

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:

400821078

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Date Received:

04/10/2015

Oil and Gas Location Assessment

New Location     Refile     Amend Existing Location    Location#: 434520

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:

**434520**

Expiration Date:

**07/12/2018**

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: 10396  
 Name: SWN PRODUCTION COMPANY LLC  
 Address: PO BOX 12359  
 City: SPRING    State: TX    Zip: 77391

Contact Information

Name: Cheryl Rowell  
 Phone: (832) 796-7439  
 Fax: (832) 796-8817  
 email: cheryl\_rowell@swn.com

RECLAMATION FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID: 20110201     Gas Facility Surety ID: \_\_\_\_\_
- Waste Management Surety ID: \_\_\_\_\_

LOCATION IDENTIFICATION

Name: Dill Gulch    Number: 1-22  
 County: ROUTT  
 Quarter: NWSW    Section: 22    Township: 6N    Range: 88W    Meridian: 6    Ground Elevation: 6550

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: 2253 feet FSL from North or South section line  
 325 feet FWL from East or West section line  
 Latitude: 40.462250    Longitude: -107.256208  
 PDOP Reading: 1.8    Date of Measurement: 09/23/2014  
 Instrument Operator's Name: GLEN MCELROY

## 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	<u>2</u>	Oil Tanks*	<u>3</u>	Condensate Tanks*	<u>    </u>	Water Tanks*	<u>2</u>	Buried Produced Water Vaults*	<u>    </u>
Drilling Pits	<u>    </u>	Production Pits*	<u>    </u>	Special Purpose Pits	<u>    </u>	Multi-Well Pits*	<u>    </u>	Modular Large Volume Tanks	<u>    </u>
Pump Jacks	<u>    </u>	Separators*	<u>2</u>	Injection Pumps*	<u>    </u>	Cavity Pumps*	<u>    </u>	Gas Compressors*	<u>1</u>
Gas or Diesel Motors*	<u>    </u>	Electric Motors	<u>    </u>	Electric Generators*	<u>    </u>	Fuel Tanks*	<u>    </u>	LACT Unit*	<u>    </u>
Dehydrator Units*	<u>    </u>	Vapor Recovery Unit*	<u>    </u>	VOC Combustor*	<u>1</u>	Flare*	<u>    </u>	Pigging Station*	<u>    </u>

## OTHER FACILITIES\*

Other Facility Type

Number

<u>Other Facility Type</u>	<u>Number</u>

\*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:

250' of 2-1/2" sch 80 from wellheads to the separator  
200' of 2" sch 80 from the separator to the tank battery for the water and oil dumps  
150' of 2" sch 40 from the separator to the incinerator

## CONSTRUCTION

Date planned to commence construction: 07/15/2015 Size of disturbed area during construction in acres: 7.80  
Estimated date that interim reclamation will begin: 06/01/2016 Size of location after interim reclamation in acres: 1.96  
Estimated post-construction ground elevation: 6550

## DRILLING PROGRAM

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

Is H<sub>2</sub>S anticipated? No

Will salt sections be encountered during drilling: No

Will salt based mud (>15,000 ppm Cl) be used? Yes

Will oil based drilling fluids be used? Yes

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Method: Commercial Disposal

Cutting Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Beneficial reuse or land application plan submitted?     

Reuse Facility ID:      or Document Number:     

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

## SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: State of Colorado Phone: 303-866-3454  
 Address: 1127 SHERMAN STREET Fax: \_\_\_\_\_  
 Address: \_\_\_\_\_ Email: \_\_\_\_\_  
 City: DENVER State: CO Zip: 80203  
 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 02/12/2015

**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.

	<b>From WELL</b>	<b>From PRODUCTION FACILITY</b>
Building:	1848 Feet	1734 Feet
Building Unit:	1881 Feet	1765 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	1405 Feet	1246 Feet
Above Ground Utility:	1049 Feet	890 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	908 Feet	746 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

- 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: \_\_\_\_\_

**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 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: 4E. Yampatika silty clay, 12 to 25 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: Western wheatgrass, Alkali sagebrush, Woming Big Sagebrush, Bluebrush Wheatgrass, Bottlebrush Squirreltail, Letterman's Needlegrass, miscelaneous perennial grasses, Saskatoon Siverceberry, micellaneous perennial forbs, Mountain Big Sagebrush.

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: 465 Feet

water well: 2867 Feet

Estimated depth to ground water at Oil and Gas Location 20 Feet

Basis for depth to groundwater and sensitive area determination:

Permit 106461-Griffen, Sam, domestic water well to the north.

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 \_\_\_\_\_

**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).

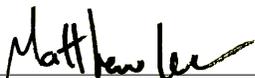
**OPERATOR COMMENTS AND SUBMITTAL**

Comments Request to enlarge existing pad to drill additional well.  
 I certify that there has been no changes on land use, lease description.  
 Amended facility and well counts to support additional production.  
 Revised Construction drawings attached.  
 Revised Location drawings attached.  
 Multi-well Plan attached.  
 Refer to original documents located in Location file #434520 (Access Road Maps, Location Pictures, Hydrology Map, Reference Area Map, etc.)  
 SWN will continue water sampling per Rule 609.

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

Signed: \_\_\_\_\_ Date: 04/10/2015 Email: cheryl\_rowell@swn.com  
 Print Name: Cheryl Rowell Title: Sr. Staff Reg. 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: 7/13/2015

**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.

<u>COA Type</u>	<u>Description</u>
	<p>Initiated/Completed OGLA Form 2A review on 07-06-15 by Dave Kubeczko; previously submitted (2A#400427097) and approved (10-04-13) Form 2A; same COAs apply - notification, fluid containment, spill/release BMPs, tank berming, flowback to tanks, use of salt/oil based muds, closed loop and cuttings containment, Rule 609 GW sampling, and cuttings low moisture content; previous onsite conducted by CPW/COGCC/Routt County in 2013; Routt County LGD comments, dated 05-21-15, are same as those submitted on original Form 2A (LGD comments dated 08-19-13), and were addressed on 09-23-13 for that permit; passed by CPW on 05-21-15 with no wildlife BMPs recommended; passed</p> <p>OGLA Form 2A review on 07-13-15 by Dave Kubeczko; notification, fluid containment, spill/release BMPs, tank berming, flowback to tanks, use of salt/oil based muds, closed loop and cuttings containment, Rule 609 GW sampling, and cuttings low moisture content COAs.</p>

PREVIOUS FORM 2A#400427097, OGCC ID#434520 COAs:

GENERAL SITE COAs:

- \* Notify the COGCC 48 hours prior to start of pad construction, 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 must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via temporary surface or buried pipelines.
- \* Operator must ensure secondary containment for any volume of fluids contained at well site during drilling and completion operations (as described on the BMPs tab and shown on the Construction Layout Drawings and Location Drawing attachments); 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.
- \* A closed loop system must be implemented during drilling (which operator has indicated on the Form 2A).
- \* All cuttings generated during drilling with oil based muds or high chloride/TDS mud must be kept in containers, a lined/bermed portion of the well pad, or the lined drilling pit (if permitted and constructed) prior to offsite disposal. The moisture content of any drill cuttings in a cuttings pit, trench, or pile shall be as low as practicable to prevent accumulation of liquids greater than de minimis amounts.
- \* The moisture content of any freshwater mud generated cuttings in a cuttings pit, 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 freshwater mud generated drill cuttings are to be left onsite, they must also meet the applicable standards of table 910-1.
- \* If the wells are 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 or storage vessel 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 constructed to be sufficiently impervious to contain any spilled or released material.
- \* 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 crude oil, condensate, and produced water storage tanks.

PIPELINE COAs:

- \* Operator shall pressure test pipelines in accordance with Rule 1101.e.(1) prior to putting into initial service any temporary surface or permanent buried pipelines and following any reconfiguration of the pipeline network.
- \* Operator must implement best management practices to contain any unintentional release of fluids along all portions of the surface pipeline route where temporary pumps and other necessary equipment are located.
- \* Operator must routinely inspect the entire length of the surface pipeline to ensure integrity. Operator shall conduct daily inspections of surface poly pipeline routes for leaks during active transfer of fluids. Inspections shall be conducted by viewing the length of the pipeline; operator will endeavor to minimize surface disturbance during pipeline monitoring. The operator shall maintain records of inspections, findings and repairs, if necessary, for the life of the pipelines.
- \* Operator must ensure secondary containment for any potential volume of fluids that may be released from the surface pipeline at all sensitive area crossings, including, but not limited to stream, intermittent stream, ditch, and drainage crossings.
- \* Operator will utilize, to the extent practical, all existing access and other public roads, and/or existing pipeline right-of-ways, when placing/routing the surface pipelines. This will reduce surface disturbance and fragmentation of wildlife habitat in the area.

## Best Management Practices

<b>No</b>	<b>BMP/COA Type</b>	<b>Description</b>
1	Planning	When feasible develop multiple well sites by using directional drilling to reduce cumulative impacts and adverse impacts on wildlife resources.
2	General Housekeeping	Fence the well site after drilling to restrict public and wildlife access. Keep well site location, the road, and the pipeline easement free of noxious weeds, liter and debris. Spray for noxious weeds, and implement dust control, as needed. Southwestern Energy Production Company (SEPCO) will not permit the release or discharge of any toxic or hazardous chemicals or chemicals or wastes on Owners' land. Construct and maintain gates where any roads used by SEPCO cross through fences on the leased premises.
3	Storm Water/Erosion Control	Use water bars and other measures to prevent erosion and non-source pollution. Implement and maintain BMP's to control storm water runoff in a manner that minimizes erosion, transport of sediment offsite, and site degradation. Co-locate gas and water gathering lines whenever feasible and mitigate any erosion problems that arise due to the construction of any pipeline.
4	Construction	Remove only the minimum amount of vegetation necessary for the construction of roads and facilities. Conserve topsoil during excavation and reuse as cover on disturbed areas to facilitate regrowth or vegetation. No construction or routine maintenance activities will be performed during periods when the soil is too wet to adequately support construction equipment.
5	Interim Reclamation	Utilize only such area around each producing well as is reasonably necessary. Restore the remainder of the well site location to its original condition within a reasonable time after the completion of operations. All reseeding shall be done with grasses consistent with the Rocky Mountain native mix or other grasses reasonably requested by surface owner and during planting period suggested by Owner.
6	Final Reclamation	All surface restoration shall be accomplished to the satisfaction of Owner. All reseeding shall be done with grasses consistent with the Rocky Mountain native mix or other grasses reasonably requested by surface owner and during planting period suggested by Owner. Final reclamation shall be completed to the reasonable satisfaction of the owner as soon as practical after installation (weather permitting) and in accordance with regulatory agency standards.

Total: 6 comment(s)

## Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
2107614	MULTI-WELL PLAN
400821078	FORM 2A SUBMITTED
400821863	LOCATION DRAWING
400822533	CONST. LAYOUT DRAWINGS

Total Attach: 4 Files

**General Comments**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>
Permit	Final review complete.	7/13/2015 10:43:46 AM
DOW	<p>SWN PRODUCTION COMPANY, LLC. , Dill Gulch 1-22 (Doc. No. 400821078)</p> <p>CPW attended the onsite for this location, which was conducted on 5/9/13. This surface owner and mineral owner for this site is the Colorado State Land Board. The pad and road/pipeline infrastructure will be constructed entirely in a disturbed wheat field. The site does not provide suitable Preliminary General Habitat for Greater sage-grouse. The site does not provide suitable Elk winter concentration habitat. The site does not provide suitable aquatic habitat. Because of reasons mentioned above, CPW (L. Rossi, S. Znamenacek, P. Canterbury, J. Davidson) did not recommend SWN implement any wildlife-related mitigation.</p> <p>BRETT SMITHERS, 05/21/15 12:50</p>	5/21/2015 12:51:25 PM
Permit	Ready to pass.	5/7/2015 8:22:41 AM
LGD	<p>LGD Comments – Routt County</p> <p>SWN Production Company</p> <p>Dill Gulch 6-88 2-22H</p> <p>Doc #400817803[02] and 400821078[02A]</p> <p>NW4SW4 Sec 22-6-88</p> <p>Routt County has a permitting process for all oil/gas operations. The operator is aware that an application must be submitted to Routt County.</p> <p>Routt County has a review process for all county roads used for oil/gas operations. The operator has contacted Routt County with regard to road review procedures.</p> <p>Routt County requests information from the COGCC after drilling operations are complete for the located of aquifers and showing that casing was completed per minimum requirements of the COGCC regulations to protect all aquifers.</p> <p>The site is located approximately 2.5 miles southwest 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>Routt County requests that the operator continue to be required to comply with Rule 609. The well site is located between two separate waterways, less than 0.5 miles and lower in elevation. Stokes Gulch is located to the north and Dry Creek located to the south. There are two domestic wells being tested with the permitting of the Dill Gulch 2-22 well. Continued testing of these water sources should be required. Routt County requests that a COA be added under Form 2A for the required testing of the two waterways.</p> <p>Any additional construction work may require a GE permit from Routt County. Due to the site being located between two drainages, 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.</p> <p>Continued best management practices should be used to test or monitor air quality and meet all requirements of the CDPHE. New technology should be used to prohibit emissions from tanks, equipment and flares on the onset of production.</p>	4/27/2015 3:27:18 PM
Permit	Passed completeness.	4/15/2015 3:30:24 PM

Total: 5 comment(s)