

**Crestone Peak Resources Operating LLC**

**Dust Mitigation Plan**

In accordance with Rule 427, the Operator provides the following information outlining existing conditions at the proposed Oil and Gas Location as well the best practices that will be employed to meet the requirements in the rule.

- NRCS Soil Survey data shows the access road and location consists of the following Type A soils:
  - Valent Sand (3-9% slopes)
  - Vona loamy sand (0-3% slopes)
- Operator will post an access road speed limit not to exceed 20 miles per hour to minimize fugitive dust emissions from vehicle traffic traveling on the access road.
- Estimated truck trips for each phase of development can be summarized as follows:

	Stage	Activity	1-Way Truck Trips	Duration (Days)	Average Truck Trips per Day (by Stage)	Average Truck Trips per Day (by Activity)
<b>Temporary Construction Traffic</b>	Pad Construction	Pad and Road Construction	220	20	11	11
	Facility Construction	Facility Construction	170	60	3	3
	Drilling	Surface Rig	352	144	11	2
		Drilling Rig	100			1
		Drilling Fluid & Materials Drilling Equipment (casing, drill pipe, etc)	1152			8
	Completion Operations	Completion Equipment (pump truck, tanks, etc)	86	90	50	1
		Completion Fluids & Materials	320			4
		Sand	3754			42
		Gel & Fuel Loads	320			4
		Flowback water disposal	1920	51	47	38
Mill Out/Tubing Equipment	446	9				
Flowback	Flowback (on production)	24	19	24	24	
Interim Reclamation	Pad reclamation	220	20	11	11	
<b>Permanent Traffic</b>	Production	Produced Water	2	on going	2	2
		Produced Oil	0			0

- Operator will perform regular inspections and road maintenance to ensure the integrity of the access road and associated features is maintained throughout the life of this project. Maintenance consists of re-compacting the road base/recycled asphalt mix on an as-needed basis.



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### **Well Pad Construction Phase**

Fugitive dust emissions associated with well pad construction are generally caused by soil excavation, earthwork and site development activities. The Operator will minimize dust emissions throughout all phases of well pad construction including dust resulting from the use of unimproved road surfaces. Dust suppression during initial construction will be accomplished by the application of freshwater to the access road(s) and exposed earthen surfaces to reduce the transportability of dust when atmospheric conditions are conducive to sustained winds and/or periodic gusts. All dust suppression efforts will consist of only freshwater unless otherwise requested and approved as applicable.

The surface of the new access road (~0.5 acres) and well pad (~10.97 Acres) will be covered with Class 6 aggregate material or recycled asphalt. The use of this material greatly reduces the generation and transport of dust. Additionally, the access road will be improved as a hard surface (i.e., concrete or asphalt) for the first 100 feet from the associated public road ("the Apron").

Following the terminus of the Apron, Operator will install and maintain vehicle tracking controls (i.e., coarse aggregate, a tracking pad, paved apron, or cattle guard) to further reduce and remove loose mud and dirt on construction equipment and vehicles servicing location. These controls reduce and minimize the tracking of dirt and mud on public roads. The tracking controls are continually maintained and remain in place throughout the lifecycle of the Oil and Gas Location. Topsoil stockpiles will be seeded, straw mulched, and crimped in order to promote the establishment of plants and associated vegetation used to stabilize the stockpiles and prevent the origination of dust and other erosion from occurring.

### **Well Drilling and Completions Phases**

Once the well pad is constructed and covered with aggregate or recycled asphalt, dust emissions will be minimal. Little if any dust emissions are anticipated during the drilling phase. The only notable source of dust during the completions phase is associated with handling of proppant (e.g., north white sand) that is used during hydraulic fracturing.

To minimize sand-related dust emissions, the Operator will be utilizing containerized box technology for sand transport, storage and use during the completions phase. These sand containers (or "sand boxes") are sealed containers that protect the sand from exposure to wind and prevent dust generation. While fracturing operations are taking place, sand is dispensed from the sand boxes using transport hoses that keep the sand contained with a sealed system and not exposed to the wind or other atmospheric conditions. The sand is then pumped directly down the wellbore. Using this configuration, the Operator avoids using surface stockpiles of



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unused sand that could generate fugitive dust emissions when subjected to periodic wind events.

### **Interim Reclamation Phase**

Once the wells have been put into production, the Oil and Gas Location will be partially reclaimed to ~5.32 acres; only those areas necessary for production and maintenance operations will remain. During interim reclamation, earthmoving activities will be required to reduce the original footprint of the well pad. The movement of earthen materials may create dust. As described above for well pad construction, dust will be controlled on an as-needed basis through application of freshwater on disturbed soils and exposed surfaces.

Those previously disturbed areas that have been graded will be stabilized and revegetated. Revegetated areas may return to prior agricultural use or remain as rangeland pursuant to the contractual provisions between the Operator and the Surface Owner(s).

### **Production Phase**

During the production phase, traffic in and out of the Oil and Gas Location will be limited. Typical maintenance and production operations require less than 5 small trucks per day. Occasionally, larger trucks and associated equipment may be required for maintenance or workover activities, in addition to produced water trucks, which should be less than one per day after the first several months of production.

As a result, long term traffic-related dust will be minimal if not insignificant. As described above, vehicle tracking control (i.e., coarse aggregate, a paved apron, or cattle guard) will be maintained after the terminus of the Apron to minimize tracking of dirt or mud onto public roads. Should dirt or mud tracking on public roads occur, the Operator will use a street sweeper to clean the road surface and minimize the potential for dust generation from muddy roads.



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### Proposed Best Management Practices

1. Dust suppression during initial construction will be accomplished by the application of freshwater to the access road(s) and exposed earthen surfaces to reduce the transportability of dust when atmospheric conditions are conducive to sustained winds and/or periodic gusts. All dust suppression efforts will consist of only freshwater unless otherwise requested and approved as applicable.
2. To minimize sand-related dust emissions, the Operator will be utilizing containerized box technology for sand transport, storage and use during the completions phase. These sand containers (or "sand boxes") are sealed containers that protect the sand from exposure to wind and prevent dust generation.
3. Operator will post an access road speed limit not to exceed 20 miles per hour to minimize fugitive dust emissions from vehicle traffic traveling on the access road.
4. Operator will perform regular inspections and road maintenance to ensure the integrity of the access road and associated features is maintained throughout the life of this project. Maintenance consists of re-compacting the road base/recycled asphalt mix on an as-needed basis.
5. Operator will install and maintain vehicle tracking controls (i.e., coarse aggregate, a tracking pad, paved apron, or cattle guard) to further reduce and remove loose mud and dirt on construction equipment and vehicles servicing location.