

**TEP Rocky Mountain LLC**  
**Proposed Waste Management Plan**  
**for the Federal RWF 12-9 Pad**  
**October 17, 2019**

INTRODUCTION

TEP Rocky Mountain LLC (“TEP”) is proposing to drill, complete, and operate ten (10) new Federal wells from the RWF 12-9 pad (COGCC Loc. ID 335636) located on Federal surface overlying Federal Lease COC 062160. The RWF 12-9 pad is an existing Oil and Gas Location located within the NESE of Section 8, Township 6 South, Range 94 West, 6<sup>th</sup> P.M. within Garfield County, Colorado. The RWF 12-9 pad currently supports production operations for twelve (12) existing Federal wells producing from Federal Lease COC 062160. Development of the RWF 12-9 pad is slated to begin in Spring 2020. The following describes TEP’s Waste Management Plan for the potential wastes generated during construction, drilling, completion, and production operations associated with the development of the proposed wells on the RWF 12-9 pad.

DRILL FLUIDS MANAGEMENT

A closed loop drilling system will be utilized to separate liquid and solids during drilling operations on the RWF 12-9 pad. Drilling fluids will be re-used throughout the drilling process. Once drilling operations are complete drilling fluids will be stored in tanks and recycled on the next drill pad.

DRILL CUTTINGS MANAGEMENT

Drill cuttings generated during drilling operations on the RWF 12-9 pad will be managed within a drill cuttings management area located along the northwest side of the pad. The drill cuttings management area will be contained within a two and one half foot (2.5’) high earthen berm to ensure containment of the drill cuttings until final placement prior to pad reclamation. The estimated drill cuttings volume to be generated during drilling of the ten (10) proposed wells on the RWF 12-9 pad is approximately 6,000 cubic yards. Any excess drill cuttings that cannot be managed on location within the drill cuttings management area will be hauled to a commercial disposal facility.

The general protocol for managing drill cuttings at these locations is as follows: As drill cuttings are brought to the surface, they will be temporarily placed into a designated storage cell that is close to the rig shaker assembly. Once the temporary storage cell becomes full, a loader will be used to move the cuttings from the temporary storage cell to the drill cuttings management area. The moisture content of the drill cuttings will be kept as low as practicable to prevent accumulation of liquids. Once all drill cuttings are placed into the cuttings management area, samples will be taken to determine if the cuttings meet COGCC 910-1 standards. Additional treatment or amendment of the cuttings may be needed to ensure that COGCC 910-1 standards are met prior to reclamation. If needed, clean fill material may be mixed with the cuttings to ensure that cleanup standards are met. Confirmation samples of the blended material will be collected and submitted to an approved analytical laboratory and analyzed for the full COGCC 910-1 list of organic, inorganic, and metal compounds (in soils) to ensure that these materials comply with COGCC cleanup standards. After all drill cuttings have been received and tested for compliance with COGCC 910-1 cleanup standards, the drill cuttings will be placed against the cut slope of the pad and covered with approximately three feet (3’) of clean fill material during pad reclamation.

## FLOWBACK

Returned stimulation fluids generated during flowback operations will be processed through four (4) phase separators to separate gas, water, condensate, and sand. Water will be reused during future well completion operations on the RWF 12-9 Pad or transported via pipelines as described in the Produced Water section below. Frac sand will be managed within a forty foot (40') by forty foot (40') area with two and one half foot (2.5') high earthen berms surrounding all sides of the management area. The frac sand management area will be located on pad adjacent to the cuttings management area within the pad perimeter berm. Once flowback operations are complete, returned frac sand will be mixed with drill cuttings and/or clean fill material and buried onsite within the cut slope of the pad. Once mixed with the clean fill material, sampling will be conducted to ensure that COGCC 910-1 standards are met prior to pad reclamation. Confirmation samples of the blended material will be collected and submitted to an approved analytical laboratory and analyzed for the full COGCC 910-1 list of organic, inorganic, and metal compounds (in soils) to ensure that these materials comply with COGCC cleanup standards. The mix material will then be placed against the cut slope of the pad prior to pad reclamation activities.

Any frac sand remaining onsite after reclamation activities are complete will be hauled off-site to an approved third-party, commercial disposal facility. Spent filter socks generated during the completions / flowback process are collected and stored separately from garbage / trash. The filters have been sampled and profiled for disposal at an approved third party commercial disposal facility that is permitted and authorized to accept waste filter socks for disposal. See the Waste Handling table (Table 6) below for additional details.

## SEWAGE

Chemical toilets will be used during construction, drilling, and completions operations on the RWF 12-9 pad. Contents will be hauled to and disposed at an approved commercial disposal facility. Disposal of sewage will occur approximately once per week.

## GARBAGE

All garbage and trash will be stored in enclosed bear proof trash containers. Disposal of garbage and trash will occur approximately once per week during drilling and completions operations. All garbage and trash will be transported to a permitted and controlled landfill within one (1) week following termination of drilling or completions operations. Garbage or trash will not be disposed of on location. The well site and access road will be kept free of trash and debris at all time during long-term production operations.

## PRODUCED WATER

Produced water, water produced from the wells after the wells are turned over to production, will be transported through the existing four-inch (4") water pipeline to the existing Clough Production Pit (Pit 44-16-694) for temporary storage. Produced water will then be pumped through TEP's existing pipeline infrastructure to the Rulison E&P Waste Management Facility, located within the W ½ of Section 20, Township 6 South, Range 94 West, 6<sup>th</sup> P.M., for treatment. Produced water will be treated with biocide at the water management facility. Produced water will also be treated with biocide prior to disposal if necessary.

Produced water is disposed of through: (1) natural evaporation at the evaporation ponds, (2) delivered and injected in to one of the approved TEP operated UIC facilities, (3) re-used in hydraulic fracturing operations, or (4) hauled to an approved third party, commercial disposal facility including: Owl SWD

Operating LLC, Harley Dome #1 SWD, Greenleaf Environmental Services, White River Dome, or PBR Disposal. Please refer to the “TEP Rocky Mountain (Terra) active Produced Water Disposal Destinations as of October 1, 2018” document (Appendix 4 in the Master APD) for specific details on active destinations for produced water.