

An Overview of the Conasauga Formation Shale Gas Play In Alabama

(November 2007)

The Conasauga Formation shale gas play continues to be developed primarily in northeast Alabama. With the exception of one well in Etowah County and one well in Cullman County, all of the development has been in St. Clair County. Etowah and St. Clair Counties are located northeast of Birmingham in the Valley and Ridge Province of Alabama. Cullman County is north of Birmingham in the Cumberland Plateau Province.

In February 2007, the Board established the Big Canoe Creek Field in St. Clair County. This field, which is the first shale gas field to be established in Alabama, encompasses approximately 40 square miles and includes the wells drilled by Dominion Black Warrior Basin, Inc. The Board's order establishing the field requires that the field be developed initially on 320-acre drilling units. Permanent production units were not established due to insufficient technical data. The Board further required that the operator address the matter of permanent production units within one year. Production royalties are being escrowed until final production units are established.

Dominion has drilled 14 wells in the new field, ranging in depth from 3,412 feet to 9,023 feet, discounting one well which was plugged and abandoned at a depth of 658 feet after experiencing drilling problems. Initial gas flow rates reported to the Board have ranged from 26 thousand cubic feet per day (Mcf/d) to 233 Mcf/d. Eight wells produced a total of 6,801 Mcf of gas in August. The most productive well was the Burgess E28-11-58, Permit No. 15074, which produced 2,684 Mcf of gas during the month.

Drilling in the Big Canoe Creek Field has been challenging due to the unique geologic conditions encountered in the area. Problems include lost circulation, swelling of clays, and well bore drift. The most recent activity in the Big Canoe Creek Field was

the drilling of the Dawson 33-9-2A, Permit No. 15270. The well, located in Section 33, Township 13 South, Range 4 East, was drilled to a total depth of 7,576 feet, and production casing was set to a depth of 6,975 feet. Dominion also drilled the West 35-8-5, Permit No. 15268, in Section 35, Township 13 South, Range 4 East. The West well was drilled to a total depth of 6,585 feet, and production casing was set to a depth of 6,311 feet. Completion operations are underway for both wells. The West well is currently classified as temporarily abandoned while a gas-gathering line right-of-way is being obtained.

On June 4, 2007, Dominion announced that it had entered into an agreement to sell its Alabama assets, including the Big Canoe Creek Field, to Loews Corporation. The sale closed on July 31, 2007. The new operator will be HighMount Black Warrior Basin, LLC.

Energen Resources Corporation drilled two wells in St. Clair County in 2006 outside of the boundaries of the Big Canoe Creek Field: the Williams 29-12-101, Permit No. 14313, in Section 29, Township 14 South, Range 3 East; and the McAnulty et al 20-11 No. 1, Permit No. 14667, in Section 20, Township 14 South, Range 3 East. The Williams well was drilled to a total depth of 4,840 feet, and production casing was set to 3,522 feet. No test results have been reported for this well. The McAnulty well was drilled to a total depth of 2,365 feet. It was plugged and abandoned in 2007 due to drilling problems. In 2006, Energen drilled the GAA 23-12 No. 1 well, Permit No. 14351, in Section 23, Township 12 South, Range 5 East, in Etowah County. The well was plugged and abandoned at a depth of 4,850 feet.

Rock units in this area of the State are highly folded and faulted making geologic interpretations difficult. Thrust faults, which are low angle reverse faults, are the principal faulting mechanism in the area. These faults can cause an exaggerated thickness (up to several thousand feet) for the Conasauga as a result of stacking of faulted strata. The Conasauga is Middle to Late Cambrian in age (over 500 million years old).

In June of 2007, Choctaw Geological Enterprises, an MBCI Enterprise, drilled a Conasauga shale test outside of the Valley and Ridge Province in Section 26, Township 9 South, Range 2 West, Cullman County. The Haynes Farms, LLC 26-8 No. 1A, Permit No. 15288, was drilled to a total depth of 8,320 feet. Surface casing was set to a depth of 3,974 feet and a liner was set from 3,678 feet to 6,588 feet. The well is currently shut in. Prior to the drilling of the No. 1A well, Choctaw Geological drilled two wells on the same drilling location that encountered drilling problems and did not reach the proposed total depth. The No. 1A well was drilled about one-half mile from the F. W. Smith 26-6 No. 1 well, Permit No. 1689, which was drilled to a total depth of 8,270 feet and then plugged and abandoned in 1972 by Shenandoah Oil Corp. & Occidental Petroleum.