

Petroglyph Energy, Inc.
Well Pad Final Reclamation Evaluation

Well Name: State 3W

Evaluation Date: July 15, 2015

Evaluated by: Wayne Erickson, Principal Scientist, Habitat Management, Inc.

Current Condition

Approximately ninety percent of the State 3W well pad has desirable vegetation establishment ranging from none, to a medium density. Good density desirable vegetation occurs on about 10% of the site and is scattered in its distribution. There is a significant amount of first year growth under the weedy canopy. This first year growth has a significant perennial grass component and some forbs, with very few sub-shrubs or shrubs being present.

Cheatgrass (*Bromus tectorum*) is the one noxious weed species present within the reclaimed area. Cheatgrass infestations are present throughout this well pad. These cheatgrass infestations are adversely impacting the establishment and growth of desirable plant species in the reclaimed plant community. Cheatgrass is on the Colorado List C. Control of this List C species is recommended but not required by Huerfano County. Please note that COGCC requires control of this List C species when it is adversely impacting the establishment of desired perennial plant species.

Tall tansymustard (*Sisymbrium altissimum*) and prickly Russian thistle (*Salsola tragus*) are growing in dense stands intermixed with the cheatgrass infestation. While neither of these “weedy nuisance” species are on the State of Colorado noxious weed lists, they are aggressive colonizers of disturbed land. The dense pockets of these species are adversely impacting the establishment of desirable perennial plant species in the reclaimed plant community.

Compacted soils are not affecting plant growth. Excessive soil erosion associated with storm water runoff was not observed.

Recommended Actions

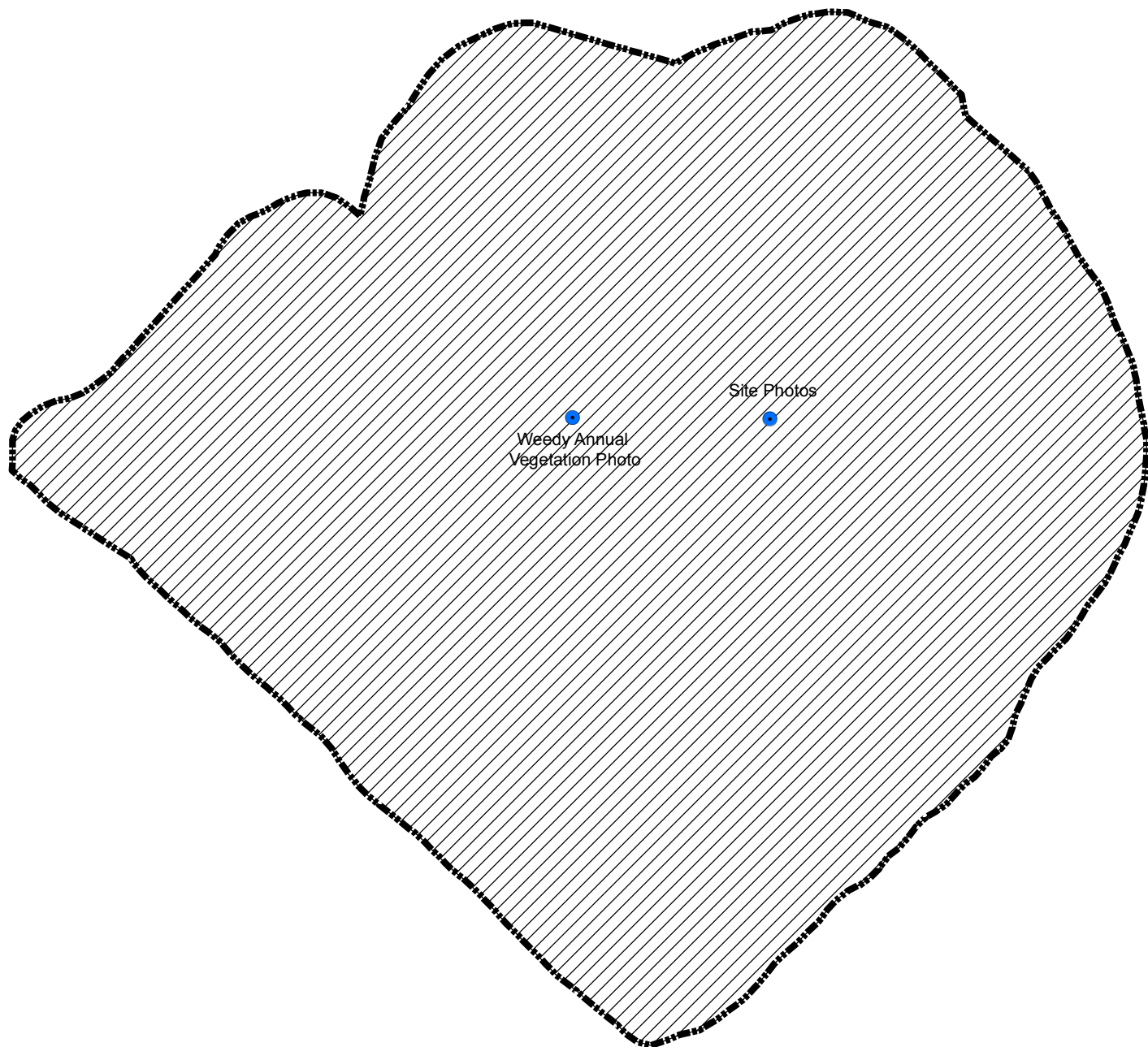
Cheatgrass should be treated in the late summer or early fall with an appropriate germination inhibiting herbicide. Tall tansymustard and prickly Russian thistle should be treated in the spring with spot-applications of an appropriate broadleaf selective herbicide to control existing infestations.

Appropriate fall and spring herbicide treatments of cheatgrass, tall tansy mustard and Russian thistle will reduce seed production and inter-plant competition in 2016 and facilitate the establishment of desirable perennial plant species. Long-term cultural control of these weed species will be realized through competition with the establishment of desirable vegetation on the site.




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After spring herbicide treatments the entire well pad should be inter-seeded using no-till planting methods. Mulching is not required on this site.

After spring 2016 management activities are completed the site should be checked periodically for germination and establishment of desirable plant species in the inter-seeded areas, adequate control of existing weed infestations, new infestations of other noxious weed species, and for other conditions that may impact successful reclamation of this site.



Management Activity	Acres
Weed Management	1.1

 Weed Management
  Photo Point
 Well Pad Boundary

0 25 50 100 Feet



Petroglyph Energy 2015

State 3W



Evaluated: 7/16/15
 Drawn: 12/14/15
 Drawn By: RFB

State 3W



Looking East

Photo Date 7/15/2015

Lat: 37.5734264797 Long: -104.8450033138



Looking North

Photo Date 7/15/2015

Lat: 37.5734264797 Long: -104.8450033138



Looking South

Photo Date 7/15/2015

Lat: 37.5734264797 Long: -104.8450033138



Looking West

Photo Date 7/15/2015

Lat: 37.5734264797 Long: -104.8450033138



Weedy annual vegetation

Photo Date 7/15/2015

Lat: 37.5734273129 Long: -104.8451793131