



Site Assessment

Matt #1 Well Pad and
Tank Battery

Weld County, Colorado



Prepared for:
PDC Energy, Inc.

Prepared by:
Duraroot, LLC

Date:
October 2020

SITE ASSESSMENT

MATT #1 WELL PAD AND TANK BATTERY



Purpose

The former Matt #1 well pad and tank battery locations (Figure 1) are listed as one of PDC Energy, Inc. (PDC) high-priority facilities that are near the final reclamation stage for reporting purposes. This location was assessed in the Spring and Fall of 2020 to track and monitor reclamation success and to identify areas that need additional attention. This site has been seeded, re-seeded, maintained for weed control by mowing and spot-spraying with selective herbicides, and assessed by reclamation scientists. While weed pressure on both the well pad and tank battery locations was observed to be minimal, the desired 80% revegetation levels have not yet been reached. PDC will continue to treat this location with the recommended reclamation efforts and maintenance needs.

Background Information

Soils on the well pad and tank battery locations mostly consist of the Ellicott loamy coarse sand (*Sandy, mixed, mesic Ustic Torrifuvents*) and the Haverson loam (*Fine-loamy, mixed, superactive, calcareous, mesic Aridic Ustifuvents*) soil series. The surrounding areas were observed as consisting of various weedy species with cheatgrass dominating the landscape.

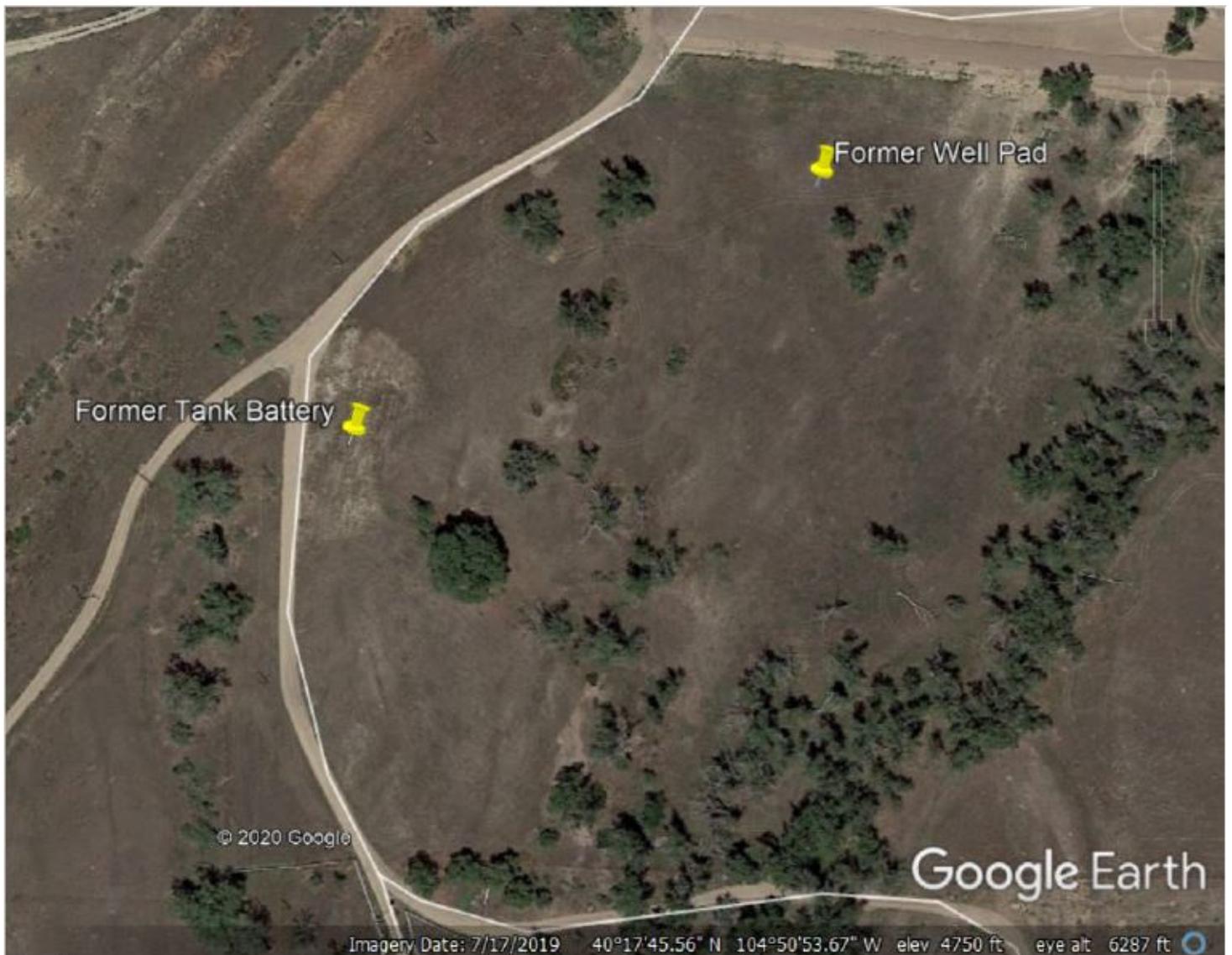
PDC contracted specialists in reclamation management to conduct Spring and Fall inspections to determine the appropriate steps needed to achieve the desired vegetative cover. These inspections are part of PDC’s annual inspection program that are designed to quantitatively assess locations and then provide prescriptive management plans.

Inspection Date	Observations	Recommendations
Spring – May 27 and 29, 2020	Native growth, approximately 50% total cover	Monitor, implement weed management, mow and spray as needed
Fall – September 11, 2020	Native growth, approximately 60% total cover	Monitor, maintain mowing and spraying protocols, dormant inter-seeding as needed

PDC will continue to monitor and maintain the Matt #1 well pad and tank battery locations. These locations will be managed and treated separately from the surrounding fields to accurately measure reclamation success on the well pad and tank battery areas. While native grass species have been established, inter-seeding this location in preparation of Spring 2021 will be considered.

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Imagery Date: 7/17/2019 40°17'45.56" N 104°50'53.67" W elev 4750 ft eye alt 6287 ft

W N E S

Legend

-  Well Pad
-  Tank Battery

0 50 ft 100 ft



Duraroot, LLC
4626 WCR 65
Keenesburg, CO 80643

Title: Matt #1 Location	
Project: Matt #1 Site Assessment	Figure: Figure 1
Location: Weld County, Colorado	Date: 10/14/2020

SITE ASSESSMENT

MATT #1 WELL PAD AND TANK BATTERY



Site Description

The Matt #1 well pad and tank battery locations were assessed by a Duraroot Certified Professional Soil Scientist (CPSS) on May 27 and May 29, 2020. The approximate disturbance areas of the former Matt #1 well pad and tank battery locations are 0.90-acres. Portions of the Matt #1 well pad and tank battery locations have been revegetated but other portions have not yet germinated and may require additional moisture and time for revegetation success.

Site Assessment

The Matt #1 well pad and tank battery locations were observed as having little to no invasive weeds on the reclaimed areas. This was in contrast to the surrounding vegetation that consisted mostly of cheatgrass, leafy spurge, blue mustard, and hoary cress (Figures 1-4). The well pad and tank battery locations were sprayed by a certified herbicide treatment professional on April 8, 2020. Native grass was observed on the reclaimed location but appeared sparse in some areas (Figures 5-7).

The area requires additional time for germination success to reach a higher revegetation percentage. Both locations were interseeded on May 12, 2020. Warmer soil temperatures, additional precipitation, and time will lead to more surface coverage of the native grasses. At that time, it was advised PDC conduct a quantitative vegetation assessment (QA) in the Fall after germination of the May 2020 reseeded efforts have proven to be successful. Additional prescriptive measures, such as weed maintenance and/or inter-seeding, can also be performed based on the results from the Fall QA. PDC will perform mechanical weed control during the summer growing months and if needed, to treat onsite weedy species with selective herbicides. Duraroot will monitor both locations throughout the summer growing season and advise PDC on prescriptive measures.

Figure 1. Vegetative conditions after weed control of the reclaimed Matt #1 well pad location viewing southeast.



Figure 2. Blue mustard (*Chorispora tenella*) observed on the perimeter of the reclaimed Matt #1 well pad and tank battery locations.



Figure 3. Hoary cress (*Lepidium draba*) observed on the perimeter of the Matt #1 well pad and tank battery locations.



Figure 4. Leafy spurge (*Euphorbia esula* L.) observed on the perimeter of the reclaimed Matt #1 well pad and tank battery locations.



Figure 5. Native grass growing after weed control on the Matt #1 well pad at the time of the assessment viewing southeast.



Figure 6. Native grass growing after weed control on the Matt #1 tank battery at the time of the assessment viewing southwest



Figure 7. Native grass is quickly reaching the desired surface coverage percentage on the tank battery location viewing north.



SITE ASSESSMENT

MATT #1 WELL PAD AND TANK BATTERY



Site Description

The former Matt #1 well pad and tank battery locations were assessed by a Duraroot Certified Professional Soil Scientist (CPSS) on September 11, 2020. The approximate disturbance areas of the former Matt #1 well pad and tank battery locations are 0.90-acres. Portions of the Matt #1 well pad and tank battery locations have been revegetated but other portions have not yet germinated. The site requires additional time for revegetation success. Based on the Spring assessment, it was advised that PDC conduct a QA during the Fall assessment to establish revegetation percentage of the former well pad and tank battery locations. However, the surface owner cut/mowed both the wellhead and production facility locations just days before the scheduled quantitative vegetation assessment.

Site Assessment

Due to the recent cutting/mowing by the landowner, a QA could not be completed during the fall assessment as planned. To perform a QA, vegetative cover on the site should be actively growing or have standing vegetation to quantify and compare relative abundance of species on- and off-site. The recently cut/mowed locations do not provide enough information on species composition to accurately determine whether the site has reached uniform desirable vegetative cover. A limited assessment was performed and the locations were observed as having little to no invasive weeds on the reclaimed areas. Native grass was observed to be growing on the reclaimed locations but appeared with limited germination in a few areas (Figures 1-5).

The areas require additional time to increase germination to achieve a higher revegetation percentage. PDC will continue to evaluate the location and perform prescriptive measures such as weed maintenance and/or inter-seeding and will also be maintained throughout the year until the 80% revegetation threshold has been met. At that time, PDC will conduct a QA to confirm that the location has met, or is progressing to meet, the 80% native, uniform revegetation requirements during the active growing season in the Spring of 2021 prior to mowing.

Figure 1. Vegetative conditions of the reclaimed Matt #1 tank battery location viewing south.



Figure 2. Vegetative conditions of the reclaimed Matt #1 tank battery location viewing north.



Figure 3. Vegetative conditions of the off-site adjacent area to the Matt #1 tank battery location viewing east.



Figure 4. Vegetative conditions of the reclaimed Matt #1 well pad location viewing north



Figure 5. Vegetative conditions of the reclaimed Matt #1 well pad location viewing south.

