

## COURTESY NOTICE FOR OIL & GAS ACTIVITY SAM 25H-M166 LOCATION – 15 WELLS

Crestone Peak Resources has been given approval by the Town of Lochbuie and the Colorado Oil and Gas Conservation Commission (COGCC) to begin operations at the nearby Sam location (see enclosed map). This site will have 15 horizontal wells. The following is a summary of the planned operations that you can expect over the next several months. 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 you 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 two months)**

The preparation of a location takes approximately two months. Initial activity will include the use of heavy equipment. During this phase, you can expect land clearing, grading, road construction and soils handling. Water trucks will be on location to control dust and there will be large trucks carrying earth moving equipment, graders, rollers, etc. During the construction phase, we will be installing sound walls around the well pad. 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 15 Sam wells (approximately 10 days per well, 24/7 operations)**

Drilling at this location is done in two phases to minimize the overall amount of time we are on site. The surface drilling rig will arrive once the sound walls are in place and the pad is constructed. Likely in mid-May. 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 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 Sam 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 three weeks to drill the surface sections of all 15 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 August 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 well bore 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 5-7 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 holding tanks, and crews entering and exiting location. Completions activity will likely start in late 2018.

## **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 natural gas and oil 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 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. The flow of the liquids is controlled by a series of valves and instruments at the top of the well. This is the most visible part of a well and allows for the surface monitoring and regulation of the production from a producing well. Hydrocarbons are either stored on location in tanks or transported by buried pipeline.

Once the wells begin producing, the amount of activity at the site dramatically decreases and the reclamation process can begin. The sound walls will be removed. Reclamation varies from location to location and may include removing debris, 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 two weeks or as long as one year depending on the location and weather conditions.

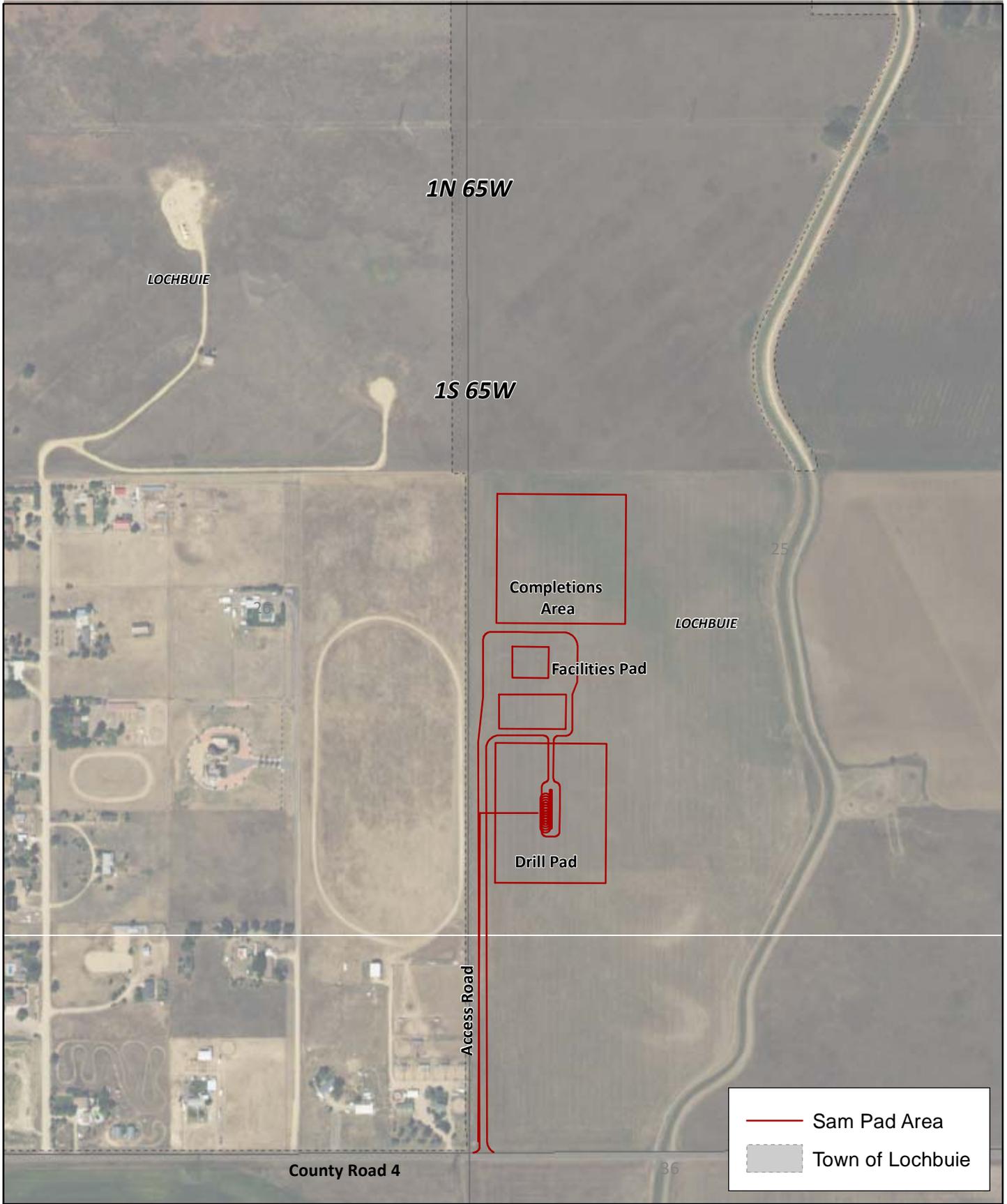
## **IMPACT MITIGATION EFFORTS**

Prior to beginning operations, sound level data was collected at various locations adjacent to the well pad during multiple time periods to establish "typical" ambient sound levels. Throughout our operations, we will have sound monitors set to measure noise levels and we will make adjustments to the mitigation plan as needed. The sound walls around the location will help minimize noise, dust, and light, as well as the visual impacts associated with drilling and completions activity on the pad. The rig is also equipped with mufflers that further reduce the noise from the rig. 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 on 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).

## **WHO IS CRESTONE PEAK RESOURCES?**

Crestone Peak Resources is a top producer of oil and natural gas in the Denver-Julesburg Basin (DJ Basin). Our team is well-versed in Colorado's oil and gas landscape and committed to safe, environmentally responsible operations. For more information, visit our website [www.CrestonePeakResources.com](http://www.CrestonePeakResources.com), email us at [communityrelations@crestonepr.com](mailto:communityrelations@crestonepr.com) or call us (720)410-8537.



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**SAM 25H-M166 PAD**  
 Vicinity Map

