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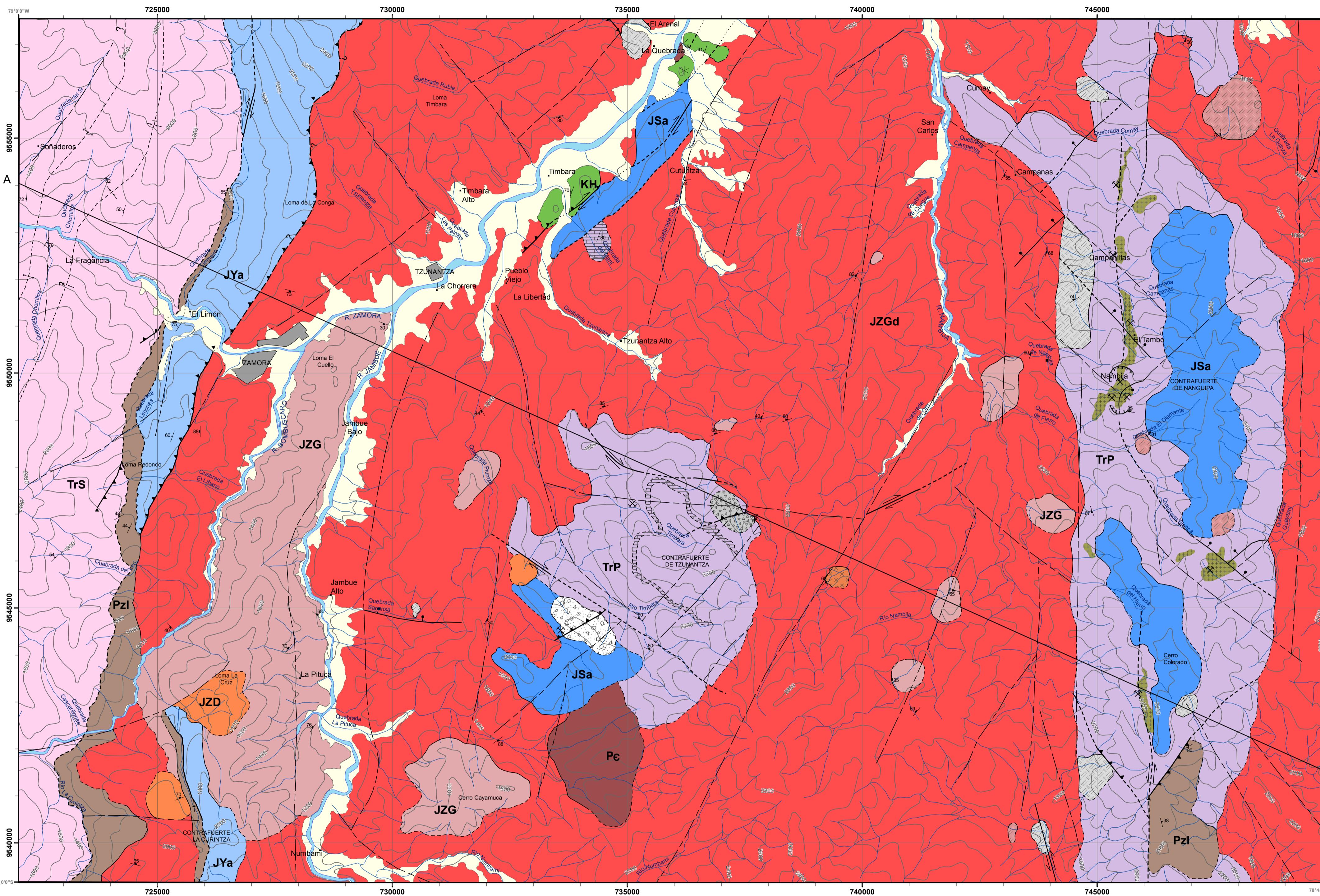
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GEOLOGIC MAP OF ZAMORA

By
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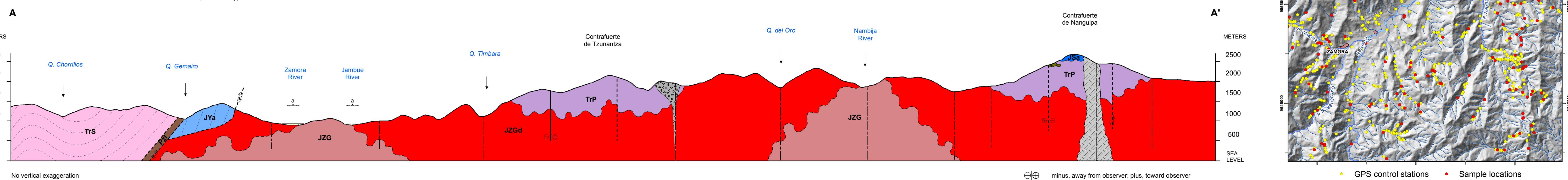
2015

"GEOLOGICAL AND GEOCHEMICAL PROSPECTING OF ZAMORA TOPOGRAPHIC SHEET (1: 50 000),
ECUADOR"

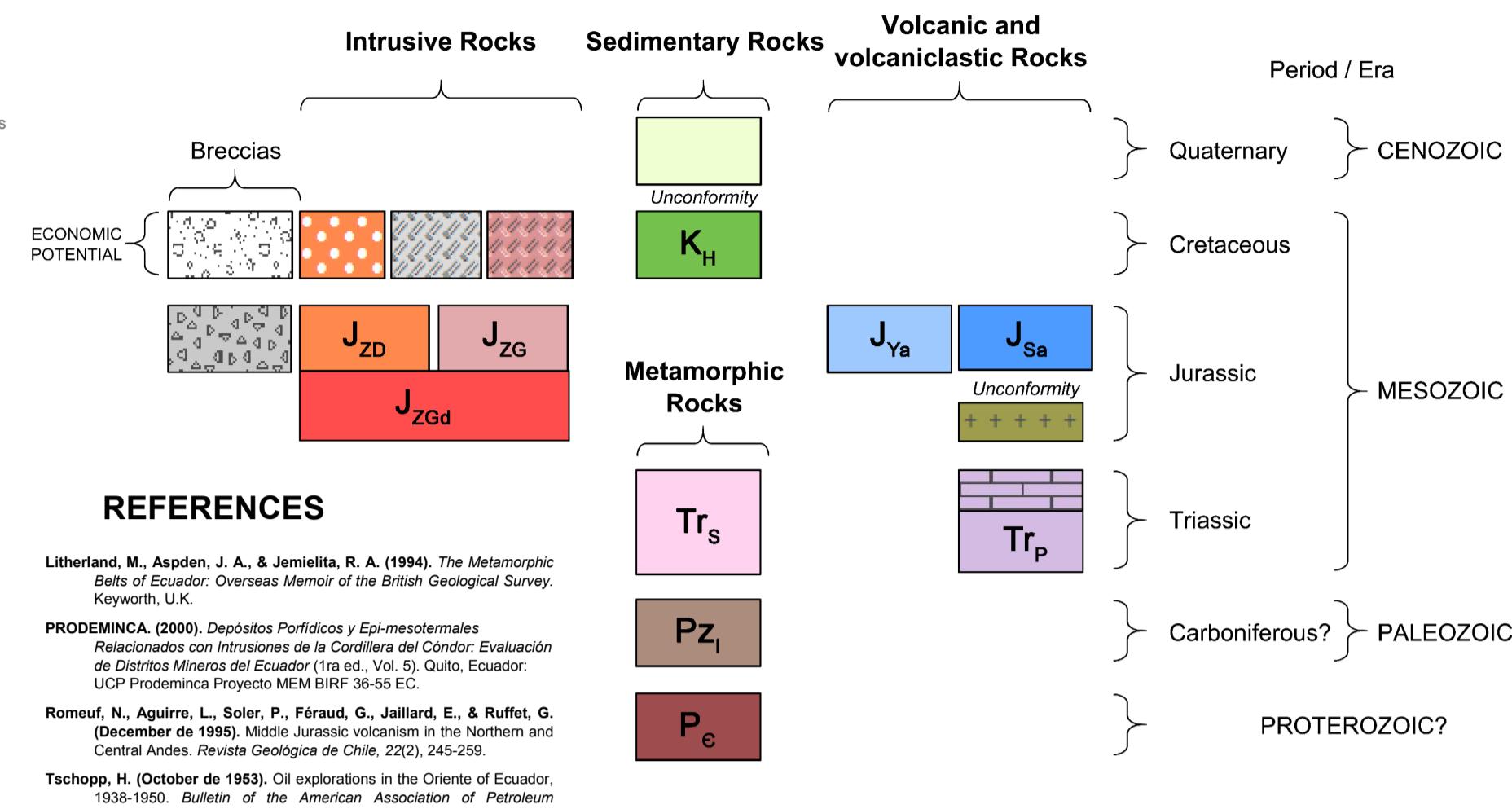


Base from Instituto Geográfico Militar (I.G.M.), 2013
Universal Transverse Mercator projection
5,000-meter UTM grid, zone 17
World Geodetic System 1984 Datum

APPROXIMATE MEAN DECLINATION, 2015
(at Zamora city)



CORRELATION OF MAP UNITS



REFERENCES

- Litherland, M., Aspden, J. A., & Jamison, R. A. (1994). The Metamorphic Belts of Ecuador. Overseas Memoir of the British Geological Survey. Keyworth, UK.
- PRODEMICA (2000). Depósitos Perifíricos y Epi-mesotérmales Relacionados con Intrusiones de la Cordillera del Condor: Evaluación de Distritos Mineros del Ecuador (1ra Ed., Vol. 5). Quito, Ecuador: UCP Prodemica Proyecto MEM BIRF 36-95 EC.
- Romeuf, N., Aguirre, L., Soler, P., Faraud, G., Jalil, E., & Riffet, G. (Diciembre de 1995). Modelos para volcánica en la Cordillera Central Andina. Revista Geológica de Chile, 22(2), 245-259.
- Tschopp, H. (Octubre de 1959). Oil explorations in the Oriente of Ecuador, 1939-1950. Bulletin of the American Association of Petroleum Geologists, 37(10), 2303-2347.

DESCRIPTION OF MAP UNITS

Sedimentary Rocks	
Alluvial and Mass-movement deposits (Holocene)	Alluvium, colluvium and landslides deposits undivided along streams and adjacent lower slope
Holocene & Quaternary (Lower Cretaceous - Tschopp, 1953)	White to light-brown, medium-grained, well-sorted, resistant quartz sandstone (transitional environment) intercalated with black mircitic limestones and carbonaceous shale beds (marine environment)
Jya	Volcanic & Volcaniclastic Rocks
JSa	Yacuambi Unit (Jurassic)? New unit, consist of tuffs, breccias, andesitic lavas, and a sedimentary facies characterized by siltstones with calcareous-clay cement formed in a lacustrine environment related to a marginal basin of the Misahualli volcanic arc (calc-alkaline)
JZG	La Saquea Unit (Jurassic)? Another discrimination of the Misahualli formation described by Romeuf et al. (1995). Predominantly lavas: andesitic, basaltic andesites and dacites, intercalated in minor amount with tuffs and volcanic breccias. Geochemical analyses show a calc-alkaline affinity, suggesting a continental arc environment generated by subduction
TrP	Plantzita Unit (Triassic) - Litherland et al., 1994 Another discrimination of continental margin volcanic sediments interpreted as rift-related basins grouped into 3 main members: Upper Member Metamorphic rocks as garnet and epidote skarns Lower Member Shales, siltstones and sandstones of fine to medium grained, gray to ochre, stratified and silicified Basal Member Pyroclastic and epiclastic deposits, intercalated with breccias and alkalines volcanic flows with tholeiitic affinity
Trs	Metamorphic Rocks
PzI	Sanbanilla Unit (Triassic) - Litherland et al., 1994 Medium-high grade metamorphic rocks, consists of quartz-feldspar gneiss (orthogneiss) and mica gneisses (paragneiss). There are also migmatites or migmatic gneiss. Chemically, quartz-feldspar gneisses are S-type granites
Pe	Ismianchi Unit (Carboniferous?) - Litherland et al., 1994 Low grade metamorphic rocks, consists of phyllites, quartz-sericitic schists, metamorphosed tuffs and volcanic breccias, and marbles
KH	Undifferentiated Metamorphics (Proterozoic)? There are some bodies of quartz-feldspar gneiss and migmatites within the Zamora batholith. Maybe it is part of the Precambrian metamorphic basement

EXPLANATION OF MAP SYMBOLS

Inclined joint	Thrust fault
Vertical joint	Normal fault
Inclined bedding	Strike-slip fault
Inclined foliation	Lineament
Vertical foliation	Scarp on fault
Microfossils	Anticline
Mining	Syncline
Abandoned mining	Relative motion
Contact	Dashed where approximately located; dotted where concealed
Fault	

