198-28 - PETROLOGIC CHARACTERISTICS AND TECTONIC SETTING OF QUATERNARY VOLCANIC ROCKS IN SAN LUIS POTOSI, MEXICO

Abstract

The San Luis Potosí volcanic field is located at the southeastern part of the Mesa Central is mainly composed of lavas and pyroclastic flows formed during different volcanic episodes that occurred from the Middle Eocene to the Quaternary (Tristán-González, et al., 2009). The San Luis Potosí volcanic field activity has been associated with different extensional tectonic events. The main volcanic episode took place during the early Oligocene to Miocene, this event was characterized by the extrusion of lavas and ignimbrites of felsic composition, as well as the eruption of mafic and intermediate volcanism. The last volcanic episode occurred during the Quaternary and its characterized by lavas of basaltic composition. This study focuses on the petrography and geochemistry of mafic-intermediate lavas that crops out near Pozo del Carmen, San Luis Potosí México, these lavas are related with the most recent volcanic events. Petrographically, the lavas consist in different amounts of plagioclase and pyroxene on a glomeroporphyritic texture. Samples display a tephrite, picrobasalt, and andesite composition. Chondrite-normalized rare-earth element patterns of basic and intermediate rocks display an enrichment in light rare earth elements with slightly flat patterns in heavy rare earth elements. Slightly Eu negative anomalies are display at intermediate rocks (Eu/Eu*=0.37-0.93). Even doe, several authors have described the basaltic lavas, detailed petrological and geochemical characterization has not been reported. We will provide new data on the petrogenesis of these rocks and their association with the most recent tectonomagmatic processes in the region. The region consists on a complicated volcanic area and according with a recent age of 311 ± 19 ky volcanic activity, has been considered as an evidence of a risk of volcanic reactivation in the region (Saucedo-Girón et al., 2017).

Authors

Sonia Torres Sanchez
Facultad de ingeniería, Area de Ciencias de la Tierra

Dario Torres Sanchez
Instituto Potosino de Investigacion Cientifica y Tecnologica

José Ramón Torres-Hernández
Universidad de San Luis Potosi

Sanjeet Kumar Verma
Instituto Potosino de Investigacion Cientifica y Tecnologica

View Related

Session

198: D25. Recent Advances in Petrology, Igneous (Posters)

Tuesday, 24 September 2019
9:00 AM - 6:30 PM
Phoenix Convention Center - Hall AB, North Building

GEOCHEMICAL AND GEOCHRONOLOGICAL EVIDENCES FOR VOLCANIC ROCKS OF THE SIERRA DE SAN MIGUELITO COMPLEX, SAN LUIS POTOSI, MEXICO

TORRES SÁNCHEZ, Darío¹, VERMA, Sanjeet Kumar¹ and BARRY, Tiffany², (1)Division de Geociencias Aplicadas, Instituto Potosino de Investigacion Cientifica y Tecnologica, Camino a la Presa San José # 2055, Col. Lomas 4a Sec., San Luis Potosi, SL 78216, Mexico, (2)School of Geography, Geology and the Environment, University of Leicester, University Road, Leicester, LE1 7RH, United Kingdom

TECTONIC EVOLUTION IN THE WEST-CENTRAL PART OF THE SAN LUIS BASIN, NORTHERN RIO GRANDE RIFT, COLORADO AND NEW MEXICO


A SHALLOW RIFT BASIN SEGMENTED IN SPACE AND TIME: THE SOUTHERN SAN LUIS BASIN, RIO GRANDE RIFT, NORTHERN NEW MEXICO

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Institution and Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOLOGY AND ALTERATION OF WALL ROCKS OF THE LATE JURASSIC-EARLY</td>
<td>VASSALLO, L.F.</td>
<td>Centro de Geociencias, Universidad Nacional Autónoma de México, Campus Juriquilla, A.P.</td>
</tr>
<tr>
<td>CRETACEOUS SAN NICOLÁS VMS DEPOSIT (SOUTHERN ZACATECAS, MEXICO)</td>
<td></td>
<td>1-742, Querétaro, 76000, Mexico</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOCHEMICAL CHARACTERISTICS OF CARBONATES OF THE CHILPI GROUP,</td>
<td>MISHRA, Prasanta Kumar</td>
<td>Department of Applied Geology, Indian Institute of Technology (Indian School of Mines),</td>
</tr>
<tr>
<td>INDIA: IMPLICATIONS FOR PALEOPROTEROZOIC DEPOSITIONAL</td>
<td></td>
<td>Dhanbad, Jharkhand, 826004, India; Department of Geology, Government College Sundargarh,</td>
</tr>
<tr>
<td>ENVIRONMENTS</td>
<td></td>
<td>Rangadhip, Sundargarh, 770002, India and MOHANTY, Sarada Prasad, Department of Applied</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Geology, Indian Institute of Technology (Indian School of Mines), Dhanbad, Jharkhand,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>826004, India</td>
</tr>
</tbody>
</table>