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Form 3160-5  
(March 2012)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SEP 18 2013

FORM APPROVED  
OMB No. 1004-0137  
Expires: October 31, 2014

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

5. Lease Serial No.  
NMNM 117564  
6. If Indian, Allottee or Tribe Name  
N/A

SUBMIT IN TRIPLICATE - Other instructions on page 2.

1. Type of Well  
 Oil Well  Gas Well  Other  
2. Name of Operator  
Encana Oil & Gas (USA) Inc.  
3a. Address  
370 17th Street, Suite 1700 Denver, CO 80202  
3b. Phone No. (include area code)  
720-876-3533  
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
SHL: 1306' FNL and 330' FWL Section 29, T23N, R6W  
BHL: 1750' FNL and 330' FWL Section 30, T23N, R6W  
7. If Unit of CA/Agreement, Name and/or No.  
N/A  
8. Well Name and No.  
Lybrook E29-2306 03H  
9. API Well No.  
30-043-21142  
10. Field and Pool or Exploratory Area  
Lybrook Gallup  
11. County or Parish, State  
Sandoval County, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other Installation of Gas Lift
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Encana Oil & Gas (USA) Inc. is requesting authorization to install gas lift at the Lybrook E29-2306 03H well. Attached is a schematic of the pad with gas lift and the gas allocation procedure.

RCVD OCT 25 '13  
OIL CONS. DIV.  
DIST. 3

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

ALL APPROVAL OR ACCEPTANCE OF THIS  
ACTION DOES NOT RELIEVE THE LESSEE AND  
OPERATOR FROM OBTAINING ANY OTHER  
AUTHORIZATION REQUIRED FOR OPERATIONS  
ON FEDERAL AND INDIAN LANDS

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)  
Katie Wegner  
Title Regulatory Analyst  
Signature *Katie Wegner*  
Date 09/17/2013

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

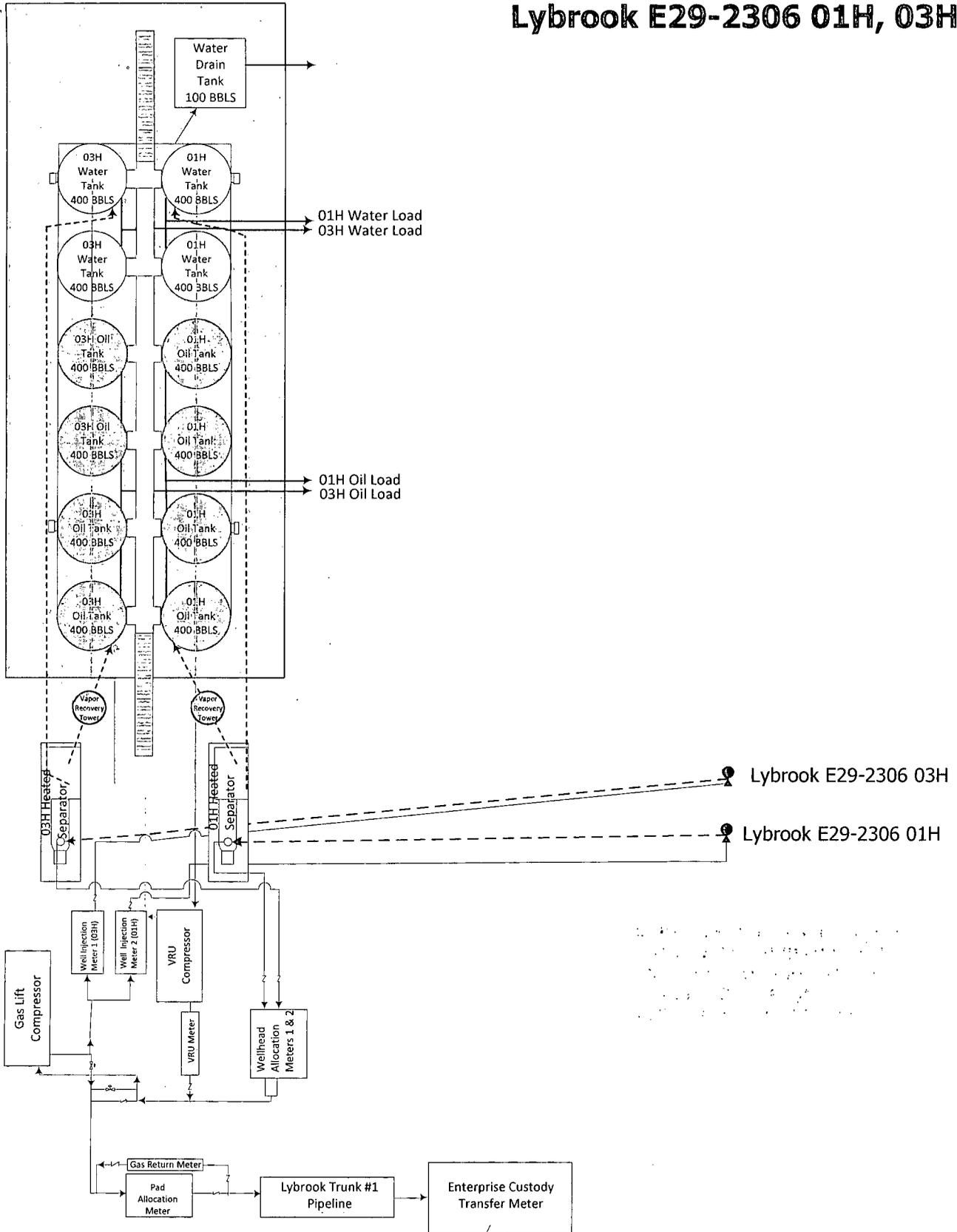
Approved by  
*Troy Salyers*  
Title Petroleum Engineer Date 10/11/2013  
Office FFO

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

NMOCDFV

# Lybrook E29-2306 01H, 03H

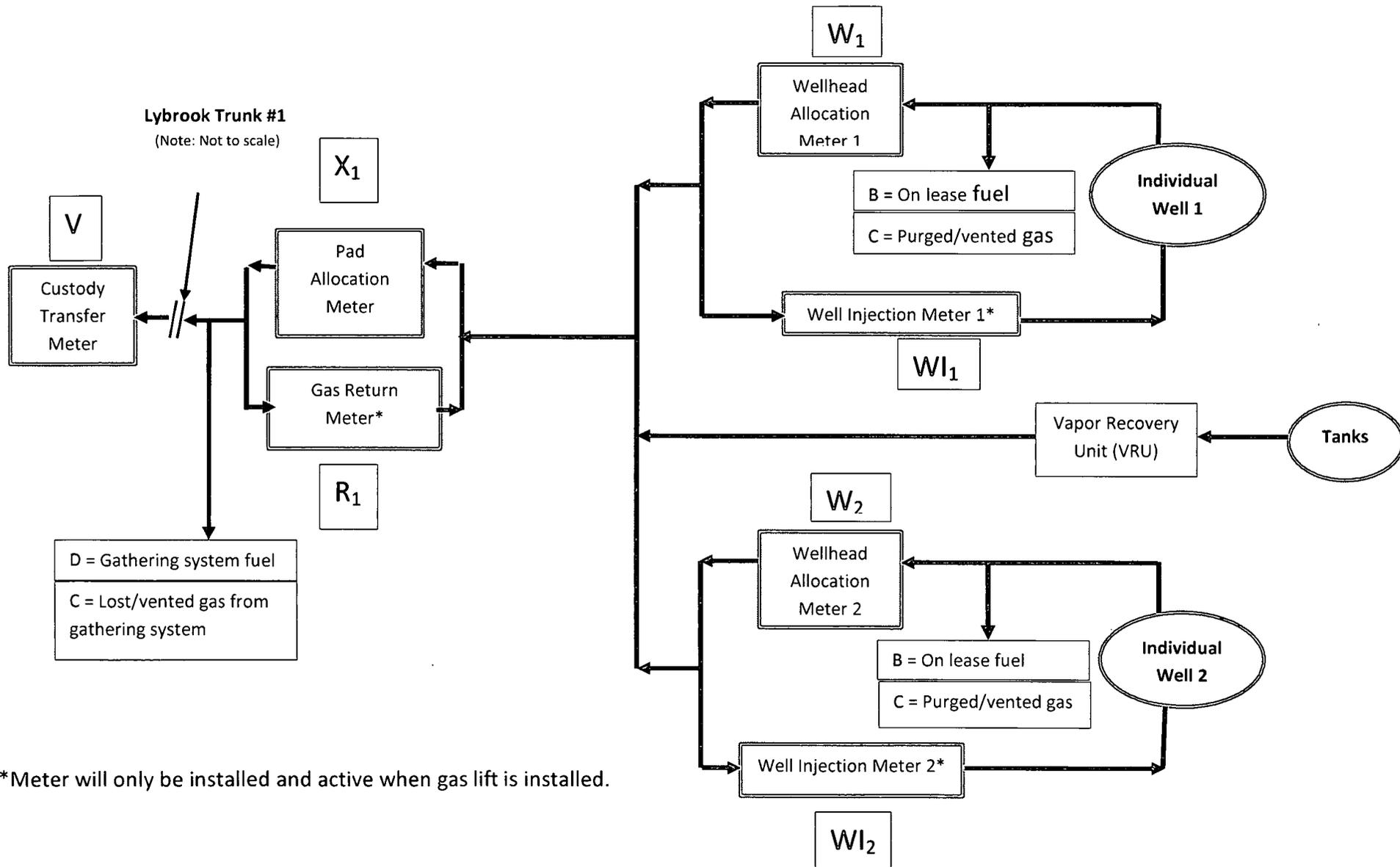


FILENAME  
Lybrook E29-2306

NOT TO SCALE

DATE  
09/17/2013

## Gas Measurement Allocation Procedure for Lybrook E29-2306 Well Pad



### **Base Data:**

V = Gas Volume (MCF) from Custody Transfer Meter during allocation period (Enterprise)

X<sub>x</sub> = Gas Volume (MCF) from Pad Allocation Meter during allocation period. (Encana)

R<sub>x</sub> = Gas Volume (MCF) from Gas Return Meter at Well Pad (Encana)\*

(X<sub>x</sub> - R<sub>x</sub>) = Gas Volume (MCF) for total Well Pad Production (Encana)

W<sub>x</sub> = Gas Volume (MCF) from Wellhead Allocation Meter at individual wells during allocation period. (Encana)

WI<sub>x</sub> = Gas Volume (MCF) from Well Injection Meter at individual wells during allocation period. (Encana)\*

Y = Heating Value (BTU/scf) from Custody Transfer Meter during allocation period. (Enterprise)

Z = Heating Value (BTU/scf) from individual Wellhead Allocation Meter and Well Injection Meter. (Encana)

Allocation Period is typically a calendar month and will be the same for all Well Pads and individual wells.

### **Well Pad Gas Production** = A + B + C + D + E

A = Allocated Gas production off lease for Well Pad, MCF:  $[(X_1-R_1)/((X_1-R_1)+(X_2-R_2)+(X_n-R_n))] * (V)$

Please note, gas production (MCF) for individual wells on a Well Pad is calculated using the formula:

$[(W_1-WI_1)/((W_1-WI_1)+(W_2-WI_2)+(W_n-WI_n))] * (X_1-R_1)$

B = On lease fuel usage, MCF. Determined from equipment specification and operating conditions. This includes, but is not limited to, compression, vapor recovery unit (VRU) compression, burners, and pump jacks.

C = Lost and/or vented gas from well and/or lease equipment, MCF. Calculated using equipment and piping specifications and operating pressures.

D = Allocated fuel from gathering system equipment, MCF. The total fuel required to operate gathering system equipment will be allocated to the Well Pads benefiting from the equipment using allocation factors determined by  $[(X_1-R_1)/((X_1-R_1)+(X_2-R_2)+(X_n-R_n))]$  and for individual wells using allocation factors determined by  $[(W_1-WI_1)/((W_1-WI_1)+(W_2-WI_2)+(W_n-WI_n))]$ .

E = Allocated volume of gas lost and/or vented from the gathering system, gathering system equipment, condensate collection, and water collection in MCF. The total volume will be determined using industry accepted procedures the time of the loss. The total

volumes lost and/or vented will be allocated to the Well Pads affected using factors determined by  $[(X_1-R_1)/((X_1-R_1)+(X_2-R_2)+(X_n-R_n))]$ , and for individual wells using factors determined by  $[(W_1-WI_1)/((W_1-WI_1)+(W_2-WI_2)+(W_n-WI_n))]$ .

**Individual Well BTU's** =  $[(W_n-WI_n)*Z_n]/\text{SUM}((W_n-WI_n)*Z_n)*Y$

Individual well gas heating values to be determined in accordance with BLM regulations.



## United States Department of the Interior

### BUREAU OF LAND MANAGEMENT

Farmington Field Office  
6252 College Blvd., Suite A  
Farmington, New Mexico 87402

IN REPLY REFER TO:

### **CONDITIONS OF APPROVAL FOR GAS LIFT, BUY BACK METER AND CDP INSTALLATION:**

- The buy-back meter isolation valve, either up or down stream of the buy-back meter must be effectively sealed in the closed position to prevent produced gas from potentially by-passing the measurement and sales meter. In lieu of the seal requirement at least two check valves can be installed immediately upstream and downstream of the buy-back meter to prevent produced gas from potentially by-passing the measurement and sales meter.

Contact this office so a BLM witness may verify installation of either the seal or check valves.

- If seals are installed, seal records must be maintained and made available upon request.
- Post a Facility sign at the CDP listing the following information:
  - Operator Name
  - Facility Name (i.e. Lybrook E29-2306 03H CDP)
  - UL, S-T-R, County and State

**Clearly identify both the sales and by-back meters.**

- Should future system needs require separation and/or compression equipment at the CDP, any liquid hydrocarbons recovered at the CDP must be allocated back to each well in proportion to the well's allocated gas production. Any fuel used at the CDP and at the well sites must also be allocated back to each contributing well in proportion to each well's allocated gas production. Fuel to run the Vapor Recovery Unit (VRU)

must also be allocated back to each contributing well in proportion to each well's oil contribution and the vapors recovered.

- Production and Sales allocation must be made on a Volumetric and MMBTU basis and be conducted in accordance with the allocation methodology proposed.
- Measurement of gas at the well sites and the CDP must be conducted in accordance with the requirements outlined in Onshore Order No. 3, Site security, Onshore Order No. 4, Oil Measurement, Onshore Order No. 5, Gas Measurement and NM NTL 2008-01, Electronic Flow Measurement.
- In Order to prevent waste and conserve natural gas, periodic review of each well's venting procedures must be conducted in accordance with the requirements outlined in NTL-ADO-93-1. Vented gas must be allocated back to each well based on the well's proportionate vented volume. Any gas vapor recovery from the VRU must be allocated to each well in proportion to each well's oil production.
- No other wells can be added to this measurement system without the prior authorization of this office.
- Contact this office in the event of any lost hydrocarbons between the wells and the CDP.
- This office reserves the right to require audit records of all wells contributing to this CDP.
- Failure to operate this facility in accordance with the conditions outlined above and in accordance with your application will subject this approval to revocation. In addition, this office reserves the right to rescind this approval should future evaluation of this method of measurement indicate lost or reduced royalties.