

APPLICATION FOR PERMIT TO:

Drill Deepen Re-enter Recomplete and Operate

TYPE OF WELL OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> COALBED <input type="checkbox"/> OTHER <u>CO2</u>	Refilling <input type="checkbox"/>
ZONE TYPE SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONES <input type="checkbox"/> COMMINGLE ZONES <input type="checkbox"/>	Sidetrack <input type="checkbox"/>

Date Received:
03/17/2014

Well Name: Sheep Mountain Unit Well Number: 6-15-I

Name of Operator: OXY USA INC COGCC Operator Number: 66561

Address: PO BOX 27757

City: HOUSTON State: TX Zip: 77227

Contact Name: Kiki Lockett Phone: (713)2157643 Fax: (713)9854962

Email: kiki_lockett@oxy.com

RECLAMATION FINANCIAL ASSURANCE
Plugging and Abandonment Bond Surety ID: _____

WELL LOCATION INFORMATION

QtrQtr: SESE Sec: 15 Twp: 27S Rng: 70W Meridian: 6

Latitude: 37.692950 Longitude: -105.200460

Footage at Surface: 73 feet FSL 709 feet FEL

Field Name: SHEEP MOUNTAIN Field Number: 77230

Ground Elevation: 8769 County: HUERFANO

GPS Data:
Date of Measurement: 12/05/2013 PDOP Reading: 2.3 Instrument Operator's Name: S. Selin

If well is Directional Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone:	FNL/FSL	FEL/FWL	Bottom Hole:	FNL/FSL	FEL/FWL
<u>3017</u>	<u>FSL</u>	<u>474</u>	<u>1765</u>	<u>FNL</u>	<u>771</u>
	<u>FEL</u>			<u>FEL</u>	
Sec: <u>15</u>	Twp: <u>27S</u>	Rng: <u>70W</u>	Sec: <u>15</u>	Twp: <u>27S</u>	Rng: <u>70W</u>

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: Fee State Federal Indian

The Surface Owner is: is the mineral owner beneath the location.
(check all that apply) 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 by this Well: No

The right to construct the Oil and Gas Location is granted by: Surface Use Agreement

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

LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

T27S-R70W Sec. 15 E/2SE4, S/2NE, N/2NW4 and lands in other sections.

Total Acres in Described Lease: 640 Described Mineral Lease is: Fee State Federal Indian

Federal or State Lease # COC010488

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 474 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 1843 Feet
 Building Unit: 5280 Feet
 High Occupancy Building Unit: 5280 Feet
 Designated Outside Activity Area: 5280 Feet
 Public Road: 3669 Feet
 Above Ground Utility: 305 Feet
 Railroad: 5280 Feet
 Property Line: 709 Feet

INSTRUCTIONS:

- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).
 - 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.

DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a: Buffer Zone
 Exception Zone
 Urban Mitigation Area

- 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.

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: _____

SPACING and UNIT INFORMATION

Distance from Completed Portion of Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 638 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 1875 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): Sheep Mountain Unit Number: 047683X

SPACING & FORMATIONS COMMENTS

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
DAKOTA	DKTA			
ENTRADA	ENRD			

DRILLING PROGRAM

Proposed Total Measured Depth: 8795 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 638 Feet (Including plugged wells)

Will a closed-loop drilling system be used? Yes

Is H₂S gas reasonably expected to be encountered during drilling operations at concentrations greater than

or equal to 100 ppm? No (If Yes, attach an H2S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

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

Will oil based drilling fluids be used? Yes

BOP Equipment Type: Annular Preventor Double Ram Rotating Head None

GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: ONSITE Drilling Fluids Disposal Methods: Recycle/reuse

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Oxy has a cuttings disposal plan..
Drilling fluids will be reused at all four locations.

Beneficial reuse or land application plan submitted? No

Reuse Facility ID: _____ or Document Number: _____

CASING PROGRAM

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	22	16	0	0	118	225	118	0
SURF	14+3/4	10+3/4	45.5	0	1030	635	1030	0
1ST	9+7/8	7+5/8	26.4	0	5814	1050	5814	0
2ND	6+3/4	5+1/2	17	0	8796	910	8796	3000

Conductor Casing is NOT planned

DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)
- 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)

GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

- Rule 318A.a. Exception Location (GWA Windows).
- Rule 318A.c. Exception Location (GWA Twinning).

RULE 502.b VARIANCE REQUEST

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

OTHER LOCATION EXCEPTIONS

Check all that apply:

- Rule 318.c. Exception Location from Rule or Spacing Order Number _____
- Rule 603.a.(2) Exception Location (Property Line Setback).

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

Oxy is proposing to deepen an existing CO2 well and to drill a new CO2 well from the existing Sheep Mountain Unit 627S70W pad. The existing pad will be amended by constructing an annex to the south in order to drill the new well. There are currently six producing wells on this pad. The existing well which will be deepened reaches Federal minerals into BLM lease #COC010646, and the new well to be drilled will reach Federal minerals into BLM lease #COC010488. No new roads, pipelines or pad facilities will be required; the new well will tie-in to the existing gathering line. The pad lies on private surface, and the surface owner consultation meeting occurred on October 31, 2013 with David Woest from the Oxy Land Department. The CPW pre-consultation meeting occurred on November 18, 2013 with Al Trujillo and he granted Oxy an exception to the bighorn sheep and elk production area drilling restrictions. The existing well and the proposed well are located in two separate NRCS areas. The dry pond on the plat Location Drawing is utilized for capturing rainwater and stormwater runoff. Oxy will provide appropriate housing for essential personnel in order to conduct safe, efficient drilling operations at this well site.

Reference Area pictures will be provided in the next growing season.

If you have any questions or comments, I can be reached at 713.215.7643 or kiki_lockett@oxy.com.

This application is in a Comprehensive Drilling Plan _____ CDP #: _____

Location ID: 333348

Is this application being submitted with an Oil and Gas Location Assessment application? Yes

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

Signed: _____ Print Name: Kiki Lockett

Title: Regulatory Analyst Date: 3/17/2014 Email: kiki_lockett@oxy.com

Operator must have a valid water right or permit allowing for industrial use or purchased water from a seller that has a valid water right or permit allowing for industrial use, otherwise an application for a change in type of use is required under Colorado law. Operator must also use the water in the location set forth in the water right decree or well permit, otherwise an application for a change in place of use is required under Colorado law. Section 37-92-103(5), C.R.S. (2011).

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: 4/27/2014

Expiration Date: 04/26/2016

API NUMBER

05 055 06066 00

Conditions Of Approval

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

COA Type

Description

	1) Provide 48 hour notice prior to spud via electronic Form 42. 2) Run and submit Directional Survey from TD to base of existing casing.
	Open hole resistivity and gamma logs shall be run to describe the stratigraphy of the entire well bore and to adequately verify the setting depth of surface casing and aquifer coverage. On a multi-well pad, these open hole logs are only required on one of the first wells drilled on the pad and the Drilling Completion Report - Form 5 for every well on the pad shall identify which well was logged.

Best Management Practices

No BMP/COA Type

Description

1	Wildlife	<p>OXY USA WTP LP and OXY USA Inc.</p> <p>Sensitive Wildlife Habitat: Elk Production Area and Bighorn Sheep</p> <ul style="list-style-type: none"> • Consult with CPW to identify locations of elk production areas and bighorn sheep production areas. Map all seasonal habitats using CPW habitat selection models as they become available. • 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 8:00 a.m. and 3:00 p.m. between November 1 through April 15 in Bighorn Sheep areas. • Schedule, as best as possible, well site visitations to portions of the day between 8:00 a.m. and 3:00 p.m. between May 15 through June 30 in elk production areas. • Establish company guidelines to minimize wildlife mortality from vehicle collisions on roads. • 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. Where possible, 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. • Minimize surface disturbance and fragmentation of elk and bighorn sheep 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. • 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 v. israelensis</i>) or take other effective action to control mosquito larvae that may spread West Nile Virus to wildlife, especially grouse. • In order to prevent wildlife from accessing the temporary drilling pits, pits will be contained by a 4-foot high fence. Further, while the pit is not in use, flagging will be placed over the pit to prevent birds from entering the pit.
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- 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 (*Artemesia 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.

2	Interim Reclamation	<p>4. Interim reclamation</p> <p>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.</p> <p>b. Oxy will make a good-faith effort to perform interim reclamation to final reclamation species composition and establishment standards.</p> <p>c. Perform "interim" reclamation on all disturbed areas not needed for active support of production operations.</p> <p>5. Riparian areas (none associated with this pad or associated access roads and pipelines)</p> <p>a. Replace all riparian vegetation removed during development at a rate of at least 3:1.</p> <p>b. Restore both form and function of impacted wetlands and riparian areas and mitigate erosion.</p> <p>6. Disposal</p> <p>a. Remove well pad and road surface materials that are incompatible with post-production land use and re-vegetation requirements.</p> <p>b. Remove and properly dispose of degraded silt fencing and erosion control materials after their utility has expired.</p> <p>c. Remove and properly dispose of pit contents where contamination of surface water, groundwater, or soil by pit contents cannot be effectively prevented.</p> <p>7. Establishing reclaimed areas</p> <p>a. Apply certified weed free mulch and crimp or tacify to remain in place to reclaim areas for seed preservation and moisture retention.</p> <p>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.</p> <p>c. Control weeds in areas surrounding reclamation areas in order to reduce weed competition.</p> <p>d. Educate employees and contractors about weed issues.</p> <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. • Gate single-purpose roads and restrict general public access to reduce traffic disruptions to wildlife. • Close and immediately reclaim all roads that are redundant, not used regularly, or have been abandoned to the maximum extent possible to minimize disturbance and habitat fragmentation. • Avoid aggressive non-native grasses and shrubs in mule deer and elk habitat restoration. • Reclaim mule deer and elk habitats with native shrubs, grasses, and forbs appropriate to the ecological site disturbed. • Restore disturbed sagebrush sites with the appropriate sagebrush species or subspecies on disturbed sagebrush sites. Use locally collected seed for reseeding where possible.
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Total: 2 comment(s)

Attachment Check List

Att Doc Num	Name
2519010	SURFACE AGRMT/SURETY
400568104	FORM 2 SUBMITTED
400568371	WELL LOCATION PLAT
400568372	DRILLING PLAN
400568373	DIRECTIONAL DATA
400568384	TOPO MAP
400568385	DEVIATED DRILLING PLAN

Total Attach: 7 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final review completed; no LGD or public comment received.	4/25/2014 6:36:39 AM
Engineer	Added 2nd string info from attached Drilling Plan. Found 17# casing as 5-1/2" -vs- 5" in drilling plan. Changed PTMD from 8900' to 8796' based on drilling plan.	3/31/2014 5:16:17 PM
Permit	The minerals beneath the location are Federal but is a different lease and will not be developed by this well.	3/19/2014 6:22:31 AM
Permit	The original SUA was made with BP which Oxy USA acquired. per Operator 3/18/2014	3/19/2014 5:59:30 AM
Permit	Slight differences in reported TD attributed to rathole.	3/18/2014 8:01:08 AM
Permit	Changed distance to another well completed in same objective formation/penetrating the objective formation to distance to Sheep Mountain Unit 3-15-B.	3/18/2014 7:00:37 AM
Permit	Changed distance to lease line to distance to top of production which was closer than bottom hole.	3/18/2014 6:57:14 AM
Permit	Changed right to construct to SUA which was provided.	3/18/2014 6:56:01 AM
Permit	Location of this well is the same as the form 2a so why is the right to construct different.	3/17/2014 2:21:09 PM

Total: 9 comment(s)