

BARRACUDA STATE EXPLORATORY UNIT
CHAVES COUNTY, NEW MEXICO

The Barracuda State Exploratory Unit consists of sections 4, 5, 8, 9, & 17 of 10S-27E. The proposed location is the Barracuda State Unit #1 in 5-10S-27E, 1650 FNL & 800 FEL. The main objective is the Siluro-Devonian dolomite with a secondary objective of the Wolfcamp A Zone.

The Siluro-Devonian dolomite is productive in three wells that are in close proximity to our proposed location. These three wells are: Bluegill State #1 (32-9S-27E, 2310 FNL & 1980 FWL), Sunfish State Unit #1 (32-9S-27E, 1980 FSL & 1980 FEL), and the Starkissed AWS State #2 (3-10S-27E, 1980 FNL & 990 FWL). The Bluegill well has produced 477 MMCF and 2,272 BO from 12-02 to 2-04. The Sunfish well has produced 1.6 BCF and 10,378 BO from 5-01 to 2-04. The Starkissed well has produced 5 MMCF and 14,600 BO plus 6,296 BW from 9-03 to 5-04. The Diablo State #1 well in 32-9S-27E (660FSL & 660 FEL) tested in the upper part of the Siluro-Devonian dolomite gas to the surface in 45 minutes with a 2' flare and recovered 652 feet of slightly gas cut drilling mud. The sample chamber had 3 cubic feet of gas and 100 cc of mud. This well should have been perforated in this tested interval. All of the above mentioned wells are shown on the two cross-sections A-A' and B-B' and also on the three geologic maps.

Our proposed location is shown to be up-dip and on the crest of a structure from the two producing Siluro-Devonian wells in 32-9S-27E which are the Bluegill and the Sunfish and to be on the upthrown block from the dry hole in 5-10S-27E which is the Moalbo State Com AZC #1. This is shown by the Seismic Time Structure Map on top of the Siluro-Devonian. The Seismic Time Structure Map also shows the proposed location to be bounded by two faults, one to the west and the other to the southeast with our location on the up thrown side. The B-B' cross-section shows the location to be up-dip from the three wells in 32-9S-27E and bounded on the south by the southwest to northeast trending fault. At the southern end of this cross-section and down dip, the Gasby well in 20-10S-27E tested water near the top of the Siluro-Devonian. The A-A' cross-section shows the proposed location to be on the up thrown side of the northwest to southeast trending fault with the Moalbo well in the northwest quarter of 5-10S-27E to be in a down thrown block. The Moalbo well was wet in the dolomite. The Starkissed well in 3-10S-27E is producing oil and gas from the Siluro-Devonian dolomite and this well appears to be on a separate Siluro-Devonian structure. Due to the proprietary seismic data this section does not have the seismic data displayed.

The secondary objective for the Barracuda State Exploratory Unit is the Wolfcamp A Zone. This zone is present in several wells in the area as shown on the two Wolfcamp A Zone maps, the Gross Isopach Map and the Net Porosity Isopach Map. Our proposed location should encounter between 50-55 gross feet of limestone with 25-30 feet of net porosity greater than or equal to 4 %. This zone has not produced in the area but in several wells: the Moalbo (5-10S-27E), Bluegill, Sunfish, and Diablo (32-9S-27E) and the Starkissed (3-10S-27E), the mudlogs had gas kicks of 100 units with the electric logs showing the zone to be productive. This Wolfcamp A Zone is highlighted in pink on the two cross-sections. Being on the crest of a structure enhances the Wolfcamp A Zone production, but by Wolfcampian time the geologic faulting is not present as shown by the A-A' and B-B' cross-sections.

The Wolfcamp Spear Zone is highlighted in blue on the two cross-sections and this zone does produce in the area but production occurs on the flank of structures. Our location is proposed on the crest of a structure which would not have porosity development in the Wolfcamp Spear Interval. This geologic concept is depicted on both structural cross-sections with the Overeasy well on the A-A' cross-section and the Gasby well on the B-B' cross-section as producing from this zone.

Yates Petroleum Corporation proposes the formation of the Barracuda State Exploratory Unit in 10S-27E consisting of all of the sections 4, 5, 8, 9, & 17. Our proposed location, the Barracuda State Unit #1 in 5-10S-27E (1650 FNL & 800 FEL), will adequately test the main objective in the Siluro-Devonian dolomite to the base of this formation with a proposed total depth of 6,850 feet. The location is up-dip from three Siluro-Devonian wells to the north, the Bluegill, Sunfish, and the Diablo in 32-9S-27E and also up-dip from the Starkissed in 3-10S-27E to the east. The location is also up-dip and on the up thrown side of a fault block from the Moalbo AZC State Com #1 in 5-10S-27E which was wet in the Siluro-Devonian. The proposed location also has a possibility in the Wolfcamp A Zone by encountering 50-55 feet of gross limestone with 25-30 feet of net porosity greater than or equal to 4%. Several wells in the area had gas kicks on the mudlogs of 100 units. Wells that had mudlog shows were the Bluegill, Sunfish, Diablo, Moalbo, and the Starkissed. These wells are shown on all three geologic maps and the two cross-sections with the Wolfcamp A Zone highlighted in pink.

The other productive interval in the area is the Wolfcamp Spear Zone. Yates Petroleum does not think that this is a productive interval at our location because the location is on the crest of a structure and the Spear Zone produces on the flanks of structures as depicted by the two cross-sections. The Overeasy well on the A-A' cross-section and the Gasby well on the B-B' cross-section are productive on the flanks of structures. Yates Petroleum Corporation believes that the Barracuda State Unit #1 in 5-10S-27E will adequately test the Siluro-Devonian dolomite and the Wolfcamp A Zone to a proposed total depth of 6,850 feet.