

**UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Buffalo Field Office
Buffalo, Wyoming**

**SURFACE USE
CONDITIONS OF APPROVAL
EA #WY 070-07-139**

POD Name: Mitchell Draw Unit 2

Operator: Petro-Canada Resources (USA), Inc.

List of Wells:

	Well Name	Number	QtrQtr	Sec	T N	R W	Lease Number
1	MITCHELL DRAW 2 MDU	21-44WA	SESE	21	52N	77W	WYW159007
2	MITCHELL DRAW 2 MDU	21-44LA	SESE	21	52N	77W	WYW159007
3	MITCHELL DRAW 2 MDU	21-44CO	SESE	21	52N	77W	WYW159007
4	MITCHELL DRAW 2 MDU	21-44CA	SESE	21	52N	77W	WYW159007
5	MITCHELL DRAW 2 MDU	22-14CA*	SENE	22	52N	77W	WYW151680
6	MITCHELL DRAW 2 MDU	22-14WA	SENE	22	52N	77W	WYW151680
7	MITCHELL DRAW 2 MDU	22-14CO	SENE	22	52N	77W	WYW151680
8	MITCHELL DRAW 2 MDU	22-14LA	SENE	22	52N	77W	WYW151680
9	MITCHELL DRAW 2 MDU	22-22CA	NWNW	22	52N	77W	WYW151680
10	MITCHELL DRAW 2 MDU	22-22CO	NWNW	22	52N	77W	WYW151680
11	MITCHELL DRAW 2 MDU	22-22LA	NWNW	22	52N	77W	WYW151680
12	MITCHELL DRAW 2 MDU	22-22WA	NWNW	22	52N	77W	WYW151680
13	MITCHELL DRAW 2 MDU	22-24CA	SENE	22	52N	77W	WYW151680
14	MITCHELL DRAW 2 MDU	22-24CO	SENE	22	52N	77W	WYW151680
15	MITCHELL DRAW 2 MDU	22-24LA	SENE	22	52N	77W	WYW151680
16	MITCHELL DRAW 2 MDU	22-24WA	SENE	22	52N	77W	WYW151680
17	MITCHELL DRAW 2 MDU	22-32CA	NWSW	22	52N	77W	WYW151680
18	MITCHELL DRAW 2 MDU	22-32CO	NWSW	22	52N	77W	WYW151680
19	MITCHELL DRAW 2 MDU	22-32LA	NWSW	22	52N	77W	WYW151680
20	MITCHELL DRAW 2 MDU	22-32WA	NWSW	22	52N	77W	WYW151680
21	MITCHELL DRAW 2 MDU	22-33CA	SWSW	22	52N	77W	WYW151680
22	MITCHELL DRAW 2 MDU	22-33CO	SWSW	22	52N	77W	WYW151680
23	MITCHELL DRAW 2 MDU	22-33LA	SWSW	22	52N	77W	WYW151680
24	MITCHELL DRAW 2 MDU	22-33WA	SWSW	22	52N	77W	WYW151680
25	MITCHELL DRAW 2 MDU	22-42CA	NWSE	22	52N	77W	WYW151680
26	MITCHELL DRAW 2 MDU	22-42CO	NWSE	22	52N	77W	WYW151680
27	MITCHELL DRAW 2 MDU	22-42LA	NWSE	22	52N	77W	WYW151680
28	MITCHELL DRAW 2 MDU	22-42WA	NWSE	22	52N	77W	WYW151680
29	MITCHELL DRAW 2 MDU	22-44CA	SESE	22	52N	77W	WYW151680

	Well Name	Number	QtrQtr	Sec	T N	R W	Lease Number
30	MITCHELL DRAW 2 MDU	22-44CO	SESE	22	52N	77W	WYW151680
31	MITCHELL DRAW 2 MDU	22-44WA	SESE	22	52N	77W	WYW151680
32	MITCHELL DRAW 2 MDU	22-44LA	SESE	22	52N	77W	WYW151680
33	MITCHELL DRAW 2 MDU	27-12C0	NWNE	27	52N	77W	WYW146321
34	MITCHELL DRAW 2 MDU	27-12LA	NWNE	27	52N	77W	WYW146321
35	MITCHELL DRAW 2 MDU	27-12WA	NWNE	27	52N	77W	WYW146321
36	MITCHELL DRAW 2 MDU	27-12CA	NWNE	27	52N	77W	WYW146321
37	MITCHELL DRAW 2 MDU	27-23CA	SWNW	27	52N	77W	WYW146321
38	MITCHELL DRAW 2 MDU	27-23CO	SWNW	27	52N	77W	WYW146321
39	MITCHELL DRAW 2 MDU	27-23LA	SWNW	27	52N	77W	WYW146321
40	MITCHELL DRAW 2 MDU	27-23WA	SWNW	27	52N	77W	WYW146321
41	MITCHELL DRAW 2 MDU	28-11CO	NENE	28	52N	77W	WYW146321
42	MITCHELL DRAW 2 MDU	28-11LA	NENE	28	52N	77W	WYW146321
43	MITCHELL DRAW 2 MDU	28-11WA	NENE	28	52N	77W	WYW146321
44	MITCHELL DRAW 2 MDU	28-11CA	NENE	28	52N	77W	WYW146321
45	MITCHELL DRAW 2 MDU	28-24CA	SENE	28	52N	77W	WYW146321
46	MITCHELL DRAW 2 MDU	28-24CO	SENE	28	52N	77W	WYW146321
47	MITCHELL DRAW 2 MDU	28-24LA	SENE	28	52N	77W	WYW146321
48	MITCHELL DRAW 2 MDU	28-24WA	SENE	28	52N	77W	WYW146321
49	MITCHELL DRAW 2 MDU	28-42CA	NWSE	28	52N	77W	WYW146321
50	MITCHELL DRAW 2 MDU	28-42CO	NWSE	28	52N	77W	WYW146321
51	MITCHELL DRAW 2 MDU	28-42LA	NWSE	28	52N	77W	WYW146321
52	MITCHELL DRAW 2 MDU	28-42WA	NWSE	28	52N	77W	WYW146321
53	MITCHELL DRAW 2 MDU	28-44CA	SESE	28	52N	77W	WYW146321
54	MITCHELL DRAW 2 MDU	28-44CO	SESE	28	52N	77W	WYW146321
55	MITCHELL DRAW 2 MDU	28-44LA	SESE	28	52N	77W	WYW146321
56	MITCHELL DRAW 2 MDU	28-44WA	SESE	28	52N	77W	WYW146321
57	MITCHELL DRAW 2 MDU	32-14CA	SENE	32	52N	77W	WYW160053
58	MITCHELL DRAW 2 MDU	32-14CO	SENE	32	52N	77W	WYW160053
59	MITCHELL DRAW 2 MDU	32-14LA	SENE	32	52N	77W	WYW160053
60	MITCHELL DRAW 2 MDU	32-14WA	SENE	32	52N	77W	WYW160053
61	MITCHELL DRAW 2 MDU	33-12CA	NWNE	33	52N	77W	WYW146321
62	MITCHELL DRAW 2 MDU	33-12CO	NWNE	33	52N	77W	WYW146321
63	MITCHELL DRAW 2 MDU	33-12LA	NWNE	33	52N	77W	WYW146321
64	MITCHELL DRAW 2 MDU	33-12WA	NWNE	33	52N	77W	WYW146321

I Programmatic mitigation measures identified in the PRB FEIS ROD

Surface Water

1. Channel Crossings:

- a) Channel crossings by road and pipelines will be constructed perpendicular to flow. Culverts will be installed at appropriate locations for streams and channels crossed by roads as specified in the

BLM Manual 9112-Bridges and Major Culverts and Manual 9113-Roads. Streams will be crossed perpendicular to flow, where possible, and all stream crossing structures will be designed to carry the 25-year discharge event or other capacities as directed by the BLM.

- b) Channel crossings by pipelines will be constructed so that the pipe is buried at least four feet below the channel bottom.
2. Low water crossings will be constructed at original streambed elevation in a manner that will prevent any blockage or restriction of the existing channel. Material removed will be stockpiled for use in reclamation of the crossings.
3. The operator will supply a copy of the complete approved Chapter 3 permit to construct associated with treatment facilities to BLM as they are issued by WDEQ.

Soils

1. The Companies, on a case by case basis depending upon water and soil characteristics, will test sediments deposited in impoundments before reclaiming the impoundments. Tests will include the standard suite of cations, ions, and nutrients that will be monitored in surface water testing and any trace metals found in the CBNG discharges at concentrations exceeding detectable limits.

Vegetation

1. Temporarily fence reseeded areas, if not already fenced, for at least two complete growing seasons to insure reclamation success on problematic sites (e.g. close to livestock watering source, erosive soils etc.).

Wetland/Riparian

1. Power line corridors will avoid wetlands, to the extent possible, in order to reduce the chance of waterfowl hitting the lines. Where avoidance can't occur, the minimum number of poles necessary to cross the area will be used.
2. Wetland areas will be disturbed only during dry conditions (that is, during late summer or fall), or when the ground is frozen during the winter.
3. No waste material will be deposited below high water lines in riparian areas, flood plains, or in natural drainage ways.
4. The lower edge of soil or other material stockpiles will be located outside the active floodplain.
5. Disturbed channels will be re-shaped to their approximate original configuration or stable geomorphological configuration and properly stabilized.
6. Reclamation of disturbed wetland/riparian areas will begin immediately after project activities are complete.

Wildlife

1. All stock tanks shall include a ramp to enable trapped small birds and mammals to escape. See Idaho BLM Technical Bulletin 89-4 entitled Wildlife Watering and Escape Ramps on Livestock Water Developments: Suggestions and Recommendations.

Threatened, Endangered, or Sensitive Species

Bald Eagle

1. A disturbance-free buffer zone of 0.5 mile (i.e., no surface occupancy) will be established year-round

for all bald eagle nest sites. A seasonal minimal disturbance buffer zone of one mile will be established for all bald eagle nest sites (February 1 – August 15). These buffer zones and timing may be adjusted based on site-specific information through coordination with, and written approval from, the USFWS.

2. A disturbance-free buffer zone of 0.5 mile (i.e., no surface occupancy) will be established year-round for all bald eagle winter roost sites. A seasonal minimal disturbance buffer zone of 1 mile will be established for all bald eagle winter roost sites (November 1 – April 1). These buffer zones and timing may be adjusted based on site-specific information through coordination with, and written approval from, the USFWS.
3. Within ½ mile of bald eagle winter roost sites additional measures such as remote monitoring and restricting maintenance visitation to between 9:00 and 3:00 may be necessary to prevent disturbance (November 1 – April 1).
4. Additional mitigation measures may be necessary if the site-specific project is determined by a BLM biologist to have adverse effects to bald eagles or their habitat.

Visual Resources

1. The Companies will mount lights at compressor stations and other facilities on a pole or building and direct them downward to illuminate key areas within the facility while minimizing the amount of light projected outside the facility.

Noise

1. Noise mufflers will be installed on the exhaust of compressor engines to reduce the exhaust noise.

Where noise impacts to existing sensitive receptors are an issue, noise levels will be required to be no greater than 55 decibels measured at a distance of one-quarter mile from the appropriate booster (field) compressor. When background noise exceeds 55dBA, noise levels will be no greater than 5dBA above background. This may require the installation of electrical compressor motors at these locations.

Air Quality

1. During construction, emissions of particulate matter from well pad and resource road construction will be minimized by application of water, or other dust suppressants, with at least 50 percent control efficiency. Roads and well locations constructed on soils susceptible to wind erosion could be appropriately surfaced or otherwise stabilized to reduce the amount of fugitive dust generated by traffic or other activities, and dust inhibitors (surfacing materials, non-saline dust suppressants, and water) could be used as necessary on unpaved collector, local and resource roads that present a fugitive dust problem. The use of chemical dust suppressants on BLM surface will require prior approval from the BLM authorized officer.

II Site Specific Conditions of Approval

1. All changes made at the onsite will be followed. They have all been incorporated into the operator's POD.
2. All permanent above-ground structures (e.g., production equipment, tanks, etc.) not subject to safety requirements will be painted to blend with the natural color of the landscape. The paint used will be a color which simulates "Standard Environmental Colors." The color selected for the Mitchell Draw Unit 2 POD is Covert Green (PANTONE for Architecture Color Guide 18-0617 TPX).

3. The approval of this project does not grant authority to use off lease federal lands. No surface disturbing activity, or use of off-lease federal lands, is allowed on affected leases until right-of-way grants become effective on the date in which the right-of-way grant is signed by the authorized officer of the BLM.
4. Onshore Order #1, as revised effective 05-07-07, requires that all operators certify to the Field Office in writing that they have supplied a copy of the Surface Use Plan to each of the private surface owners affected by the project. This self-certification must be received by this office before construction on the project begins.

Please note, effective 05-07-07, operators must supply a copy of the Surface Use Plan to each of the private surface owners prior to approval of the APD.

5. Please contact Kathy Brus, Natural Resource Specialist, @ (307) 684-1087, Bureau of Land Management, Buffalo, if there are any questions concerning these surface use COAs.

Surface Use

1. The operator will drill seed on the contour to a depth of 0.5 inch, followed by cultipaction to compact the seedbed, preventing soil and seed losses. To maintain quality and purity, the current years tested, certified seed with a minimum germination rate of 80% and a minimum purity of 90% will be used. On BLM surface or in lieu of a different specific mix desired by the surface owner, use the following:

Loamy Ecological Site Seed Mix

Species - Cultivar	% in Mix	Lbs PLS*
Thickspike Wheatgrass – <i>Critana</i> or Western Wheatgrass - <i>Rosana</i>	35	4.2
Bluebunch Wheatgrass – <i>Secar</i> or <i>P-7</i>	15	1.8
Green needlegrass - <i>Lodorm</i>	25	3.0
Rocky Mountain beeplant (<i>Cleome serrulata</i>)	10	1.2
White – <i>Antelope</i> or Purple Prairie Clover - <i>Bismarck</i>	5	0.6
Lewis - <i>Appar</i> , Blue, or Scarlet flax	5	0.6
Winterfat – <i>Open Range</i>	5	0.6
Totals	100%	12 lb/acre

*PLS = pure live seed

Shallow Clayey Ecological Site Seed Mix

Species	% in Mix	Lbs PLS*
<i>Thickspike Wheatgrass</i> (<i>Elymus lanceolatus</i> ssp. <i>lanceolatus</i>)	50	6.0
<i>Bluebunch wheatgrass</i> (<i>Pseudoroegneria spicata</i> ssp. <i>Spicata</i>)	35	4.2

Species	% in Mix	Lbs PLS*
<i>Prairie coneflower</i> (<i>Ratibida columnifera</i>)	5	0.6
<i>White or purple prairie clover</i> (<i>Dalea candidum, purpureum</i>)	5	0.6
<i>Rocky Mountain beeplant</i> (<i>Cleome serrulata</i>)	5	0.6
Totals	100%	12 lbs/acre

Lowland Ecological Site Seed Mix

Species	% in Mix	Lbs PLS*
<i>Thickspike Wheatgrass</i> – OR <i>Western Wheatgrass</i> -	35	4.2
<i>Green needlegrass</i> -	30	3.6
<i>Basin Wildrye</i>	25	3.0
<i>Prairie coneflower</i>	5	0.6
<i>White or purple prairie clover</i>	5	0.6
Totals	100%	12 lbs/acre

2. Slopes too steep for machinery may be hand broadcast and raked with twice the specified amount of seed.
3. Complete fall seeding after September 15 and prior to prolonged ground frost. To be effective, complete spring seeding after the frost has left the ground and prior to May 15.
4. Provide 4” of aggregate where grades exceed 8% for stability and erosion prevention.
5. The operator is responsible for having a licensed professional engineer certify that the actual construction of the road meets the design criteria and is constructed to Bureau standards.
6. The culvert locations will be staked prior to construction. The culvert invert grade and finished road grade will be clearly indicated on the stakes. Culverts will be installed on natural ground, or on a designed flow line of a ditch. The minimum cover over culverts will be 12” or one-half the diameter whichever is greater. Drainage laterals in the form of culverts or water bars shall be placed according to the following spacing:

<u>Grade</u>	<u>Drainage Spacing</u>
2-4%	310 ft
5-8%	260 ft
9-12%	200 ft
13-15%	150 ft.

7. "Roughed-in" or "Pioneer" roads shall be constructed according to the line and grade shown in the approved engineering designs. Non-engineered roads shall be constructed to a line and grade established to meet the BLM Gold Book and 9113 guidelines as approved in the SUP, and shaped according to an approved design template for that road. Loop roads and all primary corridors servicing more than four wells shall be surfaced prior to placing these roads into service, unless approved otherwise by BLM.
8. Adequate drainage control must be in place at all stages of construction and culverts installed as soon as feasible.
9. Pipeline corridor disturbance shall not exceed the approved disturbance width for road construction.
10. Final grading and surfacing shall occur immediately after utility installation is complete. All rills, gullies, and other surface defects shall be ripped to the full depth of erosion across the entire width of the roadway prior to final grading and surfacing.
11. Due to the highly erosive soils along the access route, prior to the pre-construction onsite for this project, the operator shall submit a certification, signed by the landowner, regarding the construction of Road Segments D and E (from Map E – Engineered Access Roads). This certification shall include the following:
 - Documentation that the landowner has reviewed the design for the proposed construction for these road segments, examined the staking in the field, and is aware of the magnitude of surface disturbance that the installation will create.
 - Certification that the landowner intends to retain these roads for his use after CBNG production ceases.
12. Construction of Road D shall be closely monitored by the operator's engineer to ensure that groundwater seepage will not undermine the road's long-term stability. If groundwater is observed during construction, the operator's engineer will specify additional measures as needed to stabilize the fill section.
13. The drilling pits at the following locations will be lined due to proximity to drainages:
 - 32-14
 - 22-12
 - 22-32
 - 22-44 (2 easternmost locations)
14. Due to fragile, erodable soils and the potential for soil degradation due to increased traffic use, the following access routes will be constructed and surfaced prior to drilling the wells. All disturbed surface will require a protective surface treatment to stabilize the area in a manner which eliminates erosion until a self-perpetuating non-weed native plant community has stabilized the site. This treatment must be applied within thirty days of disturbance. Surface treatments may include mulch, matting, netting or tackifiers:
 - 22-22 Access Road
 - 22-14 Access Road
 - 27-23 Access Road
 - Road Segments A, B, D and E.

15. Any topsoil segregated for construction will be respread over side slopes for expedient reclamation.
16. Spot Upgrade SWNE Sec 21: due to steep topography and fragile soils, road improvements and pipeline installation will not disturb the native angle of repose on the south side of the road. Additionally, no additional soil will be pushed over the side slope to the north of the road.
17. Construction through the Powder River floodplain in Sections 21, 27, 32 and 33 will encounter salt cedar and leafy spurge infestations. The operator will clean construction equipment after completion of surface disturbance and prior to moving to sites where no salt cedar or leafy spurge infestations exist.
18. Prior to the pre-construction meeting, the operator will submit additional detail regarding the installation and maintenance of an all season channel crossing for the Powder River low water crossing at NSW Sec 28.
19. The operator will minimize disturbance to sagebrush habitat wherever possible, but specifically keep the mowing less than 100 feet in diameter at the Wall coal zone well at the 22-42 location.
20. In order to minimize erosion impacts to ephemeral drainages, silt fences or some other sediment detention device will be installed at the toe of the fill on any constructed pad.
21. The use of scoria will not be allowed as rip rap at low water crossings and water discharge points. The light density and lack of durability of scoria does not meet with BLM recommendations for rock at these locations.
22. As-built maps, to be submitted in November of every year that the project is in the construction phase, will include any fee wells, pipelines and access routes as well as the Federal actions.
23. The operator will follow the guidance provided in the Wyoming Policy on Reclamation (IM WY-90-231) specifically the following:
Reclamation Standards:
 - C. 3. The reclaimed area shall be stable and exhibit none of the following characteristics:
 - a. Large rills or gullies.
 - b. Perceptible soil movement or head cutting in drainages.
 - c. Slope instability on, or adjacent to, the reclaimed area in question.
 - C.4. The soil surface must be stable and have adequate surface roughness to reduce runoff and capture rainfall and snow melt. Additional short-term measures, such as the application of mulch, shall be used to reduce surface soil movement.
 - C.5. Vegetation canopy cover (on unforested sites), production and species diversity (including shrubs) shall approximate the surrounding undisturbed area. The vegetation shall stabilize the site and support the planned post disturbance land use, provide for natural plant community succession and development, and be capable of renewing itself. This shall be demonstrated by:
 - a. Successful onsite establishment of species included in the planting mixture or other desirable species.
 - b. Evidence of vegetation reproduction, either spreading by rhizomatous species or seed production.
 - C.6. The reclaimed landscape shall have characteristics that approximate the visual quality of the adjacent area with regard to location, scale, shape, color and orientation of major landscape features and meet the needs of the planned post disturbance land use.

Wildlife

1. The companies will construct power lines to minimize the potential for raptor collisions with the lines. Potential modifications include burying the lines, avoiding areas of high avian use (Powder River). If burying the proposed powerline is impracticable, power lines will be equipped with visibility markers in areas of high avian use.
2. Surveys for active bald eagle nests and winter roost sites will be conducted within suitable habitat by a biologist. Surface disturbing activities will not be permitted within one mile of suitable habitat prior to survey completion.
3. The following conditions will minimize impacts to nesting and roosting bald eagles:
 - a. No surface disturbing activity shall occur within one mile of bald eagle habitat (Powder River) annually from November 1 through April 1, prior to a winter roost survey or from February 1 through August 15, prior to a nesting survey. This affects the following wells and infrastructure:

Township/Range	Section	Wells and Infrastructure
52/77	20	Water treatment ponds
52/77	21	All road corridors and pipelines
52/77	28	Wells 28-24 CA,CO,LA,WA and all road corridors and pipelines
52/77	29	3 phase powerline, water treatment facilities and all road corridors and pipelines
52/77	32	Wells 32-14 CA,CO,LA,WA and all road corridors and pipelines
52/77	33	Wells 33-12 CA,CO,LA,WA and all road corridors and pipelines

- b. If a roost is identified and construction has not been completed, a year round disturbance-free buffer zone of 0.5 mile will be established for all bald eagle winter roost sites. A seasonal minimum disturbance buffer zone of 1-mile will be established for all bald eagle roost sites (November 1 - April 1). Additional measures such as remote monitoring and restricting maintenance visitation to between 9:00 AM and 3:00 PM may be necessary to prevent disturbance.
 - c. If a nest is identified and construction has not been completed, a disturbance-free buffer zone of 0.5 mile (i.e., no surface occupancy) would be established year round for all bald eagle nests. A seasonal minimum disturbance-free buffer zone of 1-mile will be established for all bald eagle nest sites (February 1 - August 15).
 - d. Additional mitigation measures may be necessary if the site-specific project is determined by a Bureau biologist to have an adverse affect to bald eagles or their habitat.
4. No surface disturbing activity shall occur within ½ mile of all identified raptor nests from February 1 through July 31, annually, prior to a raptor nest occupancy survey for the current breeding season. This condition will be implemented on an annual basis for the duration of surface disturbing activities. This timing limitation will affect the following proposed wells and their associated infrastructure:

Township/Range	Section	Affected Wells and Infrastructure
5277	21	Wells 21-44 CA, CO, LA, WA and all associated road corridors and pipelines
5277	22	Wells 22-22, 22-24, 22-32, 22-42, 22-44 CA, CO, LA, WA ; and all associated road corridors and pipelines
5277	27	Wells 27-12 CA, CO, LA, WA and all associated road corridors and pipelines

5277	29	all associated road corridors and pipelines, water treatment facility and 3 phase powerline
5277	32	Wells 32-14 CA, CO, LA, WA all associated road corridors and pipelines

- a. Surveys to document nest occupancy shall be conducted by a biologist following BLM protocol, between April 15 and June 30. All survey results shall be submitted in writing to a Buffalo BLM biologist and approved prior to surface disturbance activities. Surveys outside this window may not depict nesting activity. If a survey identifies active raptor nests, a ½ mile timing buffer will be implemented. The timing buffer restricts surface disturbing activities within ½ mile of occupied raptor nests from February 1 to July 31.
 - b. Nest productivity checks shall be completed for the first five years following project completion. The productivity checks shall be conducted no earlier than June 1 or later than June 30 and any evidence of nesting success or production shall be recorded. Survey results will be submitted to a Buffalo BLM biologist in writing no later than July 31 of each survey year. Nests to be checked are within a ½ mile or less of the proposed development. The following nests will require productivity checks:
3678, 3679, 3670, 3671, 3672, 3674.
 - c. If an undocumented raptor nest is located during project construction or operation, the Buffalo Field Office (307-684-1100) shall be notified within 24 hours.
5. All pits associated with water treatment facilities containing more than 17,000 mg/L of sodium concentration will be netted to prevent access by migratory birds.

Water Management

1. The operator will provide a copy of the spill prevention plan prepared for the water treatment facility to the BLM BFO.
2. The WYPDES Permit includes additional outfalls which were not included in the water management plan for this project. Only four outfalls which discharge directly to the Powder River are permitted at this time:
 - a. WDP 001 (WYPDES Outfall #011) NWNW Sec 33
 - b. WDP 002 (WYPDES Outfall #014) NWNW Sec 28
 - c. WDP 003 (WYPDES Outfall #013) SWNW Sec 28
 - d. WDP 004 (WYPDES Outfall #017) NWNE Sec 21

Additional outfall locations will require a Sundry notice submittal and additional NEPA analysis.
3. The operator will submit a copy of the monitoring plan for the leak detection system for the impoundments at the water treatment facility. Results of the monitoring shall be made available to the BLM upon request.
4. The operator will submit a copy of the final site specific design the water treatment facility prior to construction of the facility.
5. In order to determine if CBNG development is impacting the flowing wells in the POD area, the operator will be required to sample the wells for water quality (using WYPDES parameters) and determine the flowrate in the spring and the fall of each year. Monitoring will be required through the life of the project and for two years after production ceases. Copies of reports will be submitted to the BLM BFO. The flowing wells are located as follows:
 - a. East #1 Well NESW Sec 33 T52N R77W
 - b. Ahern #4 Well NWSE Sec 22 T52N R77W

6. To control erosion, no water will be allowed to overflow the tire stock water tanks located near proposed water discharge points.

III Standard Conditions of Approval

A. General

1. If any cultural values [sites, artifacts, human remains (Appendix L FEIS)] are observed during operation of this lease/permit/right-of-way, they will be left intact and the Buffalo Field Manager notified. The authorized officer will conduct an evaluation of the cultural values to establish appropriate mitigation, salvage or treatment. The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized BLM officer (AO). Within five working days the AO will inform the operator as to:
 - whether the materials appear eligible for the National Register of Historic Places;
 - the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
 - a time-frame for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction measures.
2. If paleontological resources, either large or conspicuous, and/or a significant scientific value are discovered during construction, the find will be reported to the Authorized Officer immediately. Construction will be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM approved professional paleontologist within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological values. Operations within 250 feet of such a discovery will not be resumed until written authorization to proceed is issued by the Authorized Officer. The applicant will bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operation.
3. The operator shall restrict travel on unimproved two-track roads during periods of inclement weather or spring thaw when the possibility exists for excessive surface resource damage (e.g., rutting in excess of 4-inches, travel outside two-track roadway, etc.).
4. The first producing well drilled to each targeted coal zone will be designated as the POD "Reference Well". Reference wells will not be required for PODs within a 6 mile radius of the first reference well designated by the operator, nor for co-mingled coal zones. The designated reference well must be equipped to be sampled at the well head. A reference well sample will be collected from the wellhead and submitted for analysis; using the list of analytes identified in WDEQ WYPDES Application for Permit to Surface Discharge Produced Water from CBM New Discharges, Renewals, or Major Modifications, within 30 to 60 days of initial water production. Results of the analysis will be submitted to the BFO-

BLM authorized Officer as they become available.

5. By November 1 each year, companies will provide georeferenced spatial data depicting as-built locations of all facilities, wells, roads, pipelines, power lines, reservoirs, discharge points, and other related facilities to the BLM for all PODs where construction and development have been completed.
6. If any dead or injured threatened, endangered, proposed, or candidate species is located during construction or operation, the U.S. Fish and Wildlife Service's Wyoming Field Office (307-772-2374), their law enforcement office (307-261-6365), and the BLM Buffalo Field Office (307-684-1100) shall be notified within 24 hours. If any dead or injured sensitive species is located during construction or operation, the BLM Buffalo Field Office (307-684-1100) shall be notified within 24 hours.
7. Wildlife species are dynamic and new individuals may have moved into the Mitchell Draw Unit 2 POD area after the initial wildlife surveys were completed. The Record of Decision for the PRB FEIS includes a programmatic mitigation measure that states, "The companies will conduct clearance surveys for threatened and endangered or other special-concern species at the optimum time". The measure requires companies to coordinate with the BLM before November 1 annually to review the potential for disturbance and to agree on inventory parameters. Should this project not be completed by January 15, and surface disturbance is planned for that year, a Petro-Canada Resources (USA), Inc. company representative will coordinate with the BLM to discuss required surveys.
8. All other conservation measures and terms and conditions identified in the Powder River Basin Oil and Gas Project Biological Opinion (WY07F0075) shall be complied with.
9. If an undocumented raptor nest is located during project construction or operation, the Buffalo Field Office (307-684-1100) shall be notified within 24 hours.
10. All contractors will have a copy of the pod map and conditions of approval with them at all times.

B. Construction

1. A pre-construction field meeting shall be conducted prior to beginning any dirt work approved under this POD. The operator shall contact the BLM Authorized Officer Kathy Brus @ 307-684-1087 at least 4-days prior to beginning operations so that the meeting can be scheduled. The operator is responsible for having all contractors present (dirt contractors, drilling contractor, pipeline contractor, project oversight personnel, etc.) including the overall field operations superintendent, and for providing all contractors copies of the approved POD, project map and BLM Conditions of Approval pertinent to the work that each will be doing.
2. The operator will limit vegetation removal and the degree of surface disturbance wherever possible. Where surface disturbance cannot be avoided, all practicable measures will be utilized to minimize erosion and stabilize disturbed soils.
3. Construction and drilling activity will not be conducted using frozen or saturated soil material during periods when watershed damage or excessive rutting is likely to occur.
4. Remove all available topsoil (depths vary from 4 inches on ridges to 12+ inches in bottoms) from constructed well locations including areas of cut and fill, and stockpile at the site. Topsoil will also be salvaged for use in reclamation on all other areas of surface disturbance (roads, pipelines, etc.). Clearly segregate topsoil from excess spoil material. Any topsoil

stockpiled for one year or longer will be signed and stabilized with annual ryegrass or other suitable cover crop.

5. The operator will not push soil material and overburden over side slopes or into drainages. All soil material disturbed will be placed in an area where it can be retrieved without creating additional undue surface disturbance and where it does not impede watershed and drainage flows.
6. Construct the backslope no steeper than 1½:1, and construct the foreslope no steeper than 2:1, unless otherwise directed by the BLM Authorized Officer.
7. Maintain a minimum 20-foot undisturbed vegetative border between toe-of-fill of pad and/or pit areas and the edge of adjacent drainages, unless otherwise directed by the BLM Authorized Officer.
8. With the overall objective of minimizing surface disturbance and retaining land stability and productivity, the operator shall utilize equipment that is appropriate to the scope and scale of work being done for roads and well pads (utilize equipment no larger than needed for the job).
9. To minimize electrocution potential to raptors, all overhead electrical power lines will be constructed to Avian Power Line Interaction Committee (1996) standards and additional standards identified in the PRB FEIS Biological Opinion (Volume 3, Appendix K, page 43).
10. The operator shall utilize wheel trenchers or ditchers to construct all pipeline trenches, except where extreme topography or other environmental factors preclude their use.
11. Reserve pits will be adequately fenced during and after drilling operations until pit is reclaimed so as to effectively keep out wildlife and livestock. Adequate fencing, in lieu of more stringent requirements by the surface owner, is defined as follows:
 - Construction materials will consist of steel or wood posts. Three or four strand wire (smooth or barbed) fence or hog panel (16-foot length by 50-inch height) or plastic snow fence must be used with connectors such as fence staples, quick-connect clips, hog rings, hose clamps, twisted wire, etc. Electric fences will not be allowed.
 - Construction standards: Posts shall be firmly set in ground. If wire is used, it must be taut and evenly spaced, from ground level to top wire, to effectively keep out animals. Hog panels must be tied securely into posts and one another using fence staples, clamps, etc. Plastic snow fencing must be taut and sturdy. Fence must be at least 2-feet from edge of pit. 3 sides fenced before beginning drilling, the fourth side fenced immediately upon completion of drilling and prior to rig release. Fence must be left up and maintained in adequate condition until pit is closed.
12. The reserve pit will be oriented to prevent collection of surface runoff. After the drilling rig is removed, the operator may need to construct a trench on the uphill side of the reserve pit to divert surface drainage around it. If constructed, the trench will be left intact until the pit is closed.
13. The reserve pit will be lined with an impermeable liner if permeable subsurface material is encountered. An impermeable liner is any liner having a permeability less than 10⁻⁷ cm/sec. The liner will be installed so that it will not leak and will be chemically compatible with all substances that may be put in the pit. Liners made of any man-made synthetic material will be of sufficient strength and thickness to withstand normal installation and pit use. In gravelly or rocky soils, a suitable bedding material such as sand will be used prior to installing the liner.

14. The reserve pit will be constructed so that at least half of its total volume is in solid cut material (below natural ground level).
15. Culverts will be placed on channel bottoms on firm, uniform beds, which have been shaped to accept them, and aligned parallel to the channel to minimize erosion. Backfill will be thoroughly compacted.
16. The minimum diameter for culverts will be 18 inches. However, all culverts will be appropriately sized in accordance with standards in BLM Manual 9113.
17. Construction and other project-related traffic will be restricted to approved routes. Cross-country vehicle travel will not be allowed.
18. Maximum design speed on all operator-constructed and maintained roads will not exceed 25 miles per hour.
19. Pipeline construction shall not block nor change the natural course of any drainage. Pipelines shall cross perpendicular to drainages. Pipelines shall not be run parallel in drainage bottoms. Suspended pipelines shall provide adequate clearance for maximum runoff.
20. Pipeline trenches shall be compacted during backfilling. Pipeline trenches shall be routinely inspected and maintained to ensure proper settling, stabilization and reclamation.
21. During construction, emissions of particulate matter from well pad and road construction would be minimized by application of water or other non-saline dust suppressants with at least 50 percent control efficiency. Dust inhibitors (surfacing materials, non-saline dust suppressants, and water) will be used as necessary on unpaved roads that present a fugitive dust problem. The use of chemical dust suppressants on public surface will require prior approval from the BLM Authorized Officer.
22. Operators are required to obtain a National Pollution Discharge Elimination System (NPDES) Storm Water Permit from the Wyoming DEQ for any projects that disturb five or more acres (changing to one acre in March 2005). This general construction storm water permit must be obtained from WDEQ prior to any surface disturbing activities and can be obtained by following directions on the WDEQ website at <http://deq.state.wy.us>. Further information can be obtained by contacting Barb Sahl at (307) 777-7570.
23. The operator shall submit a Sundry Notice (Form 3160-5) to BLM for approval prior to construction of any new surface disturbing activities that are not specifically addressed in the approved APD or POD Surface Use Plan.
24. Weed educational material will be reviewed with operators during pre-construction on-site meetings with operators, subcontractors, and landowners and will also be attached to approved APDs and PODs.
25. Companies will contact the counties to pursue development of maintenance agreements to ensure county roads are adequately maintained for the projected increase in use.

C. Operations/Maintenance

1. The operator shall complete coal bed natural gas wells (case, cement and under ream) as soon as possible, but no later than 30 days after drilling operations, unless an extension is given by the BLM Authorized Officer.
2. If in the process of air drilling the wells there is a need to utilize mud, all circulating fluids will be contained either in an approved pit or in an aboveground containment tank. The pit or containment tank will be large enough to safely contain the capacity of all expected fluids

without danger of overflow. Fluid and cuttings will not be squeezed out of the pit, and the pit will be reclaimed in an expedient manner.

3. Confine all equipment and vehicles to the access road(s), pad(s), and area(s) specified in the approved APD or POD.
4. All waste, other than human waste and drilling fluids, will be contained in a portable trash cage. This waste will be transported to a State approved waste disposal site immediately upon completion of drilling operations. No trash or empty barrels will be placed in the reserve pit or buried on location. All state and local laws and regulations pertaining to disposal of human and solid waste will be complied with.
5. Rat and mouse holes shall be filled and compacted from the bottom to the top immediately upon release of the drilling rig from the location.
6. The operator will be responsible for prevention and control of noxious weeds and weeds of concern on all areas of surface disturbance associated with this project (well locations, roads, water management facilities, etc.) Use of pesticides shall comply with the applicable Federal and State laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of Interior. Prior to the use of pesticides on public land, the holder shall obtain from the BLM authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the authorized officer to such use.
7. Sewage shall be placed in a self-contained, chemically treated porta-potty on location.
8. The operator and their contractors shall ensure that all use, production, storage, transport and disposal of hazardous and extremely hazardous materials associated with the drilling, completion and production of these wells will be in accordance with all applicable existing or hereafter promulgated federal, state and local government rules, regulations and guidelines. All project-related activities involving hazardous materials will be conducted in a manner to minimize potential environmental impacts. In accordance with OSHA requirements, a file will be maintained onsite containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds and/or substances which are used in the course of construction, drilling, completion and production operations.
9. Produced fluids shall be put in test tanks on location during completion work. Produced water will be put in the reserve pit during completion work per Onshore Order #7.
10. The only fluids/waste materials which are authorized to go into the reserve pit are RCRA exempt exploration and production wastes. These include:
 - drilling muds & cuttings
 - rigwash
 - excess cement and certain completion & stimulation fluids defined by EPA as exemptIt does not include drilling rig waste, such as:
 - spent hydraulic fluids
 - used engine oil
 - used oil filter
 - empty cement, drilling mud, or other product sacks
 - empty paint, pipe dope, chemical or other product containers
 - excess chemicals or chemical rinsate

Any evidence of non-exempt wastes being put into the reserve pit may result in the BLM Authorized Officer requiring specific testing and closure requirements.

11. Reserve pits will be closed as soon as possible, but no later than 90 days from time of drilling/well completion, unless the BLM Authorized Officer gives an extension. Squeezing of pit fluids and cuttings is prohibited. Pits must be dry of fluids or they must be removed via vac-truck or other environmentally acceptable method prior to backfilling, re-contouring and replacement of topsoil. Mud and cuttings left in pit must be buried at least 3-feet below re-contoured grade. The operator will be responsible for re-contouring any subsidence areas that develop from closing a pit before it is sufficiently dry.
12. Operators are advised that prior to installation of any oil and gas well production equipment which has the potential to emit air contaminants, the owner or operator of the equipment must notify the Wyoming Department of Environmental Quality, Air Quality Division (phone 307-777-7391) to determine permit requirements. Examples of pertinent well production equipment include fuel-fired equipment (e.g., diesel generators), separators, storage tanks, engines and dehydrators.
13. If this well is drilled during the fire season (June-October), the operator shall institute all necessary precautions to ensure that fire hazard is minimized, including but not limited to mowing vegetation on the access route(s) and well location(s), keeping fire fighting equipment readily available when drilling, etc.

D. Dry Hole/Reclamation

1. All disturbed lands associated with this project, including the pipelines, access roads, water management facilities, etc will be expediently reclaimed and reseeded in accordance with the surface use plan and any pertinent site-specific COAs.
2. Disturbed lands will be re-contoured back to conform with existing undisturbed topography. No depressions will be left that trap water or form ponds.
3. The fluids and mud must be dry in the reserve pit before re-contouring pit area. The operator will be responsible for re-contouring of any subsidence areas that develop from closing a pit before it is completely dry. The plastic pit liner (if any) will be cut off below grade and properly disposed of at a state authorized landfill before beginning to re-contour the site.
4. Before the location has been reshaped and prior to redistributing the topsoil, the operator will rip or scarify the drilling platform and access road on the contour, to a depth of at least 12 inches. The rippers are to be no farther than 24 inches apart.
5. Distribute the topsoil evenly over the entire location and other disturbed areas. Prepare the seedbed by disking to a depth of 4-to-6 inches following the contour.
6. Phased reclamation plans will be submitted to BLM for approval prior to individual POD facility abandonment via a Notice of Intent (NOI) Sundry Notice. Individual facilities, such as well locations, pipelines, discharge points, impoundments, etc. need to be addressed in these plans as they are no longer needed. Individual items that will need to be addressed in reclamation plans include:
 - Pit closure (Close ASAP after suitably dry, but no later than 90 days from time of drilling unless an extension is given by BLM Authorized Officer.) BLM may require closure prior to 90 days in some cases due to land use or environmental concerns.
 - Configuration of reshaped topography, drainage systems, and other surface manipulations

- Waste disposal
 - Revegetation methods, including specific seed mix (pounds pure live seed/acre) and soil treatments (seedbed preparation, fertilization, mulching, etc.). On private surface, the landowner should be consulted for the specific seed mix.
 - Other practices that will be used to reclaim and stabilize all disturbed areas, such as water bars, erosion fabric, hydro-mulching, etc.
 - An estimate of the timetables for beginning and completing various reclamation operations relative to weather and local land uses.
 - Methods and measures that will be used to control noxious weeds, addressing both ingress and egress to the individual well or POD.
 - Decommissioning/removal of all surface facilities
 - Closure and reclamation of areas utilized or impacted by produced CBM water, including discharge points, reservoirs, off-channel pits, land application areas, livestock/wildlife watering facilities, surface discharge stream channels, etc
7. BLM will not release the performance bond until all disturbed areas associated with the APD/POD have been successfully revegetated (evaluation will be made after the second complete growing season) and has met all other reclamation goals of the surface owner and surface management agency.
 8. A Notice of Intent to Abandon and a Subsequent Report of Abandonment must be submitted for abandonment approval.
 9. For performance bond release approval, a Final Abandonment Notice (with a surface owner release letter on split-estate) must be submitted prior to a final abandonment evaluation by BLM.
 10. Soil fertility testing and the addition of soil amendments may be required to stabilize some disturbed lands.
 11. Any mulch utilized for reclamation needs to be certified weed free.
 12. Waterbars are to be constructed at least one (1) foot deep, on the contour with approximately two (2) feet of drop per 100 feet of waterbar to ensure drainage, and extended into established vegetation. All waterbars are to be constructed with the berm on the downhill side to prevent the soft material from silting in the trench. The initial waterbar should be constructed at the top of the backslope. Subsequent waterbars should follow the following general spacing guidelines:

Slope (percent)	Spacing Interval (feet)
$\leq 2 - 4$	310
5 - 8	260
9 - 12	200

E. Producing Well

1. Landscape those areas not required for production to the surrounding topography as soon as possible. The fluids and mud must be dry in the reserve pit before re-contouring pit area. The operator will be responsible for re-contouring and reseeding of any subsidence areas that develop from closing a pit before it is completely dry.

2. Reduce the backslope to 2:1 and the foreslope to 3:1, unless otherwise directed by the BLM Authorized Officer. Reduce slopes by pulling fill material up from foreslope into the toe of cut slopes.
3. Production facilities (including dikes) must be placed on the cut portion of the location and a minimum of 15 feet from the toe of the back cut unless otherwise approved by the BLM Authorized Officer.
4. Any spilled or leaked oil, produced water or treatment chemicals must be reported in accordance with NTL-3A and immediately cleaned up in accordance with BLM requirements. This includes clean-up and proper disposition of soils contaminated as a result of such spills/leaks.
5. Distribute stockpiled topsoil evenly over those areas not required for production and reseed as recommended.
6. Upgrade and maintain access roads and drainage control (e.g., culverts, drainage dips, ditching, crowning, surfacing, etc.) as necessary and as directed by the BLM Authorized Officer to prevent soil erosion and accommodate safe, environmentally-sound access.
7. Prior to construction of production facilities not specifically addressed in the APD/POD, the operator shall submit a Sundry Notice to the BLM Authorized Officer for approval.
8. If not already required prior to constructing and drilling the well location, the operator shall immediately upgrade the entire access road to BLM standards (including topsoiling, crowning, ditching, drainage culverts, surfacing, etc.) to ensure safe, environmentally-sound, year-round access. This requirement does not supercede or apply where specific road requirements are addressed in the APD/POD surface use plan (e.g., two track road, spot upgrade, etc.)
9. Waterbars shall be installed on all reclaimed pipeline corridors per the guidelines in D #12.