



## DRILLING, COMPLETIONS AND PRODUCTION ACTIVITY NOTICE – HINGLEY 18H-A167 SITE

Crestone Peak Resources anticipates beginning oil and gas development at the Hingley 18H-A167 well pad located in the City of Dacono in the coming weeks. The following is a summary of what can be expected during operations. For updates specific to this or other Crestone locations visit [www.CrestonePeakResources.com](http://www.CrestonePeakResources.com).

### WHAT TO EXPECT

This is a technical process, and we want to provide neighbors with clear information about how we operate and the practices we employ. Below, please find a detailed overview of our practices and operations throughout the life of a well. Feedback from the community regarding the effectiveness of our mitigation efforts is encouraged and appreciated. Our team can be reached at [CommunityRelations@CrestonePR.com](mailto:CommunityRelations@CrestonePR.com) or call us at (720) 410-8537.

#### **Pad Construction: Preparing the location (approximately eight weeks)**

Preparation of this location will take approximately eight weeks. Initial activity will include the use of heavy equipment. During this phase, you can expect land clearing, grading, road construction and soils handling. There will be large trucks carrying earth moving equipment, graders, rollers, etc., entering and leaving the location as well. During the construction phase, we will be installing 32 or 40-foot sound walls around the well pad. Street sweepers will also be on location throughout all phases of activity to mitigate mud tracking. Once the pad is constructed and the sound walls are in place, the drilling rig will be ready to move onto the location.

#### **Phase One: Drilling the 11 Hingley wells (approximately seven days per well, 24/7 operations)**

Drilling at this location will be done in two phases to minimize the overall amount of time we are on site. Drilling activity will likely start in July. The surface drilling rig will arrive once the sound walls are in place and the pad is constructed. This rig will drill the conductor and surface sections of each well. The conductor section extends a short distance below the surface and provides the foundation for the well bore during drilling operations. The next section of the well is the surface section. Using only compressed air and fresh water, we drill through the conductor and set the surface section at a depth below the deepest water well or aquifer in the area. We then set and cement the surface casing. Casing is set by inserting a permanent steel pipe into the drilled hole and then pumping specially formulated cement through the casing, filling the space between the outside of the casing and the wellbore. Per the Colorado Oil and Gas Conservation Commission (COGCC), surface casing must extend to a depth of 50 feet deeper than the depth of any known water well or aquifer. Crestone will set surface casing about 2,400 feet deep on the Hingley wells. Once the casing is in place, it is tested in accordance with detailed and strict regulations set by the COGCC. The surface rig will drill around the clock and will take about two weeks to drill the surface sections of all 11 wells on this well pad. Once this phase is complete, the surface rig will move off and the production drilling rig will move onto the well pad to drill the remaining depths of these wells.

The production rig will likely arrive in September and will use the same wellbore drilled by the surface rig to resume drilling to a vertical depth of approximately 6,500 feet, which is about 500 feet above the horizontal portion of the well. From this point the drilling operation will begin the transition from a vertical to a horizontal well. The horizontal section of the wellbore will extend between 8,000 – 10,000 feet laterally.

Once the total planned distance for the lateral portion of the wellbore is reached, another layer of steel casing and cement is installed. This layer, also verified and tested, provides the pathway for oil, condensate, and natural gas to rise to the surface at the wellhead. When drilling is complete, the wellbore is isolated from the surrounding formations by layers of cement and steel, preventing the migration of hydrocarbons into the nearby water sources.

Crestone utilizes closed-loop fluid handling systems throughout the drilling process. These systems keep drilling fluids within a series of pipes and tanks, ensuring additional control over fluids used in the drilling process. The sections of the earth removed during drilling to form the wellbore are called the formation cuttings. These cuttings return up the wellbore during drilling and are later disposed of using state-approved disposal methods.

#### **Phase Two: Completing the wells (approximately seven days per well, 24/7 operations)**

Once the well is drilled, the next phase is called the completions phase. The completions process, which includes hydraulic fracturing or fracing, dramatically enhances the volume of recoverable natural gas and oil from the formation. During this phase, there is an increase in noise and truck traffic associated with the delivery of equipment and materials, construction of temporary fresh water tanks, and crews entering and exiting location. Completions activity will start soon after the drilling rig moves off location.

## **WHAT IS FRACING?**

Hydraulic fracturing, or fracing, is the process of pumping a mixture of water, sand, and a small amount of chemicals down the wellbore, under high pressure for short periods of time, into the targeted geological formations containing natural gas and oil. The water-based mixture forces open fissures in the formation creating a pathway for oil and natural gas to flow into the wellbore and up to the wellhead at the surface. The sand, also called proppant, then holds the fissures open to ensure the maximum recovery of the resource from these wells. The fracing process typically takes 5-7 days per well.

## **Phase Three: Production & Reclamation (averages 20-30 days for production; reclamation times vary greatly)**

Once a well has been completed, crews run production tubing into the well to enhance production and create a more efficient pathway for the natural gas and oil to travel to the surface. We control the flow of hydrocarbons through a series of valves and instruments at the top of the well called the wellhead. The wellhead is the most visible part of a well and allows for surface monitoring and regulation of the production from the producing well. At the well, the natural gas flows into a gathering line at the location called the sales line. Once in the sales line, the natural gas changes custody to the natural gas transporting company. Natural gas liquids, oil, and produced water will then flow from each well through pipelines to the tanks on location.

Once the wells begin producing, the amount of activity at the site dramatically decreases and the reclamation process can begin. Reclamation varies from location to location and may include removing the sound walls, smoothing the operations area, and restoring the location, per state rules or per our agreement with the surface owner. Reclamation can take as little as four weeks or as long as one year depending on the location and weather conditions.

## **IMPACT MITIGATION EFFORTS**

Prior to beginning operations, sound level data is collected at various locations adjacent to the well pad during multiple time periods to establish “typical” ambient sound levels. Crestone will comply with the COGCC Regulation 802.b. for dBA scale noise and Regulation 802.d. for dBC scale noise.

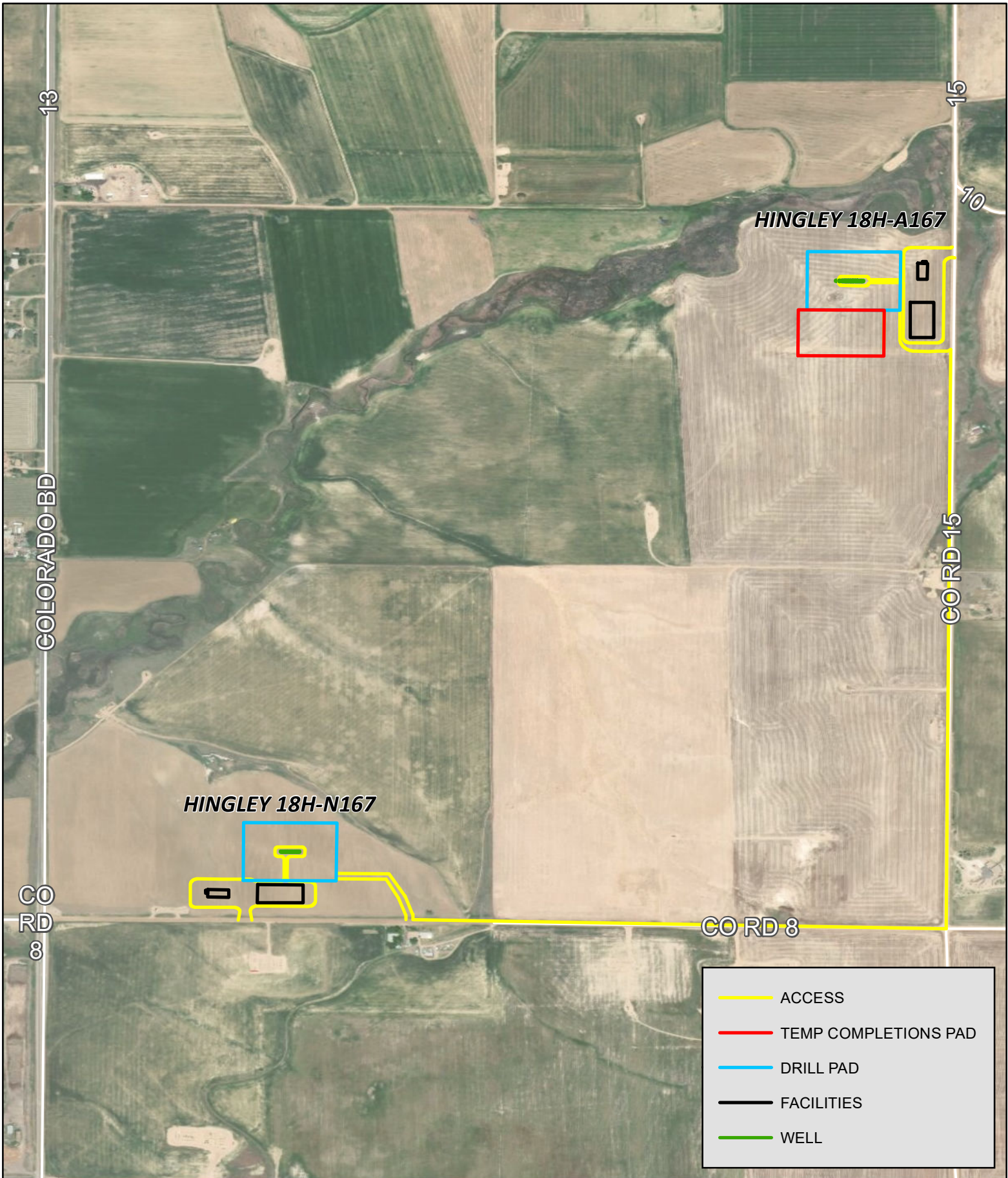
Throughout our operations, we will have sound monitors set to measure noise levels and we will make adjustments as needed to ensure we are in compliance with COGCC regulations. Sound mitigation on location helps minimize noise, dust, and light, as well as the visual impacts associated with drilling and completions activity on the pad. In addition, based on the noise impact modeling we do, we may also utilize point source sound mitigation. This means we’ll identify the loudest pieces of equipment on location and install interior sound walls around that equipment providing an added layer of sound abatement. To the extent that we can maintain a safe working environment, we redirect lights away from neighbors and install light diffusing material on individual rig lights. All impact mitigation efforts are monitored and adjusted as needed and practicable to address the impacts of our operations.

The safety of those living near our operations, as well as our employees and contractors, is our top priority. We provide ongoing training for our staff in matters of environmental, health, and safety, and we continually look for ways to reduce our impacts to the community. All staff and contractors are required to adhere to strict safety rules and site-specific procedures to ensure the highest level of safety and adherence to the site-specific guidelines (i.e. access and traffic plan).

## **FIND MORE INFORMATION ABOUT THIS ACTIVITY**

Visit our website [www.CrestonePeakResources.com/communityrelations](http://www.CrestonePeakResources.com/communityrelations) for more information.

Crestone’s team can be reached at [CommunityRelations@CrestonePR.com](mailto:CommunityRelations@CrestonePR.com) or (720) 410-8537.



5/1/2019  
 T1N 67W Section 18  
 Weld County, Colorado

## HINGLEY 18H-N167 & HINGLEY 18H-A167 PADS

Contact Crestone at 720-410-8537

