

FORM  
2

Rev  
12/05

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

400272164

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 PILOT  
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 Bergstrom Phone: (303)222-6347 Fax: (303)222-6258

Email: michael.bergstrom@shell.com

7. Well Name: State Well Number: 2-36

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

9. Proposed Total Measured Depth: 8300

## WELL LOCATION INFORMATION

10. QtrQtr: NENW Sec: 36 Twp: 26S Rng: 70W Meridian: 6

Latitude: 37.750078 Longitude: -105.169544

Footage at Surface: 1201 feet FNL 2667 feet FWL

11. Field Name: Wildcat Field Number: 99999

12. Ground Elevation: 7132 13. County: HUERFANO

### 14. GPS Data:

Date of Measurement: 01/13/2012 PDOP Reading: 2.8 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

Sec:        Twp:        Rng:        Sec:        Twp:        Rng:       

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: 843 ft

18. Distance to nearest property line: 1205 ft 19. Distance to nearest well permitted/completed in the same formation(BHL): 1 mi

## 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 #: 9721.8

22. Surface Ownership:  Fee  State  Federal  Indian

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

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 Mineral Lease Map attachment for a mineral lease description and map. The pilot hole for this well is located on State mineral ownership. The pilot hole will be evaluated for subsurface data only and is not intended to be produced. Once evaluation is complete, the pilot hole will be plugged back with cement and an open-hole sidetrack will be performed to drill the lateral portion of the wellbore.

25. Distance to Nearest Mineral Lease Line: 1201 ft 26. Total Acres in Lease: 1080

### 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	4,112	724	4,112	500
OPEN HOLE	8+3/4			0	8,233			

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

33. Comments Two APDs are being submitted for State 2-36; one for a pilot hole and one for a lateral hole. This APD is for the pilot hole. Attachments include a Wellbore Diagram and Drilling and Completion Plan. The distance to nearest well in the same formation is greater than one mile.

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 06310 00

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) Plug back pilot hole: In addition to kick off plug, set 40 sx (100') cement plugs at top of following formations: Pennsylvanian (Sangre de Cristo), Dakota, Codell.

### Attachment Check List

Att Doc Num	Name
1698894	LEASE MAP
1792481	CORRESPONDENCE
2169127	SURFACE CASING CHECK
400272164	FORM 2 SUBMITTED
400272165	TOPO MAP
400280122	PLAT
400283430	MINERAL LEASE MAP
400284604	DRILLING PLAN

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. Changed sensitive area to "yes" per Form 2A. Final Review passed 7/12/2012 NKP	7/12/2012 3:48:13 PM
Permit	Bill, SWEPI's bond is in good order. OK to proceed. Thanks Tim	6/22/2012 6:02:36 AM
Permit	Updated lease map added and lease description corrected per opr. Requested follow up on distance to lease line 7/12/2012.	6/21/2012 4:28:16 PM
Public	<p>The dangers to private lands, water purity, wildlife, livestock, public health and the social and economic health of the area posed by oil and gas drilling are enormous and not to be taken lightly. I encourage you to contact COGCC and ask for a 10 day extension for public input on the four locations in Huerfano County that SWEPI has filed applications for permits to drill on.</p> <ul style="list-style-type: none"> <li>•Because most of the property in Colorado has split estates, private ranches and homes are in danger of being turned into an industrial zone if mining operations determine these properties are useful to their mining operations.</li> <li>•Water in Colorado is scarce and precious. Fracking uses massive amounts of water and generates millions of gallons of contaminated flowback liquid containing industrial chemicals and salts, heavy metals and sometimes even naturally occurring radioactive material that must be disposed of. Not to mention the dangers of these chemicals seeping into underground aquifers by improper or careless fracking methods.</li> <li>•If the above fluids contaminate drinking water, public health is in danger. These chemicals have known negative health effects on residents' respiratory, neurological, reproductive, and central nervous systems. They are also known to cause cancer.</li> <li>•Fracking fluids, when applied to the ground in a forested area destroyed the plant life and harmed the trees. This also affects wildlife as their natural habitat becomes less hospitable. Rains then wash this fluid into other grazing areas, ponds and lawns, which, if it doesn't kill the plant life, makes it toxic for animals to ingest and possibly for children to play on.</li> </ul>	3/8/2012 1:04:53 PM

•Traditionally these operations do not improve the economy of the region as most of the positions are filled by migratory industry workers who put a strain on the local economies resources: schools, emergency services, motels, housing and social services. There is frequently an increase in crime and drug and alcohol abuse issues. This phenomena is known as the Gillette Syndrome and has more accompanying and complex issues than there is room for here.

I have only scratched the surface of the potential toxic and negative effects of oil and gas exploration and drilling. 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) needs to be accomplished. Oil and gas drilling permits must 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).

At the very least, allow an extension of your comment period so that citizens have adequate time to make their concerns heard.

Sincerely,

Philip Incao, MD

Steiner Holistic Medicine

P.O. Box 894

276 North Spruce St.

Crestone, CO 81131-0894

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Philip@drincao.com

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<p>Public</p>	<p>DUPLICATE OF LOCATION ASSESSMENT INPUT:</p> <p>Additional Conditions of Approval Requested</p> <ol style="list-style-type: none"> <li>1. We request an a priori, 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.</li> <li>2. Please make no fracking or additional reservoir stimulation methods as per the drilling plans a COA of the wells.</li> <li>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.</li> <li>4. We request advance notice to the public of Hydraulic Fracturing.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ol> <p>Additional Questions/Requests of COGCC</p> <ol style="list-style-type: none"> <li>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?</li> <li>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.</li> </ol>	<p>3/8/2012 1:05:51 AM</p>
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Public	<p>DUPLICATE OF LOCATION ASSESSMENT INPUT:</p> <p>There is a road missing from the application maps, CR 542, which is nearly as close to the location as the mapped road CR 540 (see Google maps). There is an active stock well/spring on the left side of the road along CR 542 about 1000-2000 feet north of the intersection of CR 542 with CR 540. This well/spring is not seen on COGIS nor the application maps. This well/spring might be ~500 feet from the pad. Depth to ground water for the location is listed at 80 feet, but is that based on COZINE well more than a mile away. It should be based on the static water level of this well/spring near the pad.</p> <p>Also, as can be seen in the Hydrology Map, the pad abuts a stream. This is a live stream/spring that runs to the Huerfano downstream. The detention ponds are on that side of the pad and the pad slopes towards this adjacent spring.</p> <p>Finally, this portion of Huerfano Park, has many springs (see whole area in Access Road Map). What depth are the springs coming from? If the hydrology of the springs in this area is not understood, additional precautions are needed.</p> <p>These factors suggest a Sensitive Area classification for this location. Any additional regulations resulting from this classification should be applied *in addition to* the existing COAs. Pitless operations are particularly important given the frequent high winds in Huerfano County which would cause blowing of produced and flowback water. We request monitoring wells to protect the downstream water table, in addition to baseline testing and monitoring of the surface waters downstream.</p>	3/8/2012 1:04:55 AM
Public	Hydrogeological Concerns in Huerfano Park, Prepared by Citizens for Huerfano County, June 7, 2012 entered as an attachment labeled as CORRESPONDENCE.	6/7/2012 12:04:19 PM
Agency	Hydrogeological Concerns in Huerfano Park, Prepared by Citizens for Huerfano County, June 7, 2012 entered as an attachment labeled as CORRESPONDENCE.	6/7/2012 12:04:07 PM
Public	I'm a resident and farmer near Gardner, Colorado. Fracking is unsafe and if you approve this permit you severely risk the health of the water and land of this valley.	6/6/2012 11:47:30 AM

<p>Public</p>	<p>I am very concerned about water contamination. We don't need oil, as much as water, to live!</p> <ol style="list-style-type: none"> <li>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).</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ol>	<p>3/5/2012 8:07:00 PM</p>
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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 safety, 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 9:41:41 PM
Permit	Operator input plugging bond number. This form has passed completeness.	5/21/2012 7:15:51 AM
Permit	Returned to draft. Missing plugging bond.	5/18/2012 11:01:19 AM

Total: 13 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 this well 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"> <li>• Construction diversion ditch</li> <li>• Sediment reservoirs</li> <li>• Check dams</li> <li>• Level spreaders</li> <li>• Stabilized construction entrance</li> <li>• Slash</li> <li>• Sediment trap</li> <li>• Wattle</li> <li>• Terrace</li> <li>• Secondary containment berms</li> <li>• Detention ponds</li> </ul>
Material Handling and Spill Prevention	<p>Spill Prevention Control &amp; 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)