

FORM
2

Rev
12/05

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80205 Phone: (303) 894-2100 Fax: (303) 894-2109



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Document Number:

400072175

Plugging Bond Surety

20100017

APPLICATION FOR PERMIT TO:

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

2. TYPE OF WELL

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

Refilling ☒

Sidetrack ☐

3. Name of Operator: ENCANA OIL & GAS (USA) INC

4. COGCC Operator Number: 100185

5. Address: 370 17TH ST STE 1700

City: DENVER State: CO Zip: 80202-5632

6. Contact Name: MIRACLE PFISTER Phone: (720)876-3761 Fax: (720)876-4861
Email: miracle.pfister@encana.com

7. Well Name: ENCANA FEE Well Number: 3-16 (A10E)

8. Unit Name (if appl): HUNTER MESA Unit Number: COC55972E

9. Proposed Total Measured Depth: 6760

WELL LOCATION INFORMATION

10. QtrQtr: NENE Sec: 10 Twp: 7S Rng: 92W Meridian: 6

Latitude: 39.467600 Longitude: -107.643100

Footage at Surface: 435 feet FNL/FSL FNL 2 feet FEL/FWL FEL

11. Field Name: MAMM CREEK Field Number: 52500

12. Ground Elevation: 6045 13. County: GARFIELD

14. GPS Data:

Date of Measurement: 10/20/2006 PDOP Reading: 3.5 Instrument Operator's Name: CD SLAUGH

15. If well is ☒ Directional ☐ Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: FNL/FSL 650 FSL 750 FEL 750 FEL 750 FEL 750 FEL 750
Bottom Hole: FNL/FSL 650 FSL 750 FEL 750 FEL 750 FEL 750
Sec: 3 Twp: 7S Rng: 92W Sec: 3 Twp: 7S Rng: 92W

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: 212 ft

18. Distance to nearest property line: 429 ft 19. Distance to nearest well permitted/completed in the same formation: 649 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.)
Iles	ILES			
Williams Fork	WMFK			

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#: _____

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):
T7S-R92W SEC 3 & 10: A PARCEL SITUATED IN THE S2SE OF SEC 3 AND IN THE N2NE4 OF SEC 10 CONTAINING 21.589 ACRES, MORE OR LESS DESCRIBED BY METES AND BOUNDS.

25. Distance to Nearest Mineral Lease Line: 98 ft 26. Total Acres in Lease: 22

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 27 or 28 are yes, is this location in a sensitive area (Rule 903)? ☐ Yes ☐ No If 28, 29, or 30 are "Yes" a pit permit may be required.

31. Mud disposal: ☐ Offsite ☒ Onsite

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	20	16	LINEPIPE		40	5	40	0
SURF	12+1/4	9+5/8	36		1,135	547	1,135	0
1ST	7+7/8	4+1/2	11.6		6,760	615	6,760	0

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

33. Comments TOP OF CEMENT FOR THE TOP OF PRODUCTION IS 500' or more ABOVE TOG. ENCANA OWNS THE SURFACE.

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: MIRACLE PFISTER

Title: REGULATORY ANALYST Date: 7/25/2010 Email: miracle.pfister@encana.com

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: David S. Neslin Director of COGCC Date: 1/31/2011

API NUMBER

05 045 18257 00

Permit Number: _____ Expiration Date: 1/30/2013

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) COMPLIANCE WITH THE MOST CURRENT REVISION OF THE NORTHWEST COLORADO NOTIFICATION POLICY IS REQUIRED.
- 2) GARFIELD COUNTY RULISON FIELD NOTICE TO OPERATORS. NOTE: ALL NOTICES SHALL BE GIVEN VIA E-MAIL. SEE ATTACHED NOTICE
- 3) NEW MAMM CREEK FIELD NOTICE TO OPERATORS APPLIES TO THIS WELL. NOTE: ALL NOTICES SHALL BE GIVEN VIA E-MAIL. SEE ATTACHED NOTICE
- 4) THE PROPOSED SURFACE CASING IS MORE THAN 50' BELOW THE DEPTH OF THE DEEPEST WATER WELL WITHIN 1 MILE OF THE SURFACE LOCATION WHEN CORRECTED FOR ELEVATION DIFFERENCES. THE DEEPEST WATER WELL WITHIN 1 MILE IS 450 FEET DEEP.
- 5) SUBMIT PASON OR EQUIVALENT MUD LOG DATA FROM SURFACE TO TOTAL WELL DEPTH WITH THE REQUEST TO COMPLETE.
- 6) SUBMIT ALL ELECTRONIC DRILLING RECORDER DATA IN ADDITION TO A MUD/DRILLING LOG FROM SURFACE TO TOTAL DEPTH DRILLED FOR THE FIRST WELL DRILLED ON THIS PAD WITH THE FOLLOWING CURVATURE DATA: RATE OF PENETRATION (ROP), GAS, MUD VOLUME, TORQUE, DIFFERENTIAL PRESSURE AND WEIGHT ON BIT (WOB).
- 7) SUBMIT THE FOLLOWING OPEN-HOLE LOGS ON THE SURFACE HOLE FOR THE FIRST WELL DRILLED ON THIS PAD, VIA EMAIL TO COGCC WESTERN COLORADO ENGINEERING SUPERVISOR, WITHIN 24 HRS OF RUNNING AND WITH FORM 5: SPONTANEOUS POTENTIAL, GAMMA RAY, FORMATION DENSITY, COMPENSATED NEUTRON, AND RESISTIVITY (TRIPLE COMBO).
- 8) SUBMIT THE FOLLOWING OPEN-HOLE LOGS ON THE PRODUCTION HOLE, FOR AT LEAST ONE WELL PER PAD (ON THE F12E, PREFERABLY ONE OF THE WELLS BEING DRILLED TO THE NORTHWEST OF THE PAD), FROM TOTAL WELL DEPTH TO SURFACE CASING SHOE WITH FORM 5: SPONTANEOUS POTENTIAL, GAMMA RAY, FORMATION DENSITY, COMPENSATED NEUTRON, AND RESISTIVITY (TRIPLE COMBO).
- 9) 80% EXCESS CEMENT, OVER THE CALCULATED VOLUME REQUIRED TO FILL THE ENTIRE ANNULUS, IS REQUIRED TO BE PUMPED ON THE SURFACE CASING CEMENT JOB. SUBMIT CEMENT TICKETS AS AN ATTACHMENT TO THE REQUEST TO COMPLETE, FOR VERIFICATION OF CEMENT VOLUMES.
- 10) IF LOST CIRCULATION OF 20 BBL/HR OR MORE IS EXPERIENCED AT ANY TIME DURING THE DRILLING OF THIS WELL, OPERATOR SHALL STOP DRILLING, PUMP LOST CIRCULATION MATERIAL AS NEEDED.
- 11) IF LOST CIRCULATION OF 100+ BBLs WITHIN 24 HR OR MAJOR GAS (GAS OVER 1800 UNITS WHILE DRILLING) OCCURS AT A TRUE VERTICAL DEPTH LESS THAN 4200', OPERATOR SHALL NOTIFY COGCC'S WESTERN COLORADO ENGINEERING SUPERVISOR WITHIN 24 HOURS, AND PRIOR TO RUNNING CASING, TO DISCUSS THE OPTIONS FOR UTILIZING A DV TOOL ON PRODUCTION OR INTERMEDIATE CASING.
- 12) PRODUCTION CASING CEMENT TOP MUST BE 500' ABOVE THE SHALLOWEST GAS SIGNATURE OBSERVED ON MUD LOGS OR OPEN-HOLE LOGS. THE SHALLOWEST GAS SIGNATURE, AS DEFINED BY 2500 UNITS, DEPTH SHALL BE REPORTED ON THE REQUEST TO COMPLETE.
- 13) SURFACE CASING SHALL BE SET A MINIMUM OF 50' BELOW THE MOLINA MEMBER OF THE WASATCH FORMATION. THE MOLINA AND ATWELL GULCH MEMBERS OF THE WASATCH FORMATION TOPS SHALL BE REPORTED ON THE REQUEST TO COMPLETE.
- 14) SUBMIT 48 HOUR NOTICES, VIA EMAIL, FOR RUNNING AND CEMENTING ALL CASING STRINGS AND PERFORMING A WELL CONTROL DRILL TO COGCC'S GARFIELD COUNTY FIELD INSPECTOR, COGCC'S NORTHWEST AREA FIELD INSPECTION SUPERVISOR, AND COGCC'S WESTERN COLORADO ENGINEERING SUPERVISOR. CONTACT INFORMATION FOR NOTICES CAN BE FOUND ON COGCC'S CURRENT NOTIFICATION POLICY.
- 15) FRESH WATER DRILLING MUD MUST BE UTILIZED DURING THE DRILLING OF THE SURFACE CASING

INTERVAL, AS OPPOSED TO WATER ONLY. MUD THAT HAS BEEN USED TO DRILL A PRODUCTION INTERVAL MAY NOT BE REUSED TO DRILL ANOTHER SURFACE INTERVAL.

16)CENTRALIZER SYSTEMS MUST BE DESIGNED TO ACHIEVE A MINIMUM OF 50% STANDOFF ON ALL CASING STRINGS. REPORT CENTRALIZER PLACEMENT AND CALCULATED STANDOFF ON THE REQUEST TO COMPLETE.

17)RUN A CEMENT EVALUATION TOOL ON ALL CASING STRINGS, BEFORE DRILL OUT OF EACH SHOE, FROM FLOAT COLLAR TO SURFACE. TIMING OF THE LOGS SHALL BE BASED ON COMPRESSIVE STRENGTH TESTS OF SLURRIES PROVIDED BY CEMENT SERVICE PROVIDER. ALL LOGS SHALL BE PROVIDED WITH THE REQUEST TO COMPLETE

18)UTILIZE INTERMEDIATE CASING IF THE FORMATION INTEGRITY TEST FAILS OR IF THE SURFACE CASING REQUIRES PERFORATION AND CEMENT SQUEEZING.

19)SUBMIT DAILY DRILLING REPORTS TO COGCC WITH THE REQUEST TO COMPLETE.

20)SUBMIT DAILY WELL STIMULATION REPORTS TO COGCC WITH THE FORM 5 DRILLING COMPLETION REPORT.

21)COLLECT SAMPLES FOR LABORATORY ANALYSIS FROM THE DOMESTIC WATER WELLS LOCATED WITHIN ½ MILE OF THE A10E WELL PAD PRE-AND POST-DRILLING OF THE SHEROWSKI 3-16 AND SHEROWSKI 2-13C GAS WELLS. WATER SAMPLE ANALYSIS MUST INCLUDE DISSOLVED METHANE, BTEX, MAJOR ANIONS AND CATIONS. IF THE CONCENTRATION OF DISSOLVED METHANE IS >1.1 MG/L, COLLECT A SAMPLE FOR ANALYSIS OF GAS COMPOSITION AND OF THE STABLE ISOTOPES OF METHANE.

22)CONDUCT DOCUMENTED VISUAL MONITORING OF WEST DIVIDE CREEK (WDC) IN SECTION 12, R7S T92W AND ALL OTHER SURFACE STREAMS AND PONDS IN SE 1/4 SECTION 3 7S 92W, SW 1/4 SECTION 2 7S 92W, NW SECTION 11 7S 92W AND NE SECTION 10 7S 92W FOR PRESENCE NATURAL GAS, AIR, OR OTHER GAS BUBBLES WHILE DRILLING AND FRACING GAS WELLS SHEROWSKI 3-16 AND SHEROWSKI 2-13C GAS WELLS.

23)COLLECT ANALYTICAL SAMPLES FOR ANALYTICAL SUITE IDENTIFIED IN COA 1 FROM ALL SURFACE WATER BODIES AND ALL WELLS IDENTIFIED IN COA 1 AND COA 2, IF VISUAL MONITORING INDICATES THE PRESENCE NATURAL GAS OR FORCED AIR BUBBLES IN SURFACE WATER WHILE DRILLING AND FRACING

24)IF VISUAL MONITORING OR ANY OTHER OBSERVATION INDICATES THAT THERE IS AN INCREASE IN THE PRESENCE NATURAL GAS, AIR, OTHER GAS OR FLUID DISCHARGING INTO SURFACE WATER OR GROUND WATER WHILE DRILLING AND FRACING, NOTIFY COGCC STAFF AND LANDOWNER AS SOON AS PRACTICAL, BUT NO LATER THAN 24 HOURS AFTER OBSERVATION

25)IF VISUAL MONITORING OR ANY OTHER OBSERVATION INDICATES THAT THERE IS AN INCREASE IN THE PRESENCE OF NATURAL GAS, AIR, OTHER GAS, OR FLUID DISCHARGING INTO SURFACE WATER OR GROUND WATER DURING DRILLING AND FRACING, SUBMIT THE CHEMICAL INVENTORY (REFER TO RULE 205.C) TO THE COGCC AS SOON AS PRACTICAL, BUT NO LATER THAN 24 HOURS AFTER OBSERVATION.

26)IF VISUAL MONITORING OR ANY OTHER OBSERVATION INDICATES THAT THERE IS AN INCREASE IN THE PRESENCE OF NATURAL GAS, AIR, OTHER GAS, OR FLUID DISCHARGING INTO SURFACE WATER OR GROUND WATER DURING DRILLING AND FRACING, COLLECT SAMPLES FOR LABORATORY ANALYSIS FROM SURFACE WATER BODIES AND ALL WELLS IDENTIFIED IN ENV COA-1 AND ENV COA-2. THE SAMPLES SHALL BE ANALYZED FOR THE PARAMETER LIST IDENTIFIED IN ENV COA-1 AND OTHER PARAMETERS AGREED TO BASED ON THE CHEMICAL INVENTORY OR OTHER PROCESS KNOWLEDGE.

27)PROVIDE A SCHEDULE AND LOCATIONS FOR VISUAL MONITORING OF WDC AND SURFACE WATER BODIES. THE SCHEDULE WILL BE APPROVED BY COGCC STAFF PRIOR TO INITIATION OF DRILLING ACTIVITIES.

Attachment Check List

Att Doc Num	Name
400072175	FORM 2 SUBMITTED
400072229	OTHER
400072230	WAIVERS
400072231	PLAT
400072232	DEVIATED DRILLING PLAN

Total Attach: 5 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Agency	WO LETTER RESPONSE AND COA'S, Exception location for 318a. to uncommitted tract.	8/17/2010 1:31:20 PM
Permit	WO LETTER RESPONSE AND COA'S, Exception location for 318a. to uncommitted tract. MAMM CREEK ISSUE DO NOT PROCESS AT THIS TIME 6/29/10 BY ; Sec III Line 22B has not been answered. Left phone msg w/operator & sent e-mail. Put back to draft. SF 6/25/10	

Total: 2 comment(s)

BMP

<u>Type</u>	<u>Comment</u>

Total: 0 comment(s)