

Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

5. Lease Serial No. NMNM82050X

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 Shell Oil Company (Western Division)

3a. Address P.O. Box 576, Houston, TX 77210 3b. Phone No. (include area code) (832) 337-2434

4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description) S05 T09S R30E Unit H 1980 FNL 660 FWL

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

8. Well Name and No. Cato San Andres Unit #187

9. API Well No. 30-005-20596

10. Field and Pool or Exploratory Area Cato; San Andres

11. Country or Parish, State Chaves County, New Mexico, USA

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

TYPE OF SUBMISSION	TYPE OF ACTION				
<input 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 checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<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 type="checkbox"/> Other	
	<input type="checkbox"/> Change Plans	<input checked="" 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 recompleate 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 perfonned 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 detennined that the site is ready for final inspection.)

Please refer to attached Plug and Abandonment End of Well Report

Accepted for Record - contact Rick Flores at rflores@blm.gov for reclamation.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Title SGWS Legacy Program Manager

Signature Samantha Baker

Date 06/19/2024

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title Petroleum Engineer

Date 06/25/2024

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 RFO

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)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

LANGAN**Technical
Memorandum**

300 Union Boulevard, Suite 405 Lakewood, CO 80228 T: 303.262.2000 F: 303.262.2001

To: BLM

From: Langan

Info: Shell

Date: May 30, 2024

Re: Plug and Abandonment – End of Well Report
Cato San Andres Unit #187 / API 30-005-20596
Section 5, Township 9S, Range 30E
Langan Project No.: 781014301

Work Summary:

4/12/24 – Arrived at Langan field office. Held safety meeting on goals and work to be completed for the day. Drove to CSA 187. Performed LEL check. Held safety meeting on location. R/U cementing services. Pressure tested lines to 1800 psi. Pumped 40 bbls down 5.5" casing. R/D cementers. Held safety meeting. P/U casing scraper. Worked scraper in hole. L/D scraper. Redress two cut packer. P/U two cup packer. Set packer at 20'. R/U cementing services attempted to pressure test BOP but was unsuccessful. R/D cementers. Inspected packer. TIH and set packer at 10'. R/U cementing services. Attempted to pressure test but was unsuccessful. Flange was leaking. R/D cementers. L/D packer. R/D floor. ND BOP. Unscrew flange and replaced the seal. NU BOP, R/U floor. P/U packer. TIH and set packer at 10'. R/U cementers. Successfully pressure tested BOP to 800 psi for 15 minutes. R/D cementers. L/D packer. Held safety meeting. Determined it was too windy. Shut in and secured well. Drove to Langan safety office for EOD meeting.

4/13/24 – Arrived at Langan field office. Held safety meeting on goals and work to be completed for the day. Drove to CSA 187. Performed LEL check. Held safety meeting on location. Checked well pressures. Prepped and tallied 2-3/8" work string. P/U 5.5" casing scraper. TIH to 3343'. TOOH. Held safety meeting. R/U wireline services. R/U wireline BOP and lubricator. Pressure tested lines to 1800 psi and lubricator to 800 psi. P/U CIBP. RIH and set CIBP at 3310'. POOH. R/D wireline services. TIH. R/U cementers. Circulated hole with 26 bbls. Pumped 80 bbls total.

Technical Memorandum

Plug and Abandonment – End of Well Report
Cato San Andres Unit #187 / API 30-005-20596
Section 5, Township 9S, Range 30E
Langan Project No.: 781014301
May 30, 2024 - Page 2 of 4

Attempted to pressure test casing but was unsuccessful. R/D cementers. TOOH. Drove to Langan safety office for EOD meeting.

4/14/24 – Arrived at Langan field office. Held safety meeting on goals and work to be completed for the day. Drove to CSA 187. Performed LEL check. Held safety meeting on location. Checked well pressures. R/U wireline BOP and lubricator. R/U wireline services. R/U cementing services. Pressure tested lined to 1800 psi and lubricator to 800 psi. R/D cementers. RIH and logged well. R/D wireline services. TIH. R/U cementing services. Pressure tested lines to 1800 psi. Pumped plug #1 from 3310' to 3015'. R/D cementers. L/D 9 joints. R/U cementing services. Reverse circulated at 3010'. R/D cementers. TOOH to 2498'. WOC overnight. Shut in and secured well. Drove to Langan safety office for EOD meeting.

4/15/24 – Arrived at Langan field office. Held safety meeting on goals and work to be completed for the day. Drove to CSA 187. Performed LEL check. Held safety meeting on location. Checked well pressures. Held safety meeting. TIH and tagged plug #1 at 3015'. R/U cementing services. Pressure tested lines to 1800 psi. Pumped 5 bbls of water and attempted to pressure test casing but was unsuccessful. Continued pumping plug #1 from 3015' to 2720'. R/D cementers. L/D 9 joints. R/U cementers. Pressure tested lined to 1800 psi. Revers circulated at 2720'. R/D cementers. TOOH to 2206'. WOC. Shut down due to high winds. Shut in and secured well. Drove to Langan safety office for EOD meeting.

4/16/24 – Arrived at Langan field office. Held safety meeting on goals and work to be completed for the day. Drove to CSA 187. Performed LEL check. Held safety meeting on location. Checked well pressures. TIH and tagged plug #1 at 2720'. R/U cementing services. Pressure tested lines to 1800 psi. Pumped 5 bbls. Attempted to pressure test casing but was unsuccessful. Continued pumping plug #1 from 2720' to 2425'. R/D cementers. L/D 9 joints. Reverse circulated at 2425'. TOOH to 1925'. WOC 4 hours. TIH and tagged top of plug #1 2425'. R/U cementers. Pressure tested lines to 1800 psi. Pumped 5 bbls. Attempted to pressure test casing but was unsuccessful. Pumped cement from 2425' to 2130'. R/D cementers. L/D 9

Technical Memorandum

Plug and Abandonment – End of Well Report
Cato San Andres Unit #187 / API 30-005-20596
Section 5, Township 9S, Range 30E
Langan Project No.: 781014301
May 30, 2024 - Page 3 of 4

joints. R/U cementers. Reverse circulated at 2130'. TOOH to 1624. WOC overnight. Shut in and secured well. Drove to Langan safety office for EOD meeting.

4/17/24 – Arrived at Langan field office. Held safety meeting on goals and work to be completed for the day. Drove to CSA 187. Performed LEL check. Held safety meeting on location. Checked well pressures. TIH and tagged top of plug #1 at 2130'. R/U cementing services. Pressure tested lines to 1800 psi. Pumped 5 bbls. Attempted to pressure test casing but was unsuccessful. Continued pumping plug #1 from 2130' to 1820'. R/D cementers. L/D 10 joints. R/U cementing services. Reverse circulated at 1820'. R/D cementers. TOOH. P/U 5.5" packer. TIH and set it at 876'. R/U cementing services. Successfully pressure tested casing to 500 psi. R/D cementers. Unset packer. TOOH and set packer at 324'. R/U cementing services. Attempted to pressure test casing but was unsuccessful. R/D cementers. Unset packer. TIH and set packer at 584'. R/U cementers. Successfully pressure tested casing to 500 psi for 30 minutes. Unset packer. TOOH and set packer at 324'. R/U cementers. Attempted to circulate water down tubing through packer and out BH at surface but was unsuccessful, pumped 23 bbls. Unset packer and TOOH. L/D packer. TIH and tagged plug #1 at 1820'. R/U cementing services. Pumped weighted spacer from 1820' to 1537'. R/D cementers. L/D 9 joints. R/U cementers. Pumped cement from 1537' to 1212'. R/D cementers. L/D 10 joints and TOOH to 714'. Shut in and secured well. Drove to Langan safety office for EOD meeting.

4/18/24 – Arrived at Langan field office. Held safety meeting on goals and work to be completed for the day. Drove to CSA 187. Performed LEL check. Held safety meeting on location. Checked well pressures. TIH and tagged plug #2 at 1224'. R/U cementing services. Pressure tested lines to 1800 psi. Pumped 5 bbls of fresh water. Attempted to pressure test casing but was unsuccessful. Continued pumping plug #2 from 1224' to 890'. R/D cementers. L/D 11 joints. R/U cementing services. Reverse circulated at 890'. TOOH to 357'. WOC 4 hours. TIH and tagged plug 2 at 890'. R/U cementers. Pressures tested lines to 1800 psi. Pumped 5 bbls of water. Attempted to pressure test casing but was unsuccessful. Pumped weighted spacer from 890' to 683'. R/U cementers. L/D 6 joints. R/U cementers. Pumped plug #3 from 683' to 283'.

LANGAN

Technical Memorandum

Plug and Abandonment – End of Well Report
Cato San Andres Unit #187 / API 30-005-20596
Section 5, Township 9S, Range 30E
Langan Project No.: 781014301
May 30, 2024 - Page 4 of 4

R/D cementers. L/D 10 joints and TOO. Put 500 psi on casing. WOC overnight. Shut in and secured well. Drove to Langan safety office for EOD meeting.

4/19/24 – Arrived at Langan field office. Held safety meeting on goals and work to be completed for the day. Drove to CSA 187. Performed LEL check. Held safety meeting on location. Checked well pressures. TIH and tagged plug #3 at 352'. R/U cementing services. Pressure tested lines to 1800 psi. Pressure tested casing to 600 psi, pressure dropped to 300psi in 30 minutes. R/D cementers. TOO. R/U WL BOP, lubricator, and services. Pressure tested lines to 1800 psi. Pressure tested lubricator to 800 psi. RIH and perforated at 64' to 60'. POO. R/D WL services. TIH to 352'. R/U cementing services. Pressures testing lines to 1800 psi. Pumped 5 bbls. Successfully established circulation down tubing to 352', into perforations at 60' and out BH valve at surface. Continued pumping plug #3 down tubing to 352', into perforations at 60' and out BH valve at surface, shut BH valve and continued pumping cement out 5.5" casing at surface. R/D cementers. L/D tubing. R/D floor. ND BOP, NU WH. R/D all equipment and prepare to MOL. Drove to Langan safety office for EOD meeting.

Proposed Well Bore Diagram after Abandonment Operations

Well #: Cato San Andres Unit 187
Status: Abandoned
API#: 30-005-20596

Date: 6/6/2024
Field: Cato San Andres Unit
Unit H, 1980 FNL, 660 FEL, Sec 05, T09S, R30E, Chaves County

Surface

Elevation	DF	above mat
	DF	4090'
	TD	3490'
Completion Date:	10/1/1977	
Directional Drilled:	Vertical	

Water Table Depth = 59'

Perf 8-5/8" csg F/60' - T/64'

8-5/8" csg set at 253'
cmted w/150 sxs
TOC = surface

500 ft

352' cement plug
F/352' - T/surface
331' cement plug
F/683'-T/352'.

9 ppg abandonment
fluid F/890' - T/683'.

Base of Red Beds = 933'

Top of Rustler = 975'

Bottom of Rustler = 1045'

647' cement plug
F/1537' - T/890'

Junk/Plugs

Original drill well (1977)		
Drill 12-1/4" hole, 8-5/8" surface casing set at 253' cmted w/150 sxs, calculated cement to surface.		
Drilled 7-7/8" hole to 3490', 5-1/2", 15.5# csg set at 3490', cmted w/1760 sxs of cmt, ETOC = surface'.		
Swab tested well (5/2009)		
5/23/2009: Swab 4 hrs, 1 bo, 6 bw		
5/24/2009: Swab 4 hrs, 2 bo, 7 bw		

Current Hole and Casing Information

Hole	Casing	WPF	Top	Bottom	CF	Sacks	ETOC	Comments
12-1/4"	8-5/8"	32#	0'	253'		150	Surface	Calculated
7-7/8"	5-1/2"	15.5#	0'	3490'		1760	Surface	

Top of Yates = 1487'

16

17

18

19

2000 ft

9 ppg abandonment
fluid F/1820' - T/1537'.

Zones of Interest

Formation	Top	Base
Water Table Depth	59'	
Base of Red Beds	228'	933'
Rustler	975'	1045'
Yates	1487'	1590'
Queen	2245	
Grayburg	2447	
San Andres/Fourmile	2656'	
San Andres Marker	3203'	
A Zone	3352'	
"B - C" Zone	3433'	

Queen = 2245'

Grayburg = 2447

2500 ft

San Andres/Fourmile Draw = 2656'

1490' cmt plug
F/3310' - T/1820'

Perforations

	Top	Bottom	Comments
San Andres	3352'	3411'	Open

3000 ft

SA Marker = 3202'

A Zone = 3352'

3500 ft

CIBP = 3310'
Perforated F/3362' - T/3411'
4-1/2" csg set at 3490'
cmted w/1760 sxs cmt
ETOC = Surface
PBD = 3448'

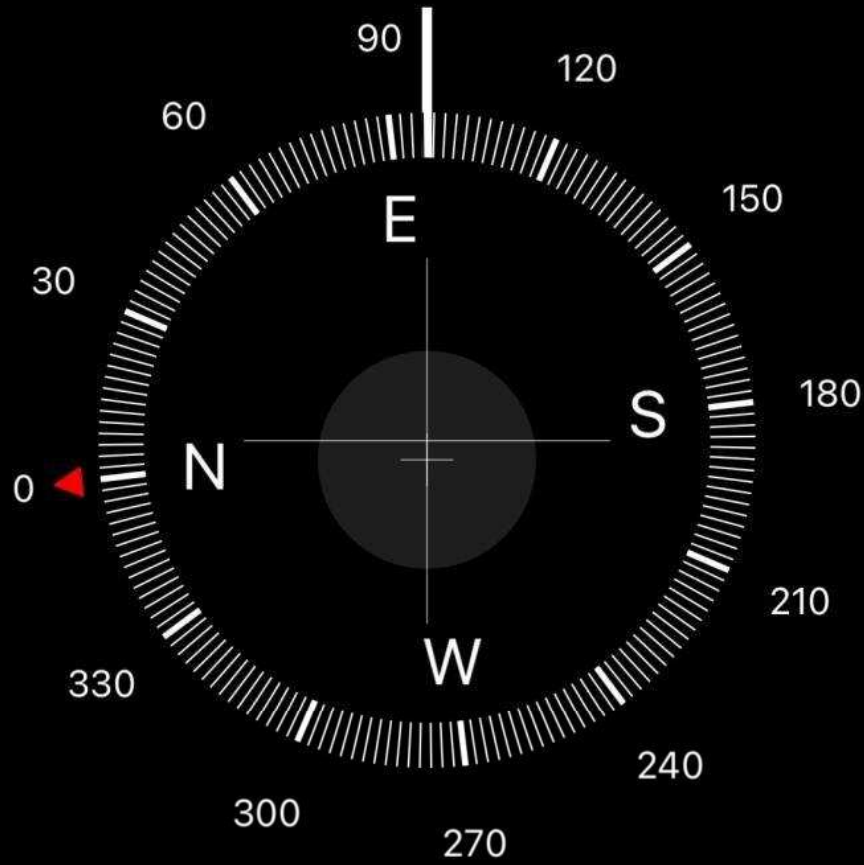
3490'

4000 ft



11:23

LTE



96° E

33°33'50" N 103°53'48" W

4090 ft Elevation

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 364875

CONDITIONS

Operator: CANO PETRO OF NEW MEXICO, INC. 801 Cherry Street Fort Worth, TX 76102	OGRID: 248802
	Action Number: 364875
	Action Type: [C-103] Sub. Plugging (C-103P)

CONDITIONS

Created By	Condition	Condition Date
loren.diede	None	7/17/2024