



pinedale
energy partners, llc

UP Energy, LLC and Pinedale Energy Partners Operating, LLC
Pinedale Anticline
Air Quality Update
April 15, 2021

ROD Air Quality Commitments

- ▶ ROD Visibility Milestones:
 - ▶ Milestone #1 (no greater than 40 days of visibility impairment over 1.0 dv): met by September 2009
 - ▶ Milestone #2 (10 days): met by March 2012
 - ▶ Milestone #3 (0 days): met by March 2015
- ▶ Refined NOx and VOC inventory related to ozone: completed and submitted to DEQ annually
- ▶ ROD Ozone compliance plan completed in 2014
- ▶ Ozone Contingency Plans submitted to BLM and DEQ annually
- ▶ Mitigation and Monitoring Fund has been used to supplement DEQ air quality staff, provide funding for monitoring network evaluation, conduct air quality research projects and implement additional mitigation projects

Air Quality Mitigations*

- ▶ Drill rig engines controlled with SCR
- ▶ Green completions
- ▶ Pneumatic pump emissions rerouted for use as fuel
- ▶ Solar heat trace pumps
- ▶ Solar sandcastles for frack sand delivery
- ▶ Removal of pneumatic devices, replaced with computer-based solutions
- ▶ Leak Detection and Repair program using FLIR and OpGal cameras with expanded team
- ▶ Voluntary increased frequency of fugitive emission monitoring
- ▶ Piloting stationary methane detection
- ▶ Internal air audit program of permitting, fugitive emissions monitoring oversight
- ▶ Liquids gathering system (more than 100,000 estimated truck trips saved per year)
- ▶ Tier III & IV completion engines
- ▶ Conversion of CGF and SWDs to electricity

* Not all measures implemented by all companies



Jonah Pinedale Industry Collaboration (JPIC)



- Letter of Commitment to DEQ kicked off group in May 2019
- Ultra, PEPO, Jonah, MPLX LP and Anticline Disposal
- Monthly calls
 - Technology transfer and information sharing
 - Emission efficiencies and reductions
 - Ozone season preparedness actions
 - Investigation and application of new technologies
- Ongoing communications
 - With DEQ during ozone season
 - With the public

JPIC Innovations and Activities

- ▶ Piloted project to replace pneumatic heat trace pumps with solar pumps
- ▶ Piloting fixed emission monitoring to improve FEM programs
- ▶ All companies in full support of and compliant with Enhanced Maintenance Assurance (engine testing) Program
- ▶ Evaluating additional ozone contingency measures
- ▶ Working through notification of first production for earlier inspections
- ▶ Increasing public outreach
- ▶ Installed Submerged Combustion Heater at water handling facility
- ▶ Dewatering pit at water handling facility
- ▶ Hosting DEQ mobile trailer
- ▶ Hosting DEQ met equipment on Mesa tower
- ▶ Planning joint Operator field tour for information and technology sharing

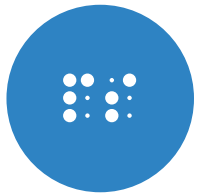
Ozone Contingency Plans

- ▶ **Communications**
- ▶ Management and many staff representing all departments subscribe to Ozone Action Day notifications
- ▶ In the event of an Ozone Action Day, Ozone Contingency Plan is implemented
- ▶ Management and staff relay all communications to affected contractors
- ▶ **Preseason Training**
- ▶ Participation from all staff and contractors
- ▶ Presented background on ozone, standards, monitoring trends, long-term emission reductions, ROD requirements, Ozone Contingency Plan measures, and where to go for more information

2021 Contingency Plan Measures

- ▶ Deferred vehicle travel
- ▶ Delayed and deferred fueling
- ▶ Eliminated vehicle idling
- ▶ Suspended chemical truck treatment program
- ▶ Deferred maintenance activities
- ▶ Shut down all non-essential ancillary equipment
- ▶ Eliminated all non-critical travel
- ▶ Suspended workovers
- ▶ Suspended swabbing activities
- ▶ Cancelled tank cleaning operations
- ▶ Deferred non-critical construction and snow-removal
- ▶ Suspended roustabout crew activities

Continued Focus on Air Quality



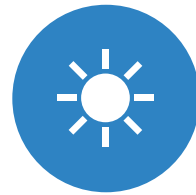
VOLUNTARY
PARTICIPATION IN DEQ
COMBUSTOR STUDY



CONTINUING JPIC
EFFORT



PILOTING INNOVATIVE
CONSOLIDATION
PROJECTS



PILOTING ADDITIONAL
SOLAR TECHNOLOGIES



CONTINUED FOCUS ON
FUGITIVE EMISSIONS
MONITORING (FEM)
AND FEM PROGRAM
REFINEMENTS



REDUCING FREQUENCY
OF WELL TESTING,
WHICH REDUCES TANK
USAGE



INTERNAL AUDIT
PROGRAM

Operator Contacts



Todd Rudolph
trudolph@ultrapetroleum.com



Charles Prior
cprior@pinedaleep.com