



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 08-0294992

THE APPLICATION OF ENERGEN RESOURCES CORPORATION TO CONSIDER INCREASED NET GAS-OIL RATIO AUTHORITY AND CANCELLATION OF OVERPRODUCTION FOR THE HOGNOSE 1-67 UNIT, CADENHEAD 18 LEASE, SIDEWINDER STATE UNIT 1-68, UNIVERSITY 31-18 LEASE, YELLOW JACKET STATE UNIT 1-70 AND THE GRAYLING 1-69 LEASE, TWO GEORGES (BONE SPRING) FIELD, LOVING AND WARD COUNTIES, TEXAS

Heard by: Peggy Laird - Technical Examiner
Terry Johnson - Legal Examiner

Hearing Date: May 5, 2015

Appearances:

Sandra Bolz Buch
Blane McGlawn

Representing:

Energen Resources Corporation

EXAMINER'S REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Energen Resources Corporation ("Energen") requests authority to produce the Hognose 1-67 Unit (44756), the Sidewinder State Unit 1-68 (44252), the University 31-18 Lease (44971), the Yellow Jacket State Unit 1-70 (45247), and the Grayling 1-69 Lease (43242) ("subject leases and units") in the Two Georges (Bone Spring) Field ("Field") under an increased net gas-to-oil ratio ("GOR") authority of 25,000 standard cubic feet of casinghead gas to one barrel of oil, or 25,000:1. Energen also requests that all overproduction for the subject leases and units be canceled. At the Hearing, Energen requested that the Cadenhead 18 Lease (42498) be removed from the Docket and not considered with the application, as the net GOR issue was not applicable. This application was unopposed and the examiners recommend approval of increased net gas-oil ratio authority of 25,000:1 and cancellation of overproduction.

DISCUSSION OF EVIDENCE

The subject leases and units are located in the Two Georges (Bone Spring) Field. The Field has a correlative interval of 8,979 to 11,600 feet, and there were 229 wells

carried on the May 1, 2015, oil proration schedule. The initial tests for the subject leases and units were conducted from October 16, 2012, to January 18, 2014. Results of the initial tests for the subject leases and units are as follows:

<u>Lease</u>	<u>Oil (BBLs)</u>	<u>Gas (MCF)</u>	<u>Gas-Oil Ratio</u>	<u>Water (BBLs)</u>
Grayling 1-69 Lease	791 BO	7318 MCFG	9251	927 BW
Sidewinder State Unit 1-68	394 "	4818 "	12228	1966 "
Hognose 1-67 Unit	232 "	2496 "	10758	1507 "
University 31-18 Lease	480 "	6620 "	13791	1939 "
Yellow Jacket State Unit 1-70	225 "	5098 "	22657	224 "

The top oil allowable in the field is 960 BO per day and the current GOR is 2000:1. The subject leases and units have accumulated overproduction of oil and gas.

Energen reported the GOR had been higher than 2000:1 from initial production, and they are currently developing the Field with horizontal wells. Energen presented cross-sections that demonstrated the portion of the reservoir in the Field containing the subject leases and units is flat-lying, and gravity segregation is not considered to be a contributing factor to the higher GOR. Energen reports the higher GOR appears to be an anomalous characteristic of the reservoir produced from the development of the subject leases and units in the Field.

Energen performed step-rate tests using decreasing choke sizes from 32/64ths to 2/64ths. As the choke sizes were reduced during the test, the GOR remained relatively stable. Based on the results of the step-rate tests, Energen reports the reservoir is not rate sensitive. Energen testified that production history indicates declining oil and gas production, while the GOR remained fairly constant over time, and that no damage to the reservoir on the subject leases and units had occurred.

Energen reported that the initial production rates and current rates indicate an average GOR of 25,000:1 would result in higher recovery. Energen considers limiting the GOR to 2000:1 would allow waste to occur in the subject leases and units, and requests the GOR be increased to 25,000:1, allowing for more efficient production.

FINDINGS OF FACT

1. Notice of this hearing was given to all parties entitled to notice at least ten days prior to the date of hearing.
2. The subject leases and units were completed between October 16, 2012, and January 18, 2014, and were placed in the Two Georges (Bone Spring) Field.

3. Results of initial tests for the subject leases and units varied from 225 to 791 BO, 2496 to 7318 MCFG, and 224 to 1966 BW; the GOR varied from 9,251 to 22,657.
4. Step-rate tests conducted demonstrated that as the choke sizes were reduced during the test, the GOR remained relatively stable.
5. Production history indicates declining oil and gas production, while the GOR remained fairly constant over time
6. The reservoir is not rate sensitive.
7. Energen considers limiting the GOR to 2000:1 would allow waste to occur on the subject leases and units.
8. A gas-oil ratio of 25,000:1 would allow for more efficient production.

CONCLUSIONS OF LAW

1. Resolution of the subject application is a matter committed to the jurisdiction of the Railroad Commission of Texas. Tex. Nat. Res. Code § 81.051
2. All notice requirements have been satisfied. 16 Tex. Admin. Code § 1.45
3. Approval of increased net gas-oil ratio authority with a casinghead gas limit of 25,000:1 and cancellation of overproduction will prevent waste and protect correlative rights.

RECOMMENDATION

Based on the above findings and conclusions of law, the Examiners recommend that the Hognose 1-67 Unit (44756), the Sidewinder State Unit 1-68 (44252), the University 31-18 Lease (44971), the Yellow Jacket State Unit 1-70 (45247), and the Grayling 1-69 Lease (43242) in the Two Georges (Bone Spring) Field be authorized to produce under net gas-oil ratio authority of 25,000 standard cubic feet of casinghead gas to one barrel of oil, or 25,000:1, and that all accumulated overproduction for this lease be canceled.

Respectfully submitted,



Peggy Laird
Technical Examiner



Terry Johnson
Legal Examiner