

FORM
2

Rev
12/05

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:

400256485

Date Received:

05/18/2012

PluggingBond SuretyID

20030028

APPLICATION FOR PERMIT TO:

1. ☒ Drill, ☐ Deepen, ☐ Re-enter, ☐ Recomplete and Operate

2. TYPE OF WELL

OIL ☒ GAS ☐ COALBED ☐ OTHER LATERAL
SINGLE ZONE ☒ MULTIPLE ☐ COMMINGLE ☐

Refiling ☐

Sidetrack ☐

3. Name of Operator: SWEPI LP

4. COGCC Operator Number: 78110

5. Address: 4582 S ULSTER ST PKWY #1400

City: DENVER State: CO Zip: 80237

6. Contact Name: Michael L. Bergstrom Phone: (303)222-6347 Fax: (303)222-6258

Email: Michael.Bergstrom@shell.com

7. Well Name: Freeman Well Number: 3-24

8. Unit Name (if appl): Unit Number:

9. Proposed Total Measured Depth: 10553

WELL LOCATION INFORMATION

10. QtrQtr: NWSW Sec: 24 Twp: 27S Rng: 69W Meridian: 6

Latitude: 37.684831 Longitude: -105.067631

Footage at Surface: 2105 feet FSL 536 feet FWL

11. Field Name: Wildcat Field Number: 99999

12. Ground Elevation: 7070 13. County: HUERFANO

14. GPS Data:

Date of Measurement: 01/17/2012 PDOP Reading: 2.0 Instrument Operator's Name: J.H. (Uintah Surveying)

15. 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
3104 FSL 500 FWL 1760 FSL 230 FWL
Sec: 24 Twp: 27S Rng: 69W Sec: 13 Twp: 27S Rng: 69W

16. Is location in a high density area? (Rule 603b)? ☐ Yes ☒ No

17. Distance to the nearest building, public road, above ground utility or railroad: 499 ft

18. Distance to nearest property line: 529 ft 19. Distance to nearest well permitted/completed in the same formation(BHL): 34000 ft

20. LEASE, SPACING AND POOLING INFORMATION

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
Niobrara	NBRR			

21. Mineral Ownership: ☒ Fee ☐ State ☐ Federal ☐ Indian Lease #:

22. Surface Ownership: ☒ Fee ☐ State ☐ Federal ☐ Indian

23. Is the Surface Owner also the Mineral Owner? ☐ Yes ☒ No Surface Surety ID#: 20030020

23a. If 23 is Yes: Is the Surface Owner(s) signature on the lease? ☐ Yes ☐ No

23b. If 23 is No: ☐ Surface Owners Agreement Attached or ☒ \$25,000 Blanket Surface Bond ☐ \$2,000 Surface Bond ☐ \$5,000 Surface Bond

24. Using standard QtrQtr, Sec, Twp, Rng format enter entire mineral lease description upon which this proposed wellsite is located (attach separate sheet/map if you prefer):

Please see attached mineral lease map and description.

25. Distance to Nearest Mineral Lease Line: 650 ft

26. Total Acres in Lease: 15522

DRILLING PLANS AND PROCEDURES

27. Is H2S anticipated? ☐ Yes ☒ No If Yes, attach contingency plan.

28. Will salt sections be encountered during drilling? ☐ Yes ☒ No

29. Will salt (>15,000 ppm TDS CL) or oil based muds be used during drilling? ☒ Yes ☐ No

30. If questions 28 or 29 are yes, is this location in a sensitive area (Rule 901.e)? ☐ Yes ☒ No

31. Mud disposal: ☒ Offsite ☐ Onsite

If 28, 29, or 30 are "Yes" a pit permit may be required.

Method: ☐ Land Farming ☐ Land Spreading ☒ Disposal Facility Other: _____

Note: The use of an earthen pit for Recompletion fluids requires a pit permit (Rule 905b). If air/gas drilling, notify local fire officials.

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
CONDUCTOR	30	20		0	90	175	90	0
SURF	17+1/2	13+3/8	54.5	0	815	496	815	0
1ST	12+1/4	9+5/8	36	0	2,959	521	2,959	500
2ND	8+3/4	7	26	0	6,471	475	6,471	2,000
1ST LINER	6+1/8	4+1/2	11.6	6371	10,553	0		

32. BOP Equipment Type: ☒ Annular Preventer ☒ Double Ram ☐ Rotating Head ☐ None

33. Comments Two APDs are being submitted for Freeman 3-24; one for the pilot hole and one for the lateral hole. This APD is for the lateral hole. Attachments include a drilling and completion plan. Distance to the nearest well in same formation is greater than 5280 feet.

34. Location ID: _____

35. Is this application in a Comprehensive Drilling Plan ? ☐ Yes ☒ No

36. Is this application part of submitted Oil and Gas Location Assessment ? ☒ Yes ☐ No

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

Signed: _____

Print Name: Michael Bergstrom

Title: Senior Regulatory Advisor

Date: 5/18/2012

Email: michael.bergstrom@shell.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: 7/17/2012

API NUMBER

05 055 06309 01

Permit Number: _____

Expiration Date: 7/16/2014

CONDITIONS OF APPROVAL, IF ANY:

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.

- 1) Provide 48 hour notice prior to spud via electronic Form 42.
- 2) Set 9 5/8" casing (1st string) at least 50' below top of Pierre. Cement to 50' above base of surface casing. Verify coverage with cement bond log or temperature log. No salt or oil base mud shall be used until after setting and cementing 1st string.
- 3) Provide cement coverage from base of 7" casing (2nd string) to a minimum of 200' above Niobrara. Verify coverage with cement bond log.
- 4) Run and submit Directional Survey from TD to base of surface casing. Ensure that the wellbore complies with setback requirements in commission orders or rules prior to producing the well.

Attachment Check List

Att Doc Num	Name
1698893	LEASE MAP
1792475	CORRESPONDENCE
2169124	SURFACE CASING CHECK
400256485	FORM 2 SUBMITTED
400271142	DIRECTIONAL DATA
400271538	PLAT
400283868	DEVIATED DRILLING PLAN
400286294	TOPO MAP

Total Attach: 8 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Distance to nearest lease line corrected per opr: The distance from the NESE corner of Sec. 23 to the top of the production zone is 650'. Final Review passed 7/12/2012 NKP	7/12/2012 2:43:19 PM
Permit	Lease map updated per operator. Email to opr to verify distance to lease line. 6/22/2012.	6/22/2012 8:30:19 AM

Public	<p>3/8/2012 1:16:54 AM</p> <p>DUPLICATE OF LOCATION ASSESSMENT INPUT:</p> <p>Additional Conditions of Approval Requested</p> <ol style="list-style-type: none"> 1. We request an apriori, thorough, hydrogeological study of the basin, and that permits not be granted if drilling or fracturing could adversely impact water resources based on the study. 2. Please make no fracking or additional reservoir stimulation methods as per the drilling plans a COA of the wells. 3. In addition to the existing COA that that only closed-loop, pitless drilling and pitless operations be used, we request that they only be done with non-toxic drilling and fracking chemicals and green completions. 4. We request advance notice to the public of Hydraulic Fracturing. 5. In addition to the existing COA that it shall not be stored in ponds, we request that raw produced water from drilling, fracking, completion or production, NOT be spread on roads or grounds. 6. We request the applicant shall post a bond, escrow account or liability insurance policy of sufficient monetary value to fully compensate local citizens and communities for any damage to their air, water, health, safety, environment or property values. 7. Likely abundant natural fissures, faults, and fractures in the area make for increased risk of cement casing failure (nothing to support it under high pressures). Please include stringent requirements for testing the cement prior to completion and periodically during production. 8. Huerfano County has many radioactive mineral claims in Uranium and Vanadium. Please evaluate locations for the potential to encounter these NORMs during drilling/operations, and monitor their production during operations, and make reports publicly available quickly. <p>Additional Questions/Requests of COGCC</p> <ol style="list-style-type: none"> 1. Surface casing on all 4 wells runs to exactly 815 feet. Sources indicate deeper formations can be water bearing (see McLaughlin, T.G., 1966, Ground water in Huerfano County, Colorado; U.S. Geological Survey, WaterSupply Paper 1805, TABLE 3.)How was the depth of aquifers evaluated/defined? How is it known that potentially usable water is protected? 2. Dikes, sills, faults and fractures are deep, transmissive, and the details of their connections to aquifers are not known except possibly through 3-D seismic data Shell may have collected. CHC requests COGCC examine the data to establish that there is NO possibility of connection between SWEPI well-bores or fractures and natural fractures or dikes that communicate with aquifers. 	
--------	---	--

Public	<p>DUPLICATE OF LOCATION ASSESSMENT INPUT:</p> <p>There are many plugs, dikes, and sills in this location/area, which run both East-West and North-South. See Geology 250K map. There is a dike across the County road to the South less than 1/2 mile from the site (to the southwest), visible on the REFERENCE AREA MAP (elevation=7467). The dikes visible at the surface enclose the location in a C of about 2 miles diameter. Dikes run deep, having extruded from the magma, do not all show on the surface, and are accompanied by fractures and faults up to a mile away. Dikes are transmissive, as faults and fractures are. It has been hypothesized this occurs because of alteration of the shale alongside the dikes even in the deep shale layers. These features do pose drilling and hydrological risks. We request the COGCC take steps to proactively mitigate problems that could be caused by this feature of the unique geology of Huerfano County. Drilling and production accidents have already occurred in this basin due to lack of information on these features. SWEPI has 3D seismic data which *may or may not* be able to detect these features. Please examine the seismic data.</p> <p>Hydraulic Fracturing will only increase the risk (the potential of unintended connections) and therefore we request: Please make no fracking or additional reservoir stimulation methods a COA of the well.</p> <p>This well is pending COA correspondence. We request conditions of approval similar to the other SWEPI wells be applied.</p>	3/8/2012 1:15:53 AM
Public	<p>Hydrogeological Concerns in Huerfano Park, Prepared by Citizens for Huerfano County, June 7, 2012</p> <p>entered as an attachment labeled as CORRESPONDENCE.</p>	6/7/2012 11:46:24 AM
Agency	<p>Hydrogeological Concerns in Huerfano Park, Prepared by Citizens for Huerfano County, June 7, 2012</p> <p>entered as an attachment labeled as CORRESPONDENCE.</p>	6/7/2012 11:46:11 AM

Public	<p>I was born near Gardner 33 years ago.I grew up there, and my family has lived there for 34 years.I call Gardner my home and am a part owner in the 100 acres of land where my family lives.I am a wildlife biologist, and I have great regard for the environment in the Huerfano Valley.I love the peaceful, quiet way of life, and I care deeply about the three wilderness areas that surround us in Gardner:Greenhorn Wilderness Area, The Spanish Peaks Wilderness Area and The Sangre de Cristo Wilderness Area.The pristine quality of all three of these areas is threatened by the Shell Oil and Gas Exploration and Development projects proposed for the 8 sites near Gardner in Huerfano County, Colorado.The residents, ranchers, farmers, fish and wildlife here all depend on clean air and water.Please do not allow these permits to go forward.</p> <p>The Freeman site is near a rare and endangered plant which must be protected and preserved.This site demands that air and water contamination does not occur, especially because it is near a dike that indicates that the hydrologic makeup of the area be studied thoroughly before any drilling is allowed to occur.Because of the unusual geologic features of this area, I do not trust that our water will not become contaminated because of Shell's oil and gas exploration and possible development.Please do not allow these permits to be issued.</p> <p>I do not want to see my lovely valley turned into an industrial zone.Please do not allow this to happen.</p> <p>I request that complete hydrologic studies be done before any drilling is undertaken because of the unusual volcanic and dike formations in the Huerfano Valley.Water wells need to be thoroughly tested as well.No fracking should be allowed.</p> <p>I also request that only closed-loop,drilling and operations be used no pits, with non-toxic drilling and fracking chemicals and green completions.</p> <p>I also request that the COGCC examine the data to establish that there is NO possibility of connection between SWEPI well-bores or fractures and natural fractures or dikes that communicate with aquifers.</p> <p>Thank you for your consideration.</p>	6/7/2012 12:10:49 AM
--------	--	-------------------------

Public	<p>I am unequivocally opposed to the 8 APD's Shell Oil and Gas has applied for near Gardner in Huerfano County, CO.I moved to the Huerfano Valley 34 years ago, and I want to see my home and family protected from our community becoming an industrial zone.I have worked hard to raise my family in this quiet, clean community where people help each other out and we have clean air and water and a peaceful way of life.</p> <p>The Freeman site is near a rare and endangered plant which must be protected and preserved.This site demands that air and water contamination does not occur, especially because it is near a dike that indicates that the hydrologic makeup of the area be studied thoroughly before any drilling is allowed to occur.Because of the unusual geologic features of this area, I do not trust that our water will not become contaminated because of Shell's oil and gas exploration and possible development.Please do not allow these permits to be issued.</p> <p>I do not want to see my lovely valley turned into an industrial zone.Please do not allow this to happen.</p> <p>I request that complete hydrologic studies be done before any drilling is undertaken because of the unusual volcanic and dike formations in the Huerfano Valley.Water wells need to be thoroughly tested as well.No fracking should be allowed.</p> <p>I also request that only closed-loop,drilling and operations be used no pits, with non-toxic drilling and fracking chemicals and green completions.</p> <p>I also request that the COGCC examine the data to establish that there is NO possibility of connection between SWEPI well-bores or fractures and natural fractures or dikes that communicate with aquifers.</p>	6/7/2012 12:05:59 AM
--------	--	-------------------------

Public	<p>I have lived in the Gardner area of the Huerfano Valley in Huerfano County for 36 years. I am very concerned about the 8 APD exploratory well sites that Shell seeks approval for in the Gardner area. We are a small, tight-knit community with an easy-going lifestyle, lots of clean air, open spaces, wilderness hiking trails and a limited amount of good, clean water. Water is an essential part of our life here, and I am very concerned about the possibility of water contamination from the exploration activities that Shell proposes. The Freeman site is near the Farisita Dike, which indicates that there is a great chance of fractured formations that would allow water contamination to flow to other locations, including neighbors and even the Huerfano River. Possible contamination from the Freeman sites potentially harms my community and my downstream friends.</p> <p>The Freeman site is located near a very rare plant colony which needs to be preserved. It is especially important that this site be absolutely denied any flaring, open pits, spreading of drilling fluids on the ground or into the air. Air quality must absolutely be monitored and protected at this site.</p> <p>I taught middle and high school in Walsenburg for 18 years, and I know what the drive is like for people commuting to and from Gardner and Walsenburg and Pueblo. Adding the truck traffic that will go with the Shell oil and gas exploration will make that drive very frustrating for commuters and for others who need to get to town for doctor appointments and business. I live on the Forest Service boundary, and the prospect of forest fires is ever present here. Adding any flaring to the mix is a recipe for disaster. I envision people trying to flee a forest fire and finding the Shell trucking impeding their flight.</p> <p>I do not want to see my lovely valley turned into an industrial zone. Please do not allow this to happen.</p> <p>I request that complete hydrologic studies be done before any drilling is undertaken because of the unusual volcanic and dike formations in the Huerfano Valley. Water wells need to be thoroughly tested as well. No fracking should be allowed.</p> <p>I especially request that only closed-loop, drilling and operations be used no pits, with non-toxic drilling and fracking chemicals and green completions.</p> <p>I also request that the COGCC examine the data to establish that there is NO possibility of connection between SWEPI well-bores or fractures and natural fractures or dikes that communicate with aquifers.</p>	6/6/2012 10:55:28 PM
--------	---	-------------------------

Public	<p>are you joking? --How can the Local Government Designee approve this application?!The man won't even ask for 10 more days (that COGCC would give him if he would ask for it!) so that we can do more thorough reviews and provide substantive commentary on all these wells... But I digress.</p> <p>The obvious problems with the Freeman are its proximity both to a dozen or more domestic water wells and to a sensitive wildlife habitat area (immediately SSW). A visible dike to the south reminds me again that NO THOROUGH HYDROGEOLOGICAL STUDY HAS EVER BEEN DONE FOR THIS AREA (Huerfano Park, La Veta Syncline, Huerfano River</p> <p>drainage), and is badly needed to evaluate the potential for harm BEFORE any drilling permits are approved.</p> <p>Because of the proximity of the Freeman to homes and water wells, only non-toxic drilling compounds should be used (no salt- or oil-based muds), and only closed-loop, pitless drilling with green completions should be allowed. For the</p> <p>same reasons, no hydraulic fracturing should be allowed at this location. All water wells within a 5 mile radius should be baseline sampled within 60 days of site activity, according to COGA protocols and tested for the Tier 2 analytes of the Colorado Water Institutes Water Well Testing Program for Huerfano County.</p> <p>If any water wells are damaged, in terms of quantity or quality, whether by SWEPI or its contractors or its subcontractors, SWEPI must immediately and fully compensate the water well owners. SWEPI will also post a bond,</p> <p>escrow account or liability policy of sufficient monetary value to fully compensate residents of the area for any loss of quality or quantity of air, water, environment, property value, health or safety subsequent to SWEPI's activities</p> <p>in the vicinity.</p> <p>Please add all these as conditions of approval to this application, and to the other Form 2 for the Freeman and to the Form 2A!</p> <p>thank you for your consideration</p>	3/6/2012 4:03:15 PM
Public	<p>I'm a farmer near the town of Gardner, Colorado. Please reject this application. Fracking is unsafe and jeopardizes our water, the provider for us all.</p>	6/6/2012 11:56:06 AM

Public	<p>I am very concerned about water contamination. We need water more than we need oil to survive in a high desert.</p> <p>1. Before oil and gas permits are granted in the Huerfano river drainage, a thorough hydrogeological study of the area, including field work (not just a literature review) shall be accomplished. Oil and gas drilling permits shall not be granted until it has been determined that drilling and fracking will not adversely impact water resources, as has already happened in the other three Raton Basin drainages (Cucharas, Purgatoire and Apishapa).</p> <p>2. Attach as a condition of approval (COA) to all permits to drill in Huerfano Park, No Hydraulic Fracturing. On the applications (Drilling Plan last sentence) and in communications with the public - SWEPI has indicated that hydraulic fracturing will not be used on the proposed wells: Frac'ing or additional reservoir stimulation methods will not be applied Due to its complex and unique geology, Huerfano County is a high risk environment. Fracking in these locations has a high probability of resulting in unintended consequences including irreversible impacts on surface and groundwater resources. Please make the claim a condition of approval.</p> <p>3. Attach as conditions of approval (COA) to all permits to drill in Huerfano Park, that only closed-loop, pitless drilling and pitless operations with non-toxic drilling and fracking chemicals and green completions shall be allowed.</p> <p>4. Attach as conditions of approval (COA) to all permits to drill in Huerfano Park, that raw produced water from drilling, fracking, completion or production shall not be stored in ponds, spread on roads or grounds.</p> <p>5. Attach as conditions of approval (COA) to all permits to drill in Huerfano Park, that air emissions be controlled to the maximum extent technically possible. For example, that all air emissions shall be controlled by a device capable of 95-100% control efficiency of VOC. The device(s) shall be maintained to allow maximum efficiency during operations.</p> <p>6. Attach as conditions of Approval to all permits to drill in Huerfano Park, that baseline water samples shall be taken, at least 60 days prior to activity at any well site, of all domestic, community and livestock water wells and springs, of the intake to all municipal waterworks, and of all other creeks and surface run-off areas, within 5 miles in all directions. The water samples shall be gathered according to the COGA protocols and analyzed according to the Tier 2 analyte list published in the Colorado Water Institute's Water Well Testing Program for Huerfano County.</p> <p>7. Attach as conditions of approval (COA) to all permits to drill in Huerfano Park, that the applicant shall post a bond, escrow account or liability insurance policy of sufficient monetary value to fully compensate local citizens and communities for any damage to their air, water, health, safety, environment or property values.</p> <p>8. Additionally, Huerfano County is well known for its unique and complex geology, including numerous radial dikes that extend for miles through multiple geological strata (and are not all visible on the surface). Dikes, sills, faults and fractures are deep, transmissive, and the details of their connections to aquifers are not known except possibly through 3-D seismic data Shell may have collected. CHC requests COGCC examine the data to establish that there is NO possibility of connection between SWEPI well-bores or fractures and natural fractures or dikes that communicate with aquifers.</p> <p>9. Additionally, because of its close proximity to the Huerfano River and the Gardner Community drinking water wells, the area surrounding Fortune 4-9 should be given protection under Rule 317B, Public Water System Protection criteria.</p>	3/5/2012 8:14:04 PM
--------	--	---------------------

Public	<p>To Whom It May Cocern:</p> <p>I am very worried about the pending drill applications for Huerfano County.This includes 8 applications listed as SWEPI LP 78110.</p> <p>I am most concerned that the citizens who live and own property in the vicinity of these drill sites have not had their viewpoints represented.</p> <p>I believe the elected officials and COGCC need to ensure that citizens' concerns are fully addressed prior to any approval of these applications.</p> <p>I am particularly concerned about water contamination or exacerbation of current drought conditions.</p> <p>I am also concerned about general saftey, in terms of health regarding air quality and other pollution aspects.</p> <p>Safety also refers to economic issues, and the need to ensure that the local Huerfano County economy is supported not exploited.</p>	3/3/2012 9:45:38 PM
LGD	approve	5/22/2012 2:39:27 PM

Total: 14 comment(s)

BMP

<u>Type</u>	<u>Comment</u>
Storm Water/Erosion Control	<p>Stormwater 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) stormwater discharge permits. The construction layout for Freeman 3-24 details Best Management Practices (BMP) to be installed during initial construction. Note that BMPs may be removed, altered, or replaced with changing conditions in the field and the SWMP will be updated accordingly. The BMPs prescribed for the initial construction phase include, but are not limited to</p> <ul style="list-style-type: none"> • Construction diversion ditch • Sediment reservoirs • Check dams • Level spreaders • Stabilized construction entrance • Slash • Sediment trap • Wattle • Terrace • Secondary containment berms • Detention ponds
Material Handling and Spill Prevention	<p>Spill Prevention Control & Countermeasure Plans (SPCC) are in place to address material releases and to prescribe materials handling BMPs for the facility. "Good house-keeping" measures will be taken to ensure proper waste disposal.</p>

Total: 2 comment(s)