“The Igneous Rocks of Tameapa”

(an exploration adventure story by Michele Murray)

Part I: The Professor and His Ice Cream Truck

His name was Dr. Guillermo Aquínez Cimmarón de la Guerra 2a Mundial but he went by the name of “Profesor” by the colloquial-Spanish speaking North American population of Mexico and “Doc” to the ex-patriot gringos working abroad. Doc was a retired geology professor and at the age of 66 was driving around the hither mountain regions of Sinaloa, Mexico in a modified ice cream truck that he had rigged for electronic instrumentation and cyber-space connections. The surge in natural resource prices had lured him out of retirement and plopped him back in the saddle again but not as a teacher, not as a rock toting-core-logging field geologist, either. He was too old for that kind of hard labor. Rather, Doc ran a “Mobile Rock Identification Lab” unit (M.R.I.L.) and wandered the remote terrain of the Sierra Madres Occidental providing a service to the many core logging facilities that had sprung up nearly overnight in response to grass root exploration programs. Sinaloa was a hub of drilling activity.

Most people don’t know what a porphyry is, or an igneous intrusion for that matter. The word "porphyry" is both a textural term and a rock type -- therein lies the root of the problem.

That was the slogan Doc hand-painted on the side of his orange ice cream truck, the M.R.I.L. facility. He found the van abandoned in an arroyo and bought it for $2 U.S. from a lady who does laundry by bashing clothes with river rocks in Arispe. He had seen an ice cream truck converted into a living quarters before on the Colorado River, and knew he could utilize its diminutive size and narrow wheel base for his back country bush whacking adventures in Mexico. Besides rigging a bed and refrigerator in the M.R.I.L. unit, Doc had added a polarized microscope, portable XRD scanner, PEM clay detector, black light, ventilated hood with kiln,

electrolysis analyzer, and wi-fi router with satellite connection capacity. He added an extra gas tank and put chrome baby moon hubcaps on the wheels, then painted the slogan as the only modifications to the dilapidated exterior. A plastic Santa Virgen de Guadeloupe was glued by her feet to the dash and a dried scorpion swung from the rear view mirror on a string. Doc was a hip guy.

“A core logging or field geologist should be thinking about intrusions vs. porphyritic texture,” said Doc. “And a porphyry can be either volcanic or intrusive. Note that many geos misuse ‘intrusive’ for ‘intrusion’, one being the adjective, the other the noun. Sometimes, geologists refer to rocks as ‘sedimentaries’ too! But this is just semantics.”

That was the lecture topic when Rene first met Doc. He was responding to an emergency request from Phelps Dodge make an identification one way or the other whether their copper deposit was hosted in a dike swarm of porphyries or simply disseminated in a porphyritic faces of a fine-grained andesite. The core loggers were in near fisticuffs over the bifurcated opinion. All work had come to a stop and even the muchachos (that’s what the Mexican helpers called themselves) sat morosely on the wall of the compound picking their teeth with pocket knives waiting for someone to give them a request for physical labor.

“Porphyritic texture simply put means phenocrysts in a finer-grained groundmass. Usually, what we mean by a ‘porphyry’ refers to phenocrysts in a fine-grained groundmass of intruded igneous magma. If the rock is coarse-grained, we call it a porphyritic granite, or monzonite, or gabbro, using the coarse-grained rock name as part of the description.”

Rene was exercising her patience-honing tools. She hated lectures and lecturers. That’s one reason it took her nearly 11 years to complete her Master’s thesis. ‘Why didn’t this daff old buzzard get to the point? Is the rock or is the rock not a porphyritic andesite?’ She thought to herself counting to ten, then twenty, then began chanting her most holy of patience-procuring routines, ‘I-am-a-very-patient-woman-I-am-a-very-patient-woman-I-am-a-very-patient-woman-I-am-a-very-patient-woman…’

“This rock is very interesting,” continued Doc. “I’ve given it a description and a lith-code for a crowded porphyry although this one is so altered I can't tell whether it has any mafics or not. I do not see clumps of phenos, which you had mentioned contributed to this quandary. You may have observed something like glomerophenocrysts, which are, indeed, stuck together during crystallization and sometimes we see them in volcanic rocks. I have not seen anything like that in these rocks due to the difficulties of seeing anything.”

Rene stood with her arms folded and tapped her foot in the dust with impatience. Doc continued, “A key feature is the groundmass, which you did not mention in your memo. I have a lot of trouble observing groundmass textures and mineralogy, due to alteration and fine grain size of these rocks. This may require a thin section study in my MRIL unit, but still, you might try observing the nature of the groundmass before giving me a call.”

Doc was turning a piece of drilled core over and over in the sunlight, trying to get the best angle of lighting to enhance the magnification under his hand lens, which he held close to his eye. The geos in waiting were standing around, some with their own lenses held to their own faces, some continuing to log their boxes of core laid out on table under the huge tree, some geos were just plain loitering taking advantage of the company-prescribed edification. Rene could not contain her impatience any longer.

“Look, I’ve got 563 meters of this rock in my drill hole to log and I need to know if we’re gonna call it a porphyry or a porphyritic andesite before it turns into dust. Give me a rock code before I turn into dust, also.”

Doc didn’t seem to notice her brusque behavior. Rather, he turned his back to the sun and continued his description as if being 66 years old and slightly hard of hearing was a clever ploy. Rene recognized the body language. She wasn’t a 44 year old chubby, short core logger in a remote mountain village because of her social skills. As a matter of fact, she had spent most of her brilliant career roving from job to job with a long history of clashing with the male management. This core logging job was company number 24 in a 18-year career and that didn’t include numerous non-industry jobs she held back when she was young and fun to be with. Her

career included working at the American Museum of Natural History in New York City as a Curatorial assistant for fossil turtles, trench logger for the Yucca Mountain Project in Area 51, underground mine tour guide, backhoe operator, school bus driver, waitress, cattle wrangler, hotel night auditor, special Ed teacher, dog trainer, commercial artist, bassoonist, fur trapper, and river guide. This broad background was a reflection of her creative (albeit dysfunctional) personality. She knew the scene and she knew the lines. Doc wouldn't listen to her if she were to tell him his hair was on fire. However, she was, after all, a smart-alecky broad with a big mouth.

"How about we call this rock, 'The Great White Porphyry of Tameapa' and let it go at that? We'll publish a technical article for 'Econ. Geology'. You can give it a code of, say, 'GWP' and describe it as, yer basic aplitic, phaneritic, leucogranite with phenocrysts averaging about the size of average phenocrysts in a groundmass of groundmass, similar species include other F##@!!* white rocks." Rene stood with one leg crooked up under her as she leaned against a big tree in a Jimmy Dean cavalier sort of way. She was feeling cocky. Other geos stirred, not sure how this rude remark would affect the professor.

"I do believe 'F##@!!* White Rock' would be a good and honest description of this texture, Rene." Doc was as unaffable as a cucumber. His clear blue eyes shown with a sparkle that only a 66 year old geezer can pull off in a forlorn place like Tameapa, Sinaloa. He was smiling at Rene and she knew immediately, she had a new fan. Doc was possibly one of those dangerous liaisons she had come to recognize that make for mischievous fun in planning creative events to stir up the boredom in exploration camps.