

Phillip Porter  
 Senior Environmental Representative – Wattenberg  
 PDC Energy Inc.  
[Phillip.Porter@pdce.com](mailto:Phillip.Porter@pdce.com)

## Quantitative Vegetation Survey Report

<b>COGCC Location Name (ID)</b>	PINNACLE PARK-66N66W /14SWSW (323048)
<b>Operator Location Name</b>	PINNACLE PARK 13-14 Well & Facility
<b>COGCC Operator Name (ID)</b>	PDC ENERGY, INC (69175)
<b>Legal Description</b>	SWSW Sec. 14 T6N-R66W
<b>Geographic Coordinates (WGS84)</b>	40.483015/-104.751903

Mr. Porter,

Confluence Compliance Companies LLC (Confluence) is presenting this report to PDC Energy Inc. (PDC) documenting the results of a Quantitative Vegetation Survey (QVS) completed on the above-referenced location. The QVS was conducted to evaluate vegetation cover and composition in the reclaimed surface of the location (Reclaimed Surface) and an equivalent reference area (Reference Area) to determine if vegetative cover requirements for final reclamation in Colorado Oil & Gas Conservation Commission (COGCC) Rule 1004.d have been met. Included with this Report is a review of methodologies used to evaluate the Reclaimed Surface, results of those evaluations, and recommendations for how to proceed with the information presented in this Report. Attached is a Summary of Field Data, Topographic Location Map, Reclamation Survey Site Diagram, Vegetation Assessment Photo Log, Relative Foliar Species Abundance Table, and Vegetation Survey results that illustrate QVS findings.

### Methods

The survey methodology employed by Confluence is based on the step-point method described in an interagency technical reference published by the Bureau of Land Management (BLM, 1996). Prior to field evaluation, a desktop review of historical PDC and COGCC records, and an aerial imagery evaluation is performed to define and map all portions of the Reclaimed Surface and identify and map an equivalent Reference Area. Equivalent Reference Area(s) are selected to ensure that comparative assessments are conducted in areas not previously impacted by oil and gas operations or other surface disturbing processes, have similar slope and aspect to the Reclaimed Surface, and are reflective of pre-disturbance conditions for the referenced location to the extent feasible. When on-site, data from the desktop review is confirmed with observations of site conditions to confirm the preliminary transect locations chosen to characterize the Reclaimed Surface and Reference Area. Transect locations are selected to best represent the vegetative cover and species composition of the respective areas, and to limit subjectivity of field personnel.

A bullseye target tool is used to collect vegetation survey data at 50 survey points along each transect. Foliar and basal cover, along with non-vegetated and noxious weed

occurrences, are documented at each survey point within the two Reclaim Transects and two Reference Transects, for a total of 100 survey points in both areas. Transect data is documented in the Vegetation Survey – Field Data Tables. Photographs are collected throughout the QVS to document site conditions and depict transects. These photos are included in the Vegetation Assessment Photo Log. The Reclamation Survey Site Diagram illustrates Transect locations as well as photo collection points.

Noxious weeds listed by the Colorado Department of Agriculture are excluded from the percent of reference vegetative coverage calculations, per COGCC Rule 1004.d. To ensure reclamation vegetative composition meets the standards of PDC and the COGCC, undesirable cover is also quantified in the attached Summary of Field Data. Undesirable cover includes species identified by the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) as introduced and not native to the lower 48 states, and not considered beneficial for reclamation purposes. All other vegetation not classified as noxious or undesirable, is identified by growth habit (grass, forb, shrub) and is considered desirable vegetative cover.

## Results

The QVS was conducted on August 9, 2021, with the following findings:

- Reclaimed Surface Desirable Foliar Cover is 49%.
- Reference Area Desirable Foliar Cover is 37%.
- Vegetative foliar cover within the Reclaimed Surface is composed of 50.5% desirable species, 49.5% undesirable species, and 0% noxious weed species.
- Vegetative foliar cover within the Reference Area is composed of 37.8% desirable species, 62.2% undesirable species, and 0% noxious weed species.
- Both Reclaimed Area and Reference Area desirable dominant species include Fescue (*Festuca spp.*), Perennial Rye (*Lolium perenne L.*), and Smooth brome (*Bromus inermis*).

Based on these findings, the Reclaimed Surface has a desirable foliar vegetative cover that is 132.0% of the Reference Area.

## Analysis and Recommendations

No reclamation maintenance is recommended for this location as undesirable species were under-represented on the Reclaimed Surface compared to the Reference Area, and vegetation establishment is uniform. Noxious weed species are absent from the Reclaimed Surface. Foliar species abundance calculations indicate vegetative cover compositions are comparable. Based on the results of the survey, final reclamation as defined by COGCC rules has been achieved and uniform vegetation cover has been established that reflects pre-disturbance conditions with a total plant cover of at least 80% of the Reference Area. Submittal of a Form 4 (Sundry Notice) is recommended to document successful completion of final reclamation and notify the COGCC that the site is ready for final reclamation inspection.



Confluence appreciates the opportunity to provide environmental consulting services on this project. If you have any questions about our methodology, the results of this assessment, or our conclusions, please let me know.

Respectfully,



Carolyn Craveiro de Sá  
Project Manager  
720-289-1631 (M)  
720-432-7344 (O)  
[carolyn.craveiro@confluence-cc.com](mailto:carolyn.craveiro@confluence-cc.com)

## Attachments

1. Quantitative Vegetation Survey – Summary of Field Data
2. Topographic Location Map
3. Reclamation Survey Site Diagram
4. Vegetation Assessment Photo Log
5. Quantitative Vegetation Survey – Relative Foliar Species Abundance Table
6. Quantitative Vegetation Survey – Field Data Tables

## References

United States (U.S.) Department of Agriculture (USDA), Forest Service (USFS), Natural Resource Conservation Service (NRCS) and U.S. Department of the Interior (USDOI) Bureau of Land Management (BLM). "Sampling Vegetation Attributes, Interagency Technical Reference, 1996 (Revised in 1997, and 1999)". USDOI BLM Technical References #1734-4.



## Quantitative Vegetation Survey - Summary of Field Data

<b>Client</b>	PDC ENERGY, INC (69175)
<b>Operator Location Information</b>	PINNACLE PARK 13-14 Well & Facility (Location ID: 323048)
<b>Assessment Date</b>	8/9/2021
<b>Inspector Name</b>	Adam Roll

Based on the survey methodology, the desirable foliar cover (%) in each survey area is calculated by summing the total number of grass, forb, and shrub foliar occurrences (#), excluding noxious weeds and undesirable species, and dividing by the total possible foliar occurrences in the transects (100). For this location:

### Reclaim Area Vegetation

**Desirable Foliar Cover = 49%**

$$(49 + 0 + 0) / 100 = 0.49$$

### Reference Area Vegetation

**Desirable Foliar Cover = 37%**

$$(37 + 0 + 0) / 100 = 0.37$$

For the purposes of this assessment, the undesirable foliar cover (%) in each survey is calculated by summing the total number of undesirable\* foliar occurrences (#), excluding noxious weeds, and dividing by the total possible foliar occurrences in the transects (100). For this location:

**Undesirable Foliar Cover = 48%**

$$48 / 100 = 0.48$$

**Undesirable Foliar Cover = 61%**

$$61 / 100 = 0.61$$

The percent of reference used to evaluate the reclamation area for compliance with COGCC Rule 1003.e(2) is calculated by dividing the foliar cover (%) in the reclaim area by the foliar cover (%) in the reference area. For this location:

**Percent of Reference = 132%**

$$49\% / 37\% = 132\%$$

### Reclaim Area Vegetation

Total Cover Type	#	%**
<b>Desirable Foliar Cover</b>	<b>49</b>	<b>25%</b>
Grass	49	25%
Forb	0	0%
Shrub	0	0%
<b>Desirable Basal Cover</b>	<b>20</b>	<b>10%</b>
Grass	20	10%
Forb	0	0%
Shrub	0	0%
<b>Undesirable Cover</b>	<b>103</b>	<b>52%</b>
Foliar	48	24%
Basal	55	28%
<b>Non Vegetated</b>	<b>28</b>	<b>14%</b>
Bare Ground	4	2%
Litter	24	12%
Rock	0	0%
<b>Noxious Weeds Cover</b>	<b>0</b>	<b>0%</b>
Foliar	0	0%
Basal	0	0%
<b>Quality Assurance Total**</b>	<b>200</b>	<b>100%</b>

### Reference Area Vegetation

Total Cover Type	#	%**
<b>Desirable Foliar Cover</b>	<b>37</b>	<b>19%</b>
Grass	37	19%
Forb	0	0%
Shrub	0	0%
<b>Desirable Basal Cover</b>	<b>29</b>	<b>15%</b>
Grass	29	15%
Forb	0	0%
Shrub	0	0%
<b>Undesirable Cover</b>	<b>116</b>	<b>58%</b>
Foliar	61	31%
Basal	55	28%
<b>Non Vegetated</b>	<b>18</b>	<b>9%</b>
Bare Ground	1	1%
Litter	17	9%
Rock	0	0%
<b>Noxious Weeds Cover</b>	<b>0</b>	<b>0%</b>
Foliar	0	0%
Basal	0	0%
<b>Quality Assurance Total**</b>	<b>200</b>	<b>100%</b>

\* Identified as introduced and non-native to the lower 48 states by the USDA NRCS, and not considered beneficial for reclamation purposes.  
 \*\* % cover in the above cover detail tables represents Total Cover. For representation purposes, vegetative and non vegetated % Total Cover is rounded to the nearest whole number. The Quality Assurance Total is the summation of % cover with all applicable decimal numbers.

## Topographic Location Map

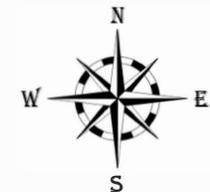
PDC ENERGY, INC (69175)

PINNACLE PARK 13-14 Well & Facility  
(PINNACLE PARK-66N66W /14SWSW)

COGCC Location ID: 323048

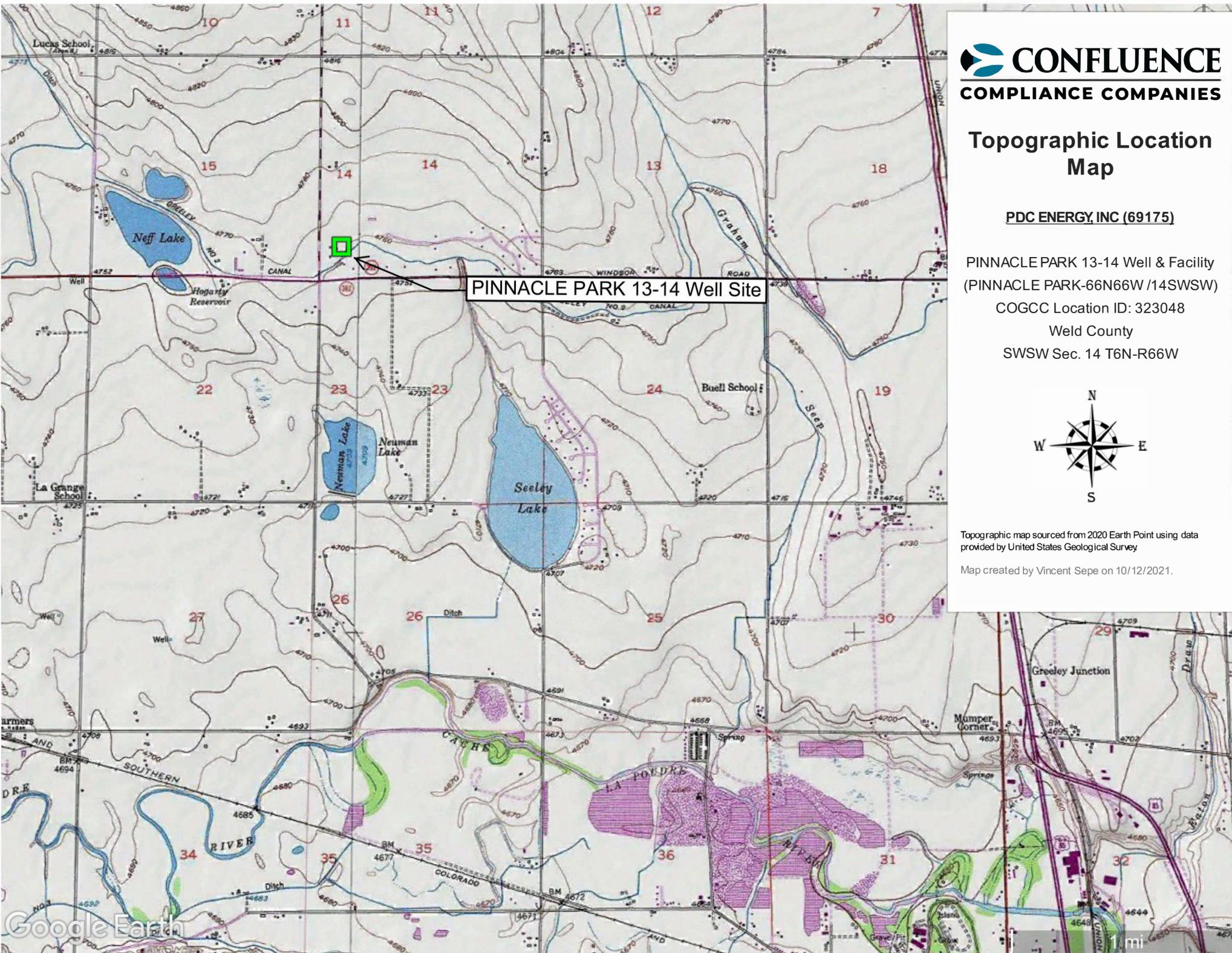
Weld County

SWSW Sec. 14 T6N-R66W



Topographic map sourced from 2020 Earth Point using data provided by United States Geological Survey

Map created by Vincent Sepe on 10/12/2021.

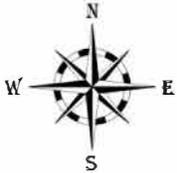


## Reclamation Survey Site Diagram

PDC ENERGY, INC (69175)

PINNACLE PARK 13-14 Well & Facility  
(PINNACLE PARK-66N66W /14SWSW)  
COGCC Location ID: 323048

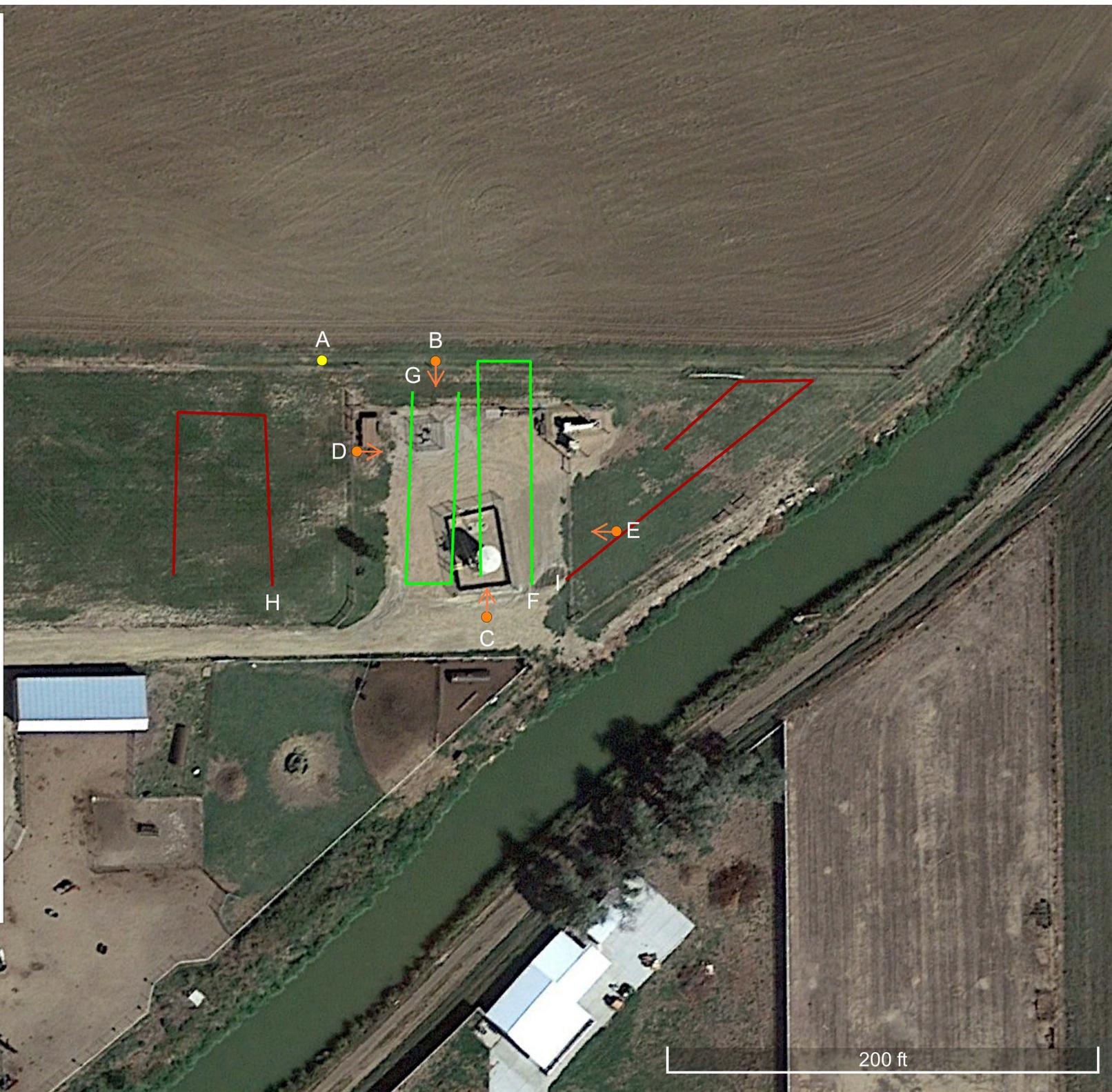
Weld County  
SWSW Sec. 14 T6N-R66W  
Lat./Long.: 40.483015/-104.751903  
Land Use: Non-crop  
Aerial Imagery Date: 09/07/2021



### Legend

- Directional Photo Point
- Photo Point
- Reference Transect
- Reclaim Transect

Map created by Vincent Sepe on 10/12/2021.



# Vegetation Assessment Photo Log

Client - PDC Energy Inc.

Date Completed - 08/09/2021

Location Name (ID) - PINNACLE PARK 13-14 Well & Facility (323048)



Photo Point A: Edge of Disturbance Facing South-Southeast



# Vegetation Assessment Photo Log

Client - PDC Energy Inc.

Date Completed - 08/09/2021

Location Name (ID) - PINNACLE PARK 13-14 Well & Facility (323048)



Photo Point B: North of Disturbance - Facing South



Photo Point C: South of Disturbance - Facing North



Photo Point D: West of Disturbance - Facing East



Photo Point E: East of Disturbance - Facing West



# Vegetation Assessment Photo Log

Client - PDC Energy Inc.

Date Completed - 08/09/2021

Location Name (ID) - PINNACLE PARK 13-14 Well & Facility (323048)



Photo Point A: Reclamation Area - Facing Southeast



# Vegetation Assessment Photo Log

Client - **PDC Energy Inc.**

Date Completed - 08/09/2021

Location Name (ID) - **PINNACLE PARK 13-14 Well & Facility (323048)**



Photo Point F: Reclaim Transect 1 - Facing North



Photo Point G: Reclaim Transect 2 - Facing South



# Vegetation Assessment Photo Log

Date Completed - 08/09/2021

Client - PDC Energy Inc.

Location Name (ID) - PINNACLE PARK 13-14 Well & Facility (323048)



Aug 9, 2021 9:58:30 AM  
40.48309517N 104.75207057W  
214° SW  
Weld County  
PINNACLE PARK 13-14  
Well & Facility

Photo Point A: Reference Area - Facing Southwest



# Vegetation Assessment Photo Log

Client - PDC Energy Inc.

Date Completed - 08/09/2021

Location Name (ID) - PINNACLE PARK 13-14 Well & Facility (323048)



Photo Point H: Reference Transect 1 - Facing North



Photo Point I: Reference Transect 2 - Facing Northeast



<b>Client</b>	PDC ENERGY, INC (69175)
<b>Operator Location Information</b>	PINNACLE PARK 13-14 Well & Facility (Location ID: 323048)
<b>Assessment Date</b>	8/9/2021
<b>Inspector Name</b>	Adam Roll

### Relative Foliar Species Abundance

Relative foliar species abundance is calculated by dividing the total number of foliar occurrences (#) of an individual species by the total number of foliar occurrences (#) in the transect(s).

Species listed by transect area	#	%
<b>Reclaim</b>	<b>97</b>	<b>100.0%</b>
<b>Grass</b>	<b>49</b>	<b>50.5%</b>
Fescue (Festuca Spp.)	27	27.8%
Perennial Rye (Lolium perenne L.)	13	13.4%
Smooth brome (Bromus inermis)	9	9.3%
<b>Undesirable</b>	<b>48</b>	<b>49.5%</b>
Large crabgrass (Digitaria sanguinalis)	47	48.5%
Prostrate knotweed (Polygonum aviculare)	1	1.0%
<b>Reference</b>	<b>98</b>	<b>100.0%</b>
<b>Grass</b>	<b>37</b>	<b>37.8%</b>
Smooth brome (Bromus inermis)	19	19.4%
Perennial Rye (Lolium perenne L.)	10	10.2%
Fescue (Festuca Spp.)	4	4.1%
Inland saltgrass (Distichlis spicata)	4	4.1%
<b>Undesirable</b>	<b>61</b>	<b>62.2%</b>
Large crabgrass (Digitaria sanguinalis)	60	61.2%
Kochia (Kochia scoparia)	1	1.0%
<b>Grand Total</b>	<b>195</b>	

<b>Client</b>	PDC ENERGY, INC (69175)
<b>Operator Location Information</b>	PINNACLE PARK 13-14 Well & Facility (Location ID: 323048)
<b>Assessment Date</b>	8/9/2021
<b>Inspector Name</b>	Adam Roll
<b>Transect Length</b>	226 Feet

### Reclaim Transect 1

Point #	Cover Type - Foliar	Species - Foliar	Cover Type - Basal	Species - Basal
1	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
2	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
3	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
4	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
5	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Litter
6	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
7	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
8	Grass	Fescue (Festuca Spp.)	Non-Vegetated	Litter
9	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
10	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
11	None	NA	Non-Vegetated	Bare Ground
12	None	NA	Non-Vegetated	Bare Ground
13	Grass	Fescue (Festuca Spp.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
14	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
15	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
16	Grass	Smooth brome (Bromus inermis)	Non-Vegetated	Litter
17	Grass	Perennial Rye (Lolium perenne L.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
18	Grass	Perennial Rye (Lolium perenne L.)	Non-Vegetated	Litter
19	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
20	Grass	Perennial Rye (Lolium perenne L.)	Grass	Perennial Rye (Lolium perenne L.)
21	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
22	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
23	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
24	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
25	Grass	Smooth brome (Bromus inermis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
26	Grass	Smooth brome (Bromus inermis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
27	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
28	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
29	Grass	Perennial Rye (Lolium perenne L.)	Grass	Perennial Rye (Lolium perenne L.)
30	Grass	Fescue (Festuca Spp.)	Non-Vegetated	Litter
31	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
32	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
33	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
34	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
35	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Litter
36	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
37	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
38	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
39	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
40	Grass	Perennial Rye (Lolium perenne L.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
41	Grass	Perennial Rye (Lolium perenne L.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
42	Grass	Fescue (Festuca Spp.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
43	Grass	Perennial Rye (Lolium perenne L.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
44	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Litter
45	Grass	Fescue (Festuca Spp.)	Non-Vegetated	Litter
46	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
47	Grass	Fescue (Festuca Spp.)	Non-Vegetated	Litter
48	Grass	Fescue (Festuca Spp.)	Non-Vegetated	Litter
49	Grass	Fescue (Festuca Spp.)	Non-Vegetated	Litter
50	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)

<b>Client</b>	PDC ENERGY, INC (69175)
<b>Operator Location Information</b>	PINNACLE PARK 13-14 Well & Facility (Location ID: 323048)
<b>Assessment Date</b>	8/9/2021
<b>Inspector Name</b>	Adam Roll
<b>Transect Length</b>	198 Feet

### Reclaim Transect 2

Point #	Cover Type - Foliar	Species - Foliar	Cover Type - Basal	Species - Basal
1	Undesirable	Large crabgrass (Digitaria sanguinalis)	Grass	Smooth brome (Bromus inermis)
2	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
3	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
4	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
5	Grass	Perennial Rye (Lolium perenne L.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
6	Grass	Smooth brome (Bromus inermis)	Non-Vegetated	Litter
7	Grass	Fescue (Festuca Spp.)	Non-Vegetated	Litter
8	Grass	Perennial Rye (Lolium perenne L.)	Non-Vegetated	Litter
9	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Litter
10	Grass	Smooth brome (Bromus inermis)	Non-Vegetated	Litter
11	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
12	Grass	Fescue (Festuca Spp.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
13	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
14	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
15	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
16	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
17	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
18	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
19	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
20	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
21	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Litter
22	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
23	Grass	Fescue (Festuca Spp.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
24	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Litter
25	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
26	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
27	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
28	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
29	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
30	Grass	Fescue (Festuca Spp.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
31	Grass	Fescue (Festuca Spp.)	Non-Vegetated	Litter
32	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
33	Grass	Perennial Rye (Lolium perenne L.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
34	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
35	Grass	Smooth brome (Bromus inermis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
36	None	NA	Non-Vegetated	Litter
37	Undesirable	Prostrate knotweed (Polygonum aviculare)	Non-Vegetated	Litter
38	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
39	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
40	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
41	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
42	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
43	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
44	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
45	Grass	Perennial Rye (Lolium perenne L.)	Non-Vegetated	Litter
46	Grass	Perennial Rye (Lolium perenne L.)	Grass	Perennial Rye (Lolium perenne L.)
47	Grass	Perennial Rye (Lolium perenne L.)	Non-Vegetated	Litter
48	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
49	Grass	Fescue (Festuca Spp.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
50	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)

**Client** PDC ENERGY, INC (69175)  
**Operator Location Information** PINNACLE PARK 13-14 Well & Facility (Location ID: 323048)  
**Assessment Date** 8/9/2021  
**Inspector Name** Adam Roll  
**Transect Length** 194 Feet

**Reference Transect 1**

Point #	Cover Type - Foliar	Species - Foliar	Cover Type - Basal	Species - Basal
1	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
2	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
3	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
4	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
5	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
6	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
7	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
8	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
9	Grass	Inland saltgrass (Distichlis spicata)	Grass	Inland saltgrass (Distichlis spicata)
10	Grass	Inland saltgrass (Distichlis spicata)	Grass	Inland saltgrass (Distichlis spicata)
11	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
12	Grass	Smooth brome (Bromus inermis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
13	None	NA	Non-Vegetated	Litter
14	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
15	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
16	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
17	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Litter
18	Grass	Fescue (Festuca Spp.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
19	Grass	Perennial Rye (Lolium perenne L.)	Non-Vegetated	Litter
20	Grass	Perennial Rye (Lolium perenne L.)	Grass	Perennial Rye (Lolium perenne L.)
21	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
22	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
23	Grass	Perennial Rye (Lolium perenne L.)	Grass	Perennial Rye (Lolium perenne L.)
24	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
25	Grass	Smooth brome (Bromus inermis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
26	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Prostrate knotweed (Polygonum aviculare)
27	Undesirable	Large crabgrass (Digitaria sanguinalis)	Grass	Smooth brome (Bromus inermis)
28	Grass	Perennial Rye (Lolium perenne L.)	Non-Vegetated	Litter
29	Grass	Perennial Rye (Lolium perenne L.)	Grass	Perennial Rye (Lolium perenne L.)
30	Grass	Perennial Rye (Lolium perenne L.)	Non-Vegetated	Litter
31	Grass	Perennial Rye (Lolium perenne L.)	Non-Vegetated	Litter
32	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
33	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
34	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
35	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
36	Grass	Smooth brome (Bromus inermis)	Non-Vegetated	Litter
37	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
38	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
39	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
40	Grass	Smooth brome (Bromus inermis)	Non-Vegetated	Litter
41	Grass	Perennial Rye (Lolium perenne L.)	Undesirable	Prostrate knotweed (Polygonum aviculare)
42	Grass	Fescue (Festuca Spp.)	Grass	Fescue (Festuca Spp.)
43	Grass	Perennial Rye (Lolium perenne L.)	Grass	Perennial Rye (Lolium perenne L.)
44	Grass	Inland saltgrass (Distichlis spicata)	Grass	Inland saltgrass (Distichlis spicata)
45	Undesirable	Large crabgrass (Digitaria sanguinalis)	Grass	Inland saltgrass (Distichlis spicata)
46	Undesirable	Large crabgrass (Digitaria sanguinalis)	Grass	Inland saltgrass (Distichlis spicata)
47	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
48	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
49	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
50	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)

<b>Client</b>	PDC ENERGY, INC (69175)
<b>Operator Location Information</b>	PINNACLE PARK 13-14 Well & Facility (Location ID: 323048)
<b>Assessment Date</b>	8/9/2021
<b>Inspector Name</b>	Adam Roll
<b>Transect Length</b>	228 Feet

### Reference Transect 2

Point #	Cover Type - Foliar	Species - Foliar	Cover Type - Basal	Species - Basal
1	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Litter
2	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
3	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
4	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
5	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
6	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
7	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Litter
8	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
9	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
10	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
11	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
12	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Litter
13	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
14	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
15	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
16	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
17	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
18	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
19	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
20	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Bare Ground
21	Undesirable	Kochia (Kochia scoparia)	Non-Vegetated	Litter
22	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
23	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
24	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
25	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
26	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
27	None	NA	Non-Vegetated	Litter
28	Grass	Smooth brome (Bromus inermis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
29	Undesirable	Large crabgrass (Digitaria sanguinalis)	Grass	Smooth brome (Bromus inermis)
30	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
31	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
32	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
33	Grass	Fescue (Festuca Spp.)	Undesirable	Large crabgrass (Digitaria sanguinalis)
34	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
35	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Litter
36	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
37	Grass	Smooth brome (Bromus inermis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
38	Undesirable	Large crabgrass (Digitaria sanguinalis)	Grass	Inland saltgrass (Distichlis spicata)
39	Undesirable	Large crabgrass (Digitaria sanguinalis)	Grass	Smooth brome (Bromus inermis)
40	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
41	Grass	Smooth brome (Bromus inermis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
42	Undesirable	Large crabgrass (Digitaria sanguinalis)	Non-Vegetated	Litter
43	Undesirable	Large crabgrass (Digitaria sanguinalis)	Grass	Inland saltgrass (Distichlis spicata)
44	Grass	Inland saltgrass (Distichlis spicata)	Grass	Inland saltgrass (Distichlis spicata)
45	Grass	Smooth brome (Bromus inermis)	Grass	Smooth brome (Bromus inermis)
46	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
47	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
48	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)
49	Grass	Perennial Rye (Lolium perenne L.)	Undesirable	Stinkgrass (Eragrostis cilianensis)
50	Undesirable	Large crabgrass (Digitaria sanguinalis)	Undesirable	Large crabgrass (Digitaria sanguinalis)