

FORM
2A

Rev
08/13

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:

400446461

Date Received:

12/31/2013

Oil and Gas Location Assessment

New Location Refile Amend Existing Location Location#: _____

Submit signed original form. 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:

437712

Expiration Date:

06/25/2017

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: 78110

Name: SWEPI LP

Address: 4582 S ULSTER ST PKWY #1400

City: DENVER State: CO Zip: 80237

Contact Information

Name: Steve Compton

Phone: (303) 305-4017

Fax: (303) 305-7554

email: C-Steven.Compton@shell.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20030028 Gas Facility Surety ID: _____

Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: North Hayden Number: 1-26

County: ROUTT

Quarter: SENE Section: 26 Township: 7N Range: 88W Meridian: 6 Ground Elevation: 6699

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: 1927 feet FNL from North or South section line

268 feet FEL from East or West section line

Latitude: 40.537714 Longitude: -107.220483

PDOP Reading: 1.8 Date of Measurement: 05/31/2013

Instrument Operator's Name: G. McElroy

Address: 555 Breeze Street

Fax: _____

Address: Suite 110

Email: _____

City: Craig State: CO Zip: 81625

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: oil and gas lease

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

Date of Rule 306 surface owner consultation 04/29/2013

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

Distance to nearest:

Building: 5280 Feet
Building Unit: 5280 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 296 Feet
Above Ground Utility: 5280 Feet
Railroad: 5280 Feet
Property Line: 268 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.

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: _____

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 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: 9E. Shermap loam, 12 to 35 percent slopes
NRCS Map Unit Name: 10E. Bulkley silty clay, 12 to 25 percent slopes
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: Mountain big sagebrush, Letterman's needlegrass, Slender wheatgrass, Mountain brome, Elk sedge, Mountain snowberry, Miscellaneous perennial forbs, Nodding brome, Miscellaneous perennial grasses.

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: 317 Feet

water well: 2214 Feet

Estimated depth to ground water at Oil and Gas Location 100 Feet

Basis for depth to groundwater and sensitive area determination:

The depth to ground water information used is from a domestic water well (permit #265394) located approximately 4,800 feet to the northeast. The nearest domestic well record did not include a static water level and the selected water well is of similar construction to the closest domestic water well. Copies of both well records are included as an attachment. The nearest downgradient surface water feature is a dry drainage ditch. The closest perennial surface water body is located 2,949' south of the site.

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: _____

GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

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)

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

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

Signed: _____ Date: 12/31/2013 Email: C-Steven.Compton@Shell.com

Print Name: Steve Compton Title: Environmental Engineer

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: 6/26/2014

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
	<p>Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via temporary surface pipelines or buried permanent pipelines.</p> <p>Operator must ensure secondary containment for any volume of fluids contained at well site during drilling and completion operations; including, but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e., best management practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the well pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.</p> <p>A closed loop system must be implemented during drilling; or, if a drilling pit is constructed, an amended Form 2A must be submitted and a Form 15 submitted if operator plans on using either oil based muds or high chloride/TDS mud. The pit must be lined. All cuttings generated during drilling with oil based muds or high chloride/TDS mud must be kept in the lined drilling pit, or placed either in containers, lined trenches, or on a lined/bermed portion of the well pad; prior to disposition. The moisture content of any drill cuttings in a cuttings trench or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts. At the time of closure, if the drill cuttings are to be left onsite, they must also meet the applicable standards of table 910-1. All liners associated with drilling mud and cuttings must be disposed of offsite per CDPHE rules and regulations.</p> <p>The location is in an area of moderate to high run-on/run-off potential; therefore standard stormwater BMPs must be implemented at this location to insure compliance with CDPHE and COGCC requirements and to prevent any stormwater run-on and /or stormwater run-off.</p> <p>The access road will be constructed and maintained as to not allow any sediment to migrate from the access road to nearby surface water or any drainages leading to surface water.</p> <p>Strategically apply fugitive dust control measures, including enforcing established speed limits on private roads, to reduce fugitive dust and coating of vegetation and deposition in water sources.</p> <p>During all construction, drilling, and completion phases at this location, operator shall be monitoring the wildfire potentials daily and have the appropriate additional equipment and measures in place. This may include smoking bans and additional fire fighting equipment. Operator shall consult with the NFS as necessary.</p> <p>Berms or other containment devices shall be constructed to be sufficiently impervious (corrugated steel with poly liner) to contain any spilled or released material around permanent crude oil, condensate, and produced water storage tanks.</p>
	<p>The moisture content of any drill cuttings in a cuttings trench or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts.</p> <p>If the well is to be hydraulically stimulated, flowback and stimulation fluids must be sent to tanks, separators, or other containment/filtering equipment before the fluids can be placed into any pipeline, storage vessel, or lined pit (only if an amended Form 2A has been submitted/approved and a Form 15 Earthen Pit Permitted has been submitted/approved) located on the well pad; or into tanker trucks for offsite disposal. The flowback and stimulation fluid tanks, separators, or other containment/filtering equipment must be placed on the well pad in an area with additional downgradient perimeter berming. The area where flowback fluids will be stored/reused must be constructed to be sufficiently impervious to contain any spilled or released material.</p>

Notify the COGCC 48 hours prior to start of pad reconstruction, start of construction of the pit (if different), pit liner installation, rig mobilization, spud, and start of hydraulic stimulation operations using Form 42 (the appropriate COGCC individuals will automatically be email notified, including the LGD for hydraulic stimulation operations).

Operator shall design and construct the access road utilizing all available soils, geologic, landslide, and hydrogeologic information. Operator shall notify the COGCC and the Routt County LGD 48 hours prior to start of access road and pad construction using Form 42 (the appropriate COGCC individuals will automatically be email notified, Operator will need to notify the Routt County LGD (cbrookshire@co.routt.co.us) for road and pad construction.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Community Outreach and Notification	SWEPI LP will conduct groundwater monitoring in accordance with COGCC Rule 609 for the North Hayden 1-26 well pad.
2	Wildlife	<p>1. This location is within Elk Winter Concentration area. Conduct oil and gas activities outside the time period from December 1 through April 15.</p> <p>2. This location is within Elk Winter Concentration area. Restrict post-development well site visitations to between the hours of 9:00 a.m. and 4:00 p.m. from December 1 to April 15.</p> <p>3. This location is within designated greater sage-grouse priority habitat and activities should be conducted outside of the period from March 1 to June 30.</p> <p>4. This location is within 1.25 miles of Columbian sharp-tailed grouse leks (Production Area), and activities should be conducted outside of the period from March 15 to July 30.</p> <p>5. Restrict post-development well site visitations to portions of the day between 9:00 a.m. and 4:00 p.m. during the greater sage-grouse and Columbian sharp-tailed grouse leking season, from March 1 to July 30.</p> <p>6. Muffle or otherwise control exhaust noise from pump jacks and compressors so that operational noise will not exceed 49 dB measured at 30 feet from the edge of the well pad.</p> <p>7. Reclaim/restore greater sage-grouse and Columbian sharp-tailed grouse habitats with native grasses and forbs conducive to optimal grouse habitat and other wildlife appropriate to the ecological site. CPW can assist reclamation efforts with recommended seed mixes, if request.</p> <p>8. Design wastewater pits to minimize retention of stagnant surface water.</p> <p>9. Treat waste water pits and any associated pit containing water that provides a medium for breeding mosquitos 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.</p> <p>10. Establish company guidelines to minimize wildlife mortality from vehicle collisions on roads.</p> <p>11. Install and utilize bear-proof dumpsters and trash receptacles for all food-related trash on location following COGCC Rule 1204 a-1.</p> <p>12. Shell will coordinate with State Land Board and gate (as agreed upon) the well pad access road from Routt County Road 80 to prevent public access.</p> <p>13. Shell will utilize exclusionary (wildlife and livestock) fencing to protect reclaimed areas until vegetation is established.</p>

3	Storm Water/Erosion Control	<p>Storm Water management plans (SWMP) are in place to comply with both Colorado Department of Public Health and Environment (CDPHE) and Colorado Oil and Gas Conservation Commission (COGCC) storm water discharge permits. The construction layout for this location details Best Management Practices (BMP's) to be installed during the initial construction. Note that BMP's may be removed, altered, or replaced with the changing conditions in the field and the SWMP will be updated accordingly. The BMP's prescribed for the initial construction phase include, but are not limited to:</p> <ul style="list-style-type: none"> • Construct diversion ditch • Sediment Reservoirs • Check dams • Level spreaders • Stabilized construction entrance • Slash • Sediment Traps • Wattles • Terrace • Secondary containment berms • Detention ponds
4	Material Handling and Spill Prevention	<p>Spill Prevention Control and Countermeasure Plans (SPCC) are in place to address material releases and to prescribe materials handling BMP's for the facility. "Good Housekeeping" measures will be taken to ensure proper waste disposal.</p>

Total: 4 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1792973	CONST. LAYOUT DRAWINGS
2106890	PROPOSED BMPs
2106919	CORRESPONDENCE
400446461	FORM 2A SUBMITTED
400446994	LOCATION PICTURES
400447089	ACCESS ROAD MAP
400447092	HYDROLOGY MAP
400447095	LOCATION DRAWING
400447105	NRCS MAP UNIT DESC
400447106	OTHER
400447107	REFERENCE AREA MAP
400447108	REFERENCE AREA PICTURES

Total Attach: 12 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final review completed. LGD comments.	6/26/2014 5:36:04 AM
Permit	The State Land Board has the proper bonding in place and is within the Otheos State Unit.	6/26/2014 5:35:56 AM
Permit	Operator supplied new Const. Layout Drawings.	5/1/2014 8:26:07 AM

<p>OGLA</p>	<p>Initiated/Completed OGLA Form 2A review on 02-06-14 by Dave Kubeczko; requested acknowledgement of notification, GW monitoring, fluid containment, spill/release BMPs, moisture content/containment cuttings, lined pit/closed loop, no pit in fill, wildfire prevention, access road design, sediment control, dust control, stormwater BMPs, tank berming, and flowback to tanks COAs from operator on 02-06-14; received acknowledgement of COAs from operator on 02-13-14; changed size of disturbed area during construction from 4.55 acres to 4.09 acres per construction layout drawings (pad area only, not access road); updated Location Drawing and Construction Layout Drawings on 04-15-14 per SWEPI email; passed by CPW on 02-03-14 with operator agreed to elk, deer, and pronghorn BMPs acceptable; provided responses to Routt County LGD comments (dated 01-31-14) on 02-06-14 (shown below the LGD's comments); passed OGLA Form 2A review on 03-04-14 by Dave Kubeczko; notification, GW monitoring, fluid containment, spill/release BMPs, moisture content/containment cuttings, lined pit/closed loop, wildfire prevention, access road design, sediment control, dust control, stormwater BMPs, tank berming, and flowback to tanks COAs.</p>	<p>2/6/2014 3:41:52 PM</p>
<p>LGD</p>	<p>LGD Comments</p> <p>Shell Exploration North Hayden 1-26 well site Secs 25 26 T7N R88W</p> <p>1) There is an un-named stream and drainage in this area. The well pad is proposed to be constructed within this drainage. Routt County has been in negotiations for mitigation of this site, but discussions have not been finalized. At this time Routt County may not accept the location of the well pad site and requests that approval of this application be placed on hold until the site location review is completed.</p> <p>2) The access road is proposed to cross this stream. Any access roads and the well pad must have a comprehensive BMP plan and continually monitored for protection of these water sources from erosion and contaminants. Routt County requires permits for waterbody setbacks.</p> <p>3) Routt County requests information from the COGCC after drilling operations are complete for the location of aquifers to confirm that casing was completed per minimum requirements of the COGCC regulations to protect all aquifers.</p> <p>4) The site is located approximately 3.8 miles NE of the Yampa Valley Regional Airport. The operator is required to file with the FAA an evaluation and receive approval for drilling operations.</p> <p>5) The site is mapped for geologic concerns for unstable slopes. The access road and site should be designed to accommodate the specific geologic conditions and not adversely affect slope stability. It is recommended that a qualified geologic or geotechnical engineer review the proposed design and construction.</p> <p>6) The site is mapped for wildlife concerns for Elk winter range, Elk severe winter range and Elk Winter Concentration area. The site is also within mapped production area for Columbian Sharp-tailed Grouse and Greater Sage Grouse Production area. Recommended DPW wildlife restrictions should be placed on the permit to avoid disturbance to affected wildlife.</p> <p>7) The site is mapped in a high wildfire area. Fire extinguishers or fire suppression equipment should be on-site at all times during operations and maintenance.</p> <p>8) The petitioner has previously submitted in their applications and agreed to the following COA's in the Routt County Special Use Permit. Routt County requests that this COA be placed in the COGCC permit:</p> <p>a. The petitioner will be in compliance with CDPHE, Air Quality Control Commission, Regulation No. 2 (Odor Emission), 5 C.C.R. 1001-4.</p> <p>b. The petitioner agrees to install, maintain and operate VOC capture equipment on major equipment including tanks, wellheads, dehydrators and heater treaters, and to route captured emissions through a combustion device (flare, incinerator, heater,</p>	<p>1/31/2014 3:15:00 PM</p>

	<p>internal combustion engine).</p> <p>c. With regard to the impact of flares on air quality, the petitioner production flares will be smokeless in design, will include a flame arrester, and the flame will not be directly visible from buildings or land beyond the site, Emergency flares are exempted from this requirements.</p> <p>d. Transport Truck Air Emissions: Transport trucks shall meet all Federal DOT vehicles guidelines and the petitioner will request that vendors use their newest low-emissions equipment for transport to well sites. The petitioner will require vendor use of Ultra-Low Sulfur Diesel (ULSD) while hauling for the operator. On-site idling time shall be traced by the vendor with results made available to the County upon request to the petitioner.</p> <p>9) Additionally, Routt County requests that the COGCC permit require permit holder to comply with air quality standards now under consideration when those standards are adopted.</p> <p>COGCC RESPONSE (02-06-14) TO ROUTT COUNTY LGD's COMMENTS (submitted on 01-31-14):</p> <p>Comment No. 1 requests that COGCC place this Form 2A permit "ON HOLD" until Routt County's consultation with SWEPI is completed. This Form 2A permit application meets all of COGCC's requirements; therefore, this Form 2A permit will be kept "IN PROCESS" to meet COGCC's deadlines for permit processing/approval.</p> <p>Comment Nos. 2, 3, 4, and 8 reference Routt County's permit process and do not apply to COGCC's Form 2A permit process/requirements.</p> <p>Comment No. 5 requests that COGCC have the road and pad designed be reviewed by an engineer. COGCC does not require independent review/approval of operator's access road or pad design.</p> <p>Comment No. 6 requests that COGCC place CPW BMPs on the Form 2A permit. Routt County's LGD needs to review all submittals associated and contained on this Form 2A permit, since these wildlife BMPs are already on the permit.</p> <p>Comment No. 7 regarding fire fighting equipment is already in COGCC rules.</p> <p>Comment No. 9 requests that the COGCC permit place requirements that the operator comply with air quality standards now under consideration when those standards are adopted. COGCC can only enforce our current rules and requirements, not another agency's.</p>		
Permit	Comment Period extended 10 days from 1-23 to 2-2 per LGD request.	1/21/2014 12:22:48 PM	
DOW	<p>Colorado Parks and Wildlife staff attended an onsite visit of this location on July 19, 2013. During onsite consultation, best management practices (BMPs) were identified and have been incorporated by Shell on their Form 2A for this location. In addition to the BMPs provided on the permit, Shell has agreed by email (January 7, 2014) to two additional BMPs:</p> <ol style="list-style-type: none"> 1. Shell will coordinate with State Land Board and gate (as agreed upon) the well pad access road from Routt County Road 80 to prevent public access. 2. Shell will utilize exclusionary (wildlife and livestock) fencing to protect reclaimed areas until vegetation is established. <p>Approved: Taylor Elm, 1/14/2014, 11:10</p>	1/14/2014 11:09:54 AM	
Permit	This form has passed completeness.	1/3/2014 9:20:50 AM	
Total: 8 comment(s)			