

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval, 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: 2/14/2020

Well information:

30-045-25574 CAIN #002

HILCORP ENERGY COMPANY

Application Type:

P&A Drilling/Casing Change Location Change

Recomplete/DHC (For hydraulic fracturing operations review EPA Underground injection control Guidance #84; Submit Gas Capture Plan form prior to spudding or initiating recompletion operations)

Other:

Conditions of Approval:

- Notify NMOCD 24hrs prior to beginning operations.

In addition to the plugs approved by BLM:

- Add a Pictured Cliffs plug 2165'- 2065.' OCD P.C. top pick @ 2085.'
- Add a Kirtland plug 398'-0'. OCD Kirtland top pick @ 348'.



NMOCD Approved by Signature

3/6/20
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

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.
NMSF078464

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well
 Oil Well Gas Well Other

8. Well Name and No.
CAIN 2

2. Name of Operator
HILCORP ENERGY COMPANY
Contact: PRISCILLA SHORTY
E-Mail: pshorty@hilcorp.com

9. API Well No.
30-045-25574-00-D1

3a. Address
1111 TRAVIS STREET
HOUSTON, TX 77002

3b. Phone No. (include area code)
Ph: 505-324-5188

10. Field and Pool or Exploratory Area
UNDESIGNATED

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

Sec 25 T31N R13W SENE 1520FNL 0790FEL
36.873688 N Lat, 108.148849 W Lon

11. County or Parish, State

SAN JUAN 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"/> 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 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.

During well review, it was found the CIBP, originally placed @ 2100, was removed on 2/29/2000 for the subject well. The wellbore was cleanout to plugback TD @ 2175'. See attached Greystone Energy's daily rig report.

Hilcorp Energy Company requests permission to P&A the subject well per the attached procedure, current and proposed wellbore schematics. A closed loop system will be used. The pre-disturbance site visit was held on 12/13/2019 with Randy McKee. The reclamation plan is attached.

NMOCD

FEB 20 2020

DISTRICT III

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #503405 verified by the BLM Well Information System
For HILCORP ENERGY COMPANY, sent to the Farmington
Committed to AFMSS for processing by ALBERTA WETHINGTON on 02/18/2020 (20AMW0173SE)**

Name (Printed/Typed) PRISCILLA SHORTY

Title OPERATIONS REGULATORY TECH SR

Signature (Electronic Submission)

Date 02/14/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By JOE KILLINS

Title ENGINEER

Date 02/18/2020

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 Farmington

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)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

FW



Hilcorp Energy Company
CAIN 2
NOI - Plug and Abandon
API #: 3004525574

PROCEDURE

1. Hold a pre-job safety meeting prior to beginning all operations or during a change in operational scope or initiation of SIMOPs. Properly document all operations via the JSA process. Insure that all personnel onsite abide by HEC safety protocol, including PPE, housekeeping, and procedures. Verify cathodic protection is off and wellhead instrumentation is properly disconnected from wellhead. Comply with all NMOCD, BLM, and HEC safety and environmental regulations. Verify there is no H2S present prior to beginning operations. If H2S is present, take the necessary actions to insure that the operation is safe prior to beginning operations. Observe and record pressures across all strings daily, prior to beginning operations. **Notify NMOCD and BLM 24 hours in advance of beginning operations**

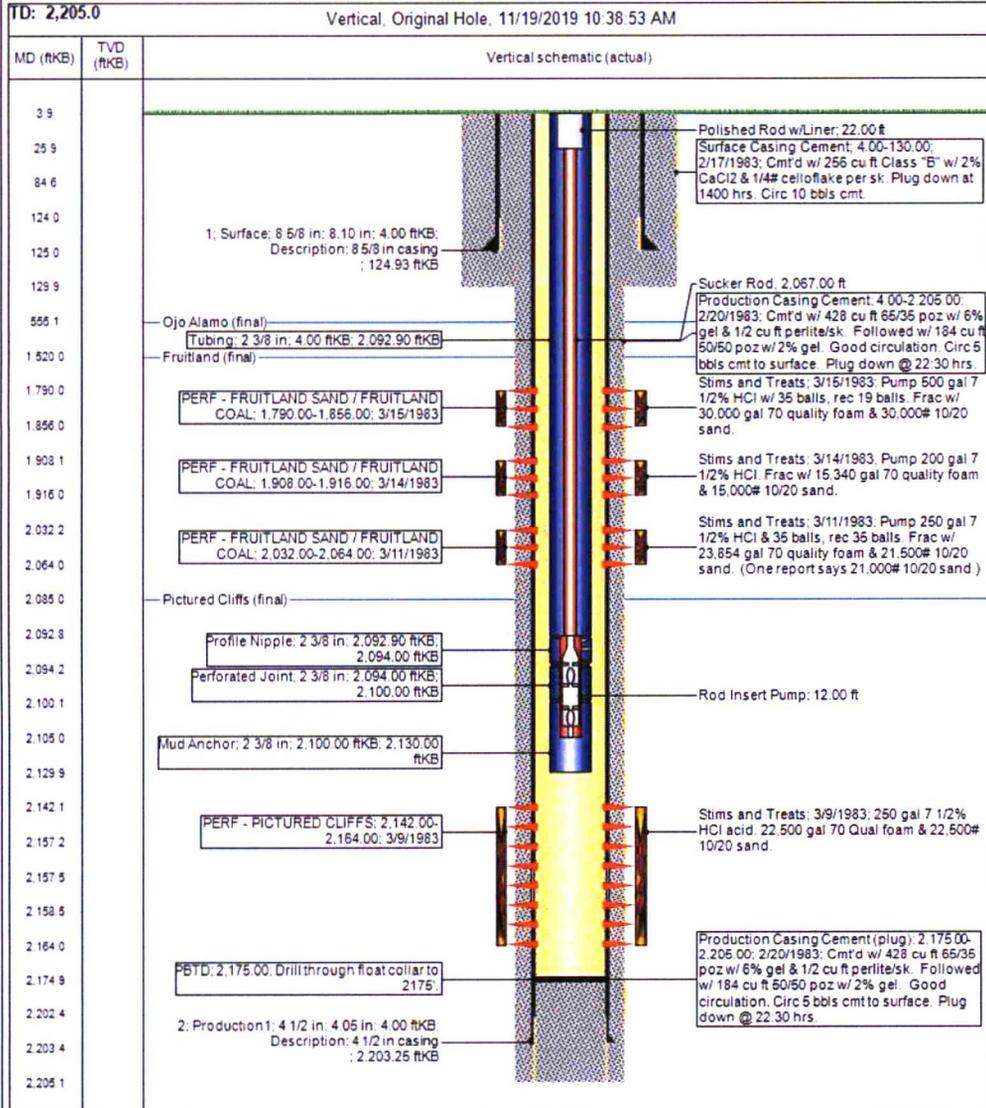
NOTE: this procedure is contingent upon P&A sundry approval by both the BLM and the NMOCD. All cement volumes use 100% excess outside pipe and 50' excess inside (unless stated otherwise). All cement will be Class G, mixed at 15.8 ppg with a 1.15 cf/sx yield. 8.3 ppg fluid will be used to balance the well during this operation.

2. MIRU service rig and associated equipment, ND casing risers
3. LOTO pumping unit. Remove horse's head and bridle. Unseat pump and POOH with pump, LD rods.
4. ND tree and NU BOPs. Pressure and function test BOPs to 150/1500 psi.
5. PU on tbq, remove hanger, POOH LD tbq.
Run CBL f/ TOC (1550') on CIBP at 1615'
6. PU workstring. RIH w/ bit and scraper to 1780', POOH. RIH w/ CICR and set at 1740'. PT tbq to 1000 psi. Sting out of CICR, load well and PT csg to 500 psi
7. **PLUG #1:** Mix and pump a 25 sx, Class G cement balanced plug on top of the CICR from 1740' to 1470' to cover Pictured Cliffs and Fruitland Coal perms, Pictured Cliff and Fruitland tops. PUH and RO excess cement. WOC
8. **PLUG #2:** Mix and pump a 12 sx, Class G cement balanced plug from 605' to 505' to cover the Ojo Alamo top. PUH and RO excess cement. WOC
9. **PLUG #3:** Mix and pump a 20 sx, Class G cement balanced plug from 175-0' to cover the surface casing shoe. PUH and RO excess cement. LD tbq, WOC
9. ND BOPs, cementing valves. Cut csg and remove wellhead. Fill annulus with cement, as needed. Install P&A marker to comply with regulations, record GPS coordinate for P&A marker, and photograph P&A marker in place. RDMO.

Well Name: CAIN #2

API UWI 3004525574	Surface Logo Location H-25-31N-13W	Field Name BLANCO	License No 30020800	State/Province NEW MEXICO	Well Configuration Type Vertical
Original KBRT Elevation (ft) 5,824.00	KB-Ground Distance (ft) 4.00	Original Spud Date 2/16/1983 09:45	Log Release Date	PBTD (ft) (ftKB) Original Hole - 2,175.0	Total Depth (ft) (ftKB)

Most Recent Job				
Job Category Expense Workover	Primary Job Type INSTALL PUMP	Secondary Job Type	Actual Start Date 9/6/2001	End Date



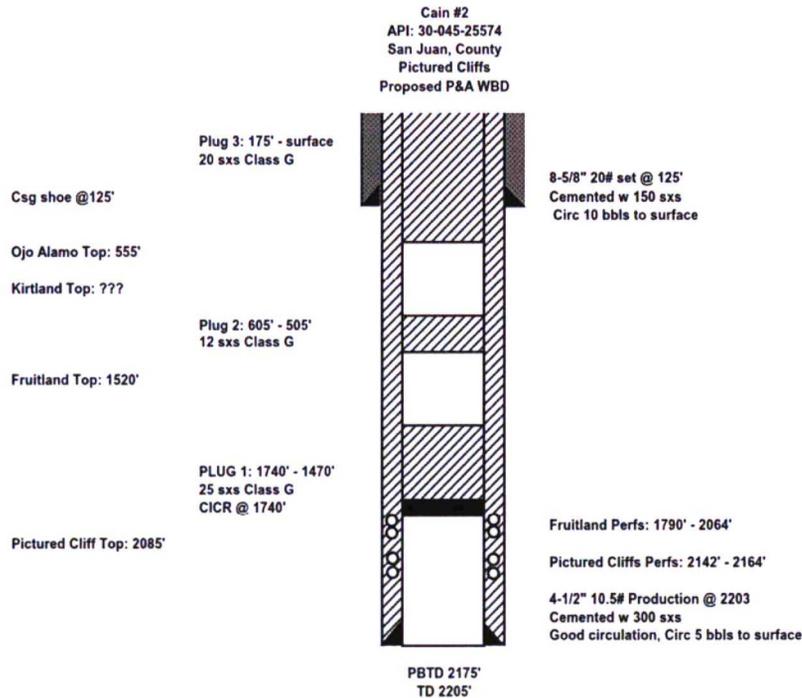
THE AZTEC WELL FAMILY

A Family Owned & Operated in 1963 by Aztec Well Servicing Co.



**Hilcorp Energy Company
Plug & Abandon Procedure
November 23, 2019**

Well:	Cain #2	API:	30-045-25574
Location:	1520' FNL & 790' FEL	Field:	Fruitland Coal/Pictured Cliffs
Sec, T, R:	Sec 25, 31N, 13W	Elevation:	GL: 5820'
Cnty/State:	San Juan, New Mexico	By:	Aztec Well Servicing
Lat/Long:	36.8737411, -108.1494522		



**BLM FLUID MINERALS
Geologic Report**

Date Completed: 2/13/20

Well No.	Cain #2	Location	1520'	FNL	&	790	FEL
Lease No.	NMSF078464	Sec. 25	T31N		R13W		
Operator	Hilcorp	County	San Juan	State	New Mexico		
Total Depth	2205'	PBTD 2175'	Formation Commingled Fruitland Coal/Pictured Cliffs				
Elevation (GL)	5820'	Elevation (KB) 5832' (est.)					

Geologic Formations	Est. Top	Est. Bottom	Log Top	Log Bottom	Remarks
San Jose Fm					Surface/Fresh water sands
Nacimiento Fm			Surface	555'	Fresh water sands
Ojo Alamo Ss			555'	650'	Aquifer (fresh water)
Kirtland Shale			650'	1520'	
Fruitland Fm			1520'	2085'	Coal/Gas/Possible water
Pictured Cliffs Ss			2085'	PBTD	Gas
Lewis Shale					
Chacra					Probable water or dry
La Ventana Tongue					Probable water or dry
Cliff House Ss					Water/Possible gas
Menefee Fm					Coal/Ss/Water/Possible O&G
Point Lookout Ss					Probable water/Possible O&G
Mancos Shale					Source rock
Gallup					O&G/Water
Dakota					O&G/Water

Remarks:

P & A

- Log analysis of reference well #2 (attached worksheet) indicates the Nacimiento formation contain fresh water ($\leq 5,000$ ppm TDS).

- Please ensure that the tops of the Pictured Cliffs, Fruitland, and Nacimiento formations as well as the entire Ojo Alamo aquifer, identified in this report, are isolated by proper placement of cement plugs. This will protect the freshwater sands in this well bore.

Reference Well:

1) Hilcorp Fm. Tops
Same

2) Snyder Oil Co Water
Williams # 1A Analysis
11190' FNL, 1850' FWL
Sec 25, T31N, R13W
GL 5853', KB 5865'

Prepared by: Walter Gage

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
FARMINGTON DISTRICT OFFICE
6251 COLLEGE BLVD.
FARMINGTON, NEW MEXICO 87402

Attachment to notice of
Intention to Abandon:

Re: Permanent Abandonment
Well: Cain 2

CONDITIONS OF APPROVAL

1. Plugging operations authorized are subject to the attached "General Requirements for Permanent Abandonment of Wells on Federal and Indian Lease."
2. Farmington Office is to be notified at least 24 hours before the plugging operations commence (505) 564-7750.

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**GENERAL REQUIREMENTS FOR
PERMANENT ABANDONMENT OF WELLS ON FEDERAL AND INDIAN LEASES
FARMINGTON FIELD OFFICE**

- 1.0 The approved plugging plans may contain variances from the following minimum general requirements.
- 1.1 Modification of the approved plugging procedure is allowed only with the prior approval of the Authorized Officer, Farmington Field Office.
 - 1.2 Requirements may be added to address specific well conditions.
- 2.0 Materials used must be accurately measured. (densometer/scales)
- 3.0 A tank or lined pit must be used for containment of any fluids from the wellbore during plugging operations and all pits are to be fenced with woven wire. These pits will be fenced on three sides and once the rig leaves location, the fourth side will be fenced.
- 3.1 Pits are not to be used for disposal of any hydrocarbons. If hydrocarbons are present in the pit, the fluids must be removed prior to filling in.
- 4.0 All cement plugs are to be placed through a work string. Cement may be bull-headed down the casing with prior approval. Cement caps on top of bridge plugs or cement retainers may be placed by dump bailer.
- 4.1 The cement shall be as specified in the approved plugging plan.
 - 4.2 All cement plugs placed inside casing shall have sufficient volume to fill a minimum of 100' of the casing, or annular void(s) between casings, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug.
 - 4.3 Surface plugs may be no less than 50' in length.
 - 4.4 All cement plugs placed to fill annular void(s) between casing and the formation shall be of sufficient volume to fill a minimum of 100' of the annular space plus 100% excess, calculated using the bit size, or 100' of annular capacity, determined from a caliper log, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug.
 - 4.5 All cement plugs placed to fill an open hole shall be of sufficient volume to fill a minimum of 100' of hole, as calculated from a caliper log, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug. In the absence of a caliper log, an excess of 100% shall be required.
 - 4.6 **A cement bond log or other accepted cement evaluation tool is required to be run if one had not been previously ran or cement did not circulate to surface during the original casing cementing job or subsequent cementing jobs.**

5.0 All cement plugs spotted across, or above, any exposed zone(s), when; the wellbore is not full of fluid or the fluid level will not remain static, and in the case of lost circulation or partial returns during cement placement, shall be tested by tagging with the work string.

- 5.1 The top of any cement plug verified by tagging must be at or above the depth specified in the approved plan, without regard to any excess.
- 5.2 Testing will not be required for any cement plug that is mechanically contained by use of a bridge plug and/or cement retainer, if casing integrity has been established.
- 5.3 Any cement plug which is the only isolating medium, for a fresh water interval or a zone containing a prospectively valuable deposit of minerals, shall be tested by tagging.
- 5.4 If perforations are required below the surface casing shoe, a 30 minute minimum wait time will be required to determine if gas and/or water flows are present. If flow is present, the well will be shut-in for a minimum of one hour and the pressure recorded. Short or long term venting may be necessary to evacuate trapped gas. **If only a water flow occurs with no associated gas, shut well in and record the pressures. Contact the Engineer as it may be necessary to change the cement weight and additives.**

6.0 Before setting any cement plugs the hole needs to be rolled. All wells are to be controlled by means of a fluid that is to be of a weight and consistency necessary to stabilize the wellbore. This fluid shall be left in place as filler between all plugs.

- 6.1 Drilling mud may be used as the wellbore fluid in open hole plugging operations.
- 6.2 The wellbore fluid used in cased holes shall be of sufficient weight to balance known pore pressures in all exposed formations.

7.0 A blowout preventer and related equipment (BOPE) shall be installed and tested prior to working in a wellbore with any exposed zone(s); (1) that are over pressured, (2) where the pressures are unknown, or (3) known to contain H₂S.

8.0 Within 30 days after plugging work is completed, file a Sundry Notice, Subsequent Report of Abandonment (Form 3160-5), five copies, with the Field Manager, Bureau of Land Management, 6251 College Blvd., Suite A, Farmington, NM 87402. The report should show the manner in which the plugging work was carried out, the extent, by depth(s), of cement plugs placed, and the size and location, by depth(s), of casing left in the well. Show date well was plugged.

9.0 All permanently abandoned wells are to be marked with a permanent monument as specified in 43 CFR 3162.6(d). Unless otherwise approved.

10.0 If this well is located in a Specially Designated Area (SDA), compliance with the appropriate seasonal closure requirements will be necessary.

All of the above are minimum requirements. Failure to comply with the above conditions of approval may result in an assessment for noncompliance and/or a Shut-in Order being issued pursuant to 43 CFR 3163.1. You are further advised that any instructions, orders or decisions issued by the Bureau of Land Management are subject to administrative review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.