



WILDLIFE PROTECTION PLAN

VISTA 13-16HZ LOCATION
Greeley, Colorado

January 26, 2023

Occidental Petroleum
1099 18th Street
Denver, CO 80202

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SUMMARY OF FINDINGS

Resource	Regulatory Authorities	Findings
Hydrology	U.S. Army Corps of Engineers (USACE) – CWA Section 404; Colorado Oil & Gas Conservation Commission (COGCC) – 300 and 1200 Series Rules; COGCC – Section 421	There is a downgradient Waters of the State, WOTUS, wetland, and riparian corridor within 0.5 mile of the WPS. The WPS does not intersect a FEMA-mapped 100-year floodplain or floodway.
Eagles & Other Raptors	U.S. Fish and Wildlife Service (USFWS) – Bald and Golden Eagle Protection Act; USFWS - Migratory Bird Treaty Act (MBTA); COGCC – 1200 Series Rules	There is habitat for nesting eagle and other raptors within 0.5 mile of the Location. There is one raptor nest within 0.5 mile of the Location. There are no eagle nests nor CPW-mapped bald eagle winter night roost areas within 0.5 mile of the Location.
Western Burrowing Owl	USFWS – MBTA; Colorado Parks and Wildlife (CPW) – Nongame, Endangered or Threatened Species Conservation Act; COGCC – 1200 Series Rules	There is no suitable nesting habitat for burrowing owls within 0.25 mile of the Location.
Migratory Birds	USFWS – MBTA; COGCC – 1200 Series Rules	There is suitable habitat for nesting migratory birds within and adjacent to the Location.
Threatened and Endangered (T&E) Species	USFWS – ESA; CPW – Nongame, Endangered, or Threatened Species Conservation Act	There is no designated critical habitat for federally listed species present within or adjacent to the Location.
CPW High Priority Habitats	COGCC – 1200 Series Rules	There are no CPW-mapped HPHs within one mile of the WPS.

1.0 INTRODUCTION

Per Colorado Oil and Gas Conservation Commission (COGCC) 300 Series and 1200 Series Rules for the protection of wildlife and habitat, Kerr-McGee Oil & Gas Onshore L.P. (KMOG) is presenting this Wildlife Protection Plan (WPP) for the proposed Vista 13-16HZ Oil & Gas Location (hereafter referred to as Location; Figure 1). The wildlife and habitat evaluations included in this WPP are submitted pursuant with the COGCC Form 2A permitting process, Rule 304.c.(17) Wildlife Protection Plan, and Rule 1201.a for an Oil and Gas Location outside of any High Priority Habitat (HPH). The Vista 13-16HZ Location is located entirely outside of all CPW-mapped HPHs (Figure 2; CPW 2022). State and federal regulations also addressed include the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), Colorado Parks and Wildlife (CPW) Buffer Zones and Seasonal Restrictions for Colorado Raptors guidelines, and Section 404 of the Clean Water Act (CWA).

2.0 LOCATION DESCRIPTION

Quandary Consultants (Quandary) surveyed a 0.50-mile buffer around the Vista 13-16HZ Location, where property access was permitted, to accommodate for the widest potential environmental constraint. Analysis included a desktop review of appropriate databases and imagery collections, identification of features requiring focused survey in the field, and a site inspection to review these desktop-identified features and to search for other instances of protected and sensitive natural resources. Two inspections were conducted on the following days:

October 29, 2021 – Initial Site Assessment

December 21, 2022 – Soil Sampling and Follow-Up Assessment

The results for each natural resource element reviewed are described below.

3.0 LOCATION SETTING

Land use, vegetation, and soils within the Location were reviewed and are detailed below.

3.1 Land Use

The Vista 13-16HZ Location entirely intersects rangeland. Table 1 lists the approximate acreage of the existing land use types that occur within one mile of the proposed disturbance area.

Table 1: Land Use Acreage Within 1 Mile of the Disturbance Area

Land Use Type	Acreage Within 1 Mile	Description
Irrigated Crop Land	985	NA
Non-Irrigated Crop Land	675	NA
Rangeland	385	NA
Forestry	135	NA
Public	0	NA
Industrial	50	Oil & Gas Locations
Commercial	60	NA
Residential	50	NA
Other	50	Roads, Ditches

3.2 Vegetation

The most recent field investigation on December 21, 2022, identified that the entirety of the ground cover within the Vista 13-16HZ Location is bare ground; the Location is located within a tilled agricultural field. There are no dominant species present within the Location.

3.3 Soil

Tables 2 and 3 list the soil units identified within the Vista 13-16HZ Location and access road, and Table 4 lists the soil unit properties (NRCS 2022; Figure 3).

Table 2: Soil Units within the Disturbance Area

NRCS ID	NRCS Soil Name, Percent Slopes	Acres in Location
16	Colby loam, 3-5% slopes	12.75
76	Weld loam, 1-3% slopes	0.92

Table 3: Soil Units within the Access Road

NRCS ID	NRCS Soil Name, Percent Slopes	Acres in Location
16	Colby loam, 3-5% slopes	0.99
76	Weld loam, 1-3% slopes	0.54

Table 4: Soil Unit Properties

NRCS ID	NRCS Soil Name, Percent Slopes	Drainage Class	Runoff Potential	Erosion Potential (K)
16	Colby loam, 3-5% slopes	Well Drained	Low	0.43
76	Weld loam, 1-3% slopes	Well Drained	Medium	0.43

4.0 LOCATION FINDINGS

4.1 Hydrology

The Vista 13-16HZ Location does not intersect any mapped hydrology resources mapped by the National Hydrography Dataset (NHD) and National Wetlands Inventory (NWI) databases (USGS 2022b; USFWS 2022b). The nearest downgradient Waters of the United States (WOTUS) and Waters of the State, measured along the most likely migration pathway, is the Loveland and Greeley Canal 1,272 feet southwest of the working pad surface (WPS). The nearest downgradient wetland, measured along the most likely migration pathway, is a wetland area bordering the Loveland and Greeley Canal 1,245 feet southwest of the WPS. The nearest downgradient riparian corridor, measured along the most likely migration pathway, is a riparian vegetated area along an existing drainage ditch, approximately 2,547 feet west of the WPS (USFWS 2022b). The WPS does not intersect a FEMA-mapped floodplain or floodway (FEMA 2022).

The distances to these water resources are determined using the best aerial and spatial natural resources data available from the NWI (USFWS 2022b), the NHD (USGS 2022b), the Colorado Division of Water Resources (CDWR), and the COGCC (COGCC 2022). Topography is taken into consideration

when identifying the nearest downgradient water features and when estimating measurements along the contaminate migration pathway. All measurements are made from the nearest edge of the WPS.

4.2 Wildlife

4.2.1 Bald and Golden Eagles and Other Raptors

As of December 21, 2022, no bald or golden eagle nests were observed within 0.5 mile of the Vista 13-16HZ Location, and none are recorded within 0.5 mile of the Location (CPW 2022; Figure 2).

There is one raptor nest within 0.5 mile of the Location, 0.43 mile southwest of the Location (5N67W_17P_RA). There is also a raptor nest 0.74 mile southwest of the Location (5N67W_20C_RA), outside 0.5 mile (Figure 2).

The Location is not within 0.5 mile of a CPW-mapped bald eagle winter night roost area.

4.2.2 Burrowing Owl

No suitable nesting habitat for burrowing owls (e.g., prairie dog colony) was observed within 0.25 mile of the Location at the time of the assessments conducted on October 29, 2021, and December 21, 2022.

4.2.3 Migratory Birds

There is suitable habitat for nesting migratory birds within and adjacent to the Location, predominately in the form of ground-nesting habitat for ground-nesting birds.

4.2.4 Federally Listed Species

According to the USFWS IPaC, seven (7) federally listed species should be considered in an effects analysis for the Vista 13-16HZ Location: Gray Wolf (*Canis lupus*), eastern black rail (*Laterallus jamaicensis* ssp. *jamaicensis*), piping plover (*Charadrius melodus*), whooping crane (*Grus americana*), pallid sturgeon (*Scaphirhynchus albus*), Ute ladies'-tresses (*Spiranthes diluvialis*), and western prairie fringed orchid (*Platanthera praeclara*) (USFWS 2022a). Table 5 provides a summary review of endangered and threatened species considered in the effects analysis for the Location.

Table 5: Federally Listed Species Reviewed

Species	Federal Status	Likelihood of species presence at location?
Mammals		
Gray wolf (<i>Canis lupus</i>)	Endangered	Low; Gray wolves are adaptable to a wide range of habitats, including grasslands. However, populations in Colorado are heavily concentrated in the Front Range, where there is less potential for human conflict. There is no suitable habitat for the Gray Wolf at the site.
Birds		
Eastern black rail (<i>Laterallus jamaicensis</i> ssp. <i>jamaicensis</i>)	Threatened	Low; Eastern black rails are a wetland-dependent bird that prefer dense overhead cover and saturated soils. No suitable habitat nor birds were observed at the site.

Species	Federal Status	Likelihood of species presence at location?
Piping plover (<i>Charadrius melodus</i>)	Threatened	Low; Piping plovers prefer sparsely vegetated sand or gravel beaches adjacent to vast lakes or rivers. No suitable habitat nor birds were observed at the site.
Whooping crane (<i>Grus americana</i>)	Endangered	Low; Whooping cranes prefer sparsely vegetated shallow water bodies (e.g., marshes and lagoons) away from human activity. No suitable habitat nor birds were observed at the site.
Fishes		
Pallid sturgeon (<i>Scaphirhynchus albus</i>)	Endangered	Low; Pallid sturgeons occupy large, turbid, and free-flowing riverine habitats. Site activities will not impact aquatic features.
Plants		
Ute ladies'-tresses orchid (<i>Spiranthes diluvialis</i>)	Threatened	Low; ULT orchids inhabit moist environments, such as riparian edges, historical floodplains, and human modified wetlands. No suitable habitat nor UTL orchids were observed at the site.
Western prairie fringed orchid (<i>Platanthera praeclara</i>)	Threatened	Low; WPF orchids inhabit mesic to wet tallgrass prairies and meadows with high soil moisture. No suitable habitat nor WPF orchids were observed at the site.

There is no designated critical habitat for federally listed species present within or adjacent to the Location (USFWS 2022).

4.2.5 CPW High Priority Habitats

There are no CPW-mapped high priority habitats (HPHs) within one mile of the Vista 13-16HZ WPS (CPW 2022). The nearest HPH is the Mule Deer Severe Winter Range HPH 1.44 mile southwest of the WPS (Figure 2).

5.0 OPERATING REQUIREMENTS AND GENERAL OPERATING BMPs

Pursuant to Rule 1202.a operating requirements, KMOG commits to the following Operational Requirements to avoid and minimize environmental impacts from the OGD:

1. Per Rule 1202.a.(1)., Operators will install and utilize bear-proof dumpsters and trash receptacles in black bear habitat. Since the location is not within black bear habitat, KMOG will not comply with this rule as it does not apply.
2. Per Rule 1202.a.(2). A. & B., Operators will disinfect water suction hoses and water tanks withdrawing from or discharging into surface waters using a CPW-approved disinfectant or with water greater than 140° F for at least 10 minutes. KMOG will comply with this rule as it does apply.
3. Per Rule 1202.a.(3)., Operators will not situate new staging, refueling, or chemical storage areas at new and existing locations; within 500 feet of the OHWM of any river, perennial or intermittent stream, lake, pond, or wetland. KMOG will comply with this rule as it does apply.
4. Per Rule 1202.a.(4).A., B., & C., Operators will fence and net or install other CPW-approved exclusion devices on new or existing (if COGCC determines it is necessary to protect Wildlife Resources) drilling pits, production pits, and other pits associated with Oil and Gas Operations that are intended to contain fluids. KMOG does not utilize pits in the DJ Basin and will not comply with this rule as it does not apply.
5. Per Rule 1202.a.(5)., Operators will install wildlife escape ramps – at a minimum of one ramp per ¼ mile of trench – for trenches that are left open for more than five consecutive days. KMOG will comply with this rule as it does apply.
6. Per Rule 1202.a.(6)., Operators will use CPW-recommended seed mixes (Appendix 1) for Reclamation when consistent with the Surface Owner's approval and any local soil conservation district requirements while conducting interim and final reclamation activities (pursuant to 1100 Series Rules). KMOG will comply with this rule as it does apply.
7. Per Rule 1202.a.(7)., Operators will use CPW-recommended fence designs when consistent with the Surface Owner's approval and any Relevant Local Government requirements. KMOG will comply with this rule as it does apply.
8. Per Rule 1202.a.(8)., Operators will conduct all vegetation removal necessary for Oil and Gas Operations outside of the established nesting season for migratory birds (April 1-August 31). For any vegetation removal activities performed between April 1 and August 31, Operators will conduct pre-construction nesting surveys within the proposed disturbance area prior to vegetation removal. Should active nests be located, Operators will establish appropriate work zone buffers or modify operations as practicable. KMOG will comply with this rule as it does apply. Pre-construction nesting bird surveys will be performed no more than 7 days prior to the start of site disturbing activities.

9. Per Rule 1202.a.(9), Operators will treat drilling pits, production pits, and any other pits containing water that provides a medium for breeding mosquitoes with Bti to control mosquito larvae that may spread West Nile virus to Wildlife Resources. KMOG does not utilize pits in the DJ Basin and will not comply with this rule as it does not apply. However, if freshwater is stored on Location in Modular Large Volume Tanks (MLVT) or completely enclosed Minion tanks during well drilling/completion activities, KMOG will comply with this directive.
10. Per Rule 1202.a.(10).A-E, Operators will employ the following minimum BMPs on new locations with a Working Pad Surface located between 500-1,000 feet hydraulically upgradient from a High Priority Habitat identified in Rule 1202.c.(1).Q-S:
 - a) Contain flowback and stimulation fluids in tanks with downgradient perimeter berming;
 - b) Construct lined berms or other lined containment devices pursuant to Rule 603.o around any new crude oil, condensate, and produced water storage tanks that are installed after January 15, 2021;
 - c) Inspect locations on a daily basis, unless the approved Form 2A provides for different inspection frequency or alternative method of compliance;
 - d) Maintain adequate spill response equipment at the location during drilling and completion operations; and
 - e) Not construct or utilize any pits, except existing previously approved pits that were operated and maintained in compliance prior to January 15, 2021.KMOG has not proposed any activities for the Location within 500-1,000 feet from HPHs identified in Rule 1202.c.(1).Q-S. and will not comply with this rule as it does not apply.

In addition, KMOG commits to implement the following site-specific wildlife BMPs to further avoid and minimize environmental impacts from the OGDG:

1. Inform and educate employees and contractors on wildlife conservation practices, including no illegal hunting, harassment or feeding of wildlife.
2. Consolidate and centralize fluid collection and distribution facilities to minimize impact to wildlife.
3. Adequately size infrastructure and facilities to accommodate both current and future gas production.
4. Protect culvert inlets from erosion and sedimentation and install energy dissipation structures at outfalls.
5. Implement fugitive dust control measures.
6. Install screening or other devices on the stacks and on other openings of heater treaters or fired vessels to prevent entry by migratory birds.
7. Minimize rig mobilization and demobilization by completing or re-completing all wells from a given well pad before moving rigs to a new location.

8. Operator will share and consolidate new corridors for pipeline rights-of-way and roads to minimize surface disturbance.
9. Post speed limits and caution signs to the extent allowed by surface owners, Federal and state regulations, local government, and land use policies.
10. Use topographic features and vegetative screening to create seclusion areas, where acceptable to the surface owner.
11. Use remote monitoring of well production to the extent practicable.
12. Reduce traffic associated with transporting drilling water and produced liquids using pipelines, large tanks, or other measures.
13. Install automated emergency response systems (e.g., high tank alarms, emergency shutdown systems).

6.0 PHOTOGRAPHS

Photo 1. Vista 13-16HZ Location, facing north.



Photo 2. Vista 13-16HZ Location, facing east.



Photo 3. Vista 13-16HZ Location, facing south.



Photo 4. Vista 13-16HZ Location, facing west.




7.0 REFERENCES

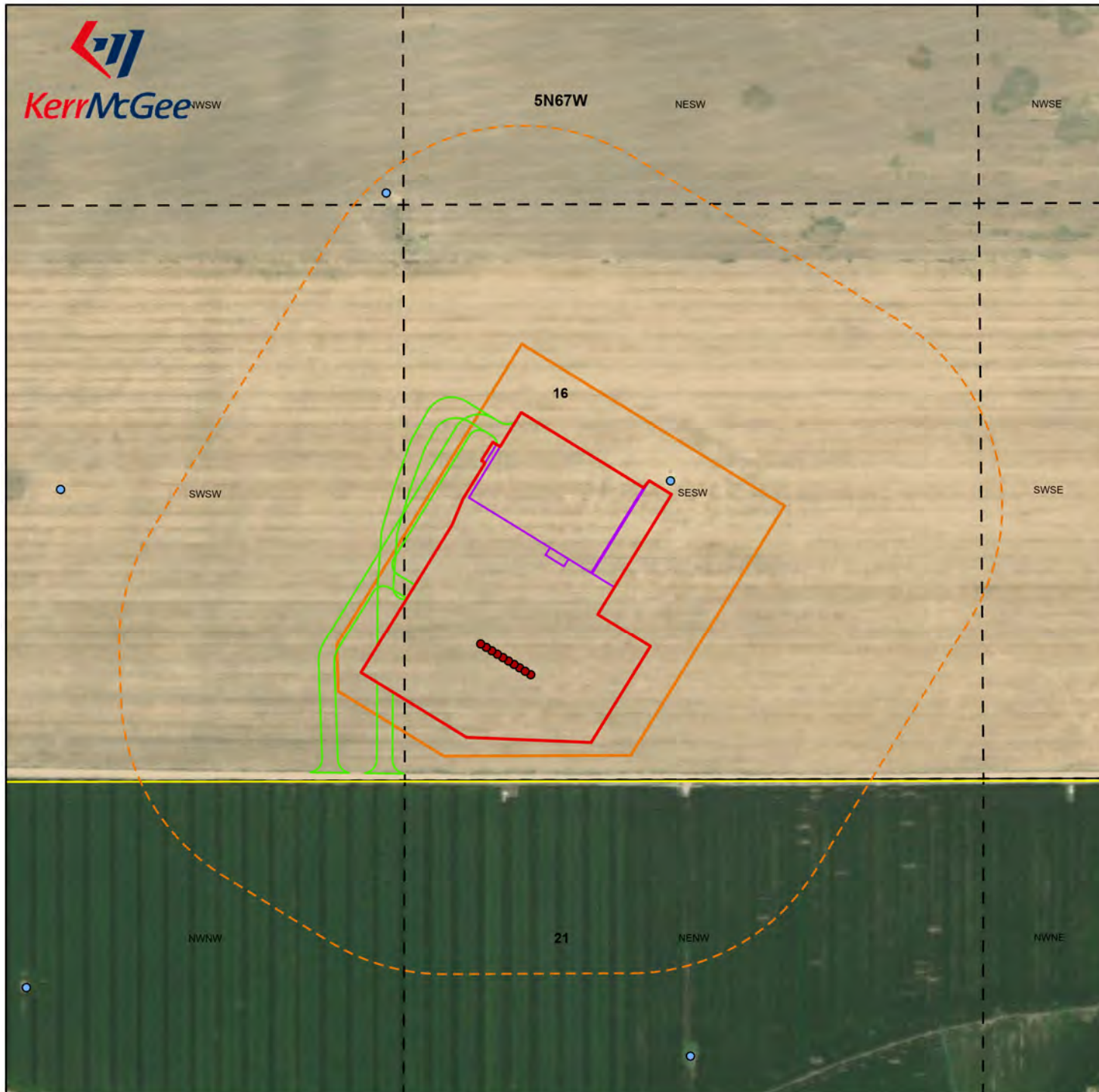
The following sources were used in the review and evaluation process of the Vista 13-16HZ Location and in preparation of the WPP:

- (COGCC) Colorado Oil & Gas Conservation Commission. 2022. Colorado Oil and Gas Information System (COGIS). Available online at: <https://cogcc.state.co.us/data.html#/cogis>. (Accessed December 2022)
- (CPW) Colorado Parks & Wildlife. 2022. HPH COGCC SB181 Data. Available online at: <https://www.arcgis.com/home/group.html?id=280f7c0420604edaa66ed6c0311d31d9#overview>. (Accessed December 2022).
- (FEMA) Federal Emergency Management Agency. 2022. USA Flood Hazard Areas. Available online at: <https://www.fema.gov/flood-maps/national-flood-hazard-layer>. (Accessed December 2022).
- (NRCS) Natural Resources Conservation Service. 2022. Web Soil Survey. Available at: <http://websoilsurvey.nrcs.usda.gov/>. (Accessed December 2022)
- (USFWS) U.S. Fish and Wildlife Service. 2022a. IPaC – Information Planning and Conservation System. Available online at: <http://ecos.fws.gov/ipac/>. (Accessed December 2022).
- (USFWS) U.S. Fish and Wildlife Service. 2022b. National Wetlands Inventory. Available online at: <https://www.fws.gov/wetlands/>. (Accessed December 2022).
- (USGS) U.S. Geological Survey. 2022a. Groundwater levels for Colorado. Available online at: <https://nwis.waterdata.usgs.gov/co/nwis/gwlevels>. (Accessed December 2022)
- (USGS) U.S. Geological Survey. 2022b. National Hydrography Dataset Plus High Resolution. Available online at: <https://www.usgs.gov/core-science-systems/ngp/national-hydrography/nhdplus-high-resolution>. (Accessed December 2022).













8.0 APPENDIX 1

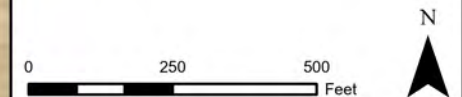
CPW-NE Region Recommended Mitigation Seed Mix for Pronghorn – Loamy Soil

 Seed Ordering and Mixing Sheet			
Cooperator/Project Name CPW recommended mitigation mix for pronghorn Date 3/17/2021 Tract/Field No. _____ Acres 1			
Requirements for Seed: All seed must be of USA or Canada origin. Seed must be mixed and bagged as shown below. Any substitutions for plant species or cultivars must be approved by NRCS. Bulk pounds for each species must be on the seed tag or provided on a separate sheet from the seed dealer.			
Common Name	Genus, species	Cultivar	Pounds Pure Live Seed (PLS)
Fluffy Seeds (Bag 1):			
Blanketflower	Gaillardia aristata		0.22
Fourwing Saltbush	Atriplex canescens		0.40
Large Hard Seeds (Bag 2):			
Green needlegrass	Nassella viridula	Lodorm	0.24
Needleandthread	Hesperostipa comata		0.27
Indian ricegrass	Achnatherum hymenoides	Paloma	0.31
Slim-leaf penstemon	Penstemon angustifolius		0.14
Dotted Gayfeather	Liatris punctata		0.14
Tahoka Daisy	Machaeranthera Tanacetifolia		0.11
Sainfoin	Onobrychis vicifolia	Shoshone	1.74
Rocky Mountain Beeplant	Cleome serrulata		0.68
Small burnet	Sanguisorba minor	Delar	1.04
Winterfat	Krascheninnikovia lanata		0.14
Rubber rabbitbrush	Ericameria nauseosa		0.04
Small Hard Seeds (Bag 3):			
Sandberg bluegrass	Poa secunda		0.05
Alfalfa	Medicago sativa	Ladak	0.20
Blue flax	Linum perenne	Appar	0.15
Cicer milkvetch	Astragalus cicer	Lutana, Monarch	0.22
Pale evening primrose	Oenothera pallida		0.07
Prairie Coneflower	Ratibida columnifera		0.05
Prickly poppy	Argemone polyanthemus		0.03
Rocky mtn. penstemon	Penstemon strictus	Bandera	0.09
Scarlet globemallow	Sphaeralcea coccinea		0.09



Legend

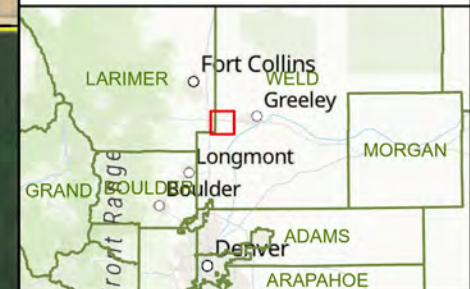
-  Vista 13-16HZ Oil & Gas Location (Disturbance Area)
-  Oil & Gas Location 500' Buffer
-  Vista 13-16HZ Working Pad Surface
-  Vista 13-16HZ Access Road
-  Vista 13-16HZ Facility Disturbance Area
-  Vista 13-16HZ Proposed Wells
- COGCC Well Spot - Facility Status*
-  Plugged & Abandoned
-  Road
-  PLSS Township & Range
-  PLSS Section
-  PLSS Quarter-Quarter
-  County Boundary

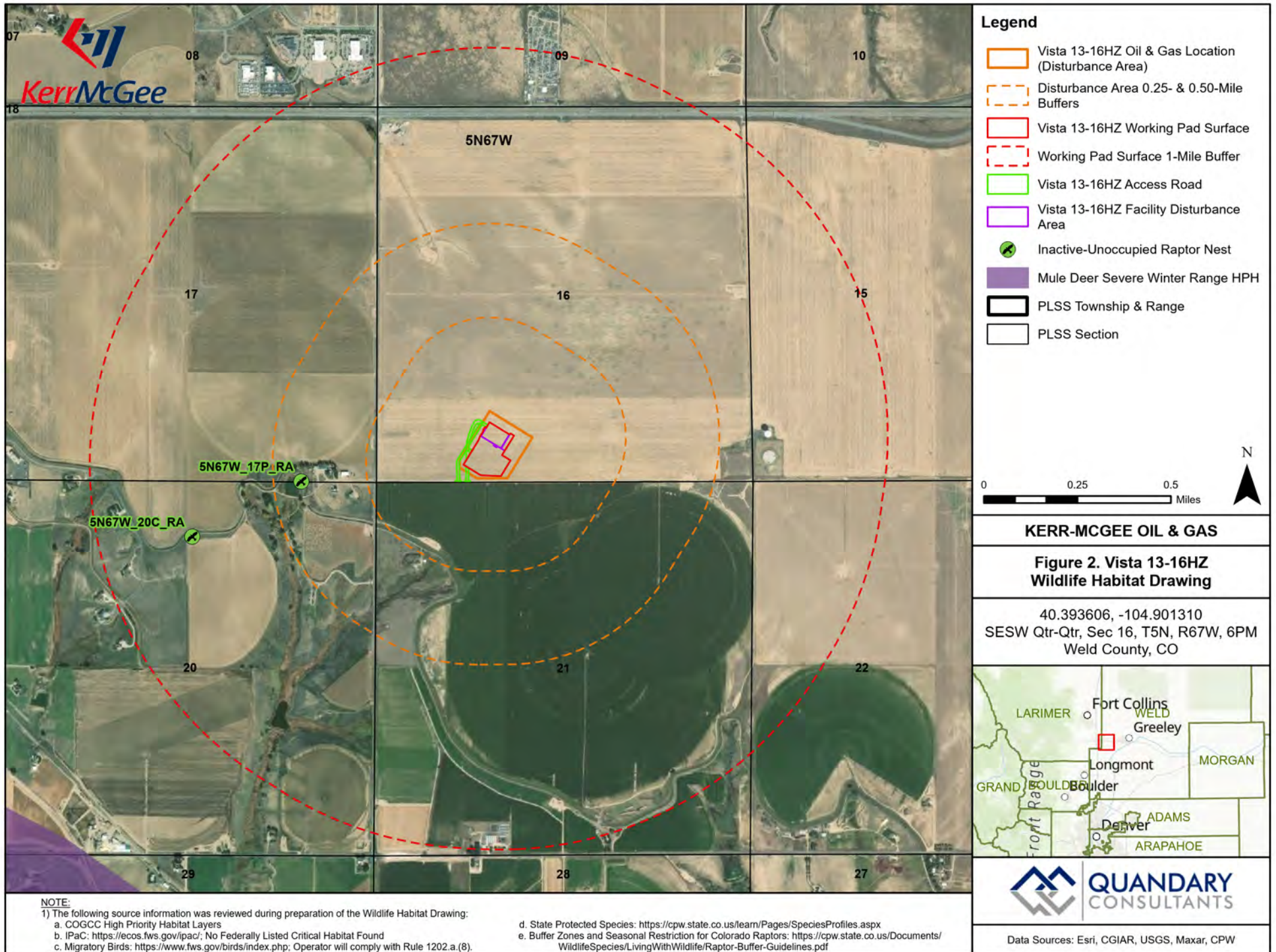


KERR-MCGEE OIL & GAS

Figure 1. Vista 13-16HZ Location Drawing

40.393606, -104.901310
SESW Qtr-Qtr, Sec 16, T5N, R67W, 6PM
Weld County, CO







Legend

-  Vista 13-16HZ Oil & Gas Location (Disturbance Area)
-  Vista 13-16HZ Working Pad Surface
-  Vista 13-16HZ Facility Disturbance Area
-  Vista 13-16HZ Access Road

NRCS Soils

-  16 - Colby loam, 3-5% slopes
-  79 - Weld loam, 1-3% slopes



KERR-MCGEE OIL & GAS

Figure 3. Vista 13-16HZ NRCS Soil Map

40.393606, -104.901310
SESW Qtr-Qtr, Sec 16, T5N, R67W, 6PM
Weld County, CO

