

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

OCD Hobbs  
**HOBBS OCD**

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

**SUNDRY NOTICES AND REPORTS ON WELLS** JUL 11 2013  
**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.  
NM96248

6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE – Other instructions on page 2.**

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

LEGACY RESERVES OPERATING LP

3a. Address

PO BOX 10848  
MIDLAND, TX 79702

3b. Phone No. (include area code)

432-689-5200

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

330' FNL & 1650' FEL, UNIT LETTER B, SEC 24, T9S, R35E

7. If Unit of CA/Agreement, Name and/or No.

8. Well Name and No.  
BARNES FEDERAL #1

9. API Well No.  
30-025-21759

10. Field and Pool or Exploratory Area  
BOUGH; SAN ANDRES (GAS)

11. County or Parish, State  
LEA CO., 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 <b>ADD SAN ANDRES</b>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<b>PERFS, FRAC</b>
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	<b>STIMULATE &amp; RTP</b>

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 must 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 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.)

---SEE ATTACHED PROCEDURE---

all future sundries require operator to summarize the attached procedure in this box (Box 13). Operator can not just write "see attached procedure!"

**FRAC REPORT HAS TO BE FILED ELECTORONIC ON E-PERMITTING FOUND ON OCD WEB PAGE**  
<http://www.emnrd.state.nm.us/oecd/>

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

BLAIN LEWIS

Title SENIOR ENGINEER

Signature

*Blain Lewis*

Date 06/11/2013

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

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.

Title

Office

**APPROVED**

JUL 10 2013

Date

BUREAU OF LAND MANAGEMENT  
CARLSBAD FIELD OFFICE

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)

SEP 19 2013

**PROCEDURE TO ADD SAN ANDRES PERFS, FRAC STIMULATE  
AND RETURN TO PRODUCTION**

**Barnes Federal #1  
Bough; San Andres Field  
Lea County, New Mexico**

**Well Data:** KB 11' AGL  
8-5/8", 24 & 32#, H-40 & J-55 casing at 4910' with 2,775 sx to surface  
San Andres perfs: 4760'-4800', 40 holes (7/02)  
CIBP at 4887' capped with 35' cement (PBD 4852')  
5-1/2", 17#, J-55 & N-80 casing cut off at 4950'  
Various cement plugs 8450'-12,060' and former Bough "C" perfs 9600'-9616'  
Volumes: 8-5/8" csg x 3-1/2" tbg annulus = 0.0504 bbls/ft  
8-5/8" csg = 0.0623 bbls/ft  
3-1/2" tbg = 0.0087 bbls/ft

- 1) **Day one:** MI & RU pulling unit. NU BOP. Unload work string of 5,000' 3-1/2" J-55 tubing and 4,700' new or yellow-band 2-3/8", 4.7#, J-55, EUE, 8rd tubing.
- 2) **Day two:** RIH with 7-7/8" bit, casing scraper and 3-1/2" work string to bottom at +/- 4852'. POH and lay down casing scraper and bit. MIRU wireline unit with packoff. RIH with 3-1/8" slick gun, tag bottom to get on depth, correlate to 8/6/02 Schlumberger GR/CCL log depths and perf upper San Andres with 1 SPF, premium charges from 4708'-4760' (52', 53 holes). POH and RDMO wireline unit.
- 3) **Day three:** RIH with 8-5/8" 5K packer and 3-1/2" work string to +/- 4600'. Set 3 clean frac tanks and fill with 2% KCl water. RU pump truck to clean frac tank loaded with 2% KCl water. Circulate hole with 2% KCl water (272 bbls). Set packer at +/- 4600'. Test casing annulus to 500 psig for 5 min.
- 4) **Day four:** MIRU frac equipment to frac San Andres 4708'-4800' (93 holes) at +/- 25 BPM and 5,000 psig maximum pressure down 3-1/2" tubing. Pressure casing annulus to 500 psig and monitor throughout frac. Frac will be 40,000# 16/30 Permian Ottawa sand and 10,000# resin-coated 16/30 Permian Ottawa sand to 4 ppg maximum sand concentration in +/- 30,000 gallons (714 bbls) 20# XL gelled water and +/- 47 bbls flush. RDMO frac equipment and SI overnight.
- 5) **Days five-six:** Flow down until dead. Release packer and POH. RIH with notched collar and bailer on work string. Clean out sand to +/- 4850' and POH. LD work string and bailer. RIH with BPMA, perf sub, SN, 4 jts 2-3/8" tubing, TAC and remainder of 2-3/8" production tubing to set BPMA at +/- 4700', SN at +/- 4665' and TAC at +/- 4540'. RIH with 1-1/4" pump and new 7/8"-3/4" rod string. Lay flowline to battery. Hang on 114 pumping unit, load and test tubing, check pump action and RDMO pulling unit.

**PREPARED BY: Blain Lewis Date: 06/07/13**

**ESTIMATED COSTS:**

Pulling unit - 6 days	\$ 30,000
Wireline services	\$ 10,000
Stimulation services	\$ 50,000
Rental tools	\$ 20,000
Contract labor	\$ 20,000
Overhead	\$ 2,000
Tubing/rods	\$ 30,000
5% contingencies	\$ 6,600
TOTAL	\$168,600



**Barnes Federal #1**

Originally: Federal "B" #2

Current Wellbore Diagram

LOCATION: 330' FNL & 1650' FEL, Sec. 24, T9S, R35E

FIELD: Bough; San Andres

GL: 4102'

LATEST UPDATE: 06/06/2013

COUNTY: Lea

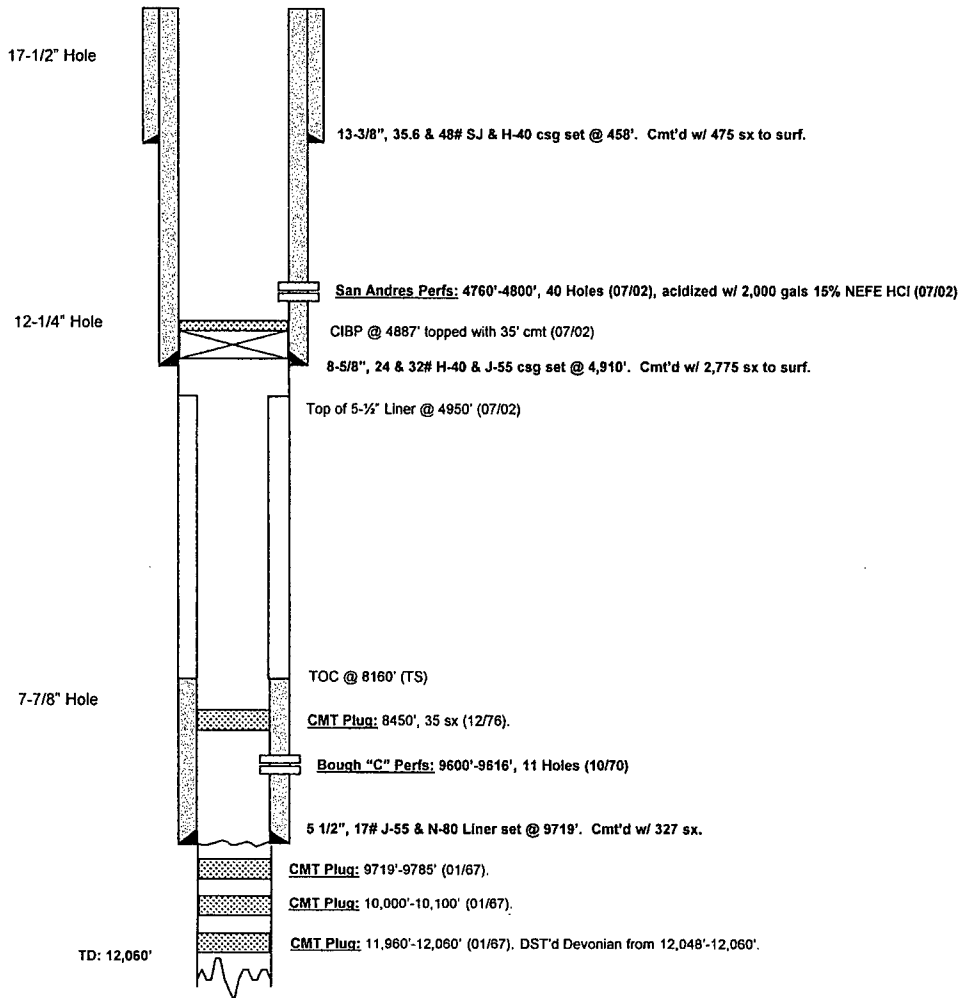
KB: 4113'

BY: B. LEWIS

STATE: New Mexico

SPUD DATE: 04/09/1966

API No: 30-025-02663





### Barnes Federal #1

Originally: Federal "B" #2

Proposed Wellbore Diagram

LOCATION: 330' FNL & 1650' FEL, Sec. 24, T9S, R35E

FIELD: Bough; San Andres

GL: 4102'

LATEST UPDATE: 06/06/2013

COUNTY: Lea

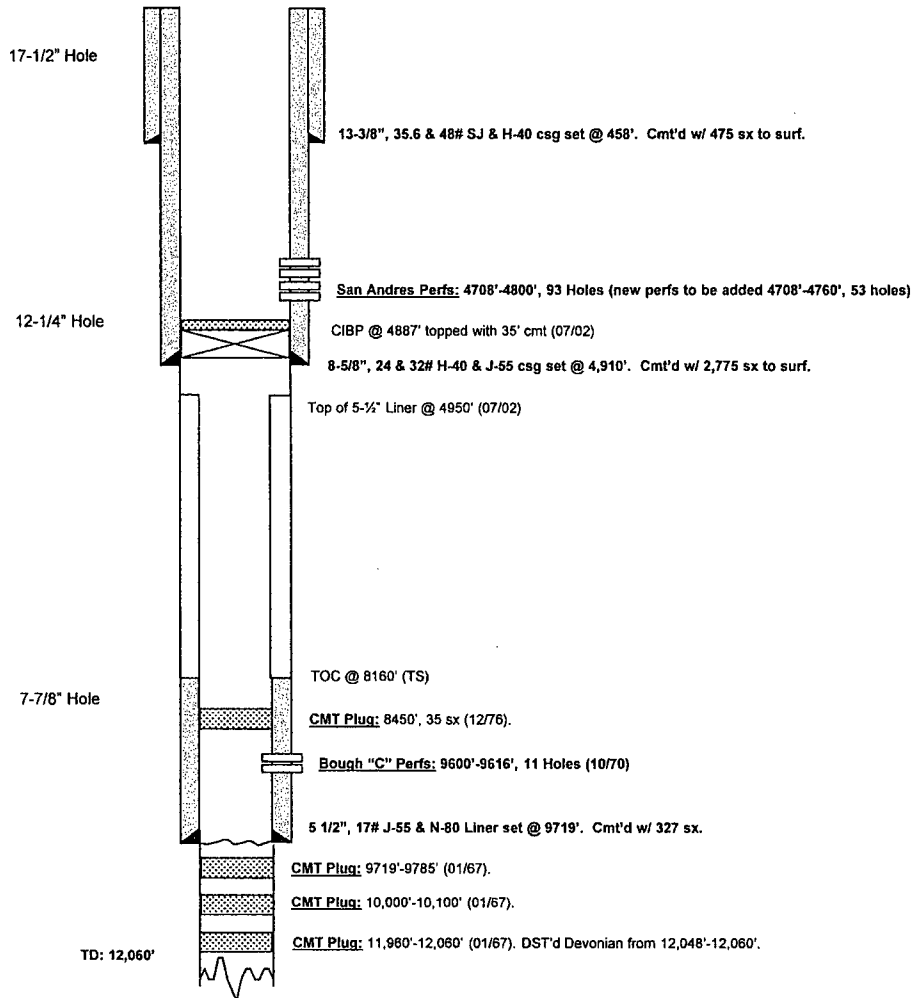
KB: 4113'

BY: B. LEWIS

STATE: New Mexico

SPUD DATE: 04/09/1966

API No: 30-025-02663



## **Conditions of Approval**

### **Legacy Reserves Operating LP**

#### **Barnes Federal 1**

**API 30-025-21759**

**July 10, 2013**

**Work to be completed by August 10, 2013.**

- 1. Tag cement on top of CIBP located at 4,887'. If tag is lower than 4,852' contact BLM.**
- 2. Must conduct a casing integrity test before any perforating or fracturing can be done. Submit results to BLM. The CIT is to be performed on the production casing to max frac treating pressure.**
- 3. If the CIT passes, work is approved as written.**
- 4. Before casing or a liner is added or replaced, prior BLM approval of the design is required. Use notice of intent Form 3160-5.**
- 5. Surface disturbance beyond the originally approved pad must have prior approval.**
- 6. Closed loop system required.**
- 7. All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of work over operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.**
- 8. Operator to have H2S monitoring equipment on location.**
- 9. A minimum of a 2000 (2M) BOP to be used. All blowout preventer (BOP) and related equipment (BOPE) shall comply with reasonable well control requirements. A two ram system with a blind ram and a pipe ram designed for the size of the work string shall be adequate. Tapered work strings will require an additional pipe ram. The manifold shall comply with Onshore Oil and Gas Order #2 Attachment I (2M Diagrams of Choke Manifold Equipment). The accumulator system shall have an immediately available power source to close the rams and retain 200 psi above pre-charge. The pre-charge test shall follow requirements in Onshore Order #2.**
- 10. Subsequent sundry required detailing work done. Operator to include well bore schematic of current well condition when work is complete.**

**JAM 070913**