.03 MRT = -.89 MRP = -.42 MTP = -.07
Angle of "A" with vertical B trend plane is 5.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 10.00 65.00 90.00

Dip,Strike,Rake 80.00 245.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 155.00 10.00 335.00 80.00
Lower Hem. Trend & Plunge of B 65.00 .00
Lower Hem. Trend, Plunge of P,T 335.00 35.00 155.00 55.00
MRR = .34 MTT = -.28 MPP = -.06 MRT = -.85 MRP = -.40 MTP = -.13
Angle of "A" with vertical B trend plane is 10.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 15.00 65.00 90.00
Dip,Strike,Rake 75.00 245.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 155.00 15.00 335.00 75.00
Lower Hem. Trend & Plunge of B 65.00 .00
Lower Hem. Trend, Plunge of P,T 335.00 30.00 155.00 60.00
MRR = .50 MTT = -.41 MPP = -.09 MRT = -.78 MRP = -.37 MTP = -.19
Angle of "A" with vertical B trend plane is 15.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 20.00 65.00 90.00
Dip,Strike,Rake 70.00 245.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 155.00 20.00 335.00 70.00
Lower Hem. Trend & Plunge of B 65.00 .00
Lower Hem. Trend, Plunge of P,T 335.00 25.00 155.00 65.00
MRR = .64 MTT = -.53 MPP = -.11 MRT = -.69 MRP = -.32 MTP = -.25
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 25.00 65.00 90.00
Dip,Strike,Rake 65.00 245.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 155.00 25.00 335.00 65.00
Lower Hem. Trend & Plunge of B 65.00 .00
Lower Hem. Trend, Plunge of P,T 335.00 20.00 155.00 70.00
MRR = .77 MTT = -.63 MPP = -.14 MRT = -.58 MRP = -.27 MTP = -.29
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 65.00 65.00 90.00
Dip,Strike,Rake 25.00 245.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 155.00 65.00 335.00 25.00
Lower Hem. Trend & Plunge of B 65.00 .00
Lower Hem. Trend, Plunge of P,T 155.00 20.00 335.00 70.00
MRR = .77 MTT = -.63 MPP = -.14 MRT = .58 MRP = .27 MTP = -.29
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 70.00 65.00 90.00
Dip,Strike,Rake 20.00 245.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 155.00 70.00 335.00 20.00
Lower Hem. Trend & Plunge of B 65.00 .00
Lower Hem. Trend, Plunge of P,T 155.00 25.00 335.00 65.00
MRR = .64 MTT = -.53 MPP = -.11 MRT = .69 MRP = .32 MTP = -.25
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 75.00 65.00 90.00
Dip,Strike,Rake 15.00 245.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 155.00 75.00 335.00 15.00
Lower Hem. Trend & Plunge of B 65.00 .00
Lower Hem. Trend, Plunge of P,T 155.00 30.00 335.00 60.00
MRR = .50 MTT = -.41 MPP = -.09 MRT = .78 MRP = .37 MTP = -.19
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 80.00 65.00 90.00
Dip,Strike,Rake 10.00 245.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 155.00 80.00 335.00 10.00
Lower Hem. Trend & Plunge of B 65.00 .00
Lower Hem. Trend, Plunge of P,T 155.00 35.00 335.00 55.00
MRR = .34 MTT = -.28 MPP = -.06 MRT = .85 MRP = .40 MTP = -.13
Angle of "A" with vertical B trend plane is 80.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 85.00 65.00 90.00
Dip,Strike,Rake 5.00 245.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 155.00 85.00 335.00 5.00
Lower Hem. Trend & Plunge of B 65.00 .00
Lower Hem. Trend, Plunge of P,T 155.00 40.00 335.00 50.00
MRR = .17 MTT = -.14 MPP = -.03 MRT = .89 MRP = .42 MTP = -.07
Angle of "A" with vertical B trend plane is 85.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 5.00 70.00 90.00
Dip,Strike,Rake 85.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 5.00 340.00 85.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 340.00 40.00 160.00 50.00
MRR = .17 MTT = -.15 MPP = -.02 MRT = -.93 MRP = -.34 MTP = -.06
Angle of "A" with vertical B trend plane is 5.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 10.00 70.00 90.00
Dip,Strike,Rake 80.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 10.00 340.00 80.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 340.00 35.00 160.00 55.00
MRR = .34 MTT = -.30 MPP = -.04 MRT = -.88 MRP = -.32 MTP = -.11
Angle of "A" with vertical B trend plane is 10.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 15.00 70.00 90.00
Dip,Strike,Rake 75.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 15.00 340.00 75.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 340.00 30.00 160.00 60.00
MRR = .50 MTT = -.44 MPP = -.06 MRT = -.81 MRP = -.30 MTP = -.16
Angle of "A" with vertical B trend plane is 15.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 20.00 70.00 90.00
Dip,Strike,Rake 70.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 20.00 340.00 70.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 340.00 25.00 160.00 65.00
MRR = .64 MTT = -.57 MPP = -.08 MRT = -.72 MRP = -.26 MTP = -.21
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 25.00 70.00 90.00

Dip,Strike,Rake 65.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 25.00 340.00 65.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 340.00 20.00 160.00 70.00
MRR = .77 MTT = -.68 MPP = -.09 MRT = -.60 MRP = -.22 MTP = -.25
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 30.00 70.00 90.00
Dip,Strike,Rake 60.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 30.00 340.00 60.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 340.00 15.00 160.00 75.00
MRR = .87 MTT = -.76 MPP = -.10 MRT = -.47 MRP = -.17 MTP = -.28
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.00 70.00 90.00
Dip,Strike,Rake 55.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 35.00 340.00 55.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 340.00 10.00 160.00 80.00
MRR = .94 MTT = -.83 MPP = -.11 MRT = -.32 MRP = -.12 MTP = -.30
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 40.00 70.00 90.00
Dip,Strike,Rake 50.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 40.00 340.00 50.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 340.00 5.00 160.00 85.00
MRR = .98 MTT = -.87 MPP = -.12 MRT = -.16 MRP = -.06 MTP = -.32
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 45.00 70.00 90.00
Dip,Strike,Rake 45.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 45.00 340.00 45.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 340.00 .00 180.00 90.00
MRR = 1.00 MTT = -.88 MPP = -.12 MRT = .00 MRP = .00 MTP = -.32
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.00 70.00 90.00
Dip,Strike,Rake 40.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 50.00 340.00 40.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 160.00 5.00 340.00 85.00
MRR = .98 MTT = -.87 MPP = -.12 MRT = .16 MRP = .06 MTP = -.32
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 55.00 70.00 90.00
Dip,Strike,Rake 35.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 55.00 340.00 35.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 160.00 10.00 340.00 80.00
MRR = .94 MTT = -.83 MPP = -.11 MRT = .32 MRP = .12 MTP = -.30
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 60.00 70.00 90.00
Dip,Strike,Rake 30.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 60.00 340.00 30.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 160.00 15.00 340.00 75.00
MRR = .87 MTT = -.76 MPP = -.10 MRT = .47 MRP = .17 MTP = -.28
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 65.00 70.00 90.00
Dip,Strike,Rake 25.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 65.00 340.00 25.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 160.00 20.00 340.00 70.00
MRR = .77 MTT = -.68 MPP = -.09 MRT = .60 MRP = .22 MTP = -.25
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 70.00 70.00 90.00
Dip,Strike,Rake 20.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 70.00 340.00 20.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 160.00 25.00 340.00 65.00
MRR = .64 MTT = -.57 MPP = -.08 MRT = .72 MRP = .26 MTP = -.21
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 75.00 70.00 90.00
Dip,Strike,Rake 15.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 75.00 340.00 15.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 160.00 30.00 340.00 60.00
MRR = .50 MTT = -.44 MPP = -.06 MRT = .81 MRP = .30 MTP = -.16
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 80.00 70.00 90.00
Dip,Strike,Rake 10.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 80.00 340.00 10.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 160.00 35.00 340.00 55.00
MRR = .34 MTT = -.30 MPP = -.04 MRT = .88 MRP = .32 MTP = -.11
Angle of "A" with vertical B trend plane is 80.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 85.00 70.00 90.00
Dip,Strike,Rake 5.00 250.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.00 85.00 340.00 5.00
Lower Hem. Trend & Plunge of B 70.00 .00
Lower Hem. Trend, Plunge of P,T 160.00 40.00 340.00 50.00
MRR = .17 MTT = -.15 MPP = -.02 MRT = .93 MRP = .34 MTP = -.06
Angle of "A" with vertical B trend plane is 85.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 5.00 75.00 90.00

Dip,Strike,Rake 85.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 5.00 345.00 85.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 345.00 40.00 165.00 50.00
MRR = .17 MTT = -.16 MPP = -.01 MRT = -.95 MRP = -.25 MTP = -.04
Angle of "A" with vertical B trend plane is 5.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 10.00 75.00 90.00
Dip,Strike,Rake 80.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 10.00 345.00 80.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 345.00 35.00 165.00 55.00
MRR = .34 MTT = -.32 MPP = -.02 MRT = -.91 MRP = -.24 MTP = -.09
Angle of "A" with vertical B trend plane is 10.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 15.00 75.00 90.00
Dip,Strike,Rake 75.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 15.00 345.00 75.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 345.00 30.00 165.00 60.00
MRR = .50 MTT = -.47 MPP = -.03 MRT = -.84 MRP = -.22 MTP = -.13
Angle of "A" with vertical B trend plane is 15.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 20.00 75.00 90.00
Dip,Strike,Rake 70.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 20.00 345.00 70.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 345.00 25.00 165.00 65.00
MRR = .64 MTT = -.60 MPP = -.04 MRT = -.74 MRP = -.20 MTP = -.16
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 25.00 75.00 90.00
Dip,Strike,Rake 65.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 25.00 345.00 65.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 345.00 20.00 165.00 70.00
MRR = .77 MTT = -.71 MPP = -.05 MRT = -.62 MRP = -.17 MTP = -.19
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 30.00 75.00 90.00
Dip,Strike,Rake 60.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 30.00 345.00 60.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 345.00 15.00 165.00 75.00
MRR = .87 MTT = -.81 MPP = -.06 MRT = -.48 MRP = -.13 MTP = -.22
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.00 75.00 90.00
Dip,Strike,Rake 55.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 35.00 345.00 55.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 345.00 10.00 165.00 80.00
MRR = .94 MTT = -.88 MPP = -.06 MRT = -.33 MRP = -.09 MTP = -.23
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 40.00 75.00 90.00
Dip,Strike,Rake 50.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 40.00 345.00 50.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 345.00 5.00 165.00 85.00
MRR = .98 MTT = -.92 MPP = -.07 MRT = -.17 MRP = -.04 MTP = -.25
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 45.00 75.00 90.00
Dip,Strike,Rake 45.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 45.00 345.00 45.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 345.00 .00 180.00 90.00
MRR = 1.00 MTT = -.93 MPP = -.07 MRT = .00 MRP = .00 MTP = -.25
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.00 75.00 90.00
Dip,Strike,Rake 40.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 50.00 345.00 40.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 165.00 5.00 345.00 85.00
MRR = .98 MTT = -.92 MPP = -.07 MRT = .17 MRP = .04 MTP = -.25
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 55.00 75.00 90.00
Dip,Strike,Rake 35.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 55.00 345.00 35.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 165.00 10.00 345.00 80.00
MRR = .94 MTT = -.88 MPP = -.06 MRT = .33 MRP = .09 MTP = -.23
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 60.00 75.00 90.00
Dip,Strike,Rake 30.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 60.00 345.00 30.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 165.00 15.00 345.00 75.00
MRR = .87 MTT = -.81 MPP = -.06 MRT = .48 MRP = .13 MTP = -.22
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 65.00 75.00 90.00
Dip,Strike,Rake 25.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 65.00 345.00 25.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 165.00 20.00 345.00 70.00
MRR = .77 MTT = -.71 MPP = -.05 MRT = .62 MRP = .17 MTP = -.19
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 70.00 75.00 90.00

Dip,Strike,Rake 20.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 70.00 345.00 20.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 165.00 25.00 345.00 65.00
MRR = .64 MTT = -.60 MPP = -.04 MRT = .74 MRP = .20 MTP = -.16
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 75.00 75.00 90.00
Dip,Strike,Rake 15.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 75.00 345.00 15.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 165.00 30.00 345.00 60.00
MRR = .50 MTT = -.47 MPP = -.03 MRT = .84 MRP = .22 MTP = -.12
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 80.00 75.00 90.00
Dip,Strike,Rake 10.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 80.00 345.00 10.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 165.00 35.00 345.00 55.00
MRR = .34 MTT = -.32 MPP = -.02 MRT = .91 MRP = .24 MTP = -.09
Angle of "A" with vertical B trend plane is 80.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 85.00 75.00 90.00
Dip,Strike,Rake 5.00 255.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.00 85.00 345.00 5.00
Lower Hem. Trend & Plunge of B 75.00 .00
Lower Hem. Trend, Plunge of P,T 165.00 40.00 345.00 50.00
MRR = .17 MTT = -.16 MPP = -.01 MRT = .95 MRP = .25 MTP = -.04
Angle of "A" with vertical B trend plane is 85.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 5.00 80.00 90.00
Dip,Strike,Rake 85.00 260.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 170.00 5.00 350.00 85.00
Lower Hem. Trend & Plunge of B 80.00 .00
Lower Hem. Trend, Plunge of P,T 350.00 40.00 170.00 50.00
MRR = .17 MTT = -.17 MPP = -.01 MRT = -.97 MRP = -.17 MTP = -.03
Angle of "A" with vertical B trend plane is 5.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 10.00 80.00 90.00
Dip,Strike,Rake 80.00 260.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 170.00 10.00 350.00 80.00
Lower Hem. Trend & Plunge of B 80.00 .00
Lower Hem. Trend, Plunge of P,T 350.00 35.00 170.00 55.00
MRR = .34 MTT = -.33 MPP = -.01 MRT = -.93 MRP = -.16 MTP = -.06
Angle of "A" with vertical B trend plane is 10.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 15.00 80.00 90.00
Dip,Strike,Rake 75.00 260.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 170.00 15.00 350.00 75.00
Lower Hem. Trend & Plunge of B 80.00 .00
Lower Hem. Trend, Plunge of P,T 350.00 30.00 170.00 60.00
MRR = .50 MTT = -.48 MPP = -.02 MRT = -.85 MRP = -.15 MTP = -.09
Angle of "A" with vertical B trend plane is 15.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   20.00   80.00   90.00
Dip,Strike,Rake   70.00   260.00   90.00   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   170.00   20.00   350.00   70.00
Lower Hem. Trend & Plunge of B   80.00   .00
Lower Hem. Trend, Plunge of P,T   350.00   25.00   170.00   65.00
MRR = .64 MTT = -.62 MPP = -.02 MRT = -.75 MRP = -.13 MTP = -.11
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   25.00   80.00   90.00
Dip,Strike,Rake   65.00   260.00   90.00   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   170.00   25.00   350.00   65.00
Lower Hem. Trend & Plunge of B   80.00   .00
Lower Hem. Trend, Plunge of P,T   350.00   20.00   170.00   70.00
MRR = .77 MTT = -.74 MPP = -.02 MRT = -.63 MRP = -.11 MTP = -.13
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   30.00   80.00   90.00
Dip,Strike,Rake   60.00   260.00   90.00   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   170.00   30.00   350.00   60.00
Lower Hem. Trend & Plunge of B   80.00   .00
Lower Hem. Trend, Plunge of P,T   350.00   15.00   170.00   75.00
MRR = .87 MTT = -.84 MPP = -.03 MRT = -.49 MRP = -.09 MTP = -.15
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   35.00   80.00   90.00
Dip,Strike,Rake   55.00   260.00   90.00   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   170.00   35.00   350.00   55.00
Lower Hem. Trend & Plunge of B   80.00   .00
Lower Hem. Trend, Plunge of P,T   350.00   10.00   170.00   80.00
MRR = .94 MTT = -.91 MPP = -.03 MRT = -.34 MRP = -.06 MTP = -.16
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   40.00   80.00   90.00
Dip,Strike,Rake   50.00   260.00   90.00   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   170.00   40.00   350.00   50.00
Lower Hem. Trend & Plunge of B   80.00   .00
Lower Hem. Trend, Plunge of P,T   350.00   5.00   170.00   85.00
MRR = .98 MTT = -.96 MPP = -.03 MRT = -.17 MRP = -.03 MTP = -.17
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   45.00   80.00   90.00
Dip,Strike,Rake   45.00   260.00   90.00   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   170.00   45.00   350.00   45.00
Lower Hem. Trend & Plunge of B   80.00   .00
Lower Hem. Trend, Plunge of P,T   350.00   .00   180.00   90.00
MRR = 1.00 MTT = -.97 MPP = -.03 MRT = .00 MRP = .00 MTP = -.17
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   50.00   80.00   90.00

Dip,Strike,Rake 40.00 260.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 170.00 50.00 350.00 40.00
Lower Hem. Trend & Plunge of B 80.00 .00
Lower Hem. Trend, Plunge of P,T 170.00 5.00 350.00 85.00
MRR = .98 MTT = -.96 MPP = -.03 MRT = .17 MRP = .03 MTP = -.17
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 55.00 80.00 90.00
Dip,Strike,Rake 35.00 260.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 170.00 55.00 350.00 35.00
Lower Hem. Trend & Plunge of B 80.00 .00
Lower Hem. Trend, Plunge of P,T 170.00 10.00 350.00 80.00
MRR = .94 MTT = -.91 MPP = -.03 MRT = .34 MRP = .06 MTP = -.16
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 60.00 80.00 90.00
Dip,Strike,Rake 30.00 260.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 170.00 60.00 350.00 30.00
Lower Hem. Trend & Plunge of B 80.00 .00
Lower Hem. Trend, Plunge of P,T 170.00 15.00 350.00 75.00
MRR = .87 MTT = -.84 MPP = -.03 MRT = .49 MRP = .09 MTP = -.15
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 65.00 80.00 90.00
Dip,Strike,Rake 25.00 260.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 170.00 65.00 350.00 25.00
Lower Hem. Trend & Plunge of B 80.00 .00
Lower Hem. Trend, Plunge of P,T 170.00 20.00 350.00 70.00
MRR = .77 MTT = -.74 MPP = -.02 MRT = .63 MRP = .11 MTP = -.13
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 70.00 80.00 90.00
Dip,Strike,Rake 20.00 260.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 170.00 70.00 350.00 20.00
Lower Hem. Trend & Plunge of B 80.00 .00
Lower Hem. Trend, Plunge of P,T 170.00 25.00 350.00 65.00
MRR = .64 MTT = -.62 MPP = -.02 MRT = .75 MRP = .13 MTP = -.11
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 75.00 80.00 90.00
Dip,Strike,Rake 15.00 260.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 170.00 75.00 350.00 15.00
Lower Hem. Trend & Plunge of B 80.00 .00
Lower Hem. Trend, Plunge of P,T 170.00 30.00 350.00 60.00
MRR = .50 MTT = -.48 MPP = -.02 MRT = .85 MRP = .15 MTP = -.09
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 80.00 80.00 90.00
Dip,Strike,Rake 10.00 260.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 170.00 80.00 350.00 10.00
Lower Hem. Trend & Plunge of B 80.00 .00
Lower Hem. Trend, Plunge of P,T 170.00 35.00 350.00 55.00
MRR = .34 MTT = -.33 MPP = -.01 MRT = .93 MRP = .16 MTP = -.06
Angle of "A" with vertical B trend plane is 80.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 85.00 80.00 90.00
Dip,Strike,Rake 5.00 260.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 170.00 85.00 350.00 5.00
Lower Hem. Trend & Plunge of B 80.00 .00
Lower Hem. Trend, Plunge of P,T 170.00 40.00 350.00 50.00
MRR = .17 MTT = -.17 MPP = -.01 MRT = .97 MRP = .17 MTP = -.03
Angle of "A" with vertical B trend plane is 85.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 10.00 85.00 90.00
Dip,Strike,Rake 80.00 265.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 175.00 10.00 355.00 80.00
Lower Hem. Trend & Plunge of B 85.00 .00
Lower Hem. Trend, Plunge of P,T 355.00 35.00 175.00 55.00
MRR = .34 MTT = -.34 MPP = .00 MRT = -.94 MRP = -.08 MTP = -.03
Angle of "A" with vertical B trend plane is 10.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 15.00 85.00 90.00
Dip,Strike,Rake 75.00 265.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 175.00 15.00 355.00 75.00
Lower Hem. Trend & Plunge of B 85.00 .00
Lower Hem. Trend, Plunge of P,T 355.00 30.00 175.00 60.00
MRR = .50 MTT = -.50 MPP = .00 MRT = -.86 MRP = -.08 MTP = -.04
Angle of "A" with vertical B trend plane is 15.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 20.00 85.00 90.00
Dip,Strike,Rake 70.00 265.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 175.00 20.00 355.00 70.00
Lower Hem. Trend & Plunge of B 85.00 .00
Lower Hem. Trend, Plunge of P,T 355.00 25.00 175.00 65.00
MRR = .64 MTT = -.64 MPP = .00 MRT = -.76 MRP = -.07 MTP = -.06
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 30.00 85.00 90.00
Dip,Strike,Rake 60.00 265.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 175.00 30.00 355.00 60.00
Lower Hem. Trend & Plunge of B 85.00 .00
Lower Hem. Trend, Plunge of P,T 355.00 15.00 175.00 75.00
MRR = .87 MTT = -.86 MPP = -.01 MRT = -.50 MRP = -.04 MTP = -.08
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.00 85.00 90.00
Dip,Strike,Rake 55.00 265.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 175.00 35.00 355.00 55.00
Lower Hem. Trend & Plunge of B 85.00 .00
Lower Hem. Trend, Plunge of P,T 355.00 10.00 175.00 80.00
MRR = .94 MTT = -.93 MPP = -.01 MRT = -.34 MRP = -.03 MTP = -.08
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.00 85.00 90.00

Dip,Strike,Rake 40.00 265.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 175.00 50.00 355.00 40.00
Lower Hem. Trend & Plunge of B 85.00 .00
Lower Hem. Trend, Plunge of P,T 175.00 5.00 355.00 85.00
MRR = .98 MTT = -.98 MPP = -.01 MRT = .17 MRP = .02 MTP = -.09
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 55.00 85.00 90.00
Dip,Strike,Rake 35.00 265.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 175.00 55.00 355.00 35.00
Lower Hem. Trend & Plunge of B 85.00 .00
Lower Hem. Trend, Plunge of P,T 175.00 10.00 355.00 80.00
MRR = .94 MTT = -.93 MPP = -.01 MRT = .34 MRP = .03 MTP = -.08
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 65.00 85.00 90.00
Dip,Strike,Rake 25.00 265.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 175.00 65.00 355.00 25.00
Lower Hem. Trend & Plunge of B 85.00 .00
Lower Hem. Trend, Plunge of P,T 175.00 20.00 355.00 70.00
MRR = .77 MTT = -.76 MPP = -.01 MRT = .64 MRP = .06 MTP = -.07
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 75.00 85.00 90.00
Dip,Strike,Rake 15.00 265.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 175.00 75.00 355.00 15.00
Lower Hem. Trend & Plunge of B 85.00 .00
Lower Hem. Trend, Plunge of P,T 175.00 30.00 355.00 60.00
MRR = .50 MTT = -.50 MPP = .00 MRT = .86 MRP = .08 MTP = -.04
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 5.00 90.00 90.00
Dip,Strike,Rake 85.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 5.00 .00 85.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T .00 40.00 180.00 50.00
MRR = .17 MTT = -.17 MPP = .00 MRT = -.98 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 5.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 10.00 90.00 90.00
Dip,Strike,Rake 80.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 10.00 .00 80.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T .00 35.00 180.00 55.00
MRR = .34 MTT = -.34 MPP = .00 MRT = -.94 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 10.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 15.00 90.00 90.00
Dip,Strike,Rake 75.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 15.00 .00 75.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T .00 30.00 180.00 60.00
MRR = .50 MTT = -.50 MPP = .00 MRT = -.87 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 15.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 20.00 90.00 90.00
Dip,Strike,Rake 70.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 20.00 .00 70.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T .00 25.00 180.00 65.00
MRR = .64 MTT = -.64 MPP = .00 MRT = -.77 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 25.00 90.00 90.00
Dip,Strike,Rake 65.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 25.00 .00 65.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T .00 20.00 180.00 70.00
MRR = .77 MTT = -.77 MPP = .00 MRT = -.64 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 30.00 90.00 90.00
Dip,Strike,Rake 60.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 30.00 .00 60.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T .00 15.00 180.00 75.00
MRR = .87 MTT = -.87 MPP = .00 MRT = -.50 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.00 90.00 90.00
Dip,Strike,Rake 55.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 35.00 .00 55.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T .00 10.00 180.00 80.00
MRR = .94 MTT = -.94 MPP = .00 MRT = -.34 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 40.00 90.00 90.00
Dip,Strike,Rake 50.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 40.00 .00 50.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T .00 5.00 180.00 85.00
MRR = .98 MTT = -.98 MPP = .00 MRT = -.17 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 45.00 90.00 90.00
Dip,Strike,Rake 45.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 45.00 .00 45.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T .00 .00 180.00 90.00
MRR = 1.00 MTT =-1.00 MPP = .00 MRT = .00 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.00 90.00 90.00

Dip,Strike,Rake 40.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 50.00 .00 40.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T 180.00 5.00 .00 85.00
MRR = .98 MTT = -.98 MPP = .00 MRT = .17 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 55.00 90.00 90.00
Dip,Strike,Rake 35.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 55.00 .00 35.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T 180.00 10.00 .00 80.00
MRR = .94 MTT = -.94 MPP = .00 MRT = .34 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 60.00 90.00 90.00
Dip,Strike,Rake 30.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 60.00 .00 30.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T 180.00 15.00 .00 75.00
MRR = .87 MTT = -.87 MPP = .00 MRT = .50 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 60.0

There are 100 acceptable solutions

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 65.00 90.00 90.00
Dip,Strike,Rake 25.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 65.00 .00 25.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T 180.00 20.00 .00 70.00
MRR = .77 MTT = -.77 MPP = .00 MRT = .64 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 70.00 90.00 90.00
Dip,Strike,Rake 20.00 270.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 180.00 70.00 .00 20.00
Lower Hem. Trend & Plunge of B 90.00 .00
Lower Hem. Trend, Plunge of P,T 180.00 25.00 .00 65.00
MRR = .64 MTT = -.64 MPP = .00 MRT = .77 MRP = .00 MTP = .00
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CLLP
P Polarity weights: .10
Total P polarity weight is .100

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Reached chosen maximum of 100 solutions

Event # 26: allowing a polarity error of 0.1[2] yield 100 solutions.

Thu Oct 8 18:47:43 2009 for program FOCMEC
26
Input from a file 26.inp
1999-11-13 (26)

Statn Azimuth TOAng Key Log10 (S/P) NumPol
DenTOAng Comment
MGP 302.0 112.0 U
LSP 335.0 98.0 U
PORP 68.0 95.0 D
LRS 17.0 95.0 U
CELP 68.0 94.0 D
APR 23.0 66.0 U
SJG 77.0 55.0 +
CSB 65.0 55.0 -
CPD 84.0 55.0 -
Including emergent polarity picks
Polarities/Errors: P 009/ .1 SV 000/ .0 SH 000/ .0
Threshh. = .10
There are no amplitude ratio data
The minimum, increment and maximum B axis trend are
.00 5.00 355.00
The limits for the B axis plunge are .00 5.00 90.00
The limits for the angle of the A axis are .00 5.00
85.00

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Dip,Strike,Rake 45.86 245.63 -76.00
Dip,Strike,Rake 45.86 45.92 -104.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 315.92 44.14
155.63 44.14
Lower Hem. Trend & Plunge of B 55.77 10.00
Lower Hem. Trend, Plunge of P,T 235.77 80.00
325.77 .00
MRR = -.97 MTT = .67 MPP = .30 MRT = .10
MRP = -.14 MTP = .48
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 41.03 252.54 -74.66
Dip,Strike,Rake 50.73 52.55 -102.96 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 322.55 39.27
162.54 48.97
Lower Hem. Trend & Plunge of B 60.85 10.00
Lower Hem. Trend, Plunge of P,T 267.59 78.83
151.72 4.92
MRR = -.96 MTT = .77 MPP = .19 MRT = -.07
MRP = -.23 MTP = .42
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 26.81 271.41 -67.35
Dip,Strike,Rake 65.41 66.36 -101.01 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 336.36 24.59
181.41 63.19
Lower Hem. Trend & Plunge of B 70.99 10.00
Lower Hem. Trend, Plunge of P,T 315.48 67.73
164.60 19.68
MRR = -.74 MTT = .75 MPP = -.01 MRT = -.56
MRP = -.33 MTP = .16
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 51.62 248.82 -70.72
Dip,Strike,Rake 42.27 39.43 -112.63 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 309.43 47.73
158.82 38.38
Lower Hem. Trend & Plunge of B 56.57 15.00
Lower Hem. Trend, Plunge of P,T 217.89 74.21
325.27 4.83
MRR = -.92 MTT = .62 MPP = .29 MRT = .28
MRP = -.11 MTP = .50
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 46.92 256.23 -69.25
Dip,Strike,Rake 46.92 47.20 -110.75 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 317.20 43.08
166.23 43.08
Lower Hem. Trend & Plunge of B 61.71 15.00

[2] Focal Mechanisms where initially computed allowing 0 polarity error; when acceptable solutions where not found the polarity error was increased, allowing the smaller polarity error possible to obtain solutions.

Lower Hem. Trend, Plunge of P,T 241.71 75.00
331.71 .00
MRR = -.93 MTT = .76 MPP = .17 MRT = .12
MRP = -.22 MTP = .45
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 33.23 265.86 -61.81
Dip,Strike,Rake 61.12 53.22 -107.19 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 323.22 28.88
175.86 56.77
Lower Hem. Trend & Plunge of B 61.71 15.00
Lower Hem. Trend, Plunge of P,T 287.71 68.91
155.68 14.48
MRR = -.81 MTT = .77 MPP = .04 MRT = -.32
MRP = -.42 MTP = .31
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 46.92 261.37 -69.25
Dip,Strike,Rake 46.92 52.35 -110.75 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 322.35 43.08
171.37 43.08
Lower Hem. Trend & Plunge of B 66.86 15.00
Lower Hem. Trend, Plunge of P,T 246.86 75.00
336.86 .00
MRR = -.93 MTT = .84 MPP = .10 MRT = .10
MRP = -.23 MTP = .39
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 42.27 264.00 -67.37
Dip,Strike,Rake 51.62 54.60 -109.28 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 324.60 38.38
174.00 47.73
Lower Hem. Trend & Plunge of B 66.86 15.00
Lower Hem. Trend, Plunge of P,T 265.53 74.21
158.15 4.83
MRR = -.92 MTT = .85 MPP = .06 MRT = -.06
MRP = -.29 MTP = .35
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 37.70 267.14 -64.96
Dip,Strike,Rake 56.36 56.59 -108.11 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 326.59 33.64
177.14 52.30
Lower Hem. Trend & Plunge of B 66.86 15.00
Lower Hem. Trend, Plunge of P,T 281.12 72.04
159.47 9.66
MRR = -.88 MTT = .85 MPP = .03 MRT = -.21
MRP = -.35 MTP = .30
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 24.81 282.27 -51.92
Dip,Strike,Rake 70.71 61.48 -105.92 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 331.48 19.29
192.27 65.19
Lower Hem. Trend & Plunge of B 66.86 15.00
Lower Hem. Trend, Plunge of P,T 307.83 61.10
163.74 24.09
MRR = -.60 MTT = .68 MPP = -.08 MRT = -.62
MRP = -.44 MTP = .11
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 37.70 272.29 -64.96
Dip,Strike,Rake 56.36 61.73 -108.11 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 331.73 33.64
182.29 52.30
Lower Hem. Trend & Plunge of B 72.00 15.00
Lower Hem. Trend, Plunge of P,T 286.27 72.04
164.61 9.66
MRR = -.88 MTT = .90 MPP = -.02 MRT = -.24
MRP = -.33 MTP = .22
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 33.23 276.15 -61.81
Dip,Strike,Rake 61.12 63.50 -107.19 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 333.50 28.88 186.15 56.77
Lower Hem. Trend & Plunge of B 72.00 15.00
Lower Hem. Trend, Plunge of P,T 297.99 68.91 165.97 14.48
MRR = -.81 MTT = .85 MPP = -.05 MRT = -.39 MRP = -.36 MTP = .17
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 56.36 272.56 -71.89
Dip,Strike,Rake 37.70 62.00 -115.04 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 332.00 52.30 182.56 33.64
Lower Hem. Trend & Plunge of B 82.29 15.00
Lower Hem. Trend, Plunge of P,T 228.02 72.04 349.67 9.66
MRR = -.88 MTT = .90 MPP = -.02 MRT = .36 MRP = -.19 MTP = .22
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 57.39 246.41 -66.04
Dip,Strike,Rake 39.67 26.91 -122.40 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 296.91 50.33 156.41 32.61
Lower Hem. Trend & Plunge of B 52.94 20.00
Lower Hem. Trend, Plunge of P,T 205.67 67.73 319.49 9.39
MRR = -.83 MTT = .45 MPP = .38 MRT = .44 MRP = -.05 MTP = .54
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 48.36 251.82 -62.76
Dip,Strike,Rake 48.36 34.06 -117.24 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 304.06 41.64 161.82 41.64
Lower Hem. Trend & Plunge of B 52.94 20.00
Lower Hem. Trend, Plunge of P,T 232.94 70.00 322.94 .00
MRR = -.88 MTT = .59 MPP = .29 MRT = .19 MRP = -.26 MTP = .54
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 61.98 249.41 -67.20
Dip,Strike,Rake 35.53 27.59 -126.05 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 297.59 54.47 159.41 28.02
Lower Hem. Trend & Plunge of B 58.24 20.00
Lower Hem. Trend, Plunge of P,T 200.16 65.19 323.00 14.08
MRR = -.76 MTT = .44 MPP = .32 MRT = .55 MRP = .01 MTP = .51
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 57.39 251.70 -66.04
Dip,Strike,Rake 39.67 32.20 -122.40 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 302.20 50.33 161.70 32.61
Lower Hem. Trend & Plunge of B 58.24 20.00
Lower Hem. Trend, Plunge of P,T 210.96 67.73 324.78 9.39
MRR = -.83 MTT = .54 MPP = .29 MRT = .43 MRP = -.09 MTP = .52
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 43.96 260.41 -60.48
Dip,Strike,Rake 52.84 42.22 -115.41 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 312.22 37.16 170.41 46.04
Lower Hem. Trend & Plunge of B 58.24 20.00

Lower Hem. Trend, Plunge of P,T 252.58 69.41
149.95 4.70
MRR = -.87 MTT = .73 MPP = .14 MRT = .03
MRP = -.36 MTP = .47
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 66.60 252.59 -68.12
Dip,Strike,Rake 31.61 27.27 -130.74 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 297.27 58.39
162.59 23.40
Lower Hem. Trend & Plunge of B 63.53 20.00
Lower Hem. Trend, Plunge of P,T 196.75 62.01
326.43 18.75
MRR = -.68 MTT = .42 MPP = .26 MRT = .65
MRP = .05 MTP = .47
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 61.98 254.70 -67.20
Dip,Strike,Rake 35.53 32.89 -126.05 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 302.89 54.47
164.70 28.02
Lower Hem. Trend & Plunge of B 63.53 20.00
Lower Hem. Trend, Plunge of P,T 205.45 65.19
328.29 14.08
MRR = -.76 MTT = .54 MPP = .23 MRT = .54
MRP = -.04 MTP = .49
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 57.39 257.00 -66.04
Dip,Strike,Rake 39.67 37.50 -122.40 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 307.50 50.33
167.00 32.61
Lower Hem. Trend & Plunge of B 63.53 20.00
Lower Hem. Trend, Plunge of P,T 216.26 67.73
330.08 9.39
MRR = -.83 MTT = .64 MPP = .19 MRT = .42
MRP = -.13 MTP = .49
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 52.84 259.54 -64.59
Dip,Strike,Rake 43.96 41.35 -119.52 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 311.35 46.04
169.54 37.16
Lower Hem. Trend & Plunge of B 63.53 20.00
Lower Hem. Trend, Plunge of P,T 229.18 69.41
331.82 4.70
MRR = -.87 MTT = .72 MPP = .15 MRT = .29
MRP = -.21 MTP = .47
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 39.67 269.56 -57.60
Dip,Strike,Rake 57.39 50.06 -113.96 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 320.06 32.61
179.56 50.33
Lower Hem. Trend & Plunge of B 63.53 20.00
Lower Hem. Trend, Plunge of P,T 270.80 67.73
156.98 9.39
MRR = -.83 MTT = .82 MPP = .01 MRT = -.15
MRP = -.41 MTP = .35
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.53 274.17 -53.95
Dip,Strike,Rake 61.98 52.36 -112.80 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 322.36 28.02
184.17 54.47
Lower Hem. Trend & Plunge of B 63.53 20.00
Lower Hem. Trend, Plunge of P,T 281.61 65.19
158.77 14.08
MRR = -.76 MTT = .81 MPP = -.05 MRT = -.30
MRP = -.46 MTP = .28
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 66.60 257.89 -68.12
Dip,Strike,Rake 31.61 32.56 -130.74 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 302.56 58.39 167.89 23.40
Lower Hem. Trend & Plunge of B 68.82 20.00
Lower Hem. Trend, Plunge of P,T 202.04 62.01 331.73 18.75
MRR = -.68 MTT = .51 MPP = .17 MRT = .65 MRP = -.01 MTP = .45
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 61.98 259.99 -67.20
Dip,Strike,Rake 35.53 38.18 -126.05 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 308.18 54.47 169.99 28.02
Lower Hem. Trend & Plunge of B 68.82 20.00
Lower Hem. Trend, Plunge of P,T 210.75 65.19 333.59 14.08
MRR = -.76 MTT = .62 MPP = .14 MRT = .54 MRP = -.09 MTP = .45
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 57.39 262.29 -66.04
Dip,Strike,Rake 39.67 42.79 -122.40 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 312.79 50.33 172.29 32.61
Lower Hem. Trend & Plunge of B 68.82 20.00
Lower Hem. Trend, Plunge of P,T 221.55 67.73 335.37 9.39
MRR = -.83 MTT = .72 MPP = .11 MRT = .41 MRP = -.17 MTP = .44
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 52.84 264.84 -64.59
Dip,Strike,Rake 43.96 46.65 -119.52 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 316.65 46.04 174.84 37.16
Lower Hem. Trend & Plunge of B 68.82 20.00
Lower Hem. Trend, Plunge of P,T 234.47 69.41 337.11 4.70
MRR = -.87 MTT = .80 MPP = .07 MRT = .27 MRP = -.24 MTP = .41
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 48.36 267.71 -62.76
Dip,Strike,Rake 48.36 49.94 -117.24 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 319.94 41.64 177.71 41.64
Lower Hem. Trend & Plunge of B 68.82 20.00
Lower Hem. Trend, Plunge of P,T 248.82 70.00 338.82 .00
MRR = -.88 MTT = .85 MPP = .03 MRT = .12 MRP = -.30 MTP = .38
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 43.96 271.00 -60.48
Dip,Strike,Rake 52.84 52.81 -115.41 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 322.81 37.16 181.00 46.04
Lower Hem. Trend & Plunge of B 68.82 20.00
Lower Hem. Trend, Plunge of P,T 263.17 69.41 160.54 4.70
MRR = -.87 MTT = .88 MPP = -.01 MRT = -.04 MRP = -.35 MTP = .33
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 27.99 292.04 -43.22
Dip,Strike,Rake 71.25 61.73 -111.17 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 331.73 18.75 202.04 62.01
Lower Hem. Trend & Plunge of B 68.82 20.00

Lower Hem. Trend, Plunge of P,T 302.56 58.39 167.89 23.40
MRR = -.57 MTT = .73 MPP = -.16 MRT = -.60 MRP = -.45 MTP = .05
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 24.81 300.75 -35.42
Dip,Strike,Rake 75.92 63.59 -110.65 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 333.59 14.08 210.75 65.19
Lower Hem. Trend & Plunge of B 68.82 20.00
Lower Hem. Trend, Plunge of P,T 308.18 54.47 169.99 28.02
MRR = -.44 MTT = .63 MPP = -.19 MRT = -.70 MRP = -.44 MTP = -.03
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 61.98 265.29 -67.20
Dip,Strike,Rake 35.53 43.48 -126.05 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 313.48 54.47 175.29 28.02
Lower Hem. Trend & Plunge of B 74.12 20.00
Lower Hem. Trend, Plunge of P,T 216.04 65.19 338.88 14.08
MRR = -.76 MTT = .70 MPP = .06 MRT = .53 MRP = -.14 MTP = .40
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 57.39 267.59 -66.04
Dip,Strike,Rake 39.67 48.08 -122.40 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 318.08 50.33 177.59 32.61
Lower Hem. Trend & Plunge of B 74.12 20.00
Lower Hem. Trend, Plunge of P,T 226.84 67.73 340.67 9.39
MRR = -.83 MTT = .80 MPP = .03 MRT = .39 MRP = -.20 MTP = .38
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 52.84 270.13 -64.59
Dip,Strike,Rake 43.96 51.94 -119.52 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 321.94 46.04 180.13 37.16
Lower Hem. Trend & Plunge of B 74.12 20.00
Lower Hem. Trend, Plunge of P,T 239.77 69.41 342.40 4.70
MRR = -.87 MTT = .87 MPP = .00 MRT = .24 MRP = -.26 MTP = .34
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 48.36 273.00 -62.76
Dip,Strike,Rake 48.36 55.24 -117.24 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 325.24 41.64 183.00 41.64
Lower Hem. Trend & Plunge of B 74.12 20.00
Lower Hem. Trend, Plunge of P,T 254.12 70.00 344.12 .00
MRR = -.88 MTT = .92 MPP = -.03 MRT = .09 MRP = -.31 MTP = .29
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 43.96 276.29 -60.48
Dip,Strike,Rake 52.84 58.10 -115.41 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 328.10 37.16 186.29 46.04
Lower Hem. Trend & Plunge of B 74.12 20.00
Lower Hem. Trend, Plunge of P,T 268.47 69.41 165.83 4.70
MRR = -.87 MTT = .93 MPP = -.06 MRT = -.07 MRP = -.35 MTP = .24
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 39.67 280.15 -57.60
Dip,Strike,Rake 57.39 60.65 -113.96 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 330.65 32.61 190.15 50.33
Lower Hem. Trend & Plunge of B 74.12 20.00
Lower Hem. Trend, Plunge of P,T 281.39 67.73 167.57 9.39
MRR = -.83 MTT = .92 MPP = -.09 MRT = -.23 MRP = -.38 MTP = .18
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.53 284.76 -53.95
Dip,Strike,Rake 61.98 62.95 -112.80 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 332.95 28.02 194.76 54.47
Lower Hem. Trend & Plunge of B 74.12 20.00
Lower Hem. Trend, Plunge of P,T 292.19 65.19 169.35 14.08
MRR = -.76 MTT = .88 MPP = -.12 MRT = -.38 MRP = -.40 MTP = .11
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 52.84 275.42 -64.59
Dip,Strike,Rake 43.96 57.24 -119.52 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 327.24 46.04 185.42 37.16
Lower Hem. Trend & Plunge of B 79.41 20.00
Lower Hem. Trend, Plunge of P,T 245.06 69.41 347.70 4.70
MRR = -.87 MTT = .93 MPP = -.06 MRT = .22 MRP = -.28 MTP = .25
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 48.36 278.29 -62.76
Dip,Strike,Rake 48.36 60.53 -117.24 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 330.53 41.64 188.29 41.64
Lower Hem. Trend & Plunge of B 79.41 20.00
Lower Hem. Trend, Plunge of P,T 259.41 70.00 349.41 .00
MRR = -.88 MTT = .96 MPP = -.08 MRT = .06 MRP = -.32 MTP = .20
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 43.96 281.59 -60.48
Dip,Strike,Rake 52.84 63.40 -115.41 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 333.40 37.16 191.59 46.04
Lower Hem. Trend & Plunge of B 79.41 20.00
Lower Hem. Trend, Plunge of P,T 273.76 69.41 171.13 4.70
MRR = -.87 MTT = .97 MPP = -.10 MRT = -.10 MRP = -.34 MTP = .14
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 39.67 285.45 -57.60
Dip,Strike,Rake 57.39 65.94 -113.96 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 335.94 32.61 195.45 50.33
Lower Hem. Trend & Plunge of B 79.41 20.00
Lower Hem. Trend, Plunge of P,T 286.68 67.73 172.86 9.39
MRR = -.83 MTT = .95 MPP = -.12 MRT = -.26 MRP = -.36 MTP = .08
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.53 290.05 -53.95
Dip,Strike,Rake 61.98 68.24 -112.80 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 338.24 28.02 200.05 54.47
Lower Hem. Trend & Plunge of B 79.41 20.00

Lower Hem. Trend, Plunge of P,T 297.49 65.19
174.65 14.08
MRR = -.76 MTT = .90 MPP = -.13 MRT = -.41
MRP = -.36 MTP = .02
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 43.96 286.88 -60.48
Dip,Strike,Rake 52.84 68.69 -115.41 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 338.69 37.16
196.88 46.04
Lower Hem. Trend & Plunge of B 84.71 20.00
Lower Hem. Trend, Plunge of P,T 279.05 69.41
176.42 4.70
MRR = -.87 MTT = .99 MPP = -.12 MRT = -.13
MRP = -.33 MTP = .04
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 58.68 251.87 -60.35
Dip,Strike,Rake 42.06 24.27 -129.11 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 294.27 47.94
161.87 31.32
Lower Hem. Trend & Plunge of B 55.38 25.00
Lower Hem. Trend, Plunge of P,T 212.74 63.19
321.12 9.05
MRR = -.77 MTT = .45 MPP = .32 MRT = .46
MRP = -.12 MTP = .57
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 54.37 254.91 -58.67
Dip,Strike,Rake 46.03 28.65 -125.96 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 298.65 43.97
164.91 35.63
Lower Hem. Trend & Plunge of B 55.38 25.00
Lower Hem. Trend, Plunge of P,T 223.69 64.54
323.27 4.53
MRR = -.81 MTT = .54 MPP = .27 MRT = .34
MRP = -.22 MTP = .57
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 63.05 254.64 -61.70
Dip,Strike,Rake 38.29 24.72 -133.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 294.72 51.71
164.64 26.95
Lower Hem. Trend & Plunge of B 60.92 25.00
Lower Hem. Trend, Plunge of P,T 208.55 61.10
324.46 13.57
MRR = -.71 MTT = .45 MPP = .27 MRT = .56
MRP = -.07 MTP = .55
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 54.37 260.45 -58.67
Dip,Strike,Rake 46.03 34.19 -125.96 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 304.19 43.97
170.45 35.63
Lower Hem. Trend & Plunge of B 60.92 25.00
Lower Hem. Trend, Plunge of P,T 229.23 64.54
328.81 4.53
MRR = -.81 MTT = .65 MPP = .16 MRT = .32
MRP = -.25 MTP = .53
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.14 263.83 -56.60
Dip,Strike,Rake 50.14 38.01 -123.40 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 308.01 39.86
173.83 39.86
Lower Hem. Trend & Plunge of B 60.92 25.00
Lower Hem. Trend, Plunge of P,T 240.92 65.00
330.92 .00
MRR = -.82 MTT = .72 MPP = .10 MRT = .19
MRP = -.33 MTP = .50
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 46.03 267.66 -54.04
Dip,Strike,Rake 54.37 41.40 -121.33 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 311.40 35.63 177.66 43.97
Lower Hem. Trend & Plunge of B 60.92 25.00
Lower Hem. Trend, Plunge of P,T 252.62 64.54 153.04 4.53
MRR = -.81 MTT = .77 MPP = .04 MRT = .05 MRP = -.41 MTP = .45
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 67.48 257.61 -62.77
Dip,Strike,Rake 34.78 24.28 -137.81 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 294.28 55.22 167.61 22.52
Lower Hem. Trend & Plunge of B 66.46 25.00
Lower Hem. Trend, Plunge of P,T 205.73 58.39 327.72 18.06
MRR = -.63 MTT = .42 MPP = .21 MRT = .65 MRP = -.04 MTP = .52
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 63.05 260.17 -61.70
Dip,Strike,Rake 38.29 30.26 -133.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 300.26 51.71 170.17 26.95
Lower Hem. Trend & Plunge of B 66.46 25.00
Lower Hem. Trend, Plunge of P,T 214.09 61.10 330.00 13.57
MRR = -.71 MTT = .55 MPP = .16 MRT = .55 MRP = -.12 MTP = .52
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 58.68 262.95 -60.35
Dip,Strike,Rake 42.06 35.35 -129.11 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 305.35 47.94 172.95 31.32
Lower Hem. Trend & Plunge of B 66.46 25.00
Lower Hem. Trend, Plunge of P,T 223.81 63.19 332.20 9.05
MRR = -.77 MTT = .66 MPP = .11 MRT = .43 MRP = -.21 MTP = .50
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 42.06 277.58 -50.89
Dip,Strike,Rake 58.68 49.98 -119.65 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 319.98 31.32 187.58 47.94
Lower Hem. Trend & Plunge of B 66.46 25.00
Lower Hem. Trend, Plunge of P,T 269.11 63.19 160.72 9.05
MRR = -.77 MTT = .87 MPP = -.10 MRT = -.14 MRP = -.45 MTP = .31
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 38.29 282.67 -47.00
Dip,Strike,Rake 63.05 52.75 -118.30 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 322.75 26.95 192.67 51.71
Lower Hem. Trend & Plunge of B 66.46 25.00
Lower Hem. Trend, Plunge of P,T 278.84 61.10 162.92 13.57
MRR = -.71 MTT = .86 MPP = -.15 MRT = -.28 MRP = -.49 MTP = .23
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 34.78 288.65 -42.19
Dip,Strike,Rake 67.48 55.31 -117.23 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 325.31 22.52 198.65 55.22
Lower Hem. Trend & Plunge of B 66.46 25.00

Lower Hem. Trend, Plunge of P,T 287.20 58.39
165.21 18.06
MRR = -.63 MTT = .82 MPP = -.19 MRT = -.42
MRP = -.50 MTP = .15
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 31.61 295.73 -36.26
Dip,Strike,Rake 71.94 57.72 -116.39 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 327.72 18.06
205.73 58.39
Lower Hem. Trend & Plunge of B 66.46 25.00
Lower Hem. Trend, Plunge of P,T 294.28 55.22
167.61 22.52
MRR = -.53 MTT = .76 MPP = -.23 MRT = -.54
MRP = -.50 MTP = .06
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 28.90 304.09 -29.03
Dip,Strike,Rake 76.43 60.00 -115.77 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 330.00 13.57
214.09 61.10
Lower Hem. Trend & Plunge of B 66.46 25.00
Lower Hem. Trend, Plunge of P,T 300.26 51.71
170.17 26.95
MRR = -.41 MTT = .67 MPP = -.26 MRT = -.64
MRP = -.49 MTP = -.03
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 26.81 313.81 -20.42
Dip,Strike,Rake 80.95 62.20 -115.34 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 332.20 9.05
223.81 63.19
Lower Hem. Trend & Plunge of B 66.46 25.00
Lower Hem. Trend, Plunge of P,T 305.35 47.94
172.95 31.32
MRR = -.28 MTT = .57 MPP = -.29 MRT = -.73
MRP = -.46 MTP = -.12
Angle of "A" with vertical B trend plane is 80.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 63.05 265.71 -61.70
Dip,Strike,Rake 38.29 35.80 -133.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 305.80 51.71
175.71 26.95
Lower Hem. Trend & Plunge of B 72.00 25.00
Lower Hem. Trend, Plunge of P,T 219.62 61.10
335.54 13.57
MRR = -.71 MTT = .64 MPP = .07 MRT = .53
MRP = -.18 MTP = .47
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 58.68 268.48 -60.35
Dip,Strike,Rake 42.06 40.89 -129.11 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 310.89 47.94
178.48 31.32
Lower Hem. Trend & Plunge of B 72.00 25.00
Lower Hem. Trend, Plunge of P,T 229.35 63.19
337.74 9.05
MRR = -.77 MTT = .75 MPP = .02 MRT = .41
MRP = -.25 MTP = .44
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 54.37 271.53 -58.67
Dip,Strike,Rake 46.03 45.27 -125.96 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 315.27 43.97
181.53 35.63
Lower Hem. Trend & Plunge of B 72.00 25.00
Lower Hem. Trend, Plunge of P,T 240.30 64.54
339.88 4.53
MRR = -.81 MTT = .83 MPP = -.02 MRT = .27
MRP = -.31 MTP = .40
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.14 274.91 -56.60
Dip,Strike,Rake 50.14 49.09 -123.40 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 319.09 39.86 184.91 39.86
Lower Hem. Trend & Plunge of B 72.00 25.00
Lower Hem. Trend, Plunge of P,T 252.00 65.00 342.00 .00
MRR = -.82 MTT = .89 MPP = -.07 MRT = .12 MRP = -.36 MTP = .35
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 31.61 301.26 -36.26
Dip,Strike,Rake 71.94 63.26 -116.39 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 333.26 18.06 211.26 58.39
Lower Hem. Trend & Plunge of B 72.00 25.00
Lower Hem. Trend, Plunge of P,T 299.81 55.22 173.15 22.52
MRR = -.53 MTT = .76 MPP = -.23 MRT = -.58 MRP = -.45 MTP = -.04
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 28.90 309.62 -29.03
Dip,Strike,Rake 76.43 65.54 -115.77 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 335.54 13.57 219.62 61.10
Lower Hem. Trend & Plunge of B 72.00 25.00
Lower Hem. Trend, Plunge of P,T 305.80 51.71 175.71 26.95
MRR = -.41 MTT = .66 MPP = -.25 MRT = -.69 MRP = -.42 MTP = -.12
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 26.81 319.35 -20.42
Dip,Strike,Rake 80.95 67.74 -115.34 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 337.74 9.05 229.35 63.19
Lower Hem. Trend & Plunge of B 72.00 25.00
Lower Hem. Trend, Plunge of P,T 310.89 47.94 178.48 31.32
MRR = -.28 MTT = .54 MPP = -.26 MRT = -.77 MRP = -.39 MTP = -.20
Angle of "A" with vertical B trend plane is 80.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.14 280.45 -56.60
Dip,Strike,Rake 50.14 54.63 -123.40 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 324.63 39.86 190.45 39.86
Lower Hem. Trend & Plunge of B 77.54 25.00
Lower Hem. Trend, Plunge of P,T 257.54 65.00 347.54 .00
MRR = -.82 MTT = .95 MPP = -.12 MRT = .08 MRP = -.37 MTP = .25
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 46.03 284.27 -54.04
Dip,Strike,Rake 54.37 58.01 -121.33 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 328.01 35.63 194.27 43.97
Lower Hem. Trend & Plunge of B 77.54 25.00
Lower Hem. Trend, Plunge of P,T 269.23 64.54 169.66 4.53
MRR = -.81 MTT = .96 MPP = -.15 MRT = -.07 MRP = -.40 MTP = .18
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 42.06 288.65 -50.89
Dip,Strike,Rake 58.68 61.05 -119.65 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 331.05 31.32 198.65 47.94
Lower Hem. Trend & Plunge of B 77.54 25.00

Lower Hem. Trend, Plunge of P,T 280.19 63.19
171.80 9.05
MRR = -.77 MTT = .95 MPP = -.18 MRT = -.23
MRP = -.42 MTP = .10
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 38.29 293.74 -47.00
Dip,Strike,Rake 63.05 63.83 -118.30 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 333.83 26.95
203.74 51.71
Lower Hem. Trend & Plunge of B 77.54 25.00
Lower Hem. Trend, Plunge of P,T 289.91 61.10
174.00 13.57
MRR = -.71 MTT = .91 MPP = -.20 MRT = -.37
MRP = -.42 MTP = .02
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 71.94 271.82 -63.61
Dip,Strike,Rake 31.61 33.81 -143.74 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 303.81 58.39
181.82 18.06
Lower Hem. Trend & Plunge of B 83.08 25.00
Lower Hem. Trend, Plunge of P,T 215.26 55.22
341.93 22.52
MRR = -.53 MTT = .55 MPP = -.03 MRT = .72
MRP = -.16 MTP = .40
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at CSB
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 67.48 274.23 -62.77
Dip,Strike,Rake 34.78 40.89 -137.81 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 310.89 55.22
184.23 22.52
Lower Hem. Trend & Plunge of B 83.08 25.00
Lower Hem. Trend, Plunge of P,T 222.34 58.39
344.33 18.06
MRR = -.63 MTT = .69 MPP = -.06 MRT = .61
MRP = -.22 MTP = .37
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at CSB
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 42.06 294.19 -50.89
Dip,Strike,Rake 58.68 66.59 -119.65 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 336.59 31.32
204.19 47.94
Lower Hem. Trend & Plunge of B 83.08 25.00
Lower Hem. Trend, Plunge of P,T 285.72 63.19
177.34 9.05
MRR = -.77 MTT = .96 MPP = -.19 MRT = -.26
MRP = -.39 MTP = -.01
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 38.29 299.28 -47.00
Dip,Strike,Rake 63.05 69.36 -118.30 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 339.36 26.95
209.28 51.71
Lower Hem. Trend & Plunge of B 83.08 25.00
Lower Hem. Trend, Plunge of P,T 295.45 61.10
179.54 13.57
MRR = -.71 MTT = .90 MPP = -.19 MRT = -.41
MRP = -.38 MTP = -.08
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at SJG
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 54.37 288.14 -58.67
Dip,Strike,Rake 46.03 61.88 -125.96 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 331.88 43.97
198.14 35.63
Lower Hem. Trend & Plunge of B 88.62 25.00
Lower Hem. Trend, Plunge of P,T 256.92 64.54
356.50 4.53
MRR = -.81 MTT = .98 MPP = -.17 MRT = .17
MRP = -.37 MTP = .10
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at CSB
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.53 329.28 30.64
Dip,Strike,Rake 72.77 213.54 121.57 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 123.54 17.23 239.28 54.47
Lower Hem. Trend & Plunge of B 23.23 30.00
Lower Hem. Trend, Plunge of P,T 280.10 21.47 160.22 51.71
MRR = .48 MTT = .31 MPP = -.80 MRT = -.52 MRP = -.50 MTP = -.03
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.53 335.08 30.64
Dip,Strike,Rake 72.77 219.35 121.57 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 129.35 17.23 245.08 54.47
Lower Hem. Trend & Plunge of B 29.03 30.00
Lower Hem. Trend, Plunge of P,T 285.91 21.47 166.03 51.71
MRR = .48 MTT = .30 MPP = -.78 MRT = -.57 MRP = -.44 MTP = -.14
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 60.22 257.36 -54.82
Dip,Strike,Rake 44.81 22.53 -135.19 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 292.53 45.19 167.36 29.78
Lower Hem. Trend & Plunge of B 58.06 30.00
Lower Hem. Trend, Plunge of P,T 218.64 58.53 323.03 8.65
MRR = -.70 MTT = .46 MPP = .25 MRT = .47 MRP = -.19 MTP = .60
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 56.17 260.83 -53.00
Dip,Strike,Rake 48.44 27.27 -131.93 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 297.27 41.56 170.83 33.83
Lower Hem. Trend & Plunge of B 58.06 30.00
Lower Hem. Trend, Plunge of P,T 228.14 59.62 325.56 4.33
MRR = -.74 MTT = .56 MPP = .18 MRT = .35 MRP = -.28 MTP = .59
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 64.34 259.97 -56.31
Dip,Strike,Rake 41.41 22.98 -139.11 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 292.98 48.59 169.97 25.66
Lower Hem. Trend & Plunge of B 63.87 30.00
Lower Hem. Trend, Plunge of P,T 215.68 56.77 326.24 12.95
MRR = -.65 MTT = .46 MPP = .19 MRT = .55 MRP = -.15 MTP = .58
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 60.22 263.17 -54.82
Dip,Strike,Rake 44.81 28.34 -135.19 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 298.34 45.19 173.17 29.78
Lower Hem. Trend & Plunge of B 63.87 30.00
Lower Hem. Trend, Plunge of P,T 224.45 58.53 328.83 8.65
MRR = -.70 MTT = .58 MPP = .13 MRT = .45 MRP = -.23 MTP = .57
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 56.17 266.63 -53.00
Dip,Strike,Rake 48.44 33.08 -131.93 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 303.08 41.56 176.63 33.83
Lower Hem. Trend & Plunge of B 63.87 30.00

Lower Hem. Trend, Plunge of P,T 233.95 59.62 331.37 4.33
MRR = -.74 MTT = .68 MPP = .06 MRT = .32 MRP = -.32 MTP = .54
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 52.24 270.44 -50.77
Dip,Strike,Rake 52.24 37.31 -129.23 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 307.31 37.76 180.44 37.76
Lower Hem. Trend & Plunge of B 63.87 30.00
Lower Hem. Trend, Plunge of P,T 243.87 60.00 333.87 .00
MRR = -.75 MTT = .76 MPP = -.01 MRT = .19 MRP = -.39 MTP = .49
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 48.44 274.66 -48.07
Dip,Strike,Rake 56.17 41.11 -127.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 311.11 33.83 184.66 41.56
Lower Hem. Trend & Plunge of B 63.87 30.00
Lower Hem. Trend, Plunge of P,T 253.80 59.62 156.38 4.33
MRR = -.74 MTT = .81 MPP = -.08 MRT = .05 MRP = -.45 MTP = .43
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 44.81 279.40 -44.81
Dip,Strike,Rake 60.22 44.58 -125.18 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 314.58 29.78 189.40 45.19
Lower Hem. Trend & Plunge of B 63.87 30.00
Lower Hem. Trend, Plunge of P,T 263.30 58.53 158.91 8.65
MRR = -.70 MTT = .85 MPP = -.14 MRT = -.09 MRP = -.50 MTP = .36
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 41.41 284.76 -40.89
Dip,Strike,Rake 64.34 47.77 -123.69 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 317.77 25.66 194.76 48.59
Lower Hem. Trend & Plunge of B 63.87 30.00
Lower Hem. Trend, Plunge of P,T 272.06 56.77 161.50 12.95
MRR = -.65 MTT = .85 MPP = -.20 MRT = -.22 MRP = -.53 MTP = .27
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 38.29 290.87 -36.20
Dip,Strike,Rake 68.53 50.75 -122.50 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 320.75 21.47 200.87 51.71
Lower Hem. Trend & Plunge of B 63.87 30.00
Lower Hem. Trend, Plunge of P,T 279.92 54.47 164.19 17.23
MRR = -.57 MTT = .83 MPP = -.26 MRT = -.35 MRP = -.54 MTP = .18
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.53 297.82 -30.64
Dip,Strike,Rake 72.77 53.56 -121.57 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 323.56 17.23 207.82 54.47
Lower Hem. Trend & Plunge of B 63.87 30.00
Lower Hem. Trend, Plunge of P,T 286.87 51.71 167.00 21.47
MRR = -.48 MTT = .79 MPP = -.31 MRT = -.47 MRP = -.54 MTP = .08
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 33.23 305.68 -24.15
Dip,Strike,Rake 77.05 56.24 -120.87 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 326.24 12.95 215.68 56.77
Lower Hem. Trend & Plunge of B 63.87 30.00
Lower Hem. Trend, Plunge of P,T 292.98 48.59 169.97 25.66
MRR = -.38 MTT = .72 MPP = -.35 MRT = -.58 MRP = -.52 MTP = -.02
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 52.24 276.24 -50.77
Dip,Strike,Rake 52.24 43.11 -129.23 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 313.11 37.76 186.24 37.76
Lower Hem. Trend & Plunge of B 69.68 30.00
Lower Hem. Trend, Plunge of P,T 249.68 60.00 339.68 .00
MRR = -.75 MTT = .85 MPP = -.10 MRT = .15 MRP = -.41 MTP = .41
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 48.44 280.47 -48.07
Dip,Strike,Rake 56.17 46.92 -127.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 316.92 33.83 190.47 41.56
Lower Hem. Trend & Plunge of B 69.68 30.00
Lower Hem. Trend, Plunge of P,T 259.60 59.62 162.18 4.33
MRR = -.74 MTT = .89 MPP = -.15 MRT = .01 MRP = -.45 MTP = .34
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 44.81 285.21 -44.81
Dip,Strike,Rake 60.22 50.38 -125.18 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 320.38 29.78 195.21 45.19
Lower Hem. Trend & Plunge of B 69.68 30.00
Lower Hem. Trend, Plunge of P,T 269.10 58.53 164.72 8.65
MRR = -.70 MTT = .91 MPP = -.20 MRT = -.14 MRP = -.48 MTP = .25
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 41.41 290.57 -40.89
Dip,Strike,Rake 64.34 53.58 -123.69 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 323.58 25.66 200.57 48.59
Lower Hem. Trend & Plunge of B 69.68 30.00
Lower Hem. Trend, Plunge of P,T 277.86 56.77 167.31 12.95
MRR = -.65 MTT = .90 MPP = -.25 MRT = -.28 MRP = -.50 MTP = .16
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 38.29 296.67 -36.20
Dip,Strike,Rake 68.53 56.55 -122.50 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 326.55 21.47 206.67 51.71
Lower Hem. Trend & Plunge of B 69.68 30.00
Lower Hem. Trend, Plunge of P,T 285.73 54.47 169.99 17.23
MRR = -.57 MTT = .86 MPP = -.29 MRT = -.41 MRP = -.50 MTP = .07
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.53 303.63 -30.64
Dip,Strike,Rake 72.77 59.36 -121.57 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 329.36 17.23 213.63 54.47
Lower Hem. Trend & Plunge of B 69.68 30.00

Lower Hem. Trend, Plunge of P,T 292.68 51.71
172.80 21.47
MRR = -.48 MTT = .80 MPP = -.31 MRT = -.53
MRP = -.49 MTP = -.03
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 33.23 311.49 -24.15
Dip,Strike,Rake 77.05 62.05 -120.87 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 332.05 12.95
221.49 56.77
Lower Hem. Trend & Plunge of B 69.68 30.00
Lower Hem. Trend, Plunge of P,T 298.78 48.59
175.78 25.66
MRR = -.38 MTT = .71 MPP = -.33 MRT = -.63
MRP = -.46 MTP = -.12
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 31.47 320.25 -16.74
Dip,Strike,Rake 81.35 64.64 -120.38 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 334.64 8.65
230.25 58.53
Lower Hem. Trend & Plunge of B 69.68 30.00
Lower Hem. Trend, Plunge of P,T 304.15 45.19
178.97 29.78
MRR = -.26 MTT = .60 MPP = -.34 MRT = -.71
MRP = -.42 MTP = -.22
Angle of "A" with vertical B trend plane is 80.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 30.38 329.75 -8.58
Dip,Strike,Rake 85.67 67.17 -120.09 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 337.17 4.33
239.75 59.62
Lower Hem. Trend & Plunge of B 69.68 30.00
Lower Hem. Trend, Plunge of P,T 308.89 41.56
182.44 33.83
MRR = -.13 MTT = .47 MPP = -.34 MRT = -.77
MRP = -.37 MTP = -.30
Angle of "A" with vertical B trend plane is 85.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 72.77 271.60 -58.43
Dip,Strike,Rake 35.53 27.34 -149.36 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 297.34 54.47
181.60 17.23
Lower Hem. Trend & Plunge of B 81.29 30.00
Lower Hem. Trend, Plunge of P,T 218.29 51.71
338.17 21.47
MRR = -.48 MTT = .51 MPP = -.03 MRT = .70
MRP = -.17 MTP = .49
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at CSB
P Polarity weights: .10
Total P polarity weight is .100

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Reached chosen maximum of 100 solutions

There are 100 acceptable solutions

Event # 30: allowing a polarity error of 0.0 yield 59 solutions.

Thu Oct 8 19:07:00 2009 for program FOCMEC
30
Input from a file 30.inp
2000-08-19 (30)

Statn Azimuth TOAng Key Log10 (S/P) NumPol DenTOAng Comment
MGP 303.0 94.0 U
LSP 332.0 92.0 +
PORP 64.0 92.0 D
CELP 65.0 57.0 D
LRS 13.0 57.0 +
APR 20.0 57.0 +
SJG 75.0 44.0 -
CPD 82.0 44.0 +
Including emergent polarity picks
Polarities/Errors: P 008/ .0 SV 000/ .0 SH 000/ .0 Threshh. = .10
There are no amplitude ratio data
The minimum, increment and maximum B axis trend are .00 5.00 355.00
The limits for the B axis plunge are .00 5.00 90.00
The limits for the angle of the A axis are .00 5.00 85.00

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Dip,Strike,Rake 35.53 268.88 -53.95
Dip,Strike,Rake 61.98 47.07 -112.80 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 317.07 28.02 178.88 54.47
Lower Hem. Trend & Plunge of B 58.24 20.00
Lower Hem. Trend, Plunge of P,T 276.31 65.19 153.47 14.08
MRR = -.76 MTT = .75 MPP = .01 MRT = -.25 MRP = -.48 MTP = .36
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 38.29 277.13 -47.00
Dip,Strike,Rake 63.05 47.21 -118.30 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 317.21 26.95 187.13 51.71
Lower Hem. Trend & Plunge of B 60.92 25.00
Lower Hem. Trend, Plunge of P,T 273.30 61.10 157.38 13.57
MRR = -.71 MTT = .80 MPP = -.09 MRT = -.23 MRP = -.51 MTP = .32
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 34.78 283.11 -42.19
Dip,Strike,Rake 67.48 49.77 -117.23 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 319.77 22.52 193.11 55.22
Lower Hem. Trend & Plunge of B 60.92 25.00
Lower Hem. Trend, Plunge of P,T 281.66 58.39 159.67 18.06
MRR = -.63 MTT = .78 MPP = -.15 MRT = -.37 MRP = -.54 MTP = .24
Angle of "A" with vertical B trend plane is 65.0

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Dip,Strike,Rake 34.78 288.65 -42.19
Dip,Strike,Rake 67.48 55.31 -117.23 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 325.31 22.52 198.65 55.22
Lower Hem. Trend & Plunge of B 66.46 25.00
Lower Hem. Trend, Plunge of P,T 287.20 58.39 165.21 18.06
MRR = -.63 MTT = .82 MPP = -.19 MRT = -.42 MRP = -.50 MTP = .15
Angle of "A" with vertical B trend plane is 65.0

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Dip,Strike,Rake 54.37 118.94 58.67
Dip,Strike,Rake 46.03 345.19 125.96 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 255.19 43.97 28.94 35.63
Lower Hem. Trend & Plunge of B 138.46 25.00
Lower Hem. Trend, Plunge of P,T 230.58 4.53 330.16 64.54
MRR = .81 MTT = -.26 MPP = -.55 MRT = .39 MRP = .13 MTP = .57
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 44.81 279.40 -44.81
Dip,Strike,Rake 60.22 44.58 -125.18 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 314.58 29.78 189.40 45.19
Lower Hem. Trend & Plunge of B 63.87 30.00
Lower Hem. Trend, Plunge of P,T 263.30 58.53 158.91 8.65
MRR = -.70 MTT = .85 MPP = -.14 MRT = -.09 MRP = -.50 MTP = .36
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 41.41 284.76 -40.89
Dip,Strike,Rake 64.34 47.77 -123.69 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 317.77 25.66 194.76 48.59
Lower Hem. Trend & Plunge of B 63.87 30.00
Lower Hem. Trend, Plunge of P,T 272.06 56.77 161.50 12.95
MRR = -.65 MTT = .85 MPP = -.20 MRT = -.22 MRP = -.53 MTP = .27
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 38.29 296.67 -36.20
Dip,Strike,Rake 68.53 56.55 -122.50 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 326.55 21.47 206.67 51.71
Lower Hem. Trend & Plunge of B 69.68 30.00
Lower Hem. Trend, Plunge of P,T 285.73 54.47 169.99 17.23
MRR = -.57 MTT = .86 MPP = -.29 MRT = -.41 MRP = -.50 MTP = .07
Angle of "A" with vertical B trend plane is 65.0

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Dip,Strike,Rake 35.53 303.63 -30.64
Dip,Strike,Rake 72.77 59.36 -121.57 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 329.36 17.23 213.63 54.47
Lower Hem. Trend & Plunge of B 69.68 30.00
Lower Hem. Trend, Plunge of P,T 292.68 51.71 172.80 21.47
MRR = -.48 MTT = .80 MPP = -.31 MRT = -.53 MRP = -.49 MTP = -.03
Angle of "A" with vertical B trend plane is 70.0

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Dip,Strike,Rake 63.94 269.69 -44.31
Dip,Strike,Rake 51.13 22.90 -145.64 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 292.90 38.87 179.69 26.06
Lower Hem. Trend & Plunge of B 65.45 40.00
Lower Hem. Trend, Plunge of P,T 230.11 48.97 328.99 7.64
MRR = -.55 MTT = .54 MPP = .01 MRT = .43 MRP = -.31 MTP = .65
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake 60.50 273.80 -42.39
Dip,Strike,Rake 54.07 28.00 -142.55 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 298.00 35.93 183.80 29.50
Lower Hem. Trend & Plunge of B 65.45 40.00
Lower Hem. Trend, Plunge of P,T 237.70 49.74 332.24 3.83
MRR = -.58 MTT = .66 MPP = -.08 MRT = .32 MRP = -.39 MTP = .60
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 57.20 284.73 -40.12
Dip,Strike,Rake 57.20 39.27 -139.88 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 309.27 32.80 194.73 32.80
Lower Hem. Trend & Plunge of B 72.00 40.00
Lower Hem. Trend, Plunge of P,T 252.00 50.00 342.00 .00
MRR = -.59 MTT = .87 MPP = -.28 MRT = .15 MRP = -.47 MTP = .42
Angle of "A" with vertical B trend plane is 45.0

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Dip,Strike,Rake 71.11 94.59 47.21
Dip,Strike,Rake 46.03 345.31 153.27 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 255.31 43.97 4.59 18.89
Lower Hem. Trend & Plunge of B 111.27 40.00
Lower Hem. Trend, Plunge of P,T 214.44 15.19 320.79 46.04
MRR = .45 MTT = -.34 MPP = -.11 MRT = .60 MRP = .17 MTP = .67
Angle of "A" with vertical B trend plane is 65.0

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Dip,Strike,Rake 79.45 261.32 -44.01
Dip,Strike,Rake 46.92 1.34 -165.49 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 271.34 43.08 171.32 10.55
Lower Hem. Trend & Plunge of B 70.59 45.00
Lower Hem. Trend, Plunge of P,T 211.36 37.76 318.38 20.70
MRR = -.25 MTT = .03 MPP = .22 MRT = .66 MRP = -.03 MTP = .71
Angle of "A" with vertical B trend plane is 15.0

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Dip,Strike,Rake 65.60 283.17 -32.73
Dip,Strike,Rake 60.50 28.04 -151.66 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 298.04 29.50 193.17 24.40
Lower Hem. Trend & Plunge of B 70.43 50.00
Lower Hem. Trend, Plunge of P,T 243.92 39.82 336.60 3.21
MRR = -.41 MTT = .73 MPP = -.32 MRT = .27 MRP = -.42 MTP = .60
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 62.97 287.89 -30.68
Dip,Strike,Rake 62.97 32.98 -149.32 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 302.98 27.03 197.89 27.03
Lower Hem. Trend & Plunge of B 70.43 50.00
Lower Hem. Trend, Plunge of P,T 250.43 40.00 340.43 .00
MRR = -.41 MTT = .82 MPP = -.41 MRT = .16 MRP = -.46 MTP = .50
Angle of "A" with vertical B trend plane is 45.0

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Dip,Strike,Rake 60.50 292.83 -28.34
Dip,Strike,Rake 65.60 37.70 -147.27 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 307.70 24.40 202.83 29.50
Lower Hem. Trend & Plunge of B 70.43 50.00
Lower Hem. Trend, Plunge of P,T 256.95 39.82 164.27 3.21
MRR = -.41 MTT = .89 MPP = -.49 MRT = .06 MRP = -.49 MTP = .39
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 58.23 298.01 -25.70
Dip,Strike,Rake 68.37 42.23 -145.50 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 312.23 21.63 208.01 31.77
Lower Hem. Trend & Plunge of B 70.43 50.00
Lower Hem. Trend, Plunge of P,T 263.40 39.27 168.13 6.41
MRR = -.39 MTT = .94 MPP = -.55 MRT = -.05 MRP = -.51 MTP = .27
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 56.17 303.43 -22.76
Dip,Strike,Rake 71.25 46.58 -143.99 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 316.58 18.75 213.43 33.83
Lower Hem. Trend & Plunge of B 70.43 50.00
Lower Hem. Trend, Plunge of P,T 269.71 38.38 172.03 9.58
MRR = -.36 MTT = .95 MPP = -.60 MRT = -.16 MRP = -.51 MTP = .14
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 90.00 78.26 40.00
Dip,Strike,Rake 50.00 348.26 -180.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 258.26 40.00 168.26 .00
Lower Hem. Trend & Plunge of B 78.26 50.00
Lower Hem. Trend, Plunge of P,T 205.71 27.03 310.81 27.03
MRR = .00 MTT = -.31 MPP = .31 MRT = .63 MRP = .13 MTP = .70
Angle of "A" with vertical B trend plane is .0

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Dip,Strike,Rake 86.79 262.10 -39.89
Dip,Strike,Rake 50.18 354.78 -175.82 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 264.78 39.82 172.10 3.21
Lower Hem. Trend & Plunge of B 78.26 50.00
Lower Hem. Trend, Plunge of P,T 210.65 29.50 315.53 24.40
MRR = -.07 MTT = -.14 MPP = .21 MRT = .64 MRP = .05 MTP = .75
Angle of "A" with vertical B trend plane is 5.0

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Dip,Strike,Rake 83.59 265.95 -39.57
Dip,Strike,Rake 50.73 1.22 -171.71 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 271.22 39.27 175.95 6.41
Lower Hem. Trend & Plunge of B 78.26 50.00
Lower Hem. Trend, Plunge of P,T 215.83 31.77 320.05 21.63
MRR = -.14 MTT = .03 MPP = .11 MRT = .63 MRP = -.04 MTP = .77
Angle of "A" with vertical B trend plane is 10.0

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Dip,Strike,Rake 80.42 269.86 -39.03
Dip,Strike,Rake 51.62 7.54 -167.75 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 277.54 38.38 179.86 9.58
Lower Hem. Trend & Plunge of B 78.26 50.00
Lower Hem. Trend, Plunge of P,T 221.26 33.83 324.40 18.75
MRR = -.21 MTT = .20 MPP = .00 MRT = .60 MRP = -.13 MTP = .77
Angle of "A" with vertical B trend plane is 15.0

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Dip,Strike,Rake 77.30 273.84 -38.26
Dip,Strike,Rake 52.84 13.67 -163.99 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 283.67 37.16 183.84 12.70
Lower Hem. Trend & Plunge of B 78.26 50.00
Lower Hem. Trend, Plunge of P,T 226.93 35.63 328.60 15.76
MRR = -.27 MTT = .37 MPP = -.10 MRT = .55 MRP = -.21 MTP = .74
Angle of "A" with vertical B trend plane is 20.0

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Dip,Strike,Rake 74.24 277.92 -37.25
Dip,Strike,Rake 54.37 19.59 -160.47 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 289.59 35.63 187.92 15.76
Lower Hem. Trend & Plunge of B 78.26 50.00
Lower Hem. Trend, Plunge of P,T 232.85 37.16 332.68 12.70
MRR = -.32 MTT = .52 MPP = -.20 MRT = .48 MRP = -.29 MTP = .69
Angle of "A" with vertical B trend plane is 25.0

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Dip,Strike,Rake 71.25 282.12 -36.01
Dip,Strike,Rake 56.17 25.27 -157.24 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 295.27 33.83 192.12 18.75
Lower Hem. Trend & Plunge of B 78.26 50.00
Lower Hem. Trend, Plunge of P,T 238.98 38.38 336.66 9.58
MRR = -.36 MTT = .66 MPP = -.30 MRT = .40 MRP = -.35 MTP = .63
Angle of "A" with vertical B trend plane is 30.0

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Dip,Strike,Rake 55.15 302.44 3.49
Dip,Strike,Rake 87.13 210.44 145.10 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 120.44 2.87 212.44 34.85
Lower Hem. Trend & Plunge of B 26.34 55.00
Lower Hem. Trend, Plunge of P,T 261.84 21.63 160.65 26.06
MRR = .06 MTT = .70 MPP = -.76 MRT = -.32 MRP = -.47 MTP = .37
Angle of "A" with vertical B trend plane is 5.0

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Dip,Strike,Rake 55.00 305.12 .00
Dip,Strike,Rake 90.00 215.12 145.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 305.12 .00 215.12 35.00
Lower Hem. Trend & Plunge of B 35.12 55.00
Lower Hem. Trend, Plunge of P,T 265.80 23.93 164.44 23.93
MRR = .00 MTT = .77 MPP = -.77 MRT = -.33 MRP = -.47 MTP = .28
Angle of "A" with vertical B trend plane is .0

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Dip,Strike,Rake 55.61 301.75 -6.93
Dip,Strike,Rake 84.28 35.68 -145.41 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 305.68 5.72 211.75 34.39
Lower Hem. Trend & Plunge of B 43.90 55.00
Lower Hem. Trend, Plunge of P,T 264.43 28.02 163.74 19.21
MRR = -.11 MTT = .81 MPP = -.70 MRT = -.26 MRP = -.50 MTP = .32
Angle of "A" with vertical B trend plane is 80.0

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Dip,Strike,Rake 57.39 298.73 -13.47
Dip,Strike,Rake 78.69 36.08 -146.66 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 306.08 11.31 208.73 32.61
Lower Hem. Trend & Plunge of B 52.68 55.00
Lower Hem. Trend, Plunge of P,T 262.33 31.32 163.59 14.03
MRR = -.21 MTT = .85 MPP = -.64 MRT = -.17 MRP = -.51 MTP = .35
Angle of "A" with vertical B trend plane is 70.0

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Dip,Strike,Rake 56.36 304.57 -10.27
Dip,Strike,Rake 81.46 40.30 -145.93 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 310.30 8.54 214.57 33.64
Lower Hem. Trend & Plunge of B 52.68 55.00
Lower Hem. Trend, Plunge of P,T 267.86 29.78 167.99 16.67
MRR = -.16 MTT = .88 MPP = -.71 MRT = -.25 MRP = -.49 MTP = .21
Angle of "A" with vertical B trend plane is 75.0

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Dip,Strike,Rake 63.94 285.77 -24.23
Dip,Strike,Rake 68.37 26.96 -151.79 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 296.96 21.63 195.77 26.06
Lower Hem. Trend & Plunge of B 61.46 55.00
Lower Hem. Trend, Plunge of P,T 247.56 34.85 155.56 2.87
MRR = -.32 MTT = .73 MPP = -.40 MRT = .13 MRP = -.45 MTP = .61
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 61.98 290.94 -21.88
Dip,Strike,Rake 70.79 31.63 -150.16 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 301.63 19.21 200.94 28.02
Lower Hem. Trend & Plunge of B 61.46 55.00
Lower Hem. Trend, Plunge of P,T 253.61 34.39 159.68 5.72
MRR = -.31 MTT = .82 MPP = -.51 MRT = .04 MRP = -.48 MTP = .51
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 60.22 296.29 -19.30
Dip,Strike,Rake 73.33 36.15 -148.77 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 306.15 16.67 206.29 29.78
Lower Hem. Trend & Plunge of B 61.46 55.00
Lower Hem. Trend, Plunge of P,T 259.58 33.64 163.84 8.54
MRR = -.28 MTT = .88 MPP = -.59 MRT = -.06 MRP = -.49 MTP = .38
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 75.97 271.15 -32.40
Dip,Strike,Rake 58.68 9.89 -163.52 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 279.89 31.32 181.15 14.03
Lower Hem. Trend & Plunge of B 70.24 55.00
Lower Hem. Trend, Plunge of P,T 226.29 32.61 323.64 11.31
MRR = -.25 MTT = .28 MPP = -.03 MRT = .47 MRP = -.21 MTP = .81
Angle of "A" with vertical B trend plane is 25.0

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Dip,Strike,Rake 73.33 275.56 -31.23
Dip,Strike,Rake 60.22 15.42 -160.70 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 285.42 29.78 185.56 16.67
Lower Hem. Trend & Plunge of B 70.24 55.00
Lower Hem. Trend, Plunge of P,T 232.13 33.64 327.86 8.54
MRR = -.28 MTT = .44 MPP = -.16 MRT = .41 MRP = -.29 MTP = .78
Angle of "A" with vertical B trend plane is 30.0

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Dip,Strike,Rake 70.79 280.08 -29.84
Dip,Strike,Rake 61.98 20.77 -158.12 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 290.77 28.02 190.08 19.21
Lower Hem. Trend & Plunge of B 70.24 55.00
Lower Hem. Trend, Plunge of P,T 238.10 34.39 332.03 5.72
MRR = -.31 MTT = .58 MPP = -.27 MRT = .33 MRP = -.35 MTP = .72
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake 68.37 284.75 -28.21
Dip,Strike,Rake 63.94 25.93 -155.77 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 295.93 26.06 194.75 21.63
Lower Hem. Trend & Plunge of B 70.24 55.00
Lower Hem. Trend, Plunge of P,T 244.15 34.85 336.14 2.87
MRR = -.32 MTT = .71 MPP = -.38 MRT = .25 MRP = -.40 MTP = .63
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 87.13 263.12 -34.90
Dip,Strike,Rake 55.15 355.12 -176.51 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 265.12 34.85 173.12 2.87
Lower Hem. Trend & Plunge of B 79.02 55.00
Lower Hem. Trend, Plunge of P,T 213.34 26.06 314.52 21.63
MRR = -.06 MTT = -.14 MPP = .20 MRT = .57 MRP = .03 MTP = .80
Angle of "A" with vertical B trend plane is 5.0

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Dip,Strike,Rake 84.28 267.24 -34.59
Dip,Strike,Rake 55.61 1.17 -173.07 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 271.17 34.39 177.24 5.72
Lower Hem. Trend & Plunge of B 79.02 55.00
Lower Hem. Trend, Plunge of P,T 218.50 28.02 319.19 19.21
MRR = -.11 MTT = .03 MPP = .08 MRT = .56 MRP = -.06 MTP = .82
Angle of "A" with vertical B trend plane is 10.0

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Dip,Strike,Rake 60.13 295.77 2.88
Dip,Strike,Rake 87.50 204.33 150.09 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 114.33 2.50 205.77 29.87
Lower Hem. Trend & Plunge of B 20.00 60.00
Lower Hem. Trend, Plunge of P,T 253.99 18.75 155.90 22.52
MRR = .04 MTT = .64 MPP = -.69 MRT = -.24 MRP = -.44 MTP = .56
Angle of "A" with vertical B trend plane is 5.0

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Dip,Strike,Rake 60.13 294.23 -2.88
Dip,Strike,Rake 87.50 25.67 -150.09 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 295.67 2.50 204.23 29.87
Lower Hem. Trend & Plunge of B 30.00 60.00
Lower Hem. Trend, Plunge of P,T 254.10 22.52 156.01 18.75
MRR = -.04 MTT = .68 MPP = -.64 MRT = -.18 MRP = -.46 MTP = .56
Angle of "A" with vertical B trend plane is 85.0

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Dip,Strike,Rake 61.12 292.81 -8.50
Dip,Strike,Rake 82.56 26.94 -150.85 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 296.94 7.44 202.81 28.88
Lower Hem. Trend & Plunge of B 40.00 60.00
Lower Hem. Trend, Plunge of P,T 253.69 25.66 156.57 14.48
MRR = -.12 MTT = .73 MPP = -.60 MRT = -.11 MRP = -.47 MTP = .56
Angle of "A" with vertical B trend plane is 75.0

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Dip,Strike,Rake 64.34 286.31 -16.10
Dip,Strike,Rake 75.52 23.43 -153.43 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 293.43 14.48 196.31 25.66
Lower Hem. Trend & Plunge of B 50.00 60.00
Lower Hem. Trend, Plunge of P,T 247.19 28.88 153.06 7.44
MRR = -.22 MTT = .67 MPP = -.45 MRT = .05 MRP = -.45 MTP = .67
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 63.05 291.70 -13.71
Dip,Strike,Rake 77.80 28.01 -152.38 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 298.01 12.20 201.70 26.95
Lower Hem. Trend & Plunge of B 50.00 60.00
Lower Hem. Trend, Plunge of P,T 252.80 28.02 157.50 9.85
MRR = -.19 MTT = .76 MPP = -.57 MRT = -.03 MRP = -.46 MTP = .56
Angle of "A" with vertical B trend plane is 65.0

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Dip,Strike,Rake 71.25 276.01 -23.86
Dip,Strike,Rake 67.48 14.10 -159.64 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 284.10 22.52 186.01 18.75
Lower Hem. Trend & Plunge of B 60.00 60.00
Lower Hem. Trend, Plunge of P,T 234.23 29.87 325.67 2.50
MRR = -.25 MTT = .42 MPP = -.18 MRT = .29 MRP = -.33 MTP = .82
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 69.30 280.89 -22.21
Dip,Strike,Rake 69.30 19.11 -157.79 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 289.11 20.70 190.89 20.70
Lower Hem. Trend & Plunge of B 60.00 60.00
Lower Hem. Trend, Plunge of P,T 240.00 30.00 330.00 .00
MRR = -.25 MTT = .56 MPP = -.31 MRT = .22 MRP = -.37 MTP = .76
Angle of "A" with vertical B trend plane is 45.0

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Dip,Strike,Rake 67.48 285.90 -20.36
Dip,Strike,Rake 71.25 23.99 -156.14 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 293.99 18.75 195.90 22.52
Lower Hem. Trend & Plunge of B 60.00 60.00
Lower Hem. Trend, Plunge of P,T 245.77 29.87 154.33 2.50
MRR = -.25 MTT = .68 MPP = -.44 MRT = .14 MRP = -.41 MTP = .67
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 80.15 267.50 -28.48
Dip,Strike,Rake 61.98 2.80 -168.83 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 272.80 28.02 177.50 9.85
Lower Hem. Trend & Plunge of B 70.00 60.00
Lower Hem. Trend, Plunge of P,T 221.70 26.95 318.01 12.20
MRR = -.16 MTT = .08 MPP = .08 MRT = .46 MRP = -.13 MTP = .87
Angle of "A" with vertical B trend plane is 20.0

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Dip,Strike,Rake 77.80 271.99 -27.62
Dip,Strike,Rake 63.05 8.30 -166.29 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 278.30 26.95 181.99 12.20
Lower Hem. Trend & Plunge of B 70.00 60.00
Lower Hem. Trend, Plunge of P,T 227.20 28.02 322.50 9.85
MRR = -.19 MTT = .25 MPP = -.06 MRT = .42 MRP = -.20 MTP = .86
Angle of "A" with vertical B trend plane is 25.0

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Dip,Strike,Rake 75.52 276.57 -26.57
Dip,Strike,Rake 64.34 13.69 -163.90 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 283.69 25.66 186.57 14.48
Lower Hem. Trend & Plunge of B 70.00 60.00
Lower Hem. Trend, Plunge of P,T 232.81 28.88 326.94 7.44
MRR = -.22 MTT = .41 MPP = -.19 MRT = .36 MRP = -.27 MTP = .82
Angle of "A" with vertical B trend plane is 30.0

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Dip,Strike,Rake 65.10 288.49 -2.33
Dip,Strike,Rake 87.89 19.47 -155.08 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 289.47 2.11 198.49 24.90
Lower Hem. Trend & Plunge of B 24.00 65.00
Lower Hem. Trend, Plunge of P,T 246.79 18.89 151.25 15.76
MRR = -.03 MTT = .57 MPP = -.54 MRT = -.11 MRP = -.41 MTP = .71
Angle of "A" with vertical B trend plane is 85.0

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Dip,Strike,Rake 66.60 284.12 -9.06
Dip,Strike,Rake 81.69 17.74 -156.34 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 287.74 8.31 194.12 23.40
Lower Hem. Trend & Plunge of B 36.00 65.00
Lower Hem. Trend, Plunge of P,T 243.23 22.52 148.91 10.29
MRR = -.11 MTT = .54 MPP = -.42 MRT = .01 MRP = -.41 MTP = .77
Angle of "A" with vertical B trend plane is 70.0

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Dip,Strike,Rake 65.91 289.53 -6.88
Dip,Strike,Rake 83.72 22.35 -155.75 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 292.35 6.28 199.53 24.09
Lower Hem. Trend & Plunge of B 36.00 65.00
Lower Hem. Trend, Plunge of P,T 248.50 21.47 153.62 12.20
MRR = -.09 MTT = .65 MPP = -.56 MRT = -.06 MRP = -.41 MTP = .68
Angle of "A" with vertical B trend plane is 75.0

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Dip,Strike,Rake 69.75 280.31 -14.97
Dip,Strike,Rake 75.97 15.60 -159.09 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 285.60 14.03 190.31 20.25
Lower Hem. Trend & Plunge of B 48.00 65.00
Lower Hem. Trend, Plunge of P,T 239.01 24.59 147.08 4.21
MRR = -.17 MTT = .48 MPP = -.31 MRT = .13 MRP = -.36 MTP = .82
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 68.53 285.50 -13.12
Dip,Strike,Rake 77.80 20.38 -158.01 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 290.38 12.20 195.50 21.47
Lower Hem. Trend & Plunge of B 48.00 65.00
Lower Hem. Trend, Plunge of P,T 244.47 24.09 151.65 6.28
MRR = -.15 MTT = .61 MPP = -.46 MRT = .06 MRP = -.39 MTP = .74
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 75.97 272.40 -20.91
Dip,Strike,Rake 69.75 7.69 -165.03 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 277.69 20.25 182.40 14.03
Lower Hem. Trend & Plunge of B 60.00 65.00

There are 59 acceptable solutions

Lower Hem. Trend, Plunge of P,T 228.99 24.59 320.92 4.21
MRR = -.17 MTT = .24 MPP = -.08 MRT = .31 MRP = -.24 MTP = .90
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake 74.24 277.25 -19.66
Dip,Strike,Rake 71.11 12.79 -163.31 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 282.79 18.89 187.25 15.76
Lower Hem. Trend & Plunge of B 60.00 65.00
Lower Hem. Trend, Plunge of P,T 234.49 24.90 325.47 2.11
MRR = -.18 MTT = .40 MPP = -.22 MRT = .25 MRP = -.29 MTP = .86
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 81.69 270.26 -23.66
Dip,Strike,Rake 66.60 3.88 -170.94 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 273.88 23.40 180.26 8.31
Lower Hem. Trend & Plunge of B 72.00 65.00
Lower Hem. Trend, Plunge of P,T 224.77 22.52 319.09 10.29
MRR = -.11 MTT = .12 MPP = -.01 MRT = .38 MRP = -.13 MTP = .91
Angle of "A" with vertical B trend plane is 20.0

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Event # 37: allowing a polarity error of 0.0 yield 4 solutions.

TThu Oct 8 19:11:15 2009 for program FOCMEC
37
Input from a file 37.inp
2003-03-22 (37) Felt in Combate

Statn Azimuth TOAng Key Log10 (S/P) NumPol
DenTOAng Comment
MGP 106.0 99.0 D
MGP 106.0 99.0 D
LSP 35.0 94.0 -
LRS 51.0 57.0 U
IDE 321.0 57.0 D
PORP 88.0 57.0 -
OBIP 87.0 57.0 D
OBIP 87.0 57.0 D
CELP 86.0 57.0 D
SJG 85.0 44.0 +
SJG 85.0 44.0 +
CSB 75.0 44.0 +
CPD 89.0 44.0 -
HUMP 85.0 44.0 +
MTP 87.0 44.0 +
Including emergent polarity picks
Polarities/Errors: P 015/ .0 SV 000/ .0 SH 000/ .0
Threshh. = .10
There are no amplitude ratio data
The minimum, increment and maximum B axis trend are
.00 5.00 355.00
The limits for the B axis plunge are .00 5.00 90.00
The limits for the angle of the A axis are .00 5.00
85.00

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Dip,Strike,Rake 55.15 41.51 83.90
Dip,Strike,Rake 35.31 232.10 98.67 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 142.10 54.69
311.51 34.85
Lower Hem. Trend & Plunge of B 45.00 5.00
Lower Hem. Trend, Plunge of P,T 135.88 9.96
288.70 78.83
MRR = .93 MTT = -.50 MPP = -.44 MRT = .18
MRP = .30 MTP = -.47
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 40.26 199.07 82.25
Dip,Strike,Rake 50.18 29.18 96.52 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 299.18 39.82
109.07 49.74
Lower Hem. Trend & Plunge of B 205.00 5.00
Lower Hem. Trend, Plunge of P,T 114.56 4.98
339.89 82.93
MRR = .98 MTT = -.16 MPP = -.82 MRT = .15
MRP = .12 MTP = -.37
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 55.61 43.77 77.85
Dip,Strike,Rake 36.22 244.63 107.09 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 154.63 53.78
313.77 34.39
Lower Hem. Trend & Plunge of B 50.70 10.00
Lower Hem. Trend, Plunge of P,T 142.46 9.85
276.14 75.89
MRR = .91 MTT = -.61 MPP = -.30 MRT = .16
MRP = .34 MTP = -.46
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 41.03 191.12 74.66
Dip,Strike,Rake 50.73 31.11 102.96 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 301.11 39.27
101.12 48.97
Lower Hem. Trend & Plunge of B 202.82 10.00
Lower Hem. Trend, Plunge of P,T 111.95 4.92
356.08 78.83
MRR = .96 MTT = -.10 MPP = -.85 MRT = .22
MRP = .09 MTP = -.34
Angle of "A" with vertical B trend plane is 40.0

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There are 4 acceptable solutions

Event # 39: allowing a polarity error of 0.1[3] yield 22 solutions.

TThu Oct 8 19:12:37 2009 for program FOCMEC
39
Input from a file 39.inp
2003-03-22 (39) Felt in Cabo Rojo

Statn Azimuth TOAng Key Log10 (S/P) NumPol
DenTOAng Comment
MGP 105.0 114.0 D
MGP 105.0 114.0 -
LSP 27.0 99.0 +
MPR 8.0 98.0 -
LRS 49.0 57.0 U
IDE 319.0 57.0 -
PORP 87.0 57.0 -
OBIP 87.0 57.0 -
CELP 85.0 57.0 -
SJG 85.0 44.0 +
SJG 85.0 44.0 +
CSB 74.0 44.0 +
CPD 89.0 44.0 +
CPD 89.0 44.0 +
HUMP 84.0 44.0 +
MTP 87.0 44.0 -
Including emergent polarity picks
Polarities/Errors: P 016/ .1 SV 000/ .0 SH 000/ .0
Threshh. = .10
There are no amplitude ratio data
The minimum, increment and maximum B axis trend are
.00 5.00 355.00
The limits for the B axis plunge are .00 5.00 90.00
The limits for the angle of the A axis are .00 5.00
85.00

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Dip,Strike,Rake 50.00 30.00 90.00
Dip,Strike,Rake 40.00 210.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 120.00 50.00
300.00 40.00
Lower Hem. Trend & Plunge of B 30.00 .00
Lower Hem. Trend, Plunge of P,T 120.00 5.00
300.00 85.00
MRR = .98 MTT = -.25 MPP = -.74 MRT = .09
MRP = .15 MTP = -.43
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at MTP

[3] Focal Mechanisms where initially computed allowing 0 polarity error; when acceptable solutions where not found the polarity error was increased, allowing the smaller polarity error possible to obtain solutions.

P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 45.22 20.02 82.95
Dip,Strike,Rake 45.22 209.98 97.05 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 119.98 44.78
290.02 44.78
Lower Hem. Trend & Plunge of B 25.00 5.00
Lower Hem. Trend, Plunge of P,T 295.00 .00
205.00 85.00
MRR = .99 MTT = -.17 MPP = -.82 MRT = -.08
MRP = .04 MTP = -.39
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.18 30.82 83.48
Dip,Strike,Rake 40.26 220.93 97.75 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 130.93 49.74
300.82 39.82
Lower Hem. Trend & Plunge of B 35.00 5.00
Lower Hem. Trend, Plunge of P,T 125.44 4.98
260.11 82.93
MRR = .98 MTT = -.33 MPP = -.64 MRT = .03
MRP = .19 MTP = -.47
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 40.26 204.07 82.25
Dip,Strike,Rake 50.18 34.18 96.52 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 304.18 39.82
114.07 49.74
Lower Hem. Trend & Plunge of B 210.00 5.00
Lower Hem. Trend, Plunge of P,T 119.56 4.98
344.89 82.93
MRR = .98 MTT = -.23 MPP = -.75 MRT = .16
MRP = .11 MTP = -.42
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 45.86 20.57 76.00
Dip,Strike,Rake 45.86 220.27 104.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 130.27 44.14 290.57 44.14
Lower Hem. Trend & Plunge of B 30.42 10.00
Lower Hem. Trend, Plunge of P,T 300.42 .00 210.42 80.00
MRR = .97 MTT = -.23 MPP = -.74 MRT = -.15 MRP = .09 MTP = -.45
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.73 32.27 77.04
Dip,Strike,Rake 41.03 232.26 105.34 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 142.26 48.97 302.27 39.27
Lower Hem. Trend & Plunge of B 40.56 10.00
Lower Hem. Trend, Plunge of P,T 131.43 4.92 247.30 78.83
MRR = .96 MTT = -.43 MPP = -.53 MRT = -.02 MRP = .24 MTP = -.51
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 41.03 196.20 74.66
Dip,Strike,Rake 50.73 36.18 102.96 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 306.18 39.27 106.20 48.97
Lower Hem. Trend & Plunge of B 207.89 10.00
Lower Hem. Trend, Plunge of P,T 117.02 4.92 1.15 78.83
MRR = .96 MTT = -.17 MPP = -.79 MRT = .23 MRP = .07 MTP = -.40
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 46.92 16.35 69.25
Dip,Strike,Rake 46.92 225.37 110.75 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 135.37 43.08 286.35 43.08
Lower Hem. Trend & Plunge of B 30.86 15.00
Lower Hem. Trend, Plunge of P,T 300.86 .00 210.86 75.00
MRR = .93 MTT = -.21 MPP = -.72 MRT = -.21 MRP = .13 MTP = -.47
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 46.92 21.49 69.25
Dip,Strike,Rake 46.92 230.51 110.75 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 140.51 43.08 291.49 43.08
Lower Hem. Trend & Plunge of B 36.00 15.00
Lower Hem. Trend, Plunge of P,T 306.00 .00 216.00 75.00
MRR = .93 MTT = -.30 MPP = -.63 MRT = -.20 MRP = .15 MTP = -.51
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 46.92 26.63 69.25
Dip,Strike,Rake 46.92 235.65 110.75 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 145.65 43.08 296.63 43.08
Lower Hem. Trend & Plunge of B 41.14 15.00
Lower Hem. Trend, Plunge of P,T 311.14 .00 221.14 75.00
MRR = .93 MTT = -.39 MPP = -.54 MRT = -.19 MRP = .16 MTP = -.53
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 51.62 34.03 70.72
Dip,Strike,Rake 42.27 243.43 112.63 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 153.43 47.73 304.03 38.38
Lower Hem. Trend & Plunge of B 46.29 15.00
Lower Hem. Trend, Plunge of P,T 137.58 4.83 244.96 74.21

MRR = .92 MTT = -.53 MPP = -.39 MRT = -.05
MRP = .29 MTP = -.52
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 42.27 188.57 67.37
Dip,Strike,Rake 51.62 37.97 109.28 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 307.97 38.38
98.57 47.73
Lower Hem. Trend & Plunge of B 205.71 15.00
Lower Hem. Trend, Plunge of P,T 114.42 4.83
7.04 74.21
MRR = .92 MTT = -.10 MPP = -.82 MRT = .29
MRP = .04 MTP = -.38
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 48.36 23.47 62.76
Dip,Strike,Rake 48.36 241.23 117.24 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 151.23 41.64
293.47 41.64
Lower Hem. Trend & Plunge of B 42.35 20.00
Lower Hem. Trend, Plunge of P,T 312.35 .00
222.35 70.00
MRR = .88 MTT = -.39 MPP = -.49 MRT = -.24
MRP = .22 MTP = -.56
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 48.36 28.77 62.76
Dip,Strike,Rake 48.36 246.53 117.24 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 156.53 41.64
298.77 41.64
Lower Hem. Trend & Plunge of B 47.65 20.00
Lower Hem. Trend, Plunge of P,T 317.65 .00
227.65 70.00
MRR = .88 MTT = -.49 MPP = -.39 MRT = -.22
MRP = .24 MTP = -.56
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 48.36 34.06 62.76
Dip,Strike,Rake 48.36 251.82 117.24 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 161.82 41.64
304.06 41.64
Lower Hem. Trend & Plunge of B 52.94 20.00
Lower Hem. Trend, Plunge of P,T 322.94 .00
232.94 70.00
MRR = .88 MTT = -.59 MPP = -.29 MRT = -.19
MRP = .26 MTP = -.54
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 43.96 184.29 60.48
Dip,Strike,Rake 52.84 42.48 115.41 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 312.48 37.16
94.29 46.04
Lower Hem. Trend & Plunge of B 206.47 20.00
Lower Hem. Trend, Plunge of P,T 114.76 4.70
12.12 69.41
MRR = .87 MTT = -.06 MPP = -.81 MRT = .36
MRP = .00 MTP = -.40
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 39.67 191.03 57.60
Dip,Strike,Rake 57.39 50.53 113.96 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 320.53 32.61
101.03 50.33
Lower Hem. Trend & Plunge of B 217.06 20.00
Lower Hem. Trend, Plunge of P,T 123.61 9.39
9.79 67.73
MRR = .83 MTT = -.16 MPP = -.67 MRT = .43
MRP = .07 MTP = -.47
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 46.03 17.58 54.04
Dip,Strike,Rake 54.37 243.83 121.33 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 153.83 35.63 287.58 43.97
Lower Hem. Trend & Plunge of B 44.31 25.00
Lower Hem. Trend, Plunge of P,T 312.19 4.53 212.61 64.54
MRR = .81 MTT = -.32 MPP = -.49 MRT = -.38 MRP = .15 MTP = -.58
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 46.03 23.11 54.04
Dip,Strike,Rake 54.37 249.37 121.33 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 159.37 35.63 293.11 43.97
Lower Hem. Trend & Plunge of B 49.85 25.00
Lower Hem. Trend, Plunge of P,T 317.73 4.53 218.15 64.54
MRR = .81 MTT = -.43 MPP = -.38 MRT = -.36 MRP = .19 MTP = -.58
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 46.03 28.65 54.04
Dip,Strike,Rake 54.37 254.91 121.33 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 164.91 35.63 298.65 43.97
Lower Hem. Trend & Plunge of B 55.38 25.00
Lower Hem. Trend, Plunge of P,T 323.27 4.53 223.69 64.54
MRR = .81 MTT = -.54 MPP = -.27 MRT = -.34 MRP = .22 MTP = -.57
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.14 32.47 56.60
Dip,Strike,Rake 50.14 258.29 123.40 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 168.29 39.86 302.47 39.86
Lower Hem. Trend & Plunge of B 55.38 25.00
Lower Hem. Trend, Plunge of P,T 325.38 .00 235.38 65.00
MRR = .82 MTT = -.62 MPP = -.20 MRT = -.22 MRP = .32 MTP = -.55
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 44.81 180.95 35.53
Dip,Strike,Rake 65.82 64.09 128.96 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 334.09 24.18 90.95 45.19
Lower Hem. Trend & Plunge of B 225.76 35.00
Lower Hem. Trend, Plunge of P,T 127.03 12.24 20.72 52.30
MRR = .58 MTT = -.02 MPP = -.56 MRT = .58 MRP = -.01 MTP = -.58
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at MTP
P Polarity weights: .10
Total P polarity weight is .100

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There are 22 acceptable solutions

Event # 42: allowing a polarity error of 0.1[4] yield 100 solutions.

Sun Oct 11 09:22:50 2009 for program FOCMEC
42-a
Input from a file 42.inp
2003-03-23 (42) FELT IN cOMBATE

Statn Azimuth TOAng Key Log10 (S/P) NumPol
DenTOAng Comment
MGP 87.0 96.0 D
LSP 20.0 54.0 +
LRS 45.0 43.0 U
PORP 84.0 43.0 D
CELP 82.0 43.0 D
SJG 83.0 34.0 U
CSB 73.0 34.0 +
CPD 88.0 34.0 +
Including emergent polarity picks
Polarities/Errors: P 008/ .1 SV 000/ .0 SH 000/ .0
Threshh. = .10
There are no amplitude ratio data
The minimum, increment and maximum B axis trend are
.00 5.00 355.00
The limits for the B axis plunge are .00 5.00 90.00
The limits for the angle of the A axis are .00 5.00
85.00

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Dip,Strike,Rake 50.00 .00 90.00
Dip,Strike,Rake 40.00 180.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 90.00 50.00
270.00 40.00
Lower Hem. Trend & Plunge of B .00 .00
Lower Hem. Trend, Plunge of P,T 90.00 5.00
270.00 85.00
MRR = .98 MTT = .00 MPP = -.98 MRT = .00
MRP = .17 MTP = .00
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.00 .00 90.00
Dip,Strike,Rake 35.00 180.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 90.00 55.00
270.00 35.00
Lower Hem. Trend & Plunge of B .00 .00
Lower Hem. Trend, Plunge of P,T 90.00 10.00
270.00 80.00
MRR = .94 MTT = .00 MPP = -.94 MRT = .00
MRP = .34 MTP = .00
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 50.00 5.00 90.00
Dip,Strike,Rake 40.00 185.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 95.00 50.00
275.00 40.00
Lower Hem. Trend & Plunge of B 5.00 .00
Lower Hem. Trend, Plunge of P,T 95.00 5.00
275.00 85.00
MRR = .98 MTT = -.01 MPP = -.98 MRT = .02
MRP = .17 MTP = -.09
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.00 5.00 90.00
Dip,Strike,Rake 35.00 185.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 95.00 55.00
275.00 35.00
Lower Hem. Trend & Plunge of B 5.00 .00
Lower Hem. Trend, Plunge of P,T 95.00 10.00
275.00 80.00
MRR = .94 MTT = -.01 MPP = -.93 MRT = .03
MRP = .34 MTP = -.08
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 50.00 10.00 90.00
Dip,Strike,Rake 40.00 190.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 100.00 50.00
280.00 40.00
Lower Hem. Trend & Plunge of B 10.00 .00
Lower Hem. Trend, Plunge of P,T 100.00 5.00
280.00 85.00
MRR = .98 MTT = -.03 MPP = -.96 MRT = .03
MRP = .17 MTP = -.17
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.00 10.00 90.00
Dip,Strike,Rake 35.00 190.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 100.00 55.00
280.00 35.00
Lower Hem. Trend & Plunge of B 10.00 .00
Lower Hem. Trend, Plunge of P,T 100.00 10.00
280.00 80.00

[4] Focal Mechanisms where initially computed allowing 0 polarity error; when acceptable solutions where not found the polarity error was increased, allowing the smaller polarity error possible to obtain solutions.

MRR = .94 MTT = -.03 MPP = -.91 MRT = .06
MRP = .34 MTP = -.16
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 50.00 15.00 90.00
Dip,Strike,Rake 40.00 195.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 105.00 50.00
285.00 40.00
Lower Hem. Trend & Plunge of B 15.00 .00
Lower Hem. Trend, Plunge of P,T 105.00 5.00
285.00 85.00
MRR = .98 MTT = -.07 MPP = -.92 MRT = .04
MRP = .17 MTP = -.25
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.00 15.00 90.00
Dip,Strike,Rake 35.00 195.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 105.00 55.00
285.00 35.00
Lower Hem. Trend & Plunge of B 15.00 .00
Lower Hem. Trend, Plunge of P,T 105.00 10.00
285.00 80.00
MRR = .94 MTT = -.06 MPP = -.88 MRT = .09
MRP = .33 MTP = -.23
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 55.00 20.00 90.00
Dip,Strike,Rake 35.00 200.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 110.00 55.00
290.00 35.00
Lower Hem. Trend & Plunge of B 20.00 .00
Lower Hem. Trend, Plunge of P,T 110.00 10.00
290.00 80.00
MRR = .94 MTT = -.11 MPP = -.83 MRT = .12
MRP = .32 MTP = -.30
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 55.00 25.00 90.00
Dip,Strike,Rake 35.00 205.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 115.00 55.00
295.00 35.00
Lower Hem. Trend & Plunge of B 25.00 .00
Lower Hem. Trend, Plunge of P,T 115.00 10.00
295.00 80.00
MRR = .94 MTT = -.17 MPP = -.77 MRT = .14
MRP = .31 MTP = -.36

Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 60.00 25.00 90.00
Dip,Strike,Rake 30.00 205.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 115.00 60.00
295.00 30.00
Lower Hem. Trend & Plunge of B 25.00 .00
Lower Hem. Trend, Plunge of P,T 115.00 15.00
295.00 75.00
MRR = .87 MTT = -.15 MPP = -.71 MRT = .21
MRP = .45 MTP = -.33
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 55.00 30.00 90.00
Dip,Strike,Rake 35.00 210.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 120.00 55.00
300.00 35.00
Lower Hem. Trend & Plunge of B 30.00 .00
Lower Hem. Trend, Plunge of P,T 120.00 10.00
300.00 80.00
MRR = .94 MTT = -.23 MPP = -.70 MRT = .17
MRP = .30 MTP = -.41
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 60.00 30.00 90.00
Dip,Strike,Rake 30.00 210.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 120.00 60.00
300.00 30.00
Lower Hem. Trend & Plunge of B 30.00 .00
Lower Hem. Trend, Plunge of P,T 120.00 15.00
300.00 75.00
MRR = .87 MTT = -.22 MPP = -.65 MRT = .25
MRP = .43 MTP = -.38
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 55.00 35.00 90.00
Dip,Strike,Rake 35.00 215.00 90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 125.00 55.00
305.00 35.00
Lower Hem. Trend & Plunge of B 35.00 .00
Lower Hem. Trend, Plunge of P,T 125.00 10.00
305.00 80.00

MRR = .94 MTT = -.31 MPP = -.63 MRT = .20
MRP = .28 MTP = -.44
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at CELP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 60.00 35.00 90.00
Dip,Strike,Rake 30.00 215.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 125.00 60.00 305.00 30.00
Lower Hem. Trend & Plunge of B 35.00 .00
Lower Hem. Trend, Plunge of P,T 125.00 15.00 305.00 75.00
MRR = .87 MTT = -.28 MPP = -.58 MRT = .29
MRP = .41 MTP = -.41
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 60.00 40.00 90.00
Dip,Strike,Rake 30.00 220.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 130.00 60.00 310.00 30.00
Lower Hem. Trend & Plunge of B 40.00 .00
Lower Hem. Trend, Plunge of P,T 130.00 15.00 310.00 75.00
MRR = .87 MTT = -.36 MPP = -.51 MRT = .32
MRP = .38 MTP = -.43
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 65.00 40.00 90.00
Dip,Strike,Rake 25.00 220.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 130.00 65.00 310.00 25.00
Lower Hem. Trend & Plunge of B 40.00 .00
Lower Hem. Trend, Plunge of P,T 130.00 20.00 310.00 70.00
MRR = .77 MTT = -.32 MPP = -.45 MRT = .41
MRP = .49 MTP = -.38
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 60.00 45.00 90.00
Dip,Strike,Rake 30.00 225.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 135.00 60.00 315.00 30.00
Lower Hem. Trend & Plunge of B 45.00 .00
Lower Hem. Trend, Plunge of P,T 135.00 15.00 315.00 75.00
MRR = .87 MTT = -.43 MPP = -.43 MRT = .35
MRP = .35 MTP = -.43
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at CELP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 65.00 45.00 90.00
Dip,Strike,Rake 25.00 225.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 135.00 65.00 315.00 25.00
Lower Hem. Trend & Plunge of B 45.00 .00
Lower Hem. Trend, Plunge of P,T 135.00 20.00 315.00 70.00
MRR = .77 MTT = -.38 MPP = -.38 MRT = .45
MRP = .45 MTP = -.38
Angle of "A" with vertical B trend plane is 65.0

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Dip,Strike,Rake 65.00 50.00 90.00
Dip,Strike,Rake 25.00 230.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 140.00 65.00 320.00 25.00
Lower Hem. Trend & Plunge of B 50.00 .00
Lower Hem. Trend, Plunge of P,T 140.00 20.00 320.00 70.00
MRR = .77 MTT = -.45 MPP = -.32 MRT = .49
MRP = .41 MTP = -.38
Angle of "A" with vertical B trend plane is 65.0

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Dip,Strike,Rake 70.00 55.00 90.00
Dip,Strike,Rake 20.00 235.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 145.00 70.00 325.00 20.00
Lower Hem. Trend & Plunge of B 55.00 .00
Lower Hem. Trend, Plunge of P,T 145.00 25.00 325.00 65.00
MRR = .64 MTT = -.43 MPP = -.21 MRT = .63
MRP = .44 MTP = -.30
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CPD
P Polarity weights: .10

Total P polarity weight is .100

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Dip,Strike,Rake 70.00 60.00 90.00
Dip,Strike,Rake 20.00 240.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 150.00 70.00 330.00 20.00
Lower Hem. Trend & Plunge of B 60.00 .00
Lower Hem. Trend, Plunge of P,T 150.00 25.00 330.00 65.00
MRR = .64 MTT = -.48 MPP = -.16 MRT = .66 MRP = .38 MTP = -.28
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CELP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 75.00 60.00 90.00
Dip,Strike,Rake 15.00 240.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 150.00 75.00 330.00 15.00
Lower Hem. Trend & Plunge of B 60.00 .00
Lower Hem. Trend, Plunge of P,T 150.00 30.00 330.00 60.00
MRR = .50 MTT = -.37 MPP = -.12 MRT = .75 MRP = .43 MTP = -.22
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 75.00 65.00 90.00
Dip,Strike,Rake 15.00 245.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 155.00 75.00 335.00 15.00
Lower Hem. Trend & Plunge of B 65.00 .00
Lower Hem. Trend, Plunge of P,T 155.00 30.00 335.00 60.00
MRR = .50 MTT = -.41 MPP = -.09 MRT = .78 MRP = .37 MTP = -.19
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at MGP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 40.00 165.00 90.00
Dip,Strike,Rake 50.00 345.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 255.00 40.00 75.00 50.00
Lower Hem. Trend & Plunge of B 165.00 .00
Lower Hem. Trend, Plunge of P,T 75.00 5.00 255.00 85.00
MRR = .98 MTT = -.07 MPP = -.92 MRT = -.04 MRP = .17 MTP = .25
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 35.00 170.00 90.00
Dip,Strike,Rake 55.00 350.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 260.00 35.00 80.00 55.00
Lower Hem. Trend & Plunge of B 170.00 .00
Lower Hem. Trend, Plunge of P,T 80.00 10.00 260.00 80.00
MRR = .94 MTT = -.03 MPP = -.91 MRT = -.06 MRP = .34 MTP = .16
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at LRS
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 40.00 170.00 90.00
Dip,Strike,Rake 50.00 350.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 260.00 40.00 80.00 50.00
Lower Hem. Trend & Plunge of B 170.00 .00
Lower Hem. Trend, Plunge of P,T 80.00 5.00 260.00 85.00
MRR = .98 MTT = -.03 MPP = -.96 MRT = -.03 MRP = .17 MTP = .17
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 35.00 175.00 90.00
Dip,Strike,Rake 55.00 355.00 90.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 265.00 35.00 85.00 55.00
Lower Hem. Trend & Plunge of B 175.00 .00
Lower Hem. Trend, Plunge of P,T 85.00 10.00 265.00 80.00
MRR = .94 MTT = -.01 MPP = -.93 MRT = -.03 MRP = .34 MTP = .08
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at LRS

P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   40.00   175.00   90.00
Dip,Strike,Rake   50.00   355.00   90.00   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   265.00   40.00   85.00   50.00
Lower Hem. Trend & Plunge of B   175.00   .00
Lower Hem. Trend, Plunge of P,T   85.00   5.00   265.00   85.00
MRR = .98 MTT = -.01 MPP = -.98 MRT = -.02 MRP = .17 MTP = .09
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake   35.00   180.00   90.00
Dip,Strike,Rake   55.00   .00   90.00   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   270.00   35.00   90.00   55.00
Lower Hem. Trend & Plunge of B   180.00   .00
Lower Hem. Trend, Plunge of P,T   90.00   10.00   270.00   80.00
MRR = .94 MTT = .00 MPP = -.94 MRT = .00 MRP = .34 MTP = .00
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake   40.00   180.00   90.00
Dip,Strike,Rake   50.00   .00   90.00   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   270.00   40.00   90.00   50.00
Lower Hem. Trend & Plunge of B   180.00   .00
Lower Hem. Trend, Plunge of P,T   90.00   5.00   270.00   85.00
MRR = .98 MTT = .00 MPP = -.98 MRT = .00 MRP = .17 MTP = .00
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake   50.18   355.82   83.48
Dip,Strike,Rake   40.26   185.93   97.75   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   95.93   49.74   265.82   39.82
Lower Hem. Trend & Plunge of B   .00   5.00
Lower Hem. Trend, Plunge of P,T   90.44   4.98   225.11   82.93
MRR = .98 MTT = .01 MPP = -.98 MRT = -.09 MRP = .17 MTP = -.02
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake   55.15   356.51   83.90
Dip,Strike,Rake   35.31   187.10   98.67   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   97.10   54.69   266.51   34.85
Lower Hem. Trend & Plunge of B   .00   5.00
Lower Hem. Trend, Plunge of P,T   90.88   9.96   243.70   78.83
MRR = .93 MTT = .01 MPP = -.94 MRT = -.08 MRP = .34 MTP = -.03
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at LRS
P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   50.18   .82   83.48
Dip,Strike,Rake   40.26   190.93   97.75   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   100.93   49.74   270.82   39.82
Lower Hem. Trend & Plunge of B   5.00   5.00
Lower Hem. Trend, Plunge of P,T   95.44   4.98   230.11   82.93
MRR = .98 MTT = .00 MPP = -.97 MRT = -.07 MRP = .18 MTP = -.10
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake   55.15   1.51   83.90
Dip,Strike,Rake   35.31   192.10   98.67   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   102.10   54.69   271.51   34.85
Lower Hem. Trend & Plunge of B   5.00   5.00
Lower Hem. Trend, Plunge of P,T   95.88   9.96   248.70   78.83
MRR = .93 MTT = -.01 MPP = -.93 MRT = -.05 MRP = .35 MTP = -.11
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake   50.18   5.82   83.48
Dip,Strike,Rake   40.26   195.93   97.75   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   105.93   49.74   275.82   39.82
Lower Hem. Trend & Plunge of B   10.00   5.00
Lower Hem. Trend, Plunge of P,T   100.44   4.98   235.11   82.93

MRR = .98 MTT = -.03 MPP = -.95 MRT = -.05
MRP = .19 MTP = -.18
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.15 6.51 83.90
Dip,Strike,Rake 35.31 197.10 98.67 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 107.10 54.69
276.51 34.85
Lower Hem. Trend & Plunge of B 10.00 5.00
Lower Hem. Trend, Plunge of P,T 100.88 9.96
253.70 78.83
MRR = .93 MTT = -.03 MPP = -.90 MRT = -.02
MRP = .35 MTP = -.19
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 50.18 10.82 83.48
Dip,Strike,Rake 40.26 200.93 97.75 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 110.93 49.74
280.82 39.82
Lower Hem. Trend & Plunge of B 15.00 5.00
Lower Hem. Trend, Plunge of P,T 105.44 4.98
240.11 82.93
MRR = .98 MTT = -.07 MPP = -.91 MRT = -.04
MRP = .19 MTP = -.26
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.15 11.51 83.90
Dip,Strike,Rake 35.31 202.10 98.67 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 112.10 54.69
281.51 34.85
Lower Hem. Trend & Plunge of B 15.00 5.00
Lower Hem. Trend, Plunge of P,T 105.88 9.96
258.70 78.83
MRR = .93 MTT = -.07 MPP = -.86 MRT = .01
MRP = .35 MTP = -.26
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 50.18 15.82 83.48
Dip,Strike,Rake 40.26 205.93 97.75 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 115.93 49.74
285.82 39.82
Lower Hem. Trend & Plunge of B 20.00 5.00
Lower Hem. Trend, Plunge of P,T 110.44 4.98
245.11 82.93
MRR = .98 MTT = -.12 MPP = -.86 MRT = -.02
MRP = .19 MTP = -.33
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.15 16.51 83.90
Dip,Strike,Rake 35.31 207.10 98.67 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 117.10 54.69
286.51 34.85
Lower Hem. Trend & Plunge of B 20.00 5.00
Lower Hem. Trend, Plunge of P,T 110.88 9.96
263.70 78.83
MRR = .93 MTT = -.12 MPP = -.81 MRT = .04
MRP = .35 MTP = -.33
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 55.15 21.51 83.90
Dip,Strike,Rake 35.31 212.10 98.67 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 122.10 54.69
291.51 34.85
Lower Hem. Trend & Plunge of B 25.00 5.00
Lower Hem. Trend, Plunge of P,T 115.88 9.96
268.70 78.83
MRR = .93 MTT = -.18 MPP = -.75 MRT = .07
MRP = .34 MTP = -.38
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 55.15 26.51 83.90
Dip,Strike,Rake 35.31 217.10 98.67 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 127.10 54.69
296.51 34.85
Lower Hem. Trend & Plunge of B 30.00 5.00
Lower Hem. Trend, Plunge of P,T 120.88 9.96
273.70 78.83
MRR = .93 MTT = -.26 MPP = -.68 MRT = .10
MRP = .34 MTP = -.42
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 60.13 27.12 84.23
Dip,Strike,Rake 30.38 218.58 99.92 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 128.58 59.62
297.12 29.87
Lower Hem. Trend & Plunge of B 30.00 5.00
Lower Hem. Trend, Plunge of P,T 121.34 14.94
281.98 74.21
MRR = .86 MTT = -.25 MPP = -.61 MRT = .18
MRP = .47 MTP = -.40
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 55.15 31.51 83.90
Dip,Strike,Rake 35.31 222.10 98.67 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 132.10 54.69
301.51 34.85
Lower Hem. Trend & Plunge of B 35.00 5.00
Lower Hem. Trend, Plunge of P,T 125.88 9.96
278.70 78.83
MRR = .93 MTT = -.33 MPP = -.60 MRT = .13
MRP = .33 MTP = -.46
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 60.13 32.12 84.23
Dip,Strike,Rake 30.38 223.58 99.92 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 133.58 59.62
302.12 29.87
Lower Hem. Trend & Plunge of B 35.00 5.00
Lower Hem. Trend, Plunge of P,T 126.34 14.94
286.98 74.21
MRR = .86 MTT = -.32 MPP = -.54 MRT = .22
MRP = .45 MTP = -.42
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 60.13 37.12 84.23
Dip,Strike,Rake 30.38 228.58 99.92 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 138.58 59.62
307.12 29.87
Lower Hem. Trend & Plunge of B 40.00 5.00
Lower Hem. Trend, Plunge of P,T 131.34 14.94
291.98 74.21
MRR = .86 MTT = -.40 MPP = -.46 MRT = .26
MRP = .43 MTP = -.44
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 60.13 42.12 84.23
Dip,Strike,Rake 30.38 233.58 99.92 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 143.58 59.62
312.12 29.87
Lower Hem. Trend & Plunge of B 45.00 5.00
Lower Hem. Trend, Plunge of P,T 136.34 14.94
296.98 74.21
MRR = .86 MTT = -.47 MPP = -.39 MRT = .30
MRP = .41 MTP = -.44
Angle of "A" with vertical B trend plane is 60.0

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Dip,Strike,Rake 65.10 42.67 84.49
Dip,Strike,Rake 25.46 235.59 101.70 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 145.59 64.54
312.67 24.90
Lower Hem. Trend & Plunge of B 45.00 5.00
Lower Hem. Trend, Plunge of P,T 136.82 19.92
301.53 69.41
MRR = .76 MTT = -.44 MPP = -.32 MRT = .41
MRP = .50 MTP = -.39
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 65.10 47.67 84.49
Dip,Strike,Rake 25.46 240.59 101.70 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 150.59 64.54
317.67 24.90
Lower Hem. Trend & Plunge of B 50.00 5.00
Lower Hem. Trend, Plunge of P,T 141.82 19.92
306.53 69.41
MRR = .76 MTT = -.50 MPP = -.26 MRT = .45
MRP = .46 MTP = -.37
Angle of "A" with vertical B trend plane is 65.0

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Dip,Strike,Rake 65.10 52.67 84.49
Dip,Strike,Rake 25.46 245.59 101.70 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 155.59 64.54
322.67 24.90
Lower Hem. Trend & Plunge of B 55.00 5.00
Lower Hem. Trend, Plunge of P,T 146.82 19.92
311.53 69.41
MRR = .76 MTT = -.56 MPP = -.20 MRT = .49
MRP = .42 MTP = -.34
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at CELP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 70.08 53.18 84.68
Dip,Strike,Rake 20.59 248.47 104.35 Auxiliary
Plane

Lower Hem. Trend, Plunge of A,N 158.47 69.41
323.18 19.92
Lower Hem. Trend & Plunge of B 55.00 5.00
Lower Hem. Trend, Plunge of P,T 147.33 24.90
314.41 64.54
MRR = .64 MTT = -.49 MPP = -.15 MRT = .59
MRP = .48 MTP = -.28
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 70.08 58.18 84.68
Dip,Strike,Rake 20.59 253.47 104.35 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 163.47 69.41
328.18 19.92
Lower Hem. Trend & Plunge of B 60.00 5.00
Lower Hem. Trend, Plunge of P,T 152.33 24.90
319.41 64.54
MRR = .64 MTT = -.54 MPP = -.10 MRT = .63
MRP = .43 MTP = -.25
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at MGP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 40.26 154.07 82.25
Dip,Strike,Rake 50.18 344.18 96.52 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 254.18 39.82
64.07 49.74
Lower Hem. Trend & Plunge of B 160.00 5.00
Lower Hem. Trend, Plunge of P,T 69.56 4.98
294.89 82.93
MRR = .98 MTT = -.12 MPP = -.86 MRT = .02
MRP = .19 MTP = .33
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 40.26 159.07 82.25
Dip,Strike,Rake 50.18 349.18 96.52 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 259.18 39.82
69.07 49.74
Lower Hem. Trend & Plunge of B 165.00 5.00
Lower Hem. Trend, Plunge of P,T 74.56 4.98
299.89 82.93
MRR = .98 MTT = -.07 MPP = -.91 MRT = .04
MRP = .19 MTP = .26
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 35.31 162.90 81.33
Dip,Strike,Rake 55.15 353.49 96.10 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 263.49 34.85
72.90 54.69
Lower Hem. Trend & Plunge of B 170.00 5.00
Lower Hem. Trend, Plunge of P,T 79.12 9.96
286.30 78.83
MRR = .93 MTT = -.03 MPP = -.90 MRT = .02
MRP = .35 MTP = .19
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at LRS
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 40.26 164.07 82.25
Dip,Strike,Rake 50.18 354.18 96.52 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 264.18 39.82
74.07 49.74
Lower Hem. Trend & Plunge of B 170.00 5.00
Lower Hem. Trend, Plunge of P,T 79.56 4.98
304.89 82.93
MRR = .98 MTT = -.03 MPP = -.95 MRT = .05
MRP = .19 MTP = .18
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 35.31 167.90 81.33
Dip,Strike,Rake 55.15 358.49 96.10 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 268.49 34.85
77.90 54.69
Lower Hem. Trend & Plunge of B 175.00 5.00
Lower Hem. Trend, Plunge of P,T 84.12 9.96
291.30 78.83
MRR = .93 MTT = -.01 MPP = -.93 MRT = .05
MRP = .35 MTP = .11
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake 40.26 169.07 82.25
Dip,Strike,Rake 50.18 359.18 96.52 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 269.18 39.82
79.07 49.74
Lower Hem. Trend & Plunge of B 175.00 5.00
Lower Hem. Trend, Plunge of P,T 84.56 4.98
309.89 82.93

MRR = .98 MTT = .00 MPP = -.97 MRT = .07
MRP = .18 MTP = .10
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 35.31 172.90 81.33
Dip,Strike,Rake 55.15 3.49 96.10 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 273.49 34.85
82.90 54.69
Lower Hem. Trend & Plunge of B 180.00 5.00
Lower Hem. Trend, Plunge of P,T 89.12 9.96
296.30 78.83
MRR = .93 MTT = .01 MPP = -.94 MRT = .08
MRP = .34 MTP = .03
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake 40.26 174.07 82.25
Dip,Strike,Rake 50.18 4.18 96.52 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 274.18 39.82
84.07 49.74
Lower Hem. Trend & Plunge of B 180.00 5.00
Lower Hem. Trend, Plunge of P,T 89.56 4.98
314.89 82.93
MRR = .98 MTT = .01 MPP = -.98 MRT = .09
MRP = .17 MTP = .02
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 35.31 177.90 81.33
Dip,Strike,Rake 55.15 8.49 96.10 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 278.49 34.85
87.90 54.69
Lower Hem. Trend & Plunge of B 185.00 5.00
Lower Hem. Trend, Plunge of P,T 94.12 9.96
301.30 78.83
MRR = .93 MTT = .01 MPP = -.94 MRT = .11
MRP = .33 MTP = -.05
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake 40.26 179.07 82.25
Dip,Strike,Rake 50.18 9.18 96.52 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 279.18 39.82
89.07 49.74
Lower Hem. Trend & Plunge of B 185.00 5.00
Lower Hem. Trend, Plunge of P,T 94.56 4.98
319.89 82.93
MRR = .98 MTT = .00 MPP = -.98 MRT = .10
MRP = .16 MTP = -.07
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 35.31 182.90 81.33
Dip,Strike,Rake 55.15 13.49 96.10 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 283.49 34.85
92.90 54.69
Lower Hem. Trend & Plunge of B 190.00 5.00
Lower Hem. Trend, Plunge of P,T 99.12 9.96
306.30 78.83
MRR = .93 MTT = -.01 MPP = -.92 MRT = .14
MRP = .32 MTP = -.13
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake 40.26 184.07 82.25
Dip,Strike,Rake 50.18 14.18 96.52 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 284.18 39.82
94.07 49.74
Lower Hem. Trend & Plunge of B 190.00 5.00
Lower Hem. Trend, Plunge of P,T 99.56 4.98
324.89 82.93
MRR = .98 MTT = -.02 MPP = -.96 MRT = .11
MRP = .16 MTP = -.16
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 35.31 187.90 81.33
Dip,Strike,Rake 55.15 18.49 96.10 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 288.49 34.85
97.90 54.69
Lower Hem. Trend & Plunge of B 195.00 5.00
Lower Hem. Trend, Plunge of P,T 104.12 9.96
311.30 78.83
MRR = .93 MTT = -.04 MPP = -.89 MRT = .17
MRP = .31 MTP = -.21
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake 40.26 189.07 82.25
Dip,Strike,Rake 50.18 19.18 96.52 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 289.18 39.82
99.07 49.74
Lower Hem. Trend & Plunge of B 195.00 5.00
Lower Hem. Trend, Plunge of P,T 104.56 4.98
329.89 82.93
MRR = .98 MTT = -.05 MPP = -.93 MRT = .13
MRP = .14 MTP = -.23
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at CELP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.31 192.90 81.33
Dip,Strike,Rake 55.15 23.49 96.10 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 293.49 34.85 102.90 54.69
Lower Hem. Trend & Plunge of B 200.00 5.00
Lower Hem. Trend, Plunge of P,T 109.12 9.96 316.30 78.83
MRR = .93 MTT = -.08 MPP = -.85 MRT = .19 MRP = .29 MTP = -.28
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake 30.38 196.42 80.08
Dip,Strike,Rake 60.13 27.88 95.77 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 297.88 29.87 106.42 59.62
Lower Hem. Trend & Plunge of B 205.00 5.00
Lower Hem. Trend, Plunge of P,T 113.66 14.94 313.02 74.21
MRR = .86 MTT = -.12 MPP = -.74 MRT = .28 MRP = .42 MTP = -.31
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 35.31 197.90 81.33
Dip,Strike,Rake 55.15 28.49 96.10 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 298.49 34.85 107.90 54.69
Lower Hem. Trend & Plunge of B 205.00 5.00
Lower Hem. Trend, Plunge of P,T 114.12 9.96 321.30 78.83
MRR = .93 MTT = -.14 MPP = -.79 MRT = .22 MRP = .27 MTP = -.34
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake 30.38 201.42 80.08
Dip,Strike,Rake 60.13 32.88 95.77 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 302.88 29.87 111.42 59.62
Lower Hem. Trend & Plunge of B 210.00 5.00
Lower Hem. Trend, Plunge of P,T 118.66 14.94 318.02 74.21
MRR = .86 MTT = -.17 MPP = -.69 MRT = .31 MRP = .39 MTP = -.36
Angle of "A" with vertical B trend plane is 30.0

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Dip,Strike,Rake 35.31 202.90 81.33
Dip,Strike,Rake 55.15 33.49 96.10 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 303.49 34.85 112.90 54.69
Lower Hem. Trend & Plunge of B 210.00 5.00
Lower Hem. Trend, Plunge of P,T 119.12 9.96 326.30 78.83
MRR = .93 MTT = -.20 MPP = -.73 MRT = .24 MRP = .25 MTP = -.40
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake 30.38 206.42 80.08
Dip,Strike,Rake 60.13 37.88 95.77 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 307.88 29.87 116.42 59.62
Lower Hem. Trend & Plunge of B 215.00 5.00
Lower Hem. Trend, Plunge of P,T 123.66 14.94 323.02 74.21
MRR = .86 MTT = -.24 MPP = -.62 MRT = .35 MRP = .36 MTP = -.40
Angle of "A" with vertical B trend plane is 30.0

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Dip,Strike,Rake 25.46 209.41 78.30
Dip,Strike,Rake 65.10 42.33 95.51 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 312.33 24.90 119.41 64.54
Lower Hem. Trend & Plunge of B 220.00 5.00
Lower Hem. Trend, Plunge of P,T 128.18 19.92 323.47 69.41
MRR = .76 MTT = -.26 MPP = -.50 MRT = .46 MRP = .45 MTP = -.37
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 30.38 211.42 80.08
Dip,Strike,Rake 60.13 42.88 95.77 Auxiliary Plane

Lower Hem. Trend, Plunge of A,N   312.88   29.87
121.42   59.62
Lower Hem. Trend & Plunge of B   220.00   5.00
Lower Hem. Trend, Plunge of P,T   128.66   14.94
328.02   74.21
MRR = .86 MTT = -.31 MPP = -.55 MRT = .38
MRP = .33 MTP = -.42
Angle of "A" with vertical B trend plane is 30.0

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Dip,Strike,Rake   25.46   214.41   78.30
Dip,Strike,Rake   65.10   47.33   95.51   Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N   317.33   24.90
124.41   64.54
Lower Hem. Trend & Plunge of B   225.00   5.00
Lower Hem. Trend, Plunge of P,T   133.18   19.92
328.47   69.41
MRR = .76 MTT = -.32 MPP = -.44 MRT = .50
MRP = .41 MTP = -.39
Angle of "A" with vertical B trend plane is 25.0

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Dip,Strike,Rake   20.59   216.53   75.65
Dip,Strike,Rake   70.08   51.82   95.32   Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N   321.82   19.92
126.53   69.41
Lower Hem. Trend & Plunge of B   230.00   5.00
Lower Hem. Trend, Plunge of P,T   137.67   24.90
330.59   64.54
MRR = .64 MTT = -.31 MPP = -.33 MRT = .62
MRP = .45 MTP = -.33
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   25.46   219.41   78.30
Dip,Strike,Rake   65.10   52.33   95.51   Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N   322.33   24.90
129.41   64.54
Lower Hem. Trend & Plunge of B   230.00   5.00
Lower Hem. Trend, Plunge of P,T   138.18   19.92
333.47   69.41
MRR = .76 MTT = -.39 MPP = -.37 MRT = .53
MRP = .36 MTP = -.39
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at CELP
P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   20.59   221.53   75.65
Dip,Strike,Rake   70.08   56.82   95.32   Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N   326.82   19.92
131.53   69.41
Lower Hem. Trend & Plunge of B   235.00   5.00
Lower Hem. Trend, Plunge of P,T   142.67   24.90
335.59   64.54
MRR = .64 MTT = -.37 MPP = -.27 MRT = .66
MRP = .39 MTP = -.33
Angle of "A" with vertical B trend plane is 20.0

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Dip,Strike,Rake   15.79   221.98   71.32
Dip,Strike,Rake   75.06   61.34   95.18   Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N   331.34   14.94
131.98   74.21
Lower Hem. Trend & Plunge of B   240.00   5.00
Lower Hem. Trend, Plunge of P,T   147.12   29.87
338.58   59.62
MRR = .50 MTT = -.31 MPP = -.19 MRT = .77
MRP = .39 MTP = -.26
Angle of "A" with vertical B trend plane is 15.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   15.79   226.98   71.32
Dip,Strike,Rake   75.06   66.34   95.18   Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N   336.34   14.94
136.98   74.21
Lower Hem. Trend & Plunge of B   245.00   5.00
Lower Hem. Trend, Plunge of P,T   152.12   29.87
343.58   59.62
MRR = .50 MTT = -.35 MPP = -.14 MRT = .80
MRP = .33 MTP = -.24
Angle of "A" with vertical B trend plane is 15.0

P Polarity error at CELP
P Polarity weights: .10
Total P polarity weight is   .100

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Dip,Strike,Rake   11.17   223.70   63.26
Dip,Strike,Rake   80.04   70.88   95.08   Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N   340.88   9.96
133.70   78.83

Lower Hem. Trend & Plunge of B 250.00 5.00
Lower Hem. Trend, Plunge of P,T 156.51 34.85
347.10 54.69
MRR = .34 MTT = -.25 MPP = -.09 MRT = .89
MRP = .29 MTP = -.17
Angle of "A" with vertical B trend plane is 10.0

P Polarity error at CPD
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.18 345.82 83.48
Dip,Strike,Rake 40.26 175.93 97.75 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 85.93 49.74
255.82 39.82
Lower Hem. Trend & Plunge of B 350.00 5.00
Lower Hem. Trend, Plunge of P,T 80.44 4.98
215.11 82.93
MRR = .98 MTT = -.02 MPP = -.96 MRT = -.11
MRP = .16 MTP = .16
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 50.18 350.82 83.48
Dip,Strike,Rake 40.26 180.93 97.75 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 90.93 49.74
260.82 39.82
Lower Hem. Trend & Plunge of B 355.00 5.00
Lower Hem. Trend, Plunge of P,T 85.44 4.98
220.11 82.93
MRR = .98 MTT = .00 MPP = -.98 MRT = -.10
MRP = .16 MTP = .07
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.15 351.51 83.90
Dip,Strike,Rake 35.31 182.10 98.67 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 92.10 54.69
261.51 34.85
Lower Hem. Trend & Plunge of B 355.00 5.00
Lower Hem. Trend, Plunge of P,T 85.88 9.96
238.70 78.83
MRR = .93 MTT = .01 MPP = -.94 MRT = -.11
MRP = .33 MTP = .05
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at LRS
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.73 351.71 77.04
Dip,Strike,Rake 41.03 191.69 105.34 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 101.69 48.97
261.71 39.27
Lower Hem. Trend & Plunge of B .00 10.00
Lower Hem. Trend, Plunge of P,T 90.87 4.92
206.74 78.83
MRR = .96 MTT = .03 MPP = -.98 MRT = -.17
MRP = .17 MTP = -.03
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.61 353.07 77.85
Dip,Strike,Rake 36.22 193.93 107.09 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 103.93 53.78
263.07 34.39
Lower Hem. Trend & Plunge of B .00 10.00
Lower Hem. Trend, Plunge of P,T 91.75 9.85
225.44 75.89
MRR = .91 MTT = .03 MPP = -.94 MRT = -.16
MRP = .34 MTP = -.06
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at LRS
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 50.73 356.78 77.04
Dip,Strike,Rake 41.03 196.76 105.34 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 106.76 48.97
266.78 39.27
Lower Hem. Trend & Plunge of B 5.07 10.00
Lower Hem. Trend, Plunge of P,T 95.94 4.92
211.81 78.83
MRR = .96 MTT = .02 MPP = -.97 MRT = -.15
MRP = .19 MTP = -.12
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.61 358.14 77.85
Dip,Strike,Rake 36.22 199.00 107.09 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 109.00 53.78
268.14 34.39
Lower Hem. Trend & Plunge of B 5.07 10.00
Lower Hem. Trend, Plunge of P,T 96.82 9.85
230.51 75.89
MRR = .91 MTT = .01 MPP = -.92 MRT = -.13
MRP = .35 MTP = -.14
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 50.73 1.85 77.04
Dip,Strike,Rake 41.03 201.83 105.34 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 111.83 48.97 271.85 39.27
Lower Hem. Trend & Plunge of B 10.14 10.00
Lower Hem. Trend, Plunge of P,T 101.01 4.92 216.88 78.83
MRR = .96 MTT = -.01 MPP = -.94 MRT = -.14 MRP = .20 MTP = -.20
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.61 3.21 77.85
Dip,Strike,Rake 36.22 204.07 107.09 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 114.07 53.78 273.21 34.39
Lower Hem. Trend & Plunge of B 10.14 10.00
Lower Hem. Trend, Plunge of P,T 101.89 9.85 235.58 75.89
MRR = .91 MTT = -.02 MPP = -.89 MRT = -.10 MRP = .36 MTP = -.22
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 50.73 6.92 77.04
Dip,Strike,Rake 41.03 206.90 105.34 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 116.90 48.97 276.92 39.27
Lower Hem. Trend & Plunge of B 15.21 10.00
Lower Hem. Trend, Plunge of P,T 106.08 4.92 221.95 78.83
MRR = .96 MTT = -.06 MPP = -.90 MRT = -.12 MRP = .21 MTP = -.28
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.61 8.28 77.85
Dip,Strike,Rake 36.22 209.14 107.09 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 119.14 53.78 278.28 34.39
Lower Hem. Trend & Plunge of B 15.21 10.00
Lower Hem. Trend, Plunge of P,T 106.97 9.85 240.65 75.89
MRR = .91 MTT = -.07 MPP = -.84 MRT = -.07 MRP = .37 MTP = -.30
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 50.73 11.99 77.04
Dip,Strike,Rake 41.03 211.97 105.34 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 121.97 48.97 281.99 39.27
Lower Hem. Trend & Plunge of B 20.28 10.00
Lower Hem. Trend, Plunge of P,T 111.15 4.92 227.02 78.83
MRR = .96 MTT = -.11 MPP = -.84 MRT = -.10 MRP = .22 MTP = -.35
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.61 13.35 77.85
Dip,Strike,Rake 36.22 214.21 107.09 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 124.21 53.78 283.35 34.39
Lower Hem. Trend & Plunge of B 20.28 10.00
Lower Hem. Trend, Plunge of P,T 112.04 9.85 245.72 75.89
MRR = .91 MTT = -.13 MPP = -.78 MRT = -.03 MRP = .37 MTP = -.36
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 50.73 17.06 77.04
Dip,Strike,Rake 41.03 217.04 105.34 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 127.04 48.97 287.06 39.27
Lower Hem. Trend & Plunge of B 25.35 10.00
Lower Hem. Trend, Plunge of P,T 116.22 4.92 232.09 78.83
MRR = .96 MTT = -.18 MPP = -.78 MRT = -.08 MRP = .23 MTP = -.41
Angle of "A" with vertical B trend plane is 50.0

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Dip,Strike,Rake 55.61 18.42 77.85
Dip,Strike,Rake 36.22 219.28 107.09 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 129.28 53.78 288.42 34.39
Lower Hem. Trend & Plunge of B 25.35 10.00
Lower Hem. Trend, Plunge of P,T 117.11 9.85 250.79 75.89
MRR = .91 MTT = -.20 MPP = -.72 MRT = .00 MRP = .37 MTP = -.41
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 50.73 22.13 77.04
Dip,Strike,Rake 41.03 222.11 105.34 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 132.11 48.97 292.13 39.27
Lower Hem. Trend & Plunge of B 30.42 10.00
Lower Hem. Trend, Plunge of P,T 121.29 4.92 237.16 78.83
MRR = .96 MTT = -.26 MPP = -.70 MRT = -.06 MRP = .23 MTP = -.46
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at CELP
P Polarity weights: .10
Total P polarity weight is .100

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Dip,Strike,Rake 55.61 23.49 77.85
Dip,Strike,Rake 36.22 224.35 107.09 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 134.35 53.78 293.49 34.39
Lower Hem. Trend & Plunge of B 30.42 10.00
Lower Hem. Trend, Plunge of P,T 122.18 9.85 255.86 75.89
MRR = .91 MTT = -.27 MPP = -.64 MRT = .03 MRP = .37 MTP = -.45
Angle of "A" with vertical B trend plane is 55.0

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Dip,Strike,Rake 55.61 28.56 77.85
Dip,Strike,Rake 36.22 229.42 107.09 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 139.42 53.78 298.56 34.39
Lower Hem. Trend & Plunge of B 35.49 10.00
Lower Hem. Trend, Plunge of P,T 127.25 9.85 260.93 75.89
MRR = .91 MTT = -.35 MPP = -.56 MRT = .06 MRP = .37 MTP = -.48
Angle of "A" with vertical B trend plane is 55.0

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Reached chosen maximum of 100 solutions

There are 100 acceptable solutions

Event # 47= 56: allowing a polarity error of 0.0 yield 21 solutions.

Sat Oct 10 11:36:21 2009 for program FOCMEC
47
Input from a file 47.inp
2007-03-15 (47) FELT IN SW AND W PR

Statn Azimuth TOAng Key Log10 (S/P) NumPol DenTOAng Comment
CRPR 291.0 125.0 +
GBPR 94.0 99.0 +
LSP 353.0 98.0 -
MPR 341.0 96.0 +
LRS 33.0 57.0 +
AOPR 39.0 57.0 +
CELP 79.0 57.0 +
AGPR 355.0 57.0 +
ICM 100.0 57.0 +
SJG 81.0 44.0 +
CPD 87.0 44.0 +
HUMP 82.0 44.0 +
CBYP 75.0 44.0 +
MTP 85.0 44.0 -
HATO 291.0 44.0 +
TBVI 79.0 44.0 -
SDDR 285.0 44.0 +
Including emergent polarity picks
Polarities/Errors: P 017/ .3 SV 000/ .0 SH 000/ .0 Threshh. = .10
There are no amplitude ratio data
The minimum, increment and maximum B axis trend are .00 5.00 355.00
The limits for the B axis plunge are .00 5.00 90.00
The limits for the angle of the A axis are .00 5.00 85.00

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Dip,Strike,Rake 46.92 199.65 -69.25
Dip,Strike,Rake 46.92 350.63 -110.75 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 260.63 43.08 109.65 43.08
Lower Hem. Trend & Plunge of B 5.14 15.00
Lower Hem. Trend, Plunge of P,T 185.14 75.00 275.14 .00
MRR = -.93 MTT = -.06 MPP = .99 MRT = .25 MRP = -.02 MTP = .10
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at AGPR MTP TBVI
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 48.36 204.18 -62.76
Dip,Strike,Rake 48.36 346.41 -117.24 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 256.41 41.64 114.18 41.64
Lower Hem. Trend & Plunge of B 5.29 20.00
Lower Hem. Trend, Plunge of P,T 185.29 70.00 275.29 .00
MRR = -.88 MTT = -.11 MPP = .99 MRT = .32 MRP = -.03 MTP = .10
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at AGPR MTP TBVI
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 48.36 209.47 -62.76
Dip,Strike,Rake 48.36 351.71 -117.24 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 261.71 41.64 119.47 41.64
Lower Hem. Trend & Plunge of B 10.59 20.00
Lower Hem. Trend, Plunge of P,T 190.59 70.00 280.59 .00
MRR = -.88 MTT = -.08 MPP = .96 MRT = .32 MRP = -.06 MTP = .20
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at AGPR MTP TBVI
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 48.36 214.76 -62.76
Dip,Strike,Rake 48.36 357.00 -117.24 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 267.00 41.64 124.76 41.64
Lower Hem. Trend & Plunge of B 15.88 20.00
Lower Hem. Trend, Plunge of P,T 195.88 70.00 285.88 .00
MRR = -.88 MTT = -.03 MPP = .92 MRT = .31 MRP = -.09 MTP = .29
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP TBVI
P Polarity weights: .10 .10
Total P polarity weight is .200

++

Dip,Strike,Rake 50.14 213.99 -56.60

Dip,Strike,Rake 50.14 348.17 -123.40 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 258.17 39.86 123.99 39.86
Lower Hem. Trend & Plunge of B 11.08 25.00
Lower Hem. Trend, Plunge of P,T 191.08 65.00 281.08 .00
MRR = -.82 MTT = -.14 MPP = .96 MRT = .38 MRP = -.07 MTP = .22
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP TBVI
P Polarity weights: .12 .12
Total P polarity weight is .241

+++

Dip,Strike,Rake 54.37 216.14 -58.67
Dip,Strike,Rake 46.03 349.88 -125.96 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 259.88 43.97 126.14 35.63
Lower Hem. Trend & Plunge of B 16.62 25.00
Lower Hem. Trend, Plunge of P,T 184.92 64.54 284.50 4.53
MRR = -.81 MTT = -.12 MPP = .93 MRT = .41 MRP = .04 MTP = .26
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at CPD CBYP TBVI
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

+++

Dip,Strike,Rake 50.14 219.53 -56.60
Dip,Strike,Rake 50.14 353.71 -123.40 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 263.71 39.86 129.53 39.86
Lower Hem. Trend & Plunge of B 16.62 25.00
Lower Hem. Trend, Plunge of P,T 196.62 65.00 286.62 .00
MRR = -.82 MTT = -.08 MPP = .90 MRT = .37 MRP = -.11 MTP = .32
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP TBVI
P Polarity weights: .12 .11
Total P polarity weight is .234

+++

Dip,Strike,Rake 50.14 225.06 -56.60
Dip,Strike,Rake 50.14 359.24 -123.40 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 269.24 39.86 135.06 39.86
Lower Hem. Trend & Plunge of B 22.15 25.00
Lower Hem. Trend, Plunge of P,T 202.15 65.00 292.15 .00
MRR = -.82 MTT = -.01 MPP = .83 MRT = .35 MRP = -.14 MTP = .41
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at MTP TBVI
P Polarity weights: .11 .10
Total P polarity weight is .214

+++

Dip,Strike,Rake 56.17 220.18 -53.00
Dip,Strike,Rake 48.44 346.63 -131.93 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 256.63 41.56 130.18 33.83
Lower Hem. Trend & Plunge of B 17.42 30.00
Lower Hem. Trend, Plunge of P,T 187.49 59.62 284.91 4.33
MRR = -.74 MTT = -.19 MPP = .92 MRT = .45 MRP = .02 MTP = .28
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at MTP TBVI
P Polarity weights: .10 .10
Total P polarity weight is .200

+++

Dip,Strike,Rake 56.17 225.99 -53.00
Dip,Strike,Rake 48.44 352.44 -131.93 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 262.44 41.56 135.99 33.83
Lower Hem. Trend & Plunge of B 23.23 30.00
Lower Hem. Trend, Plunge of P,T 193.30 59.62 290.72 4.33
MRR = -.74 MTT = -.12 MPP = .86 MRT = .45 MRP = -.03 MTP = .39
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at MTP TBVI
P Polarity weights: .10 .10
Total P polarity weight is .200

+++

Dip,Strike,Rake 56.17 231.79 -53.00
Dip,Strike,Rake 48.44 358.24 -131.93 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 268.24 41.56 141.79 33.83
Lower Hem. Trend & Plunge of B 29.03 30.00
Lower Hem. Trend, Plunge of P,T 199.11 59.62 296.53 4.33
MRR = -.74 MTT = -.03 MPP = .77 MRT = .45 MRP = -.08 MTP = .48
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at LRS MTP TBVI
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 61.98 226.29 -49.48
Dip,Strike,Rake 47.85 345.08 -140.68 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 255.08 42.15 136.29 28.02
Lower Hem. Trend & Plunge of B 24.41 35.00
Lower Hem. Trend, Plunge of P,T 187.32 53.78 288.63 8.18
MRR = -.63 MTT = -.24 MPP = .87 MRT = .52 MRP = .07 MTP = .34
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at MPR MTP TBVI
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 58.23 230.11 -47.57
Dip,Strike,Rake 51.13 350.05 -137.45 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 260.05 38.87 140.11 31.77
Lower Hem. Trend & Plunge of B 24.41 35.00
Lower Hem. Trend, Plunge of P,T 195.73 54.69 291.53 4.09
MRR = -.66 MTT = -.18 MPP = .84 MRT = .48 MRP = -.06 MTP = .43
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at MTP TBVI
P Polarity weights: .13 .12
Total P polarity weight is .244

++

Dip,Strike,Rake 61.98 232.39 -49.48
Dip,Strike,Rake 47.85 351.19 -140.68 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 261.19 42.15 142.39 28.02
Lower Hem. Trend & Plunge of B 30.51 35.00
Lower Hem. Trend, Plunge of P,T 193.42 53.78 294.73 8.18
MRR = -.63 MTT = -.16 MPP = .79 MRT = .52 MRP = .02 MTP = .45
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at MTP TBVI
P Polarity weights: .10 .10
Total P polarity weight is .200

++

Dip,Strike,Rake 58.23 236.21 -47.57
Dip,Strike,Rake 51.13 356.15 -137.45 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 266.15 38.87 146.21 31.77
Lower Hem. Trend & Plunge of B 30.51 35.00
Lower Hem. Trend, Plunge of P,T 201.84 54.69 297.64 4.09
MRR = -.66 MTT = -.07 MPP = .73 MRT = .47 MRP = -.11 MTP = .52
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at MTP TBVI
P Polarity weights: .12 .10
Total P polarity weight is .222

++

Dip,Strike,Rake 61.98 238.49 -49.48
Dip,Strike,Rake 47.85 357.29 -140.68 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 267.29 42.15 148.49 28.02
Lower Hem. Trend & Plunge of B 36.61 35.00
Lower Hem. Trend, Plunge of P,T 199.52 53.78 300.84 8.18
MRR = -.63 MTT = -.05 MPP = .68 MRT = .52 MRP = -.04 MTP = .54
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at MTP TBVI
P Polarity weights: .10 .10
Total P polarity weight is .200

++

Dip,Strike,Rake 61.98 244.59 -49.48
Dip,Strike,Rake 47.85 3.39 -140.68 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 273.39 42.15 154.59 28.02
Lower Hem. Trend & Plunge of B 42.71 35.00
Lower Hem. Trend, Plunge of P,T 205.62 53.78 306.94 8.18
MRR = -.63 MTT = .07 MPP = .56 MRT = .51 MRP = -.09 MTP = .61
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at LSP MTP TBVI
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 90.00 78.55 50.00

Dip,Strike,Rake 40.00 348.55 -180.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 258.55 50.00 168.55 .00
Lower Hem. Trend & Plunge of B 78.55 40.00
Lower Hem. Trend, Plunge of P,T 201.28 32.80 315.81 32.80
MRR = .00 MTT = -.25 MPP = .25 MRT = .75 MRP = .15 MTP = .59
Angle of "A" with vertical B trend plane is .0

P Polarity error at SJG CPD HUMP
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 90.00 91.64 50.00
Dip,Strike,Rake 40.00 1.64 180.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 271.64 50.00 181.64 .00
Lower Hem. Trend & Plunge of B 91.64 40.00
Lower Hem. Trend, Plunge of P,T 214.37 32.80 328.90 32.80
MRR = .00 MTT = .04 MPP = -.04 MRT = .77 MRP = -.02 MTP = .64
Angle of "A" with vertical B trend plane is .0

P Polarity error at CELP MTP TBVI
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 86.17 88.42 49.89
Dip,Strike,Rake 40.26 353.89 174.07 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 263.89 49.74 358.42 3.83
Lower Hem. Trend & Plunge of B 91.64 40.00
Lower Hem. Trend, Plunge of P,T 209.98 29.50 324.18 35.93
MRR = .10 MTT = -.14 MPP = .04 MRT = .76 MRP = .06 MTP = .64
Angle of "A" with vertical B trend plane is 85.0

P Polarity error at CELP MTP TBVI
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 82.36 91.72 49.57
Dip,Strike,Rake 41.03 352.84 168.31 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 262.84 48.97 1.72 7.64
Lower Hem. Trend & Plunge of B 98.18 40.00
Lower Hem. Trend, Plunge of P,T 212.41 26.06 325.63 38.87
MRR = .20 MTT = -.16 MPP = -.04 MRT = .74 MRP = .06 MTP = .65
Angle of "A" with vertical B trend plane is 80.0

P Polarity error at CELP MTP TBVI
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

There are 21 acceptable solutions

Event # 49: allowing a polarity error of 0.3[5] **yield 52 solutions.**

Sat Oct 10 11:41:26 2009 for program FOCMEC
49
Input from a file 49.inp
MGP 123.00 157.00+

Statn Azimuth TOAng Key Log10 (S/P) NumPol DenTOAng Comment
LSP 14.0 117.0 -
MPR 356.0 111.0 +
LRS 45.0 98.0 D
AGPR 1.0 66.0 +
PORP 85.0 66.0 U
AOPR 48.0 66.0 -
OBIP 88.0 66.0 -
CELP 84.0 66.0 -
SJG 84.0 55.0 +
SJG 84.0 55.0 -
CSB 74.0 55.0 -
HUMP 84.0 55.0 +
CBYP 78.0 55.0 -
MTP 87.0 55.0 +
Including emergent polarity picks
Polarities/Errors: P 014/ .3 SV 000/ .0 SH 000/ .0 Threshh. = .10
There are no amplitude ratio data
The minimum, increment and maximum B axis trend are .00 5.00 355.00
The limits for the B axis plunge are .00 5.00 90.00
The limits for the angle of the A axis are .00 5.00 85.00

++

Dip,Strike,Rake 74.81 271.71 -48.24
Dip,Strike,Rake 43.96 18.07 -157.82 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 288.07 46.04 181.71 15.19
Lower Hem. Trend & Plunge of B 78.55 40.00
Lower Hem. Trend, Plunge of P,T 222.59 43.97 331.86 18.89
MRR = -.38 MTT = .42 MPP = -.04 MRT = .64 MRP = -.19 MTP = .63
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at MPR OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 67.48 278.91 -45.90
Dip,Strike,Rake 48.44 30.48 -149.21 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 300.48 41.56 188.91 22.52
Lower Hem. Trend & Plunge of B 78.55 40.00
Lower Hem. Trend, Plunge of P,T 235.92 47.73 338.77 11.44
MRR = -.51 MTT = .69 MPP = -.18 MRT = .46 MRP = -.34 MTP = .53
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at PORP AOPR SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 66.07 276.93 -39.32
Dip,Strike,Rake 54.60 25.31 -150.16 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 295.31 35.40 186.93 23.93
Lower Hem. Trend & Plunge of B 70.59 45.00
Lower Hem. Trend, Plunge of P,T 236.59 44.14 333.48 7.05
MRR = -.47 MTT = .63 MPP = -.16 MRT = .38 MRP = -.36 MTP = .63
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 62.97 281.27 -37.45
Dip,Strike,Rake 57.20 30.47 -147.27 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 300.47 32.80 191.27 27.03
Lower Hem. Trend & Plunge of B 70.59 45.00
Lower Hem. Trend, Plunge of P,T 243.53 44.78 337.05 3.53
MRR = -.49 MTT = .74 MPP = -.25 MRT = .28 MRP = -.42 MTP = .56
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at PORP SJG
P Polarity weights: .10 .10
Total P polarity weight is .200

++

Dip,Strike,Rake 72.61 275.90 -42.19

[5] Focal Mechanisms where initially computed allowing 0 polarity error; when acceptable solutions where not found the polarity error was increased, allowing the smaller polarity error possible to obtain solutions.

Dip,Strike,Rake 50.14 21.05 -157.09 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 291.05 39.86 185.90 17.39
Lower Hem. Trend & Plunge of B 77.65 45.00
Lower Hem. Trend, Plunge of P,T 230.41 41.64 333.21 14.00
MRR = -.38 MTT = .52 MPP = -.14 MRT = .53 MRP = -.28 MTP = .65
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 69.30 279.85 -40.89
Dip,Strike,Rake 52.24 26.88 -153.43 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 296.88 37.76 189.85 20.70
Lower Hem. Trend & Plunge of B 77.65 45.00
Lower Hem. Trend, Plunge of P,T 236.89 43.08 336.92 10.55
MRR = -.43 MTT = .66 MPP = -.23 MRT = .44 MRP = -.35 MTP = .59
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at PORP SJG HUMP
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 62.97 280.06 -30.68
Dip,Strike,Rake 62.97 25.15 -149.32 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 295.15 27.03 190.06 27.03
Lower Hem. Trend & Plunge of B 62.61 50.00
Lower Hem. Trend, Plunge of P,T 242.61 40.00 332.61 .00
MRR = -.41 MTT = .66 MPP = -.25 MRT = .23 MRP = -.44 MTP = .65
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 60.50 285.00 -28.34
Dip,Strike,Rake 65.60 29.88 -147.27 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 299.88 24.40 195.00 29.50
Lower Hem. Trend & Plunge of B 62.61 50.00
Lower Hem. Trend, Plunge of P,T 249.12 39.82 156.44 3.21
MRR = -.41 MTT = .76 MPP = -.36 MRT = .12 MRP = -.48 MTP = .56
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at LSP PORP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 71.25 274.29 -36.01
Dip,Strike,Rake 56.17 17.44 -157.24 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 287.44 33.83 184.29 18.75
Lower Hem. Trend & Plunge of B 70.43 50.00
Lower Hem. Trend, Plunge of P,T 231.16 38.38 328.84 9.58
MRR = -.36 MTT = .47 MPP = -.11 MRT = .45 MRP = -.29 MTP = .73
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 68.37 278.64 -34.50
Dip,Strike,Rake 58.23 22.86 -154.30 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 292.86 31.77 188.64 21.63
Lower Hem. Trend & Plunge of B 70.43 50.00
Lower Hem. Trend, Plunge of P,T 237.47 39.27 332.74 6.41
MRR = -.39 MTT = .61 MPP = -.22 MRT = .36 MRP = -.36 MTP = .67
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at PORP SJG
P Polarity weights: .10 .10
Total P polarity weight is .200

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Dip,Strike,Rake 65.60 283.17 -32.73
Dip,Strike,Rake 60.50 28.04 -151.66 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 298.04 29.50 193.17 24.40
Lower Hem. Trend & Plunge of B 70.43 50.00
Lower Hem. Trend, Plunge of P,T 243.92 39.82 336.60 3.21
MRR = -.41 MTT = .73 MPP = -.32 MRT = .27 MRP = -.42 MTP = .60
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at PORP SJG HUMP
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 77.30 273.84 -38.26
Dip,Strike,Rake 52.84 13.67 -163.99 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 283.67 37.16 183.84 12.70
Lower Hem. Trend & Plunge of B 78.26 50.00
Lower Hem. Trend, Plunge of P,T 226.93 35.63 328.60 15.76
MRR = -.27 MTT = .37 MPP = -.10 MRT = .55 MRP = -.21 MTP = .74
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at PORP SJG HUMP
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 74.24 277.92 -37.25
Dip,Strike,Rake 54.37 19.59 -160.47 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 289.59 35.63 187.92 15.76
Lower Hem. Trend & Plunge of B 78.26 50.00
Lower Hem. Trend, Plunge of P,T 232.85 37.16 332.68 12.70
MRR = -.32 MTT = .52 MPP = -.20 MRT = .48 MRP = -.29 MTP = .69
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at PORP SJG HUMP
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 58.68 284.25 -16.48
Dip,Strike,Rake 75.97 23.00 -147.60 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 293.00 14.03 194.25 31.32
Lower Hem. Trend & Plunge of B 43.90 55.00
Lower Hem. Trend, Plunge of P,T 247.86 32.61 150.50 11.31
MRR = -.25 MTT = .63 MPP = -.38 MRT = .00 MRP = -.52 MTP = .66
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at LSP PORP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 63.94 276.99 -24.23
Dip,Strike,Rake 68.37 18.18 -151.79 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 288.18 21.63 186.99 26.06
Lower Hem. Trend & Plunge of B 52.68 55.00
Lower Hem. Trend, Plunge of P,T 238.78 34.85 146.78 2.87
MRR = -.32 MTT = .52 MPP = -.19 MRT = .20 MRP = -.43 MTP = .76
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at OBIP SJG CBYP
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 61.98 282.16 -21.88
Dip,Strike,Rake 70.79 22.85 -150.16 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 292.85 19.21 192.16 28.02
Lower Hem. Trend & Plunge of B 52.68 55.00
Lower Hem. Trend, Plunge of P,T 244.83 34.39 150.90 5.72
MRR = -.31 MTT = .63 MPP = -.32 MRT = .11 MRP = -.47 MTP = .68
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at PORP SJG
P Polarity weights: .10 .10
Total P polarity weight is .200

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Dip,Strike,Rake 68.37 275.97 -28.21
Dip,Strike,Rake 63.94 17.15 -155.77 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 287.15 26.06 185.97 21.63
Lower Hem. Trend & Plunge of B 61.46 55.00
Lower Hem. Trend, Plunge of P,T 235.37 34.85 327.36 2.87
MRR = -.32 MTT = .49 MPP = -.17 MRT = .31 MRP = -.36 MTP = .77
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 66.07 280.79 -26.34

Dip,Strike,Rake 66.07 22.14 -153.66 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 292.14 23.93 190.79 23.93
Lower Hem. Trend & Plunge of B 61.46 55.00
Lower Hem. Trend, Plunge of P,T 241.46 35.00 331.46 .00
MRR = -.33 MTT = .62 MPP = -.29 MRT = .22 MRP = -.41 MTP = .70
Angle of "A" with vertical B trend plane is 45.0

P Polarity error at PORP SJG
P Polarity weights: .10 .10
Total P polarity weight is .200

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Dip,Strike,Rake 75.97 271.15 -32.40
Dip,Strike,Rake 58.68 9.89 -163.52 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 279.89 31.32 181.15 14.03
Lower Hem. Trend & Plunge of B 70.24 55.00
Lower Hem. Trend, Plunge of P,T 226.29 32.61 323.64 11.31
MRR = -.25 MTT = .28 MPP = -.03 MRT = .47 MRP = -.21 MTP = .81
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at OBIP SJG
P Polarity weights: .10 .10
Total P polarity weight is .200

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Dip,Strike,Rake 73.33 275.56 -31.23
Dip,Strike,Rake 60.22 15.42 -160.70 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 285.42 29.78 185.56 16.67
Lower Hem. Trend & Plunge of B 70.24 55.00
Lower Hem. Trend, Plunge of P,T 232.13 33.64 327.86 8.54
MRR = -.28 MTT = .44 MPP = -.16 MRT = .41 MRP = -.29 MTP = .78
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 70.79 280.08 -29.84
Dip,Strike,Rake 61.98 20.77 -158.12 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 290.77 28.02 190.08 19.21
Lower Hem. Trend & Plunge of B 70.24 55.00
Lower Hem. Trend, Plunge of P,T 238.10 34.39 332.03 5.72
MRR = -.31 MTT = .58 MPP = -.27 MRT = .33 MRP = -.35 MTP = .72
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at PORP SJG HUMP
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 57.39 285.18 13.47
Dip,Strike,Rake 78.69 187.82 146.66 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 97.82 11.31 195.18 32.61
Lower Hem. Trend & Plunge of B 351.22 55.00
Lower Hem. Trend, Plunge of P,T 240.31 14.03 141.57 31.32
MRR = .21 MTT = .22 MPP = -.43 MRT = -.23 MRP = -.48 MTP = .76
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at PORP SJG
P Polarity weights: .10 .11
Total P polarity weight is .207

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Dip,Strike,Rake 60.13 284.23 -2.88
Dip,Strike,Rake 87.50 15.67 -150.09 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 285.67 2.50 194.23 29.87
Lower Hem. Trend & Plunge of B 20.00 60.00
Lower Hem. Trend, Plunge of P,T 244.10 22.52 146.01 18.75
MRR = -.04 MTT = .45 MPP = -.41 MRT = -.10 MRP = -.49 MTP = .75
Angle of "A" with vertical B trend plane is 85.0

P Polarity error at LSP PORP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 61.12 282.81 -8.50
Dip,Strike,Rake 82.56 16.94 -150.85 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 286.94 7.44 192.81 28.88
Lower Hem. Trend & Plunge of B 30.00 60.00
Lower Hem. Trend, Plunge of P,T 243.69 25.66 146.57 14.48
MRR = -.12 MTT = .49 MPP = -.37 MRT = -.03 MRP = -.48 MTP = .75
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at PORP SJG
P Polarity weights: .10 .10
Total P polarity weight is .200

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Dip,Strike,Rake 63.05 281.70 -13.71
Dip,Strike,Rake 77.80 18.01 -152.38 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 288.01 12.20 191.70 26.95
Lower Hem. Trend & Plunge of B 40.00 60.00
Lower Hem. Trend, Plunge of P,T 242.80 28.02 147.50 9.85
MRR = -.19 MTT = .53 MPP = -.34 MRT = .05 MRP = -.46 MTP = .76
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at PORP SJG
P Polarity weights: .10 .10
Total P polarity weight is .200

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Dip,Strike,Rake 67.48 275.90 -20.36
Dip,Strike,Rake 71.25 13.99 -156.14 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 283.99 18.75 185.90 22.52
Lower Hem. Trend & Plunge of B 50.00 60.00
Lower Hem. Trend, Plunge of P,T 235.77 29.87 144.33 2.50
MRR = -.25 MTT = .42 MPP = -.17 MRT = .21 MRP = -.38 MTP = .82
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 65.82 281.04 -18.32
Dip,Strike,Rake 73.33 18.77 -154.69 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 288.77 16.67 191.04 24.18
Lower Hem. Trend & Plunge of B 50.00 60.00
Lower Hem. Trend, Plunge of P,T 241.51 29.50 148.68 4.98
MRR = -.23 MTT = .55 MPP = -.32 MRT = .13 MRP = -.42 MTP = .76
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at PORP SJG
P Polarity weights: .10 .10
Total P polarity weight is .200

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Dip,Strike,Rake 73.33 271.23 -25.31
Dip,Strike,Rake 65.82 8.96 -161.68 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 278.96 24.18 181.23 16.67
Lower Hem. Trend & Plunge of B 60.00 60.00
Lower Hem. Trend, Plunge of P,T 228.49 29.50 321.32 4.98
MRR = -.23 MTT = .27 MPP = -.04 MRT = .35 MRP = -.27 MTP = .86
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at OBIP CELP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 71.25 276.01 -23.86
Dip,Strike,Rake 67.48 14.10 -159.64 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 284.10 22.52 186.01 18.75
Lower Hem. Trend & Plunge of B 60.00 60.00
Lower Hem. Trend, Plunge of P,T 234.23 29.87 325.67 2.50
MRR = -.25 MTT = .42 MPP = -.18 MRT = .29 MRP = -.33 MTP = .82
Angle of "A" with vertical B trend plane is 40.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 77.80 271.99 -27.62
Dip,Strike,Rake 63.05 8.30 -166.29 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 278.30 26.95 181.99 12.20
Lower Hem. Trend & Plunge of B 70.00 60.00
Lower Hem. Trend, Plunge of P,T 227.20 28.02 322.50 9.85
MRR = -.19 MTT = .25 MPP = -.06 MRT = .42 MRP = -.20 MTP = .86
Angle of "A" with vertical B trend plane is 25.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 75.52 276.57 -26.57

Dip,Strike,Rake 64.34 13.69 -163.90 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 283.69 25.66 186.57 14.48
Lower Hem. Trend & Plunge of B 70.00 60.00
Lower Hem. Trend, Plunge of P,T 232.81 28.88 326.94 7.44
MRR = -.22 MTT = .41 MPP = -.19 MRT = .36 MRP = -.27 MTP = .82
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at PORP SJG HUMP
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 61.98 282.80 11.17
Dip,Strike,Rake 80.15 187.50 151.52 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 97.50 9.85 192.80 28.02
Lower Hem. Trend & Plunge of B 350.00 60.00
Lower Hem. Trend, Plunge of P,T 238.01 12.20 141.70 26.95
MRR = .16 MTT = .22 MPP = -.38 MRT = -.21 MRP = -.43 MTP = .82
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at PORP SJG
P Polarity weights: .11 .10
Total P polarity weight is .205

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Dip,Strike,Rake 65.41 281.01 4.63
Dip,Strike,Rake 85.79 189.08 155.33 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 99.08 4.21 191.01 24.59
Lower Hem. Trend & Plunge of B .00 65.00
Lower Hem. Trend, Plunge of P,T 237.60 14.03 142.31 20.25
MRR = .06 MTT = .28 MPP = -.34 MRT = -.13 MRP = -.40 MTP = .85
Angle of "A" with vertical B trend plane is 10.0

P Polarity error at PORP SJG
P Polarity weights: .11 .10
Total P polarity weight is .209

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Dip,Strike,Rake 65.00 282.00 .00
Dip,Strike,Rake 90.00 192.00 155.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 282.00 .00 192.00 25.00
Lower Hem. Trend & Plunge of B 12.00 65.00
Lower Hem. Trend, Plunge of P,T 239.81 17.39 144.19 17.39
MRR = .00 MTT = .37 MPP = -.37 MRT = -.09 MRP = -.41 MTP = .83
Angle of "A" with vertical B trend plane is .0

P Polarity error at PORP SJG
P Polarity weights: .12 .10
Total P polarity weight is .223

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Dip,Strike,Rake 65.91 277.53 -6.88
Dip,Strike,Rake 83.72 10.35 -155.75 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 280.35 6.28 187.53 24.09
Lower Hem. Trend & Plunge of B 24.00 65.00
Lower Hem. Trend, Plunge of P,T 236.50 21.47 141.62 12.20
MRR = -.09 MTT = .32 MPP = -.23 MRT = .03 MRP = -.41 MTP = .86
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 67.48 278.77 -11.15
Dip,Strike,Rake 79.71 13.09 -157.09 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 283.09 10.29 188.77 22.52
Lower Hem. Trend & Plunge of B 36.00 65.00
Lower Hem. Trend, Plunge of P,T 237.88 23.40 144.26 8.31
MRR = -.14 MTT = .41 MPP = -.27 MRT = .08 MRP = -.39 MTP = .84
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at PORP SJG
P Polarity weights: .10 .10
Total P polarity weight is .200

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Dip,Strike,Rake 71.11 275.21 -16.69
Dip,Strike,Rake 74.24 10.75 -160.34 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 280.75 15.76 185.21 18.89
Lower Hem. Trend & Plunge of B 48.00 65.00
Lower Hem. Trend, Plunge of P,T 233.51 24.90 142.53 2.11
MRR = -.18 MTT = .34 MPP = -.16 MRT = .20 MRP = -.33 MTP = .88
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is   .300

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Dip,Strike,Rake   75.97   272.40   -20.91
Dip,Strike,Rake   69.75   7.69 -165.03   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   277.69   20.25   182.40   14.03
Lower Hem. Trend & Plunge of B   60.00   65.00
Lower Hem. Trend, Plunge of P,T   228.99   24.59   320.92   4.21
MRR = -.17 MTT = .24 MPP = -.08 MRT = .31 MRP = -.24 MTP = .90
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is   .300

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Dip,Strike,Rake   68.53   278.50   13.12
Dip,Strike,Rake   77.80   183.62   158.01   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   93.62   12.20   188.50   21.47
Lower Hem. Trend & Plunge of B   336.00   65.00
Lower Hem. Trend, Plunge of P,T   232.35   6.28   139.53   24.09
MRR = .15 MTT = .11 MPP = -.27 MRT = -.22 MRP = -.33 MTP = .89
Angle of "A" with vertical B trend plane is 30.0

P Polarity error at AGPR PORP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is   .300

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Dip,Strike,Rake   66.60   279.88   9.06
Dip,Strike,Rake   81.69   186.26   156.34   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   96.26   8.31   189.88   23.40
Lower Hem. Trend & Plunge of B   348.00   65.00
Lower Hem. Trend, Plunge of P,T   235.09   10.29   140.77   22.52
MRR = .11 MTT = .19 MPP = -.31 MRT = -.17 MRP = -.37 MTP = .87
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at PORP SJG
P Polarity weights: .10 .10
Total P polarity weight is   .202

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Dip,Strike,Rake   70.08   275.32   1.82
Dip,Strike,Rake   88.29   184.70   160.07   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   94.70   1.71   185.32   19.92
Lower Hem. Trend & Plunge of B   .00   70.00
Lower Hem. Trend, Plunge of P,T   231.74   12.70   138.24   15.19
MRR = .02 MTT = .15 MPP = -.17 MRT = -.06 MRP = -.34 MTP = .93
Angle of "A" with vertical B trend plane is   5.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is   .300

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Dip,Strike,Rake   70.32   273.77   -3.62
Dip,Strike,Rake   86.60   4.99 -160.28   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   274.99   3.40   183.77   19.68
Lower Hem. Trend & Plunge of B   14.40   70.00
Lower Hem. Trend, Plunge of P,T   231.09   16.27   137.74   11.31
MRR = -.04 MTT = .16 MPP = -.12 MRT = .03 MRP = -.34 MTP = .93
Angle of "A" with vertical B trend plane is 80.0

P Polarity error at OBIP SJG
P Polarity weights: .10 .10
Total P polarity weight is   .200

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Dip,Strike,Rake   71.94   272.41   -8.74
Dip,Strike,Rake   81.69   5.14 -161.74   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   275.14   8.31   182.41   18.06
Lower Hem. Trend & Plunge of B   28.80   70.00
Lower Hem. Trend, Plunge of P,T   229.97   18.75   137.68   6.72
MRR = -.09 MTT = .17 MPP = -.08 MRT = .11 MRP = -.31 MTP = .93
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at OBIP SJG
P Polarity weights: .10 .10
Total P polarity weight is   .200

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Dip,Strike,Rake   71.25   277.63   -7.10

Dip,Strike,Rake 83.28 9.92 -161.12 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 279.92 6.72 187.63 18.75
Lower Hem. Trend & Plunge of B 28.80 70.00
Lower Hem. Trend, Plunge of P,T 235.19 18.06 142.46 8.31
MRR = -.08 MTT = .32 MPP = -.25 MRT = .05 MRP = -.33 MTP = .90
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at PORP SJG
P Polarity weights: .10 .10
Total P polarity weight is .200

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Dip,Strike,Rake 74.81 271.44 -13.17
Dip,Strike,Rake 77.30 4.94 -164.42 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 274.94 12.70 181.44 15.19
Lower Hem. Trend & Plunge of B 43.20 70.00
Lower Hem. Trend, Plunge of P,T 228.52 19.92 137.90 1.71
MRR = -.12 MTT = .16 MPP = -.05 MRT = .19 MRP = -.26 MTP = .94
Angle of "A" with vertical B trend plane is 50.0

P Polarity error at OBIP SJG
P Polarity weights: .10 .10
Total P polarity weight is .200

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Dip,Strike,Rake 73.73 276.51 -11.79
Dip,Strike,Rake 78.69 9.86 -163.40 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 279.86 11.31 186.51 16.27
Lower Hem. Trend & Plunge of B 43.20 70.00
Lower Hem. Trend, Plunge of P,T 233.83 19.68 142.61 3.40
MRR = -.11 MTT = .32 MPP = -.21 MRT = .14 MRP = -.29 MTP = .90
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at PORP SJG HUMP
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 78.69 270.94 -16.60
Dip,Strike,Rake 73.73 4.29 -168.21 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 274.29 16.27 180.94 11.31
Lower Hem. Trend & Plunge of B 57.60 70.00
Lower Hem. Trend, Plunge of P,T 226.97 19.68 318.19 3.40
MRR = -.11 MTT = .14 MPP = -.03 MRT = .26 MRP = -.19 MTP = .94
Angle of "A" with vertical B trend plane is 35.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

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Dip,Strike,Rake 71.25 276.77 7.10
Dip,Strike,Rake 83.28 184.48 161.12 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 94.48 6.72 186.77 18.75
Lower Hem. Trend & Plunge of B 345.60 70.00
Lower Hem. Trend, Plunge of P,T 231.94 8.31 139.21 18.06
MRR = .08 MTT = .15 MPP = -.22 MRT = -.13 MRP = -.31 MTP = .92
Angle of "A" with vertical B trend plane is 20.0

P Polarity error at PORP SJG
P Polarity weights: .10 .10
Total P polarity weight is .200

++

Dip,Strike,Rake 75.06 275.18 1.34
Dip,Strike,Rake 88.71 184.83 165.05 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 94.83 1.29 185.18 14.94
Lower Hem. Trend & Plunge of B .00 75.00
Lower Hem. Trend, Plunge of P,T 230.97 9.58 139.02 11.44
MRR = .01 MTT = .16 MPP = -.17 MRT = -.04 MRP = -.25 MTP = .95
Angle of "A" with vertical B trend plane is 5.0

P Polarity error at PORP SJG HUMP
P Polarity weights: .10 .10 .10
Total P polarity weight is .300

++

Dip,Strike,Rake 75.52 273.44 -3.97
Dip,Strike,Rake 86.16 4.44 -165.49 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 274.44 3.84 183.44 14.48
Lower Hem. Trend & Plunge of B 18.95 75.00
Lower Hem. Trend, Plunge of P,T 229.81 12.95 138.09 7.44
MRR = -.03 MTT = .15 MPP = -.12 MRT = .05 MRP = -.25 MTP = .96
Angle of "A" with vertical B trend plane is 75.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is   .300

++

Dip,Strike,Rake   77.76   271.96   -8.74
Dip,Strike,Rake   81.46   3.82 -167.62   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   273.82   8.54   181.96   12.24
Lower Hem. Trend & Plunge of B   37.89   75.00
Lower Hem. Trend, Plunge of P,T   228.24   14.77   137.56   2.58
MRR = -.06 MTT = .13 MPP = -.07 MRT = .13 MRP = -.21 MTP = .96
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at PORP OBIP SJG
P Polarity weights: .10 .10 .10
Total P polarity weight is   .300

++

Dip,Strike,Rake   80.95   272.35   -4.26
Dip,Strike,Rake   85.79   3.03 -170.92   Auxiliary Plane
Lower Hem. Trend, Plunge of A,N   273.03   4.21   182.35   9.05
Lower Hem. Trend & Plunge of B   27.69   80.00
Lower Hem. Trend, Plunge of P,T   227.98   9.39   137.41   3.40
MRR = -.02 MTT = .10 MPP = -.08 MRT = .06 MRP = -.16 MTP = .98
Angle of "A" with vertical B trend plane is 65.0

P Polarity error at PORP SJG HUMP
P Polarity weights: .10 .10 .10
Total P polarity weight is   .300

++

There are 52 acceptable solutions

Event # 52: allowing a polarity error of 0.0 yield 5 solutions.

Sat Oct 10 12:13:06 2009 for program FOCMEC
52
Input from a file 52.inp
2006-03-08 (52) Felt in Guanica and Lajas

Statn Azimuth TOAng Key Log10 (S/P) NumPol
DenTOAng Comment
MGP 289.0 116.0 U
LSP 332.0 57.0 D
LRS 20.0 57.0 D
CELP 74.0 57.0 D
AGPR 345.0 57.0 U
SJG 79.0 44.0 D
Polarities/Errors: P 006/ .0 SV 000/ .0 SH 000/ .0
Threshh. = .10
There are no amplitude ratio data
The minimum, increment and maximum B axis trend are
.00 5.00 355.00
The limits for the B axis plunge are .00 5.00 90.00
The limits for the angle of the A axis are .00 5.00
85.00

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Dip,Strike,Rake 35.00 265.00 -90.00
Dip,Strike,Rake 55.00 85.00 -90.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 355.00 35.00
175.00 55.00
Lower Hem. Trend & Plunge of B 85.00 .00
Lower Hem. Trend, Plunge of P,T 355.00 80.00
175.00 10.00
MRR = -.94 MTT = .93 MPP = .01 MRT = -.34
MRP = -.03 MTP = .08
Angle of "A" with vertical B trend plane is 55.0

++
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Dip,Strike,Rake 54.07 309.46 37.45
Dip,Strike,Rake 60.50 195.25 137.61 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 105.25 29.50
219.46 35.93
Lower Hem. Trend & Plunge of B 346.91 40.00
Lower Hem. Trend, Plunge of P,T 253.69 3.83
159.16 49.74
MRR = .58 MTT = .29 MPP = -.86 MRT = -.44
MRP = -.24 MTP = .41
Angle of "A" with vertical B trend plane is 40.0

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Dip,Strike,Rake 54.60 307.66 29.84
Dip,Strike,Rake 66.07 199.28 140.68 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 109.28 23.93
217.66 35.40
Lower Hem. Trend & Plunge of B 352.94 45.00
Lower Hem. Trend, Plunge of P,T 255.83 7.05
158.94 44.14
MRR = .47 MTT = .39 MPP = -.86 MRT = -.44
MRP = -.30 MTP = .41
Angle of "A" with vertical B trend plane is 35.0

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Dip,Strike,Rake 56.17 307.00 22.76
Dip,Strike,Rake 71.25 203.86 143.99 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 113.86 18.75
217.00 33.83
Lower Hem. Trend & Plunge of B .00 50.00
Lower Hem. Trend, Plunge of P,T 258.40 9.58
160.72 38.38
MRR = .36 MTT = .51 MPP = -.87 MRT = -.43
MRP = -.32 MTP = .38
Angle of "A" with vertical B trend plane is 30.0

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Dip,Strike,Rake 54.37 309.16 19.53
Dip,Strike,Rake 74.24 207.48 142.75 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 117.48 15.76
219.16 35.63
Lower Hem. Trend & Plunge of B 7.83 50.00
Lower Hem. Trend, Plunge of P,T 262.25 12.70
162.41 37.16
MRR = .32 MTT = .56 MPP = -.88 MRT = -.43
MRP = -.36 MTP = .31
Angle of "A" with vertical B trend plane is 25.0

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There are 5 acceptable solutions

Event # 53: allowing a polarity error of 0.0 yield 2 solutions.

Sat Oct 10 12:19:21 2009 for program FOCMEC
53
Input from a file 53.inp
2006-04-18 (53) Felt in the western Puerto Rico

Statn Azimuth TOAng Key Log10 (S/P) NumPol DenTOAng Comment
MGP 310.0 165.0 U
CRPR 289.0 154.0 +
LSP 356.0 105.0 D
MPR 344.0 100.0 +
LRS 36.0 95.0 D
OBIP 83.0 94.0 D
AOPR 40.0 93.0 D
AGPR 356.0 93.0 U
CELP 80.0 66.0 -
ICM 100.0 66.0 -
SJG 82.0 55.0 D
SJG 82.0 55.0 -
CULB 80.0 55.0 +
STVI 79.0 55.0 -
TBVI 79.0 55.0 +
Including emergent polarity picks
Polarities/Errors: P 015/ .1 SV 000/ .0 SH 000/ .0 Threshh. = .10
There are no amplitude ratio data
The minimum, increment and maximum B axis trend are .00 5.00 355.00
The limits for the B axis plunge are .00 5.00 90.00
The limits for the angle of the A axis are .00 5.00 85.00

++

Dip,Strike,Rake 72.77 117.43 58.43
Dip,Strike,Rake 35.53 1.69 149.36 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 271.69 54.47 27.43 17.23
Lower Hem. Trend & Plunge of B 127.74 30.00
Lower Hem. Trend, Plunge of P,T 230.87 21.47 350.75 51.71
MRR = .48 MTT = .03 MPP = -.51 MRT = .69 MRP = -.19 MTP = .48
Angle of "A" with vertical B trend plane is 70.0

P Polarity error at STVI
P Polarity weights: .10
Total P polarity weight is .100

++

Dip,Strike,Rake 81.82 110.16 54.59
Dip,Strike,Rake 36.22 8.84 166.07 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 278.84 53.78 20.16 8.18
Lower Hem. Trend & Plunge of B 115.93 35.00
Lower Hem. Trend, Plunge of P,T 227.81 28.02 346.61 42.15
MRR = .23 MTT = .17 MPP = -.40 MRT = .76 MRP = -.19 MTP = .51
Angle of "A" with vertical B trend plane is 80.0

P Polarity error at STVI
P Polarity weights: .10
Total P polarity weight is .100

++

There are 2 acceptable solutions

Event # 60= 48: allowing a polarity error of 0.3[6] yield 1 solutions.

Sun Oct 11 09:56:24 2009 for program FOCMEC
60=48
Input from a file 60.inp
2007-05-01 (60-48) Felt in Puerto Rico

Statn Azimuth TOAng Key Log10 (S/P) NumPol
DenTOAng Comment
CRPR 108.0 157.0 U
LSP 43.0 144.0 D
MPR 24.0 144.0 D
GBPR 101.0 126.0 D
LRS 55.0 117.0 P
AGPR 13.0 117.0 D
AOPR 55.0 111.0 D
CELP 86.0 108.0 U
IMO 276.0 106.0 D
ICM 102.0 105.0 U
SJG 86.0 99.0 U
CPD 90.0 97.0 U
HUMP 85.0 97.0 +
CBYP 79.0 97.0 +
MTP 87.0 95.0 +
STVI 81.0 93.0 +
HATO 291.0 93.0 -
SMN1 301.0 93.0 -
CDVI 96.0 93.0 +
TBVI 81.0 93.0 +
NAVI 290.0 92.0 +
ABVI 75.0 92.0 +
SDDR 285.0 92.0 +
Including emergent polarity picks
Polarities/Errors: P 022/ .3 SV 000/ .0 SH 000/ .0
Threshh. = .10
There are no amplitude ratio data
The minimum, increment and maximum B axis trend are
.00 5.00 355.00
The limits for the B axis plunge are .00 5.00 90.00
The limits for the angle of the A axis are .00 5.00
85.00

++

Dip,Strike,Rake 20.00 195.88 .00
Dip,Strike,Rake 90.00 105.88 110.00 Auxiliary
Plane
Lower Hem. Trend, Plunge of A,N 195.88 .00
105.88 70.00
Lower Hem. Trend & Plunge of B 285.88 20.00
Lower Hem. Trend, Plunge of P,T 177.00 41.64
34.76 41.64
MRR = .00 MTT = -.18 MPP = .18 MRT = .90
MRP = -.26 MTP = -.29
Angle of "A" with vertical B trend plane is .0

P Polarity error at IMO NAVI
P Polarity weights: .19 .10
Total P polarity weight is .292

++

There are 1 acceptable solutions

[6] Focal Mechanisms where initially computed allowing 0 polarity error; when acceptable solutions where not found the polarity error was increased, allowing the smaller polarity error possible to obtain solutions.

Event # 70: allowing a polarity error of 0.5[7] yield 5 solutions.

SSun Oct 11 10:04:46 2009 for program FOCMEC
70
Input from a file 70.inp
2008-03-28 (70)

Statn Azimuth TOAng Key Log10 (S/P) NumPol DenTOAng Comment
GBPR 47.0 124.0 +
CRPR 300.0 57.0 +
LSP 333.0 57.0 -
OBIP 68.0 57.0 D
MPR 328.0 57.0 +
CELP 65.0 57.0 D
LRS 14.0 57.0 D
ICM 93.0 57.0 -
AOPR 22.0 57.0 +
AGPR 344.0 57.0 U
SJG 75.0 44.0 -
CPD 82.0 44.0 +
HUMP 77.0 44.0 +
CBYP 71.0 44.0 +
Including emergent polarity picks
Polarities/Errors: P 014/ .5 SV 000/ .0 SH 000/ .0 Threshh. = .10
There are no amplitude ratio data
The minimum, increment and maximum B axis trend are .00 5.00 355.00
The limits for the B axis plunge are .00 5.00 90.00
The limits for the angle of the A axis are .00 5.00 85.00

++

Dip,Strike,Rake 61.12 37.79 72.81
Dip,Strike,Rake 33.23 250.43 118.19 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 160.43 56.77 307.79 28.88
Lower Hem. Trend & Plunge of B 46.29 15.00
Lower Hem. Trend, Plunge of P,T 140.25 14.48 272.28 68.91
MRR = .81 MTT = -.55 MPP = -.25 MRT = .20 MRP = .49 MTP = -.46
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at LRS AGPR CPD HUMP
P Polarity weights: .10 .10 .10 .10
Total P polarity weight is .404

[7] Focal Mechanisms where initially computed allowing 0 polarity error; when acceptable solutions where not found the polarity error was increased, allowing the smaller polarity error possible to obtain solutions.

++

Dip,Strike,Rake 56.36 41.16 71.89
Dip,Strike,Rake 37.70 251.71 115.04 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 161.71 52.30 311.16 33.64
Lower Hem. Trend & Plunge of B 51.43 15.00
Lower Hem. Trend, Plunge of P,T 144.04 9.66 265.69 72.04
MRR = .88 MTT = -.64 MPP = -.24 MRT = .11 MRP = .39 MTP = -.47
Angle of "A" with vertical B trend plane is 55.0

P Polarity error at MPR CELP AGPR SJG
P Polarity weights: .13 .10 .14 .10
Total P polarity weight is .475

++

Dip,Strike,Rake 61.12 42.93 72.81
Dip,Strike,Rake 33.23 255.57 118.19 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 165.57 56.77 312.93 28.88
Lower Hem. Trend & Plunge of B 51.43 15.00
Lower Hem. Trend, Plunge of P,T 145.40 14.48 277.42 68.91
MRR = .81 MTT = -.63 MPP = -.18 MRT = .24 MRP = .47 MTP = -.42
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at LSP LRS AGPR SJG CPD
P Polarity weights: .10 .10 .10 .10 .10
Total P polarity weight is .500

++

Dip,Strike,Rake 61.98 41.77 67.20
Dip,Strike,Rake 35.53 263.58 126.05 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 173.58 54.47 311.77 28.02
Lower Hem. Trend & Plunge of B 52.94 20.00
Lower Hem. Trend, Plunge of P,T 148.18 14.08 271.02 65.19
MRR = .76 MTT = -.68 MPP = -.09 MRT = .21 MRP = .51 MTP = -.42
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at AGPR SJG CPD HUMP
P Polarity weights: .10 .10 .10 .10
Total P polarity weight is .400

++

Dip,Strike,Rake 63.05 47.21 61.70

Dip,Strike,Rake 38.29 277.13 133.00 Auxiliary Plane
Lower Hem. Trend, Plunge of A,N 187.13 51.71 317.21 26.95
Lower Hem. Trend & Plunge of B 60.92 25.00
Lower Hem. Trend, Plunge of P,T 157.38 13.57 273.30 61.10
MRR = .71 MTT = -.80 MPP = .09 MRT = .23 MRP = .51 MTP = -.32
Angle of "A" with vertical B trend plane is 60.0

P Polarity error at CELP AOPR AGPR SJG CPD
P Polarity weights: .10 .10 .10 .10 .10
Total P polarity weight is .500

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There are 5 acceptable solutions

(3) Selected Solutions

Event	Dip	Strike	Rake
07 1991-12-26	5.0	40.0	90.0
26 1999-11-13	38.29	282.67	-47.00
30 2000-08-19	86.79	262.10	-39.89
37 2003-03-22	54.37	41.40	58.87
39 2003-03-22	46.03	17.58	54.04
42(56) 2003-03-23	11.17	223.70	63.26
47(56) 2007-03-15	82.36	91.72	49.57
49 2004-11-04	74.81	271.71	-48.24
52 2006-03-08	54.07	309.46	37.45
53 2006-03-08	81.82	110.16	54.59
60 2007-05-01	20.0	195.88	0.0
70 2008-03-28	63.05	47.21	61.70

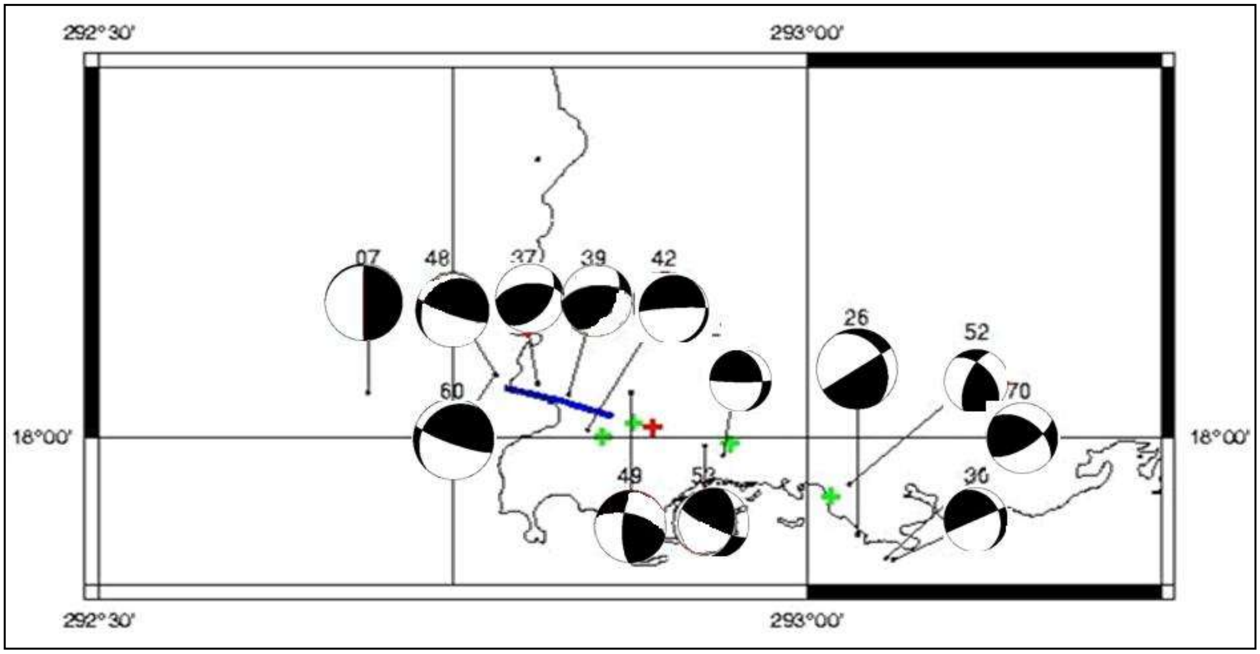

Figure B.3.1: Focal Mechanisms for felt events in SWPR.

APPENDIX B

B. STRUCTURAL FIELD DATA

1. Central Lajas Valley Site

Table B.1: Lajas Site measurements.

Location/ Feature	Orientation
LS1-a- Faults:	
Fault 1	286º, 15ºN
Fault 2	310º, 80ºN
Fault 3	310º, 85ºSE
Fault 4	280º, 90º
Fault 5	295º, 40ºS
Joints:	
Joint 1	285º, 70N
Joint 2	295º, 65ºN
Joint 3	300º, 70ºN
Joint 4	295º, 70ºN
Joint 5	318º, 70ºN
Joint 6	295º, 70ºN
Joint 7	295º, 70ºN
Joint 8	270º, 70ºN
Joint 9	283º, 50ºS
Joint 10	283º, 55ºS
Joint 11	267º, 50ºS
Joint 12	280º, 45ºS
Joint 13	273º, 85ºN
Joint 14	262º, 85ºN
Joint 15	300º, 90ºS
Joint 16	241º, 55ºN
Joint 17	255º, 80ºS

Table B.1: Continuation.

Location/ Feature	Orientation
Fold:	
Fold1 (anticline)	250º, 40ºW
Fold 2 (syncline)	240º, 40ºW
Fold 3	325º, 90º
Fold 4	236º, 85ºS
Veins:	
Vein 1	275º, 55ºS
Vein 2	279º, 55ºS
Vein 3	250º, 80ºE
Vein 4	270º, 70ºSE
Vein 5	279º, 60ºN
Vein 6	332º, 70ºSW
Vein 7	297º, 70ºSW
Vein 8	305º, 60ºS

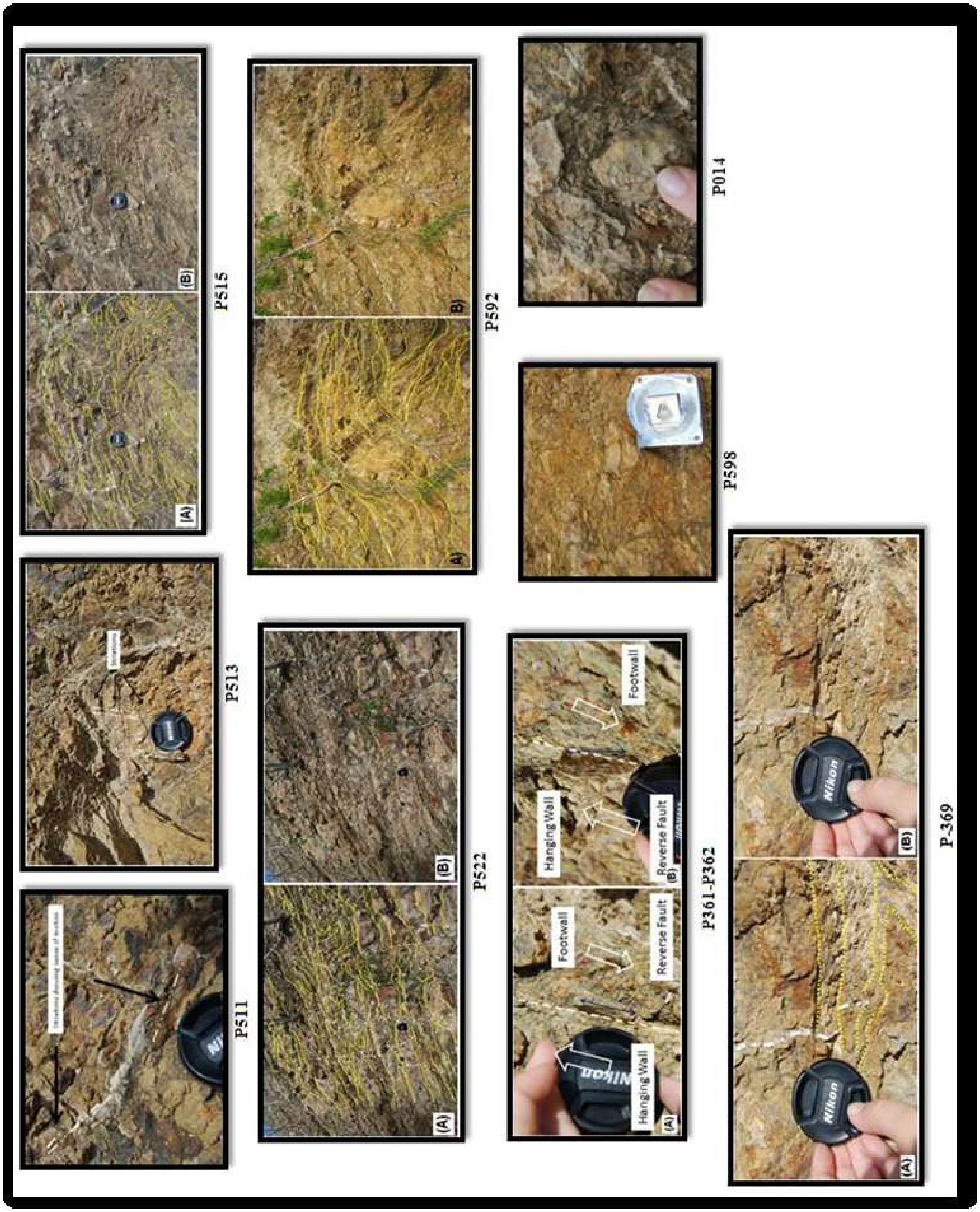

Figure B-1.1: Features along LS1aoutcrop: one of two calcite vein displaying striations located at meter 7. The sense of movement is left-lateral strike-slip with some component of vertical slip (P511); At position 7.18 (meters) another vein displaying striations (P513); At position 8.20(meters) a fracture curves to the right at 7cm above reference line. 0.5 meters above reference line the rocks changes from mud to sandstone; sandstones interlayer with mudstones and are dipping south (P515);

Figure B.1: Cont. Position 9 (meters), zone showing displacement- reverse faulting; approximately 10 cm of displacement (vertically) (P522); At position 10 (meters), layers of sandstone are oriented 257º, 30º S. Above reference line (35 cm) a conglomerate was identified, and a sand lens half meter above reference line, measuring ~23 cm length was also identified. Above the sand lens there is mudstone and the conglomerate. South (left) of position 10 (meters) we find folds, The hinge of the anticline is oriented 250º, 40ºW, and the synclinal is oriented 240º, 40ºW (P592); Between position 13 and 14 (meters) the sense of motions is reverse faulting (P361-P362); Radiolite rudists from the Campanian (Dr. H. Santos, personal communication, 2009). Fossil assemblages indicate this is the Punta Papayo (middle) member of the Parguera Limestone (J. Velez-Urabe, personal communication, 2009) (P598); Radiolite rudists fragment, located between position 14 and 15 (P014); At position 16.14 (meters) and 28 cm above reference line there is a zone showing extension, does not seems to be related to the previous. Below horizontal displacement is shown, movement 2 cm to the south (P369).

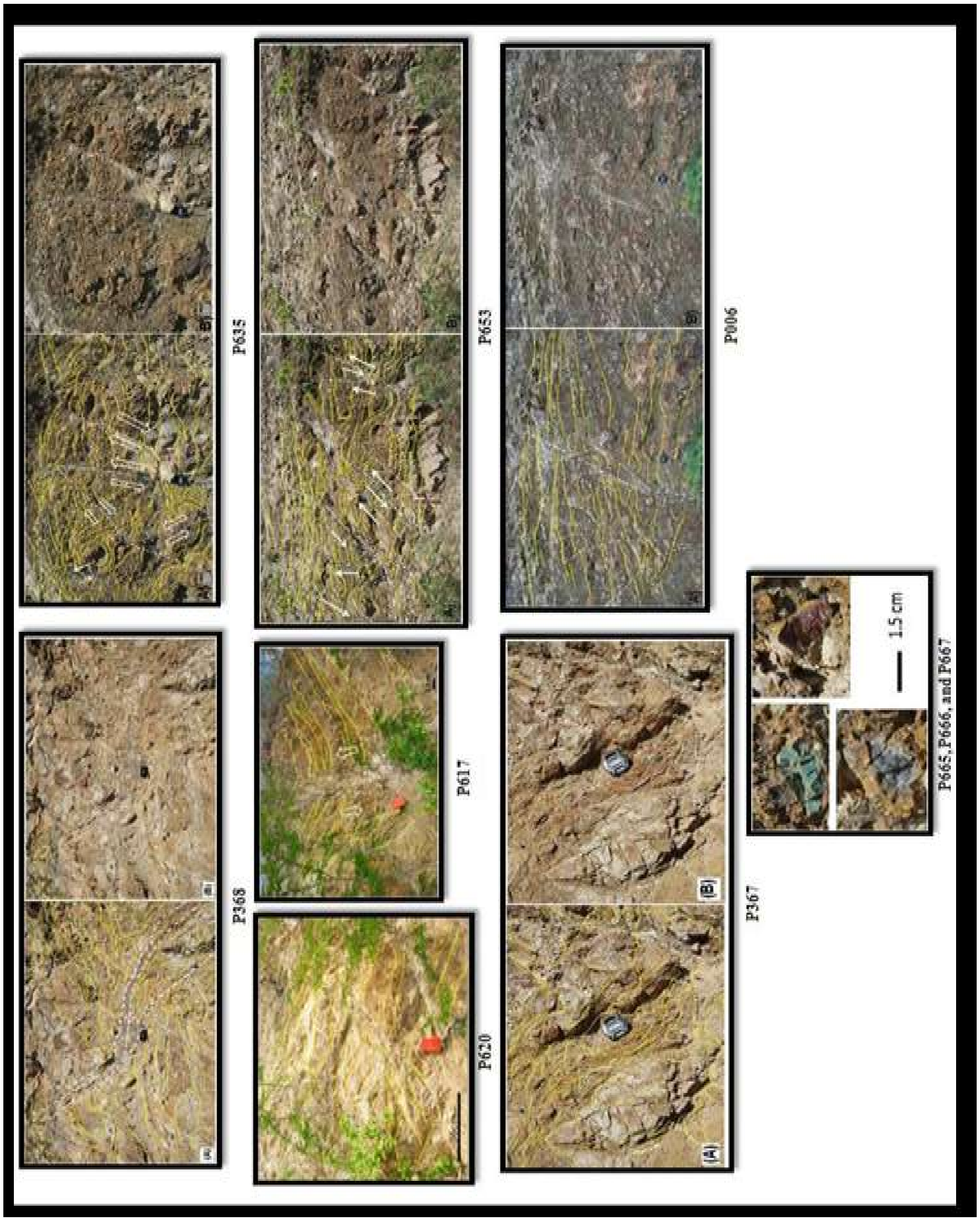

Figure B-1.2: Cont. Features along LS1a: At position 15.11 (meters), a deformation zone appears, relatively vertical, as we move to the south, into position 16 (meters) the deformations “goes” up into a series of steps. Calcite vein and striations appear 35 cm above reference line (P368); At positions 23 and 24 (meters) a series of faults showing reverse and normal faulting sense of motion were identified (P635); Layers change dip direction after fault zone; layers are dipping north (P620); Between position 17 and 21 (meters) we identify a fault zone. The fault is identified by a change in dip direction in the layering. North to the fault layers dips 30ºS, southern of the fault layers dip to the north, 30ºN. The fault strikes at 280º dipping vertically. Sense of motion is left-lateral reverse faulting (P617)

2. Laguna Cartagena

Table B.2: LC measurements.

Location/ Feature	Orientation
LC1- fracture 1	N-S, vertical
LC2- intrusion	065º, 55ºS
LC3- fault	110º, 75ºS (counter-clockwise rotation; left-lateral-reverse)
Foliations:	
Foliation 1	135º, 65ºS
Foliation 2	124º, 50ºS
Foliation 3	110º, 65ºS
Foliation 4	103º, 85ºS
Foliation 5	070º, 75ºS
Foliation 6	170º, 55ºN
Foliation 7	070º, 65ºS
Foliation 8	100º, 60ºS

LC4- fault	
Foliations:	
Foliation 1	300º, 55ºNE
Foliation 2	123º, 60W
Foliation 3	130º,70ºW
Foliation 4	135º, 85ºW
	130º, 50ºW
LC5	
Foliation s:	
Foliation 1	140º, 40ºSW
Foliation 2	090º,90º
Foliation 3	086º, 75ºSE

3. Alluvial Channel

Table B.3: Upstream Site 1.

Feature	**Orientation**
Fracture1 (zone of "weakness")	080º
Fracture 2	105º, 85ºN

Table B.4: Upstream Site 2.

Feature	**Orientation**
Fracture 1	060º, 90º
Fracture 2	030º, 87ºNW
Fracture 3	020º, 85ºNW

Table B.5: Downstream site.

Feature	Orientation
Wall	160º
Fracture 1	060º, 76ºNW
Fracture 2	060º, 84ºNW
Fracture 3	050º, 81º NW, showing 25 cm of displacement
Fracture 4	060º, 90º
Fracture 5	060º, 90º, showing 8 cm of displacement
Fracture 6	064º, 79º SE
Fracture 7	070º, 87º SE
Fracture 8	050º, 74ºNW