

## Proposed BMPs

### Williams Production RMT

## RGU 23-35-198 Pad

### Attachment to Form 2A

Note: Pad is located outside of critical mule deer winter range

- Maximize the use of directional drilling to minimize habitat loss/fragmentation
- Phase and concentrate development activities, so that large areas of undisturbed habitat for wildlife remain.
- Maintain undeveloped areas within development boundaries sufficient to allow wildlife to persist within development boundaries during all phases of construction, drilling, and production.
- Minimize rig mobilization and demobilization where practicable by completing or recompleting all wells from a given well pad before moving rigs to a new location.
- To the extent practicable, share and consolidate new corridors for pipeline rights-of-way and roads to minimize surface disturbance.
- Engineer new pipelines to reduce field fitting and reduce excessive right-of-way widths and reclamation.
- Treat waste water pits and any associated pit containing water that provides a medium for breeding mosquitoes with Bti (*Bacillus thuringiensis v. israelensis*) or take other effective action to control mosquito larvae that may spread West Nile Virus to wildlife, especially grouse.
- Use wildlife appropriate seed mixes wherever allowed by surface owners and regulatory agencies.
- Mow or brushhog vegetation where appropriate, leaving root structure intact, instead of scraping the surface, where allowed by the surface owner.
- Post speed limits and caution signs to the extent allowed by surface owners, Federal and state regulations, local government, and land use policies, as appropriate.
- Use wildlife-appropriate fencing where acceptable to the surface owner.
- Use remote monitoring of well production to the extent practicable.
- Install and utilize bear-proof dumpsters and trash receptacles for food-related trash at all facilities that generate such trash.
- Plan new transportation networks and new oil and gas facilities to minimize surface disturbance and the number and length of oil and gas roads and utilize common roads, rights of way, and access points to the extent practicable
- Establish new staging, refueling, and chemical storage areas outside of riparian zones and floodplains.
- Use minimum practical construction widths for new rights-of-way where pipelines cross riparian areas, streams, and critical habitats.
- Construct fluid pit fences and nets that are capable of withstanding animal pressure and environmental conditions and that are appropriately sized for the wildlife encountered.

- Install impermeable barriers beneath fluid pits to protect groundwater, riparian areas and wetlands.
- Skim and eliminate oil from produced water ponds and fluid pits at a rate sufficient to prevent oiling of birds or other wildlife that could gain access to the pit.
- Apply an aggressive, integrated, noxious and invasive weed management plan. Utilize an adaptive management strategy that permits effective responses to monitored findings and reflects local site and geologic conditions
- Strip and segregate topsoil prior to construction. Appropriately configure topsoil piles and immediately seed to control erosion, prevent weed establishment and maintain soil microbial activity
- Reclaim reserve pits as quickly as practical after drilling and ensure that pit contents do not contaminate soil.
- Perform interim reclamation on all disturbed areas not needed for active support of production operations
- Control weeds in areas surrounding reclamation areas in order to reduce weed competition
- Educate employees and contractors about weed issues
- Maintain pre and post development site inspection records and monitor operations for compliance
- Utilize GIS technologies to assess the extent of disturbance and document the reclamation progression and the footprint of disturbances



Site Specific Conditions and Storm Water Management Plan

**SITE DESCRIPTION:**

**Project/Site Name:** Federal RGU 23-35-198

**Field Name:** Ryan Gulch

**Location:** Section 35, Township 1 South, Range 98 West

**CDPS Permit #:** COR-03A115

**CDPS Permit Date:** 05/16/06

**Site Type:** Well Pad

**Estimated Disturbance:** ~6.1 Acres

**SWMP Administrator:** Mike Gardner

**Inspection Type:** 14 day upon construction; 30 day upon interim reclamation

**SOIL AND VEGETATION DESCRIPTION:**

**Soil Types:** Piceance fine sandy loam  
Yamac loam

**Soil Erosion Potential:** Moderate

**Pre Construction Estimated Runoff Coefficient:** 0.1-0.3

**Post Construction Estimated Runoff Coefficient:** 0.3

**Existing Vegetation Description:** Pinyon-Juniper woodland with assorted grasses/shrubs

**Pre-Disturbance Vegetative Cover:** ~50%

**Seed Mix for Interim Reclamation:** TBD

**Final Stabilization Date:** TBD

**RECEIVING WATERS**

**Name of Receiving Waters:** Unnamed ephemeral tributary to Stake Springs Draw

**Distance to Receiving Waters:** ~0.65 Miles

**Non-Storm Water Discharges:** None Anticipated

**Description of Potential Pollution Sources:** Refer to Ryan Gulch Field Wide SWMP  
**Phased BMP Implementation:**

BMPs will be installed prior to, during, and immediately following construction as practicable with consideration given to safety, access, and ground conditions at the time of construction. Due to the nature of the topography at the site, any number of BMP combinations may be utilized at any phase of the project. Constant efforts will be employed to limit the extent of vegetative disturbance at the time of soil exposure during all construction activities and structural BMP implementation.

For BMP descriptions and installation details, refer to the Ryan Gulch Field Wide SWMP

*Construction Phase:*

A perimeter earthen berm will be constructed around the edge of the pad during well pad construction to prevent the potential offsite transport of pollutant laden storm water. A row of straw wattles will be installed around the excess materials pile. The topsoil stockpile will be stabilized with a BLM approved seed mix, with an erosion control blanket installed, until it is redistributed for interim reclamation.

Additional structural BMPs will be installed as necessary to ensure site stabilization and to protect surface water quality.

*Interim Reclamation Phase:*

After the well pad has been constructed, drilling and completions are completed, with production facilities in operation, the site will be graded to reduce cut and fill slopes to minimize the overall size of the well pad. Where practicable, the topsoil stockpile will be spread onto the re-contoured surface. Any remaining topsoil will be seeded to maintain stabilization and continued nutrient cycling. The well pad will be re-seeded upon completed grading activities. Permanent structural BMPs will be installed and maintained as necessary to assist in site stabilization during interim reclamation. Slopes around the production facilities, which are unable to be re-contoured for interim reclamation will continue to be stabilized with structural BMPs, and will be seeded as grade allows.

*Final Stabilization Phase:*

After all wells have been plugged and abandoned, and production facilities are removed, the well pad will be graded to restore pre-disturbance contours. Any remaining topsoil will be spread onto the re-contoured surface. The well pad will be re-seeded upon completed grading activities. Storm water inspections will continue until the site has reached a stabilization level of 70% of pre-disturbance conditions. Once the site reached final stabilization, a post construction storm water management program will be implemented per COGCC Final Amended Rules (December 17, 2008), Rule 1002 (f) (3).

**\*NOTE:**

**This document is intended to serve as a preliminary plan to document proposed stormwater management practices for this project. Any additional/alternative site stabilization and/or reclamation efforts may be employed in reflection of unforeseen site conditions or resource availability, and will be**

**updated into the Ryan Gulch Field Wide SWMP per requirements of CDPS Permit COR-03A115, regulated by the Colorado Department of Health and Environment's (CDPHE) General Permit No. COR-03000.**