

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-4 or 3160-5 form.

Operator Signature Date: 8/7/15

Well information:

| API WELL # | Well Name | Well # | Operator Name | Type | Stat | County | Surf_Owner | UL | Sec | Twp | N/S | Rng | W/E |
|--------------------|------------------|--------|-------------------------------|------|------|----------|------------|----|-----|-----|-----|-----|-----|
| 30-043-21234-00-00 | CHACON JICARILLA | 602H | ENERGEN RESOURCES CORPORATION | O | N | Sandoval | J | M | 23 | 23 | N | 3 | W |

Application Type:

- P&A
 Drilling/Casing Change
 Location Change
 Recomplete/DHC (For hydraulic fracturing operations review EPA Underground injection control Guidance #84)
 Other: Measurement

Conditions of Approval:

This approval is for the Chacon Jicarilla #602H only, if other wells are added to this LACT system a C-106 is required and possibly a surface commingle order prior to commingling.

NMOCD Approved by Signature

8/24/15

Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONFIDENTIAL
TIGHT HOLE FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

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.

RECEIVED

JUL 27 2015

Farmington Field Office
Bureau of Land Management

SUBMIT IN TRIPLICATE - Other instructions on page 2

| | | |
|--|--|--|
| 1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other | | 5. Lease Serial No. <u>Jicarilla Apache 183</u> |
| 2. Name of Operator <u>Energen Resources Corporation</u> | | 6. If Indian, Allottee or Tribe Name <u>Jicarilla Apache</u> |
| 3a. Address <u>2010 Afton Place, Farmington, NM 87401</u> | 3b. Phone No. (include area code) <u>(505) 325-6800</u> | 7. If Unit or CA/Agreement, Name and/or No. |
| 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) <u>SHL - 892' FSL 775' FWL Sec. 23 T23N R03W (M) SW/SW</u> <u>BHL - 450' FSL 200' FWL Sec. 22 T23N R03W (M) SW/SW</u> | | 8. Well Name and No. <u>Chacon Jicarilla 602H</u> |
| | | 9. API Well No. <u>30-043-21234</u> |
| | | 10. Field and Pool, or Exploratory Area <u>West Lindrieth Gallup Dakota</u> |
| | | 11. County or Parish, State <u>Sandoval NM</u> |

12. CHECK 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 <u>Measurement</u> |
| | <input type="checkbox"/> Change Plans | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon | <u>Installment</u> |
| | <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 recompleat 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

Please see the attached request.

OIL CONS. DIV DIST. 3

AUG 11 2015

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations

BLM'S 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) <u>Anna Stotts</u> | | Title <u>Regulatory Analyst</u> |
| Signature <u>Anna Stotts</u> | | Date <u>07/23/15</u> |

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

| | | |
|---|------------------------------------|---------------------------|
| Approved by <u>William Tambekou</u> | Title <u>Petroleum Engineer</u> | Date <u>08-07-2015</u> |
| Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. | | Office <u>FFO</u> |

Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes 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.

Energen Resources
Chacon Jicarilla #602H
Sec. 23 T23N R03W
3004321234

Energen Resources is hereby requesting authorization to install a gas lift measurement system on the subject well as part of our artificial lift operations. In addition to the gas lift installation, we also propose to use a LACT measurement system utilizing a Coriolis meter. All meters will be calibrated upon installation and quarterly thereafter per Onshore Orders No 4 & 5 requirements. The gas measurement skid will utilize both a sales and buy back metering system. Per BLM FFO requirements, four check valves will be installed, one upstream and the other downstream of each orifice meter.

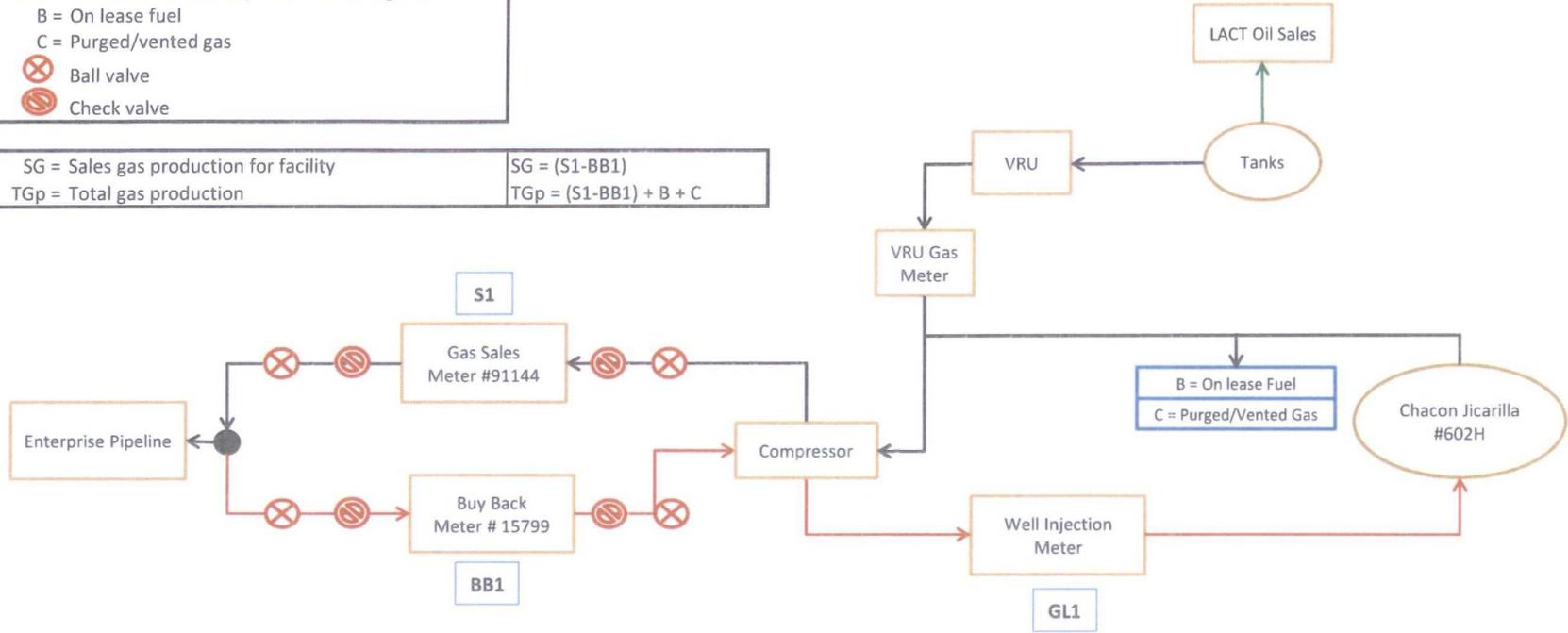
Attached for your review is a detailed process flow diagram and measurement and reporting methodology. Utilizing this method of measurement will allow Energen to optimize well performance and maximize oil and gas recovery while maintaining the measurement accuracy requirements outlined in the Onshore Orders.

Note: Production from the Chacon Jicarilla D #13 well (3004320422) which is also located on this well pad is currently SI and will remain so until the Chacon Jicarilla 602H is completed. Production from this well will be measured separately from the Chacon Jicarilla 602H. When the Chacon Jicarilla D #13 is returned to production, a sundry notice will be filed which will provide the meter number and production start-up details.

Chacon Jicarilla 602H

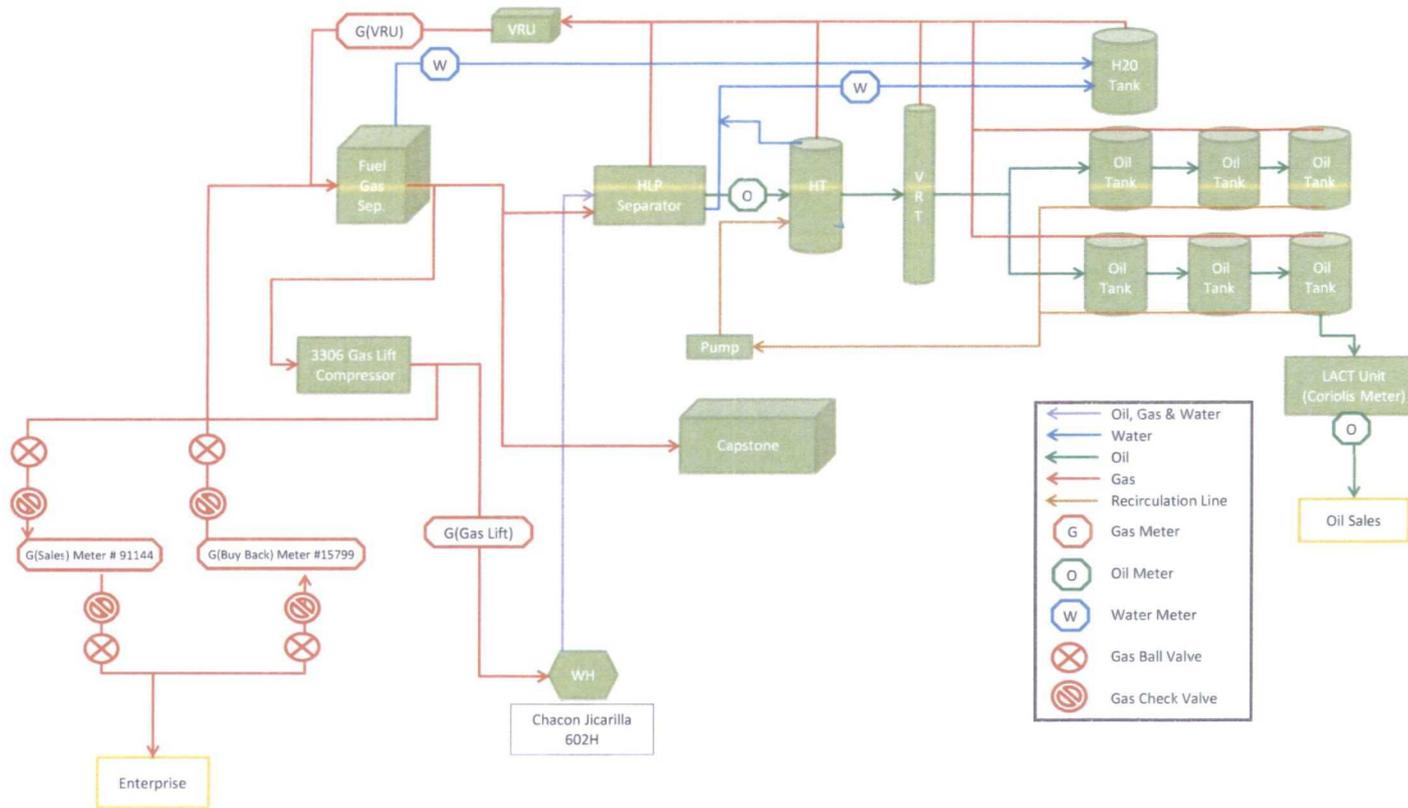
GL1 = Gas volume for gas lift injection
 S1 = Gas volume from sales allocation meter
 BB1 = Gas volume from buyback meter for gas lift
 B = On lease fuel
 C = Purged/vented gas
 Ball valve
 Check valve

| | |
|--|----------------------------|
| SG = Sales gas production for facility | $SG = (S1 - BB1)$ |
| TGp = Total gas production | $TGp = (S1 - BB1) + B + C$ |



PROCESS FLOW DIAGRAM

Chacon Jicarilla 602H
Energen Resources





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 INSTALLATIONS:

- 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 either up and down stream of the buyback meter or in line with the buy-back meter to prevent produced gas from potentially by-passing the measurement and sales meter.

Contact this office so a BLM witness 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 Card or Sign that clearly identifies both the sales and buy-back meters.**
 - **Gas Meters must be installed and calibrated in accordance with Onshore Order 5.**



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Farmington Field Office
6251 College Blvd., Suite A
Farmington, New Mexico 87402
www.blm.gov/nm



REFERENCE ON USING A LACT MEASUREMENT SYSTEM UTILIZING A CORIOLIS METER, TO THE FEASIBILITY OF USING CORIOLIS MEASUREMENT TECHNOLOGY IN PLACE OF A POSITIVE DISPLACEMENT METER ON A LACT UNIT

BLM's Onshore Orders No.4 III D. will be followed except for the positive displacement meter which will be a Coriolis. The Coriolis shall register volumes of oil passing through said meter determined by a system which constantly and mechanically isolates the flowing oil into segments of known volume, and be equipped with a non-resettable totalizer. After appropriate assessment of the results, the above parties will determine if this technology is appropriate for use on a routine basis. This will be conducted at the following location for the Coriolis meter: Jicarilla Apache 183

As Coriolis meters are not addressed by onshore oil and Gas Order No. 4, their use for custody transfer of oil produced from Federal leases, Communization Agreements (CA), or units require that the operator apply for a variance to the order. Approval is conditioned upon compliance with applicable orders, API standards, and proving frequency as required by Onshore Order No. 4.

After considering the merits of your proposal and the mutual benefits to our respective organizations, the BLM supports the use of the Coriolis meter in place of a positive displacement meter on the LACT Unit. Our hope is that the Coriolis meter either meet's or exceed the standards established in the above referenced Orders. We encourage you to consult with the NMOCD on this. Also, please consider any other measurement standards that the NMOCD might require.

Please contact the BLM when the equipment installations are in place and ready for calibration and operation.

If you have any questions, please contact John McKinney at (505)564-7755 or William Tambekou at (505)564-7746