

There has been some disagreement among the various operators in the Basin as to what the producing zone found in the Lewis Shale in this area should be called. These disagreements have been occurring regarding not only this production zone but almost every other cretaceous formation in the area. The disagreements regarding proper nomenclature have occurred for a variety of reasons. The first goes back to early mapping work which was done in the Basin by the U.S.G.S. The area is some one hundred miles square and the older formations are exposed only around the edges. Therefore it was in many cases impossible for early workers to correlate units across the entire basin. The San Juan Basin is generally recognized to be a classic example of regressive-transgressive type deposition. This causes sand and shale units to migrate upward and downward stratigraphically so that time lines do not follow lithologic boundaries. Therefore sand units on one side of the Basin are represented by shales in the same position on the other side. These relationships were naturally imperfectly understood by early workers. Hence different names were used on various sides of the Basin for the similar lithologic units. As drilling has spread into the Basin and relationships of the various units has become more clear it became evident that the same formations had two names and in some cases even three, as happens when the name for a unit is carried in simultaneously from three different sides of the Basin. Which geological horizon to use for a formation top has also caused confusion. Some geologists apparently have attempted to measure out crop sections and then move these intervals into the Basin without regard for changing lithology. The general practice, however, has been to use lithologic boundaries for formation boundaries. For instance, much of the interval occupied by the Mesaverde formation on the Southwest side of the Basin which is predominantly sandstone is occupied by the Lewis shale on the Northeast side of the Basin. Rock boundaries and formation boundaries migrate stratigraphically across time lines.

The La Ventana Sandstone is a localized term which is used for a sandstone interval which was deposited on the East side of the Basin during a stable period

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at the end of the regressive phase of the Cretaceous sea which deposited the Point Lookout sandstone. Following the deposition of the La Ventana sandstone a transgressive phase occurred which deposited the Cliff House-Chacra Sandstone. The Cliff House-Chacra rises stratigraphically to the West and South as the sea was transgressing in that direction. As the Cliff House-Chacra shore line moved west Lewis shale was simultaneously being deposited to the East. Stable periods occurred at various times during the Cliff House-Chacra transgression and there is also evidence of minor regressions of the sea during this time. This had the effect of depositing regressive tongues of Sandstone for some distance eastward over Lewis shale. Evidence seems to indicate that the producing zone in the Lewis shale in 25N-5W is a regressive tongue of this type. It would therefore be genetically closely related to the Cliff House-Chacra formations. From a practical standpoint it cannot be called Cliff House because the horizon used as the top of the Cliff House Formation in the Blanco Mesaverde Pool is some 800 feet deeper and confusion would result. The term Chacra has not been used for any other producing zone and would not be objectionable on those grounds. I would not recommend the use of a new term to describe this producing zone as it is obvious that part of our present difficulty stems from the use of too many names for the same formation. It is therefore my recommendation to designate the producing zone discovered in the Amerada F-1 Jicarilla well as "Chacra Sandstone". The sandstone interval in this well is from 3532 to 3735 and the producing perforations are from 3588-3610.