

FORM
2A

Rev
04/18

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

401598341

(SUBMITTED)

Date Received:

Oil and Gas Location Assessment

☐ New Location ☐ Refile ☒ Amend Existing Location Location#: 383264

This Oil and Gas Location Assessment is to be submitted to the COGCC for approval prior to any ground disturbance activity associated with oil and gas operations. Approval of this Oil and Gas Location Assessment will allow for the construction of the below specified Location; however, it does not supersede any land use rules applied by the local land use authority. Please see the COGCC website at <http://cogcc.state.co.us/> for all accompanying information pertinent this Oil and Gas Location Assessment.

Location ID:

383264

Expiration Date:

☒ This location assessment is included as part of a permit application.

CONSULTATION

- ☐ This location is included in a Comprehensive Drilling Plan. CDP # _____
- ☒ This location is in a sensitive wildlife habitat area.
- ☐ This location is in a wildlife restricted surface occupancy area.
- ☐ This location includes a Rule 306.d.(1)A.ii. variance request.

Operator

Operator Number: 10433

Name: LARAMIE ENERGY LLC

Address: 1401 SEVENTEENTH STREET #1400

City: DENVER State: CO Zip: 80202

Contact Information

Name: Joan Proulx

Phone: (970) 263-3641

Fax: ()

email: jproulx@laramie-energy.com

FINANCIAL ASSURANCE

- ☒ Plugging and Abandonment Bond Surety ID (Rule 706): 20120081 ☐ Gas Facility Surety ID (Rule 711): _____
- ☐ Waste Management Surety ID (Rule 704): _____

LOCATION IDENTIFICATION

Name: CC

Number: 0610-21-41 Pad

County: GARFIELD

Quarter: NENW Section: 10 Township: 6S Range: 97W Meridian: 6 Ground Elevation: 8601

Define a single point as a location reference for the facility location. When the location is to be used as a well site then the point shall be a well location.

Footage at surface: 138 feet FNL from North or South section line

2386 feet FWL from East or West section line

Latitude: 39.544325 Longitude: -108.207010

PDOP Reading: 1.5 Date of Measurement: 08/04/2017

Instrument Operator's Name: T Sherrill

RELATED REMOTE LOCATIONS

(Enter as many Related Locations as necessary. Enter the Form 2A document # only if there is no established COGCC Location ID#)

This proposed Oil and Gas Location is:

LOCATION ID #

FORM 2A DOC #

FACILITIES

Indicate the number of each type of oil and gas facility planned on location

Wells	15	Oil Tanks*		Condensate Tanks*	8	Water Tanks*		Buried Produced Water Vaults*	
Drilling Pits		Production Pits*		Special Purpose Pits		Multi-Well Pits*		Modular Large Volume Tanks	
Pump Jacks		Separators*	16	Injection Pumps*		Cavity Pumps*		Gas Compressors*	
Gas or Diesel Motors*		Electric Motors		Electric Generators*		Fuel Tanks*		LACT Unit*	
Dehydrator Units*		Vapor Recovery Unit*		VOC Combustor*	1	Flare*		Pigging Station*	

OTHER FACILITIES*

Other Facility Type

Number

1 SWD (proposed CC 0697-10-SWD1)	1
4-pack separators	4

Those facilities indicated by an asterisk () shall be used to determine the distance from the Production Facility to the nearest cultural feature on the Cultural Setbacks Tab.

Per Rule 303.b.(3)C, description of all oil, gas, and/or water pipelines:

There will be approximately 85.6' of a buried steel 4" gas gathering line and a 4" buried waterline installed to tie into the existing 8" pipeline located at the NE corner of the location. Flowlines from the wellheads to the separators and from separators to the tanks will be 2" steel. The produced water/condensate flowlines from the separators to the tanks will be 2" steel. All flowlines will be buried 4' deep.

CONSTRUCTION

Date planned to commence construction: 02/15/2020

Size of disturbed area during construction in acres: 7.00

Estimated date that interim reclamation will begin: 08/01/2021

Size of location after interim reclamation in acres: 1.70

Estimated post-construction ground elevation: 8595

DRILLING PROGRAM

Will a closed loop system be used for drilling fluids: Yes

Is H₂S anticipated? No

Will salt sections be encountered during drilling: No

Will salt based mud (>15,000 ppm Cl) be used? No

Will oil based drilling fluids be used? No

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE

Drilling Fluids Disposal Method: Recycle/reuse

Cutting Disposal: ONSITE

Cuttings Disposal Method: Other

Other Disposal Description:

See attached Cuttings Management Plan

Beneficial reuse or land application plan submitted? No

Reuse Facility ID: or Document Number:

Centralized E&P Waste Management Facility ID, if applicable:

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Laramie Energy LLC

Phone: 970-263-3641

Address: 1401 Seventeenth Street

Fax: _____

Address: Suite 1400

Email: jproulx@laramie-energy.com

City: Denver State: CO Zip: 80202

Surface Owner: ☒ Fee ☐ State ☐ Federal ☐ Indian

Check all that apply. The Surface Owner: ☒ is the mineral owner

☐ is committed to an oil and Gas Lease

☐ has signed the Oil and Gas Lease

☒ is the applicant

The Mineral Owner beneath this Oil and Gas Location is: ☒ Fee ☐ State ☐ Federal ☐ Indian

The Minerals beneath this Oil and Gas Location will be developed from or produced to this Oil and Gas Location: Yes

The right to construct this Oil and Gas Location is granted by: applicant is owner

Surface damage assurance if no agreement is in place: _____ Surface Surety ID: _____

Date of Rule 306 surface owner consultation _____

CURRENT AND FUTURE LAND USE

Current Land Use (Check all that apply):

Crop Land: ☐ Irrigated ☐ Dry land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP

Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): _____

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

Future Land Use (Check all that apply):

Crop Land: ☐ Irrigated ☐ Dry land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP

Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): _____

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

CULTURAL DISTANCE INFORMATION

Provide the distance to the nearest cultural feature as measured from Wells or Production Facilities onsite.

	From WELL	From PRODUCTION FACILITY
Building:	5280 Feet	5280 Feet
Building Unit:	5280 Feet	5280 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	5280 Feet	5280 Feet
Above Ground Utility:	5280 Feet	5280 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	2888 Feet	2667 Feet

INSTRUCTIONS:

- All measurements shall be provided from center of nearest Well or edge of nearest Production Facility to nearest of each cultural feature as described in Rule 303.b.(3)A.
- Enter 5280 for distance greater than 1 mile.
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.
- For measurement purposes only, Production Facilities should only include those items with an asterisk(*) on the Facilities Tab.

DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:

- ☐ Buffer Zone
- ☐ Exception Zone
- ☐ Urban Mitigation Area

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: _____

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: _____

- Buffer Zone - as described in Rule 604.a.(2), within 1,000' of a Building Unit.
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.
- Large UMA Facility - as defined in 100-Series Rules.

FOR MULTI-WELL PADS AND PRODUCTION FACILITIES WITHIN DESIGNATED SETBACK LOCATIONS ONLY:

- ☐ Check this box if this Oil and Gas Location has or will have Production Facilities that serve multiple wells (on or offsite) and the Production Facilities are proposed to be located less than 1,000 feet from a Building Unit. *(Pursuant to Rule 604.c.(2)E.i., the operator must evaluate alternative locations for the Production Facilities that are farther from the Building Unit, and determine whether those alternative locations were technically feasible and economically practicable for the same proposed development.)*
- ☐ By checking this box, I certify that no alternative placements for the Production Facilities, farther from the nearest Building Unit, were available based on the analysis conducted pursuant to Rule 604.c.(2)E.i.

In the space below, explain rationale for siting the multi-well Production Facility(ies) that supports your Rule 604.c.(2)E.i determination. Attach documentation that supports your determination to this Form 2A.

SOIL

List all soil map units that occur within the proposed location. attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to be used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.org/> or from the COGCC web site GIS Online map page found at <http://colorado.gov/cogcc>. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: Map Unit Symbol 55, Parachute-Irigul Complex 5 to 30 percent slopes

NRCS Map Unit Name: _____

NRCS Map Unit Name: _____

PLANT COMMUNITY:

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes ☐ No ☒

Plant species from: ☒ NRCS or, ☐ field observation Date of observation: _____

List individual species: Slender wheatgrass, Letterman's needlegrass, Arizona fescue, Mountain big sagebrush, Columbia needlegrass, Saskatoon serviceberry, Sandberg bluegrass, Mountain snowberry, Yellow rabbitbrush

Check all plant communities that exist in the disturbed area.

- ☐ Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
- ☒ Native Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
- ☒ Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
- ☐ Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
- ☐ Mountain Riparian (Cottonwood, Willow, Blue Spruce)
- ☐ Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
- ☐ Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
- ☐ Alpine (above timberline)
- ☐ Other (describe): _____

WATER RESOURCES

Is this a sensitive area: ☒ No ☐ Yes

Distance to nearest

downgradient surface water feature: 3332 Feet

water well: 7188 Feet

Estimated depth to ground water at Oil and Gas Location 50 Feet

Basis for depth to groundwater and sensitive area determination:

Permit 115875, 7751' away, permit expired, no well data
Permit 115873, 7188' away, permit expired, no well data
Permit 271291, 5788' from ref well, monitoring well, no water depth
Permit 115881, 8180, monitoring well, no water depth
Permit 53917, monitoring well, no water depth
Approx. 3332' from nearest spring at House Log Gulch (to the NE)

Is the location in a riparian area: ☒ No ☐ Yes

Was an Army Corps of Engineers Section 404 permit filed ☒ No ☐ Yes If yes attach permit.

Is the location within a Rule 317B Surface Water Supply Area buffer No zone:

If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified: _____

Is the Location within a Floodplain? ☒ No ☐ Yes Floodplain Data Sources Reviewed (check all that apply)

☒ Federal (FEMA)

☐ State

☐ County

☐ Local

☒ Other COGCC GIS
FEMA: Non-printed Floo Map Boundary 080205 1275B

GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

WILDLIFE

☐ This location is included in a Wildlife Mitigation Plan

☒ This location was subject to a pre-consultation meeting with CPW held on 08/07/2017

Operator Proposed Wildlife BMPs

No	Target Species	BMP Type	Description
1	Black Bear	Wildlife - Avoidance	<ul style="list-style-type: none">• Identify seasonal habitats and migratory patterns of sage-grouse. Map all seasonal habitats using CPW habitat selection models as they become available.• No surface occupancy within 0.6 mile of any known greater sage-grouse lek.• After drilling and completions activities reduce visits to well-sites through remote monitoring (i.e. SCADA) and the use of multi-function contractors.• Schedule, as best as possible, well site visitations to portions of the day between 9:00 a.m. and 4:00 p.m. during the lekking season

2	GREATER SAGE-GROUSE	Wildlife - Minimization	<p>(March 1 to May 15).</p> <ul style="list-style-type: none"> • Establish company guidelines to minimize wildlife mortality from vehicle collisions on roads. • Phase and concentrate all development activities, so that large areas of undisturbed habitat for wildlife remain and thorough reclamation occurs immediately after development and before moving to new sites. Development should progress at a pace commensurate with reclamation success. • Implement the species appropriate Infrastructure Layout and Drilling and Production Operations Wildlife Protection Measures found in Section II D. of the CPW Wildlife BMP document as follows: • Section II D. DRILLING AND PRODUCTION OPERATIONS WILDLIFE PROTECTION MEASURES: The purpose of these measures is to reduce disturbance on the actual drill site and the surrounding area, to reduce direct conflict with wildlife and hunters, and to prevent wildlife access to equipment. <ol style="list-style-type: none"> 1. Use centralized hydraulic fracturing operations. 2. Transport water through centralized pipeline systems rather than by trucking. 3. Where possible, locate pipeline systems under existing roadways, or roadways that are planned for development. 4. Maximize use of state-of-the-art drilling technology (e.g., high efficiency rigs, coiled-tubing unit rigs, closed-loop or pitless drilling, etc.) to minimize disturbance. 5. Conduct well completions with drilling operations to limit the number of rig moves and traffic. 6. Install exclusionary devices to prevent bird and other wildlife access to equipment stacks, vents and openings. 7. During pipeline installations install trench plugs, earthen ramps, or other means as necessary to ensure that open pipeline trenches do not trap wildlife, and that pipe strings to not impair wildlife movements. • Minimize surface disturbance and fragmentation of greater sage-grouse habitat through use of the smallest facility footprints possible, use of multiple well pads, clustering of roads and pipelines, and the widest possible spacing of surface facilities. • Where applicable design tanks and other facilities with structures such that they do not provide perches or nest substrates for raptors, crows and ravens. • Where needed, install raptor perch deterrents on equipment, fences, cross arms and pole tops in greater sage-grouse habitat. • Remove all unnecessary infrastructure. • Treat waste water pits and any associated pit containing water that provides a suitable medium for breeding mosquitoes with Bti (<i>Bacillus thuringiensis</i> v. <i>israelensis</i>) or take other effective action to control mosquito larvae that may spread West Nile Virus to wildlife, especially grouse. • Implement the species appropriate reclamation guidelines found in Section II G. of the CPW Wildlife BMP document. • Section II G. RESTORATION, RECLAMATION AND ABANDONMENT: The purpose of these measures is to restore disturbed sites to their pre-development conditions, using native vegetation that can be used by the indigenous wildlife. Develop a reclamation plan in consultation with CPW, NRCS, and the land owner or land management agency that incorporates wildlife species-specific goals and that defines reclamation performance standards, including the following components: <ol style="list-style-type: none"> 1. Seed <ol style="list-style-type: none"> a. Use only certified weed-free native seed in seed mixes, unless use of non-native plant materials is recommended by CPW. b. Use locally adapted seed whenever available, especially for species which have wide geographic ranges and much genetic variation (e.g., big sagebrush (<i>Artemisia tridentata</i>), antelope bitterbrush (<i>Purshia tridentata</i>), etc.). c. Where more than one ecotype of a given species is available and potentially adapted to the site, include more than one ecotype per 	
---	---------------------	-------------------------	--	--

species in the seed mix.

- d. Use appropriately diverse reclamation seed mixes that mirror an appropriate reference area for the site being reclaimed (see also species-specific recommendations).
- e. Conduct seeding in a manner that ensures that seedbed preparation and planting techniques are targeted toward the varied needs of grasses, forbs and shrubs (e.g., seed forbs and shrubs separately from grasses, broadcast big sagebrush but drill grasses, etc.).
- f. Emphasize bunchgrass over sod-forming grasses in seed mixes in order to provide more effective wildlife cover and to facilitate forb and shrub establishment.
- g. Seed immediately after recontouring and spreading topsoil. Spread topsoil and conduct seeding during optimal periods for seed germination and establishment. Use of the same contractor for recontouring land as used for seeding is often the most effective approach.
- h. Do not include aggressive, non-native grasses (e.g., intermediate wheatgrass, pubescent wheatgrass, crested wheatgrass, smooth brome, etc.) in reclamation seed mixes. Site specific exceptions may be considered.
- i. Distribute quick germinating site adapted native seed or sterile non-native seed for interim reclamation on cut and fill slopes and topsoil piles.
- j. Plan for reclamation failure and be prepared to repeat seeding as necessary to meet vegetation cover, composition, and diversity standards.

2. Vegetative Cover Standard

- a. Choose reference areas as goals for reclamation that have high wildlife value, with attributes such a diverse and productive understory of vegetation, productive and palatable shrubs, and a high prevalence of native species.
- b. Establish vegetation with total perennial non-invasive plant cover of at least eighty (80) percent of pre-disturbance or reference area levels.
- c. Establish vegetation with plant diversity of non-invasive species which is at least half that of pre-disturbance or reference area levels. Quantify diversity of vegetation using a metric that considers only species with at least 3 percent relative plant cover.
- d. Observe and maintain a performance standard for reclamation success characterized by the establishment of a self-sustaining, vigorous, diverse, locally appropriate plant community on the site, with a density sufficient to control erosion and non-native plant invasion and diversity sufficient to allow for normal plant community development.

3. Timing

- a. Use early and effective reclamation techniques, including interim reclamation to accelerate return of disturbed areas for use by wildlife.
- b. Remove all unnecessary infrastructure.
- c. Close and reclaim roads not necessary for development immediately, including removing all bridges and culverts and recontouring/reclaiming all stream crossings.
- d. Reclaim reserve pits as quickly as possible after drilling and ensure that pit contents do not contaminate soil.
- e. Remediate hydrocarbon spills on disturbed areas prior to reclamation.
- f. Reclaim sites during optimum seasons (e.g. late fall/early winter or early spring).
- g. Complete final reclamation activities so that seeding occurs during the first optimal season following plugging and abandonment of oil and gas wells.

4. Interim reclamation

- a. Use a variety of native grasses and forbs to establi

DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

☐ Rule 604.a.(1)A. Exception Zone (within 500' of a Building Unit) and is in an Urban Mitigation Area

- ☐ Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- ☐ Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- ☐ Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- ☐ Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

RULE 502.b VARIANCE REQUEST

- ☐ Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number _____

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

OPERATOR COMMENTS AND SUBMITTAL

Comments	<p>The CC 0610-21-41 pad, location #383264, was originally planned for 1 well (610-21-41, 045-10864) and one pond (CC Pond 2, #291973) facility ID #435020. The 610-21-41 well was not drilled and the CC Pond 2 was closed effective 11/12/2013. Due to the existing access road and the close proximity to an existing pipeline, Laramie Energy will drill 15 wells and 1 SWD on this pad.</p> <p>Taylor Elm of the CPW asked that all of the Greater Sage Grouse BMPs be added to the wildlife tab as well as a Operator BMP tab.</p> <p>Greater Sage Grouse BMPs continued:</p> <ol style="list-style-type: none"> 4. Interim reclamation <ol style="list-style-type: none"> a. Use a variety of native grasses and forbs to establish effective, interim reclamation on all disturbed areas (e.g., road shoulders and borrow areas), including disturbed areas where additional future ground disturbance is expected to occur. b. Laramie Energy will make a good-faith effort to perform interim reclamation to final reclamation species composition and establishment standards. c. Perform "interim" reclamation on all disturbed areas not needed for active support of production operations. 5. Riparian areas (none associated with this pad or associated access roads and pipelines) <ol style="list-style-type: none"> a. Replace all riparian vegetation removed during development at a rate of at least 3:1. b. Restore both form and function of impacted wetlands and riparian areas and mitigate erosion. 6. Disposal <ol style="list-style-type: none"> a. Remove well pad and road surface materials that are incompatible with post-production land use and re-vegetation requirements. b. Remove and properly dispose of degraded silt fencing and erosion control materials after their utility has expired. c. Remove and properly dispose of pit contents where contamination of surface water, groundwater, or soil by pit contents cannot be effectively prevented. 7. Establishing reclaimed areas <ol style="list-style-type: none"> a. Apply certified weed free mulch and crimp or tacyfy to remain in place to reclaim areas for seed preservation and moisture retention. b. Utilize staked soil retention blankets for erosion control and reclamation of large surface areas with 3:1 or steeper slopes. Avoid use of plastic blanket materials, known to cause mortality of snakes. c. Control weeds in areas surrounding reclamation areas in order to reduce weed competition. d. Educate employees and contractors about weed issues. <ul style="list-style-type: none"> • Use early and effective reclamation techniques, including an aggressive interim reclamation program, to return habitat to use by greater sage-grouse as quickly as possible. • Reclaim/restore greater sage-grouse habitats with native grasses, forbs, and shrubs conducive to optimal greater sage-grouse habitat and other wildlife appropriate to the ecological site. • Use high diversity (10 species or more) reclamation seed mixes in greater sage-grouse habitat. • Use approved CP-4D (greater sage-grouse) seed mixes, based on soil type, precipitation, and elevation, available from Farm Service Agency or Natural Resources Conservation Service, or other seed mixes approved by CPW. • Avoid aggressive non-native grasses in greater sage-grouse habitat reclamation. • Restore disturbed sagebrush sites with the appropriate sagebrush species or subspecies on disturbed sagebrush sites. Use locally collected seed for reseeding where possible. • Reclaim mapped summer habitat with a substantially higher percentage of forbs (> 15 percent cover post establishment) than used in other areas. • Utilize native and select non-native forbs and legumes in seed mixes as they are a vital component of brood-rearing habitat.
----------	--

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: _____ Date: _____ Email: jproulx@laramie-energy.com

Print Name: Joan Proulx Title: Regulatory Analyst

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: _____ Director of COGCC Date: _____

Conditions Of Approval

All representations, stipulations and conditions of approval stated in this Form 2A for this location shall constitute representations, stipulations and conditions of approval for any and all subsequent operations on the location unless this Form 2A is modified by Sundry Notice, Form 4 or an Amended Form 2A.

COA Type

Description

--	--

Best Management Practices

No BMP/COA Type

Description

1	Wildlife	<p>Black Bear</p> <ul style="list-style-type: none">• Initiate a food and waste/refuse management program that uses bear-proof food storage containers and trash receptacles.• Initiate an education program that reduces bear conflicts.• Establish policy to prohibit keeping food and trash in sleeping quarters.• Establish policy to support enforcement of state prohibition on feeding of black bear.• Report bear conflicts immediately to CPW.
2	Wildlife	<p>Sensitive Wildlife Habitat: Greater Sage Grouse</p> <ul style="list-style-type: none">• Identify seasonal habitats and migratory patterns of sage-grouse. Map all seasonal habitats using CPW habitat selection models as they become available.• No surface occupancy within 0.6 mile of any known greater sage-grouse lek.• After drilling and completions activities reduce visits to well-sites through remote monitoring (i.e. SCADA) and the use of multi-function contractors.• Schedule, as best as possible, well site visitations to portions of the day between 9:00 a.m. and 4:00 p.m. during the lekking season (March 1 to May 15).• Establish company guidelines to minimize wildlife mortality from vehicle collisions on roads.• Phase and concentrate all development activities, so that large areas of undisturbed habitat for wildlife remain and thorough reclamation occurs immediately after development and before moving to new sites. Development should progress at a pace commensurate with reclamation success.• Implement the species appropriate Infrastructure Layout and Drilling and Production Operations Wildlife Protection Measures found in Section II D. of the CPW Wildlife BMP document as follows:<ul style="list-style-type: none">• Section II D. DRILLING AND PRODUCTION OPERATIONS WILDLIFE PROTECTION MEASURES: The purpose of these measures is to reduce disturbance on the actual drill site and the surrounding area, to reduce direct conflict with wildlife and hunters, and to prevent wildlife access to equipment.<ol style="list-style-type: none">1. Use centralized hydraulic fracturing operations.2. Transport water through centralized pipeline systems rather than by trucking.3. Where possible, locate pipeline systems under existing roadways, or roadways that are planned for development.4. Maximize use of state-of-the-art drilling technology (e.g., high efficiency rigs, coiled-tubing unit rigs, closed-loop or pitless drilling, etc.) to minimize disturbance.5. Conduct well completions with drilling operations to limit the number of rig moves and traffic.6. Install exclusionary devices to prevent bird and other wildlife access to equipment

stacks, vents and openings.

7. During pipeline installations install trench plugs, earthen ramps, or other means as necessary to ensure that open pipeline trenches do not trap wildlife, and that pipe strings to not impair wildlife movements.

- Minimize surface disturbance and fragmentation of greater sage-grouse habitat through use of the smallest facility footprints possible, use of multiple well pads, clustering of roads and pipelines, and the widest possible spacing of surface facilities.
- Where applicable design tanks and other facilities with structures such that they do not provide perches or nest substrates for raptors, crows and ravens.
- Where needed, install raptor perch deterrents on equipment, fences, cross arms and pole tops in greater sage-grouse habitat.
- Remove all unnecessary infrastructure.
- Treat waste water pits and any associated pit containing water that provides a suitable 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.
- Implement the species appropriate reclamation guidelines found in Section II G. of the CPW Wildlife BMP document.
- Section II G. RESTORATION, RECLAMATION AND ABANDONMENT: The purpose of these measures is to restore disturbed sites to their pre-development conditions, using native vegetation that can be used by the indigenous wildlife. Develop a reclamation plan in consultation with CPW, NRCS, and the land owner or land management agency that incorporates wildlife species-specific goals and that defines reclamation performance standards, including the following components:
 1. Seed
 - a. Use only certified weed-free native seed in seed mixes, unless use of non-native plant materials is recommended by CPW.
 - b. Use locally adapted seed whenever available, especially for species which have wide geographic ranges and much genetic variation (e.g., big sagebrush (*Artemisia tridentata*), antelope bitterbrush (*Purshia tridentata*), etc.).
 - c. Where more than one ecotype of a given species is available and potentially adapted to the site, include more than one ecotype per species in the seed mix.
 - d. Use appropriately diverse reclamation seed mixes that mirror an appropriate reference area for the site being reclaimed (see also species-specific recommendations).
 - e. Conduct seeding in a manner that ensures that seedbed preparation and planting techniques are targeted toward the varied needs of grasses, forbs and shrubs (e.g., seed forbs and shrubs separately from grasses, broadcast big sagebrush but drill grasses, etc.).
 - f. Emphasize bunchgrass over sod-forming grasses in seed mixes in order to provide more effective wildlife cover and to facilitate forb and shrub establishment.
 - g. Seed immediately after recontouring and spreading topsoil. Spread topsoil and conduct seeding during optimal periods for seed germination and establishment. Use of the same contractor for re-contouring land as used for seeding is often the most effective approach.
 - h. Do not include aggressive, non-native grasses (e.g., intermediate wheatgrass, pubescent wheatgrass, crested wheatgrass, smooth brome, etc.) in reclamation seed mixes. Site specific exceptions may be considered.
 - i. Distribute quick germinating site adapted native seed or sterile non-native seed for interim reclamation on cut and fill slopes and topsoil piles.
 - j. Plan for reclamation failure and be prepared to repeat seeding as necessary to meet vegetation cover, composition, and diversity standards.
 2. Vegetative Cover Standard
 - a. Choose reference areas as goals for reclamation that have high wildlife value, with attributes such a diverse and productive understory of vegetation, productive and palatable shrubs, and a high prevalence of native species.
 - b. Establish vegetation with total perennial non-invasive plant cover of at least eighty (80) percent of pre-disturbance or reference area levels.
 - c. Establish vegetation with plant diversity of non-invasive species which is at least half that of pre-disturbance or reference area levels. Quantify diversity of vegetation using a metric that considers only species with at least 3 percent relative plant cover.
 - d. Observe and maintain a performance standard for reclamation success characterized by the establishment of a self-sustaining, vigorous, diverse, locally appropriate plant community on the site, with a density sufficient to control erosion and non-native plant invasion and diversity sufficient to allow for normal plant community

development.
 3. Timing
 a. Use early and effective reclamation techniques, including interim reclamation to accelerate return of disturbed areas for use by wildlife.
 b. Remove all unnecessary infrastructure.
 c. Close and reclaim roads not necessary for development immediately, including removing all bridges and culverts and recontouring/reclaiming all stream crossings.
 d. Reclaim reserve pits as quickly as possible after drilling and ensure that pit contents do not contaminate soil.
 e. Remediate hydrocarbon spills on disturbed areas prior to reclamation.
 f. Reclaim sites during optimum seasons (e.g. late fall/early winter or early spring).
 g. Complete final reclamation activities so that seeding occurs during the first optimal season following plugging and abandonment of oil and gas wells.
 BMPs continued in comments

Total: 2 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401598422	MINERAL LEASE MAP
401598423	ACCESS ROAD MAP
401598429	LOCATION PICTURES
401598431	REFERENCE AREA PICTURES
401598435	NRCS MAP UNIT DESC
401598446	REFERENCE AREA MAP
401779501	OTHER
401779648	OTHER
401779651	MULTI-WELL PLAN
401779655	OTHER
401779670	HYDROLOGY MAP
401779677	LOCATION DRAWING
401779682	CONST. LAYOUT DRAWINGS

Total Attach: 13 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)

Public Comments

No public comments were received on this application during the comment period.

