

KODA Exploration LLC (Operator ID 10720)
WHP Misty 2-7 well (API: 05-073-06776)
Request to flare pursuant to Rule 912.b.
Supplemental Information

KODA Exploration LLC (KODA) respectfully requests the COGCC to evaluate this Rule 912.a – Request to Flare, please see the below information:

1. The estimated volume and content of the gas to be vented or flared

Being a wildcat/exploration well and many miles from any commercial production, it is difficult to predict the volumes and composition of the gas (if any) that KODA might encounter, until one or more exploratory wells are drilled in the area. However, KODA has estimated the volume of gas that may be vented or flared based on the best information available in COGIS and COENV from surrounding wells and fields. It is estimated that the initial gas production rate will be approximately 100 MCFD at a 0% decline for the first 12 months. Gas content is expected to be similar to that from War Eagle #16, which was tested in the Morrow Zone formation that is the target zone for WHP Misty 2-7. However, the WHP Misty 2-7 is expected to produce at a much lower rate since production in the KODA area is more likely to be oil with some associated gas. The War Eagle #16 gas analysis (Doc # 402160761, July 18, 2019) is the most recent Morrow Zone analysis found in COGIS/COENV among wells in Lincoln County. Gas analyses from other wells are listed in section 2 below, for comparison. Based on H₂S concentrations from surrounding (Morrow and non-Morrow) wells, KODA anticipates the H₂S concentration of the WHP Misty 2-7 gas to be under 3.0 ppm, and most likely similar to the War Eagle #16 and John Craig 2-2, in the range of 0.5 – 1.0 ppm. Actual gas analysis will be provided by KODA upon completion and testing of the well, once facilities have been installed so a gas sample can be safely collected.

2. Gas analysis including hydrogen sulfide for the subject well

Since WHP Misty 2-7 has not been drilled yet, a gas analysis cannot be submitted. Below are gas analyses from surrounding wells that KODA used to estimate a 0.5 – 1.0 ppm H2S concentration for WHP Misty 2-7.

Morrow Zone
War Eagle #16 (API 05 073 06617) Operated by: Wiepking-Fullerton Energy LLC Location: SESE Sec 35 T9S R56W 6 th Meridian Field: Wildcat, Lincoln County Distance from WHP Misty 2-7: Approx. 43 miles N Date gas sampled: 07/12/2019 Zone tested: Morrow (tested only, never produced) H2S Conc.: 0.5 ppm

Non-Morrow Zone
Dixie #1-5 (05-073-06758) Operated by: Grand Mesa Operating Co Location: SWSE Sec 5 T11S R54W 6 th Meridian Field: Wildcat, Lincoln County Distance from WHP Misty 2-7: Approx. 36 miles N Date gas sampled: 05/2019 Zone tested: Marmaton (produced since April 2019) H2S Conc.: 0.5 ppm

Morrow Zone
John Craig 2-2 (API 05 073 06563) Operated by: Nighthawk Production LLC Location: Lot 2 Sec 2 T10 S R56W 6 th Meridian Field: Old Homestead, Lincoln County Distance from WHP Misty 2-7: Approx. 43 miles N Date gas sampled: 10/07/2014 Zone tested: Morrow (tested only, never produced) H2S Conc.: 1.0 ppm

Non-Morrow Zone
Craig 4-4 (API 05-073-06319) Operated by: Nighthawk Production LLC Location: NWNW Sec 4 T14S, R55W 6 th Meridian Field: Bolero, Lincoln County Distance from WHP Misty 2-7: Approx. 19 miles N-NW Date gas sampled: 12/17/2015, 01/10/2017, 12/20/2017 Zone tested: Cherokee (produced since 2009) H2S Conc.: 0.5, <0.5, <0.25 ppm

Mull Unit 6 (API 05-017-06254) Operated by: Mull Drilling Company Inc. Location: SESE Sec 32 T13S, R49W 6 th Meridian Field: Sorrento, Cheyenne County Distance from WHP Misty 2-7: Approx. 37 miles NE Date gas sampled: 05/09/2014 Zone tested: Morrow (produced since 1960) H2S Conc.: 3 ppm
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Billheimer 31-33-16-52H (API 05-073-06629) Operated by: Pioneer Natural Resources USA Inc. Location: NWNW Sec 33 T16S, R52W 6 th Meridian Field: Wildcat, Lincoln County Distance from WHP Misty 2-7: Approx. 14 miles E-NE Date gas sampled: 05/20/2015 Zone tested: Cherokee (tested only, never produced) H2S Conc.: 0.2 ppm
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3. For requests based on lack of available infrastructure, the operator must state,

a. Why the well cannot be connected to infrastructure (e.g., remote area with no plans to construct infrastructure) and an economic justification for this determination;

KODA’s exploration area lies approximately 23 miles to the SW of existing Kinder Morgan/ Colorado Interstate Gas (CIG) interstate gas transportation pipelines (2A and 2B) in Southern Lincoln County where their two 20” pipelines cross Hwy 94, near the intersection of Hwy’s 40 and 94. There are currently no nearby operations, including gas gathering systems. It is estimated to cost approximately \$6.5-9.5 million to obtain ROW, lay pipeline, bore waterways, purchase land for CIG’s connection, and pay a CIG connection fee. This cost is not practical at this time, and until commercial production and hydrocarbon reserves of sufficient quantity are established.

c. AND, Discuss options of gas to generate electricity, gas processing to natural gas liquid or other options.

During the well testing phase, produced gas will be used onsite to the maximum extent possible as fuel for the pumping unit internal combustion engine and gas-fired burner on the separator, at a rate 15-55 MCFD. The remainder of the total estimated 100 MCFD (~ 45-85 MCFD) produced gas will be combusted onsite in a flare/emissions combustor. No venting of gas is expected during normal operations.

Based on the quantity and quality of produced gas, and the establishment of a consistent gas rate or well-defined decline rate, via the initial well testing period, KODA will continue to explore different scenarios during the 6-month well testing phase for the use of produced gas, such as:

1. Use gas to power all gas-fired production equipment such as the pumping unit engine and separator burner.
2. Use gas to generate electric power, for onsite use and/or to sell to the local electrical Co-op.
3. Natural gas liquids processing, to recover liquids for transportation and sale and to reduce gas combusted on site.
4. Use of gas in new/unconventional ways, such as Purestream's produced water flash evaporation process, Cruesoe Energy Systems' Digital Flare Mitigation service that burns gas to power a computer server farm, etc.
5. Possible reinjection of gas into the Morrow formation for pressure maintenance or storage once other KODA wells are drilled (as has been done in Sorrento Field) or possibly if one of the first two wells drilled is a dry hole.

4. A statement that the operator has complied with Rule 805.b.(1).

KODA intends to fully comply with all USEPA and Colorado state air regulations, including COGCC Rule 805.b.(1) and CDPHE, Air Quality Control Commission regulations, including Regulation No. 2 Odor Emission, 5 C.C.R. 1001-4, Regulation No. 3 (5 C.C.R. 1001-5), and Regulation No. 7 Section XVII.B.1 (a-c) and Section XII. A GP-09 permit application will be or has been submitted to CDPHE prior to commencement of operations, to make them aware of our plans and to cover up to 90 days of a well testing period. Even though CDPHE allows up to 90 days of well testing, KODA will follow the COGCC requirement limiting well testing using temporary equipment to 60 days. Prior to the end of 60 days, permanent facilities will need to be installed and APENs and air permits will be obtained for the permanent facilities and equipment, such as oil and water tanks, IC engine, separator and combustor. Per CO Reg 7 Part D – Section 11.C.5, submerged fill and vapor collection and return system and/or air pollution control equipment are required for liquid loading (truck loading) to control emissions.

5. A statement that the operator will use a CDPHE approved flaring method and any site-specific permitting required by the CDPHE.

Per Rule 805.b.(2) an emissions control device (ECD or enclosed combustor) will be permitted with CDPHE and installed at the site. The ECD will be capable of achieving 95% control efficiency of VOC. No venting of produced gas is planned at any time during normal operations. All site specific CDPHE permit requirements will be presented to and followed by KODA operating personnel.