

this preliminary open-file geologic map.







NEW MEXICO BUREAU OF GEOLOGY AND MINERAL RESOURCES A DIVISION OF NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY

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5°57'3@ ', Feet (A	North 000 SL)	west	-2	Bend I Sectio GT-2	n n	Bend I Sectio Well A (project	In n A ed)	
980000	5	Tab	Тра	Qbo?		Тра Та	ab	Ttd
. 8,	000' –		Pa				Pa	
7,	000' –		Pm					
979000			Ps					
6,	000' —		Xu					
5,	000'_	V.E. = 1.67	7					

The map has not been reviewed according to New Mexico Bureau of Geology and Mineral Resources standards. The contents of the report and map should not be considered final and complete until reviewed and published by the New Mexico Bureau of Geology and Mineral Resources. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the State of New Mexico, or the U.S. Government.

Qbt Qbo	Calaveras Canyon	Qbt Qbo	io Cebolla Qal Qbo	Well B (projected)
Pa		Pa	Tab' Pa	Pa
Rio Cebolla (projected) Qbt Qbo Pa		Qbt Qbo	Obt Ttd Tpa? Ts Pa	San Antonio Creek Qvsa Qdf

- Geologic contact. Solid where exposed or known, dashed where approximately known, dotted where concealed or inferred. exposed, dashed where approximately known, dotted where Trace of axial plane of anticline, dashed where approximately

north central part of the area and along the topographic rim of the caldera to about 2500 m (8200 ft) near Fenton Lake. The filling of a paleo-low along the Rio Cebolla at the south edge of the community of Seven Springs dropped the contact to an elevation of 2400 m

(7880 ft) with local relief of ~ 100 m (330 ft).

Fenton Hill vield ${}^{40}\text{Ar}{}^{39}\text{Ar}$ ages of 8.93 ± 0.11 and 9.26 ± 0.14 Ma. (this study). The basalt likely correlates with 9.1 to 9.4 Ma, basa lavas on Borrego Mesa in the Ponderosa quadrangle (Osburn et al., 2002) and the basalt lavas in Church Canyon on the Jemez Springs Santa Fe Group, Ojo Caliente (Miocene) – Tan to white to light pink sandstone that is poorly cemented, fine to medium-grained, and consists of sub-round to angular grains of quartz, feldspar, mafic minerals and rare lithic fragments. High-angle cross-beds are locally preserved. Exposed primarily in road cuts on Highway 126 between Fenton Hill and Fenton Lake. Correlation to the Ojo Caliente Member sandstone exposed in the northern Jemez Mountains is based on relative stratigraphic position above fluvial rocks of

Abiquiu Formation (Oligocene to Miocene) – Predominantly composed of white to tan, medium-grained, medium-bedded sandstone that is well-cemented with a few interspersed lenses of green shale, red silt, and brown Pedernal chert. Silicified root casts are locally present. The unit is exposed in a road cut along Highway 126 and along northern San Antonio Creek. The San Antonio Creek exposures **Pedernal chert (Oligocene to Miocene)** – White to clear chert. Forms a 1 m thick ledge on Abo Formation in the northwestern corner **Ritilto conglomerate (Oligocene to Miocene)** – A poor exposure of a pebble to cobble conglomerate composed of Proterozoic granitoids and quartzite in a tan sandy matrix is found in northern San Antonio Creek. Maximum exposed thickness 10 to 20 m.

Abiquiu Formation and Ritilto conglomerate, undifferentiated (Oligocene to Miocene) – Shown on cross-sections only. Includes upper and lower members and Pedernal chert. Upper and lower members were not distinguished on the well logs.

Plutonic and metamorphic rocks (Proterozoic) – Shown on cross-sections only. Pink, coarse-grained granite, gray, coarse-grained

granodiorite, monzonite, quartz monzonite, gneiss, biotite-hornblende schist and amphibolite with dacitic dikes.





CORRELATION OF MAP UNITS



Geochronology results for volcanic rocks in Seven Springs quadrangle. Samples run at the New Mexico Geochronology Laboratory at New Mexico Tech.

<u>Sample</u>	UTM coordinates (NAD 27)	Lithology	⁴⁰ Ar/ ³⁹ Ar age (Ma)
FJ-0434	13S 349992 3971680	basalt lava clast in Paliza Canyon volcaniclastic sediment	8.93 ± 0.11
FJ-0403	13S 349256 3972491	Paliza Canyon basalt	8.88 ± 0.05
FJ-0430	13S 350160 3971580	basalt clast in Paliza Canyon volcaniclastic sediment	9.26 ± 0.14
SS-05	13S 348657 3972435	Paliza Canyon andesite	8.20 ± 0.09

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