U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Sundry Print Report

03/15/2023

Well Name: CAIN

Well Location: T28N / R10W / SEC 15 / SWSW / 36.657394 / -107.887787

County or Parish/State: SAN JUAN / NM

Well Number: 10

Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name:

Lease Number: NMSF080781

Unit or CA Name:

Unit or CA Number:

US Well Number: 3004507428

Well Status: Producing Gas Well

Operator: HILCORP ENERGY COMPANY

Notice of Intent

Sundry ID: 2717220

Type of Submission: Notice of Intent

Type of Action: Plug and Abandonment

Date Sundry Submitted: 02/22/2023

Time Sundry Submitted: 12:48

Date proposed operation will begin: 03/08/2023

Procedure Description: Hilcorp Energy Company requests permission to P&A the subject well per the attached procedures, current and proposed wellbore schematics. The Pre-Disturbance Site Visit was held on 2/21/23 with Roger Herrera/BLM. The Re-Vegetation Plan is attached. A closed loop system will be used.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

Cain_10_P_A_Procedure_20230222124700.pdf

CAIN_10_Reclamation_Plan_20230222124700.pdf

Well Name: CAIN	**Well Location:** T28N / R10W / SEC 15 / SWSW / 36.657394 / -107.887787	**County or Parish/State:** SAN JUAN / NM
Well Number: 10	**Type of Well:** CONVENTIONAL GAS WELL	**Allottee or Tribe Name:**
Lease Number: NMSF080781	**Unit or CA Name:**	**Unit or CA Number:**
US Well Number: 3004507428	**Well Status:** Producing Gas Well	**Operator:** HILCORP ENERGY COMPANY

Conditions of Approval

Additional

Cain_10_Geo_Rpt_20230314095411.pdf

Authorized

General_Requirement_PxA_20230315123822.pdf

2717220_NOIA_10_3004507428_KR_03152023_20230315123811.pdf

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: KANDIS ROLAND

Signed on: FEB 22, 2023 12:47 PM

Name: HILCORP ENERGY COMPANY

Title: Operation Regulatory Tech

Street Address: 382 Road 3100

City: Farmington **State:** NM

Phone: (505) 599-3400

Email address: kroland@hilcorp.com

Field

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

BLM Point of Contact

BLM POC Name: KENNETH G RENNICK

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5055647742

BLM POC Email Address: krennick@blm.gov

Disposition: Approved

Disposition Date: 03/15/2023

Signature: Kenneth Rennick

Hilcorp Energy Company

Proposed P&A Procedure

Well: Cain #10

API: 30-045-07428

Date: 2/22/2023

Engr: M Wissing

Surface: BLM

Wellbore		Wt #	ID	Bottom (ft)	Bbl/ft	Drill Bit
SPUD	4/16/1960					
KB (ft)	10 ft					
Surface Casing	8-5/8"	24#	8.1	334'	0.06370	12-1/4"
Production Casing	4-1/2'	11.6#	4.00	6,568'	0.01553	7-7/8"
Csg x Open hole	7.875 X 4.5	-	-	-	0.04060	
Csg Annular	8.1 X 4.5	-	-	-	0.04410	
Tubing	2-3/8" (1973)	4.7#		200 jts		
PBTD	6,563 ft					

Cement

Type	Class G	
Yield	1.15	Bbl/sx
Water	5	Gal/sx
Weight	15.8	PPG
Total Job Cmt	383	SX
Total Cmt Water	1915	Gal
Csg Vol Water	98.6	Bbl

Lift Type: Plunger

Historic Braden Head Pressure: 0 psi

Rig History: Sqz work on 4-1/2" csg holes found in 1972 & 1973 at depths of 3,690', 3,651'-3,970', & 3,740'-3,760'; Current tbg string from 1973 sqz work has packer installed (unk manuf) and "mud" packer fluid.

Slickline: 10/2005- Ran 1.75" IB and tagged fishneck at 6,328'.

Logs: temp survey of both cement stages in drilling, unable to locate upper temp survey.

Hilcorp Energy Company

Proposed P&A Procedure

P&A Cement: All cement plugs include 50 ft excess volumes. Due to SJ Basin cement resource limitations, either Type III (6.64 gal/sx, 1.37 yld, 14.8#) or Type 2/5 (6.041 gal/sx, 1.27 yld, 15#) cement might be used at any point during the P&A project.

RIG P&A PROCEDURE:

1) Verify rig access and that all wellhead valves are operable.
2) Verify slickline has cleared 2-3/8" tbg with gauge ring past EOT with packer at **6,354'**.
    a. *Suspect a stuck plunger and/or BHBS in tbg at 6,328' (tag 2005).*
3) Move rig onto well location. Check well pressures on all casing strings and record (daily). Check well for H_2S and blow down well as necessary.
    a. *Dual wellpad with Cain #20.*
4) RD wellhead and RU BOPs. Function test BOP 2-3/8" pipe and blind rams.
5) Sting out of 4-1/2" packer and TOOH with prod. tbg.
    a. *Work with BLM, NMOCD, and engr if unable to sting out of pkr.*
6) MU 2-3/8" work string with 4-1/2" csg scraper and RIH. Tag top of pkr assembly at 6,354'. POOH.
7) MU 4-1/2" CICR (3.875" ID) and RIH. Set CICR at **6,350'** just above pkr assembly.
8) Verify injection below CICR into Dakota perfs.
9) Top off prod. casing with water.
10) Pressure test the casing to 550-600 psi for 10 minutes (no chart).
11) **PLUG #1 (TOP PERF @ 6,448', DK TOP @ 6,372', Pkr assembly @ 6,354')**
    a. Sqz below CICR into DK perfs with 8 SXS, 1.6 BBLS of Class G, 1.15 yld, 15.8# cement.
    b. Sting out of CICR and pump a 100' cement balanced plug from 6,250- 6,350' with 8 SXS, 1.6 BBLS of Class G, 1.15 yld, 15.8# cement inside the 4-1/2" csg.
12) TOOH with setting tool.
13) RU E-line and run CBL tool from near TOC to surface.
14) Review CBL with BLM & NMOCD; adjust all cement plugs based on log results.
15) RIH with work string to 5,582'.
16) **PLUG #2 (GALLUP TOP @ 5,532')**
    a. Pump a 150' cement balanced plug from 5,432'- 5,582' with 12 SXS, 2.5 BBLS of Class G, 1.15 yld, 15.8# cement inside the 4-1/2" csg.
17) TOOH with tbg.
18) RU E-line and MU perf guns. RIH and perf 4-1/2" csg at **4,703'**. Verify injection into perfs.
19) MU 4-1/2" CIR and RIH. Set CICR at **4,653'.**
20) **PLUG #3 (MANCOS TOP @ 4,653')**
    a. Pump a 150' cement inside/outside plug from 4,553'- 4,703' with 52 SXS, 10.7 BBLS of Class G, 1.15 yld, 15.8# cement for the 4-1/2" csg.
    b. Sqz 40 sx and balance 12 sx.
21) TOOH to 3,710'.
22) **PLUG #4 (MESA VERDE TOP @ 3,660')**
    a. Pump a 150' cement balanced plug from 3,560'- 3,710' with 12 SXS, 2.5 BBLS of Class G, 1.15 yld, 15.8# cement inside the 4-1/2" csg.

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Proposed P&A Procedure

23) TOOH with tbg.
24) RU E-line and perf csg at **3,064'**. Attempt injection rate into perfs.
25) RIH with 4-1/2" CICR and set at **3,014'**.
26) **PLUG #5 (CHACRA TOP @ 3,014')**
    a. Pump a 150' cement inside/outside plug from 2,914' – 3,064' with 52 SXS, 10.7 BBLS of Class G, 1.15 yld, 15.8# cement for the 4-1/2" csg.
    b. Sqz 40 sx and balance 12 sx.
27) TOOH to 2,098'
28) **PLUG #6 (PC TOP @ 2,048')**
    a. Pump a 150' cement balanced plug from 1,948'- 2,098' with 12 SXS, 2.5 BBLS of Class G, 1.15 yld, 15.8# cement inside the 4-1/2" csg.
29) TOOH with tbg.
30) RU E-line and perf csg at **1,670'**. Attempt injection rate into perfs.
31) RIH with 4-1/2" CICR and set at **1,620'**.
32) **PLUG #7 (FRC TOP @ 1,620')**
    a. Pump a 150' cement inside/outside plug from 1,520' – 1,670' with 52 SXS, 10.7 BBLS of Class G, 1.15 yld, 15.8# cement for the 4-1/2" csg.
    b. Sqz 40 sx and balance 12 sx.
33) TOOH with tbg.
34) RU E-line and perf csg at **1,138'**. Attempt injection rate into perfs.
35) RIH with 4-1/2" CICR and set at **1,088'**.
36) **PLUG #8 (KIRTLAND TOP @ 1,088'; OJO TOP @ 980')**
    a. Pump a 258' cement inside/outside plug from 880'- 1,138' with 103 SXS, 21.1 BBLS of Class G, 1.15 yld, 15.8# cement for the 4-1/2" csg.
    b. Sqz 83 sx and balance 20 sx.
37) TOOH with tbg.
38) RU E-line and perf csg at **384'**. Attempt circulation rate with perfs to surface.
39) **PLUG #9 (CSG SHOE @ 334')**
    a. Circulate a 150' cement plug from 234'-384' with 45 SXS, 9.3 BBLS of Class G, 1.15 yld, 15.8# cement inside the 4-1/2" csg and 8-5/8" x 4-1/2" annulus.
40) Lock in cement in wellbore and WOC (unless we decide to set a CICR for this shoe plug).
41) TOOH with tbg.
42) RU E-line and perf csg at **60'**. Attempt circulation to surface through perfs.
43) **PLUG #10 (SURFACE @ 334')**
    a. Circulate a 50' cement plug from 10'-60' with 15 SXS, 3.1 BBLS of Class G, 1.15 yld, 15.8# cement inside the 4-1/2" csg and 8-5/8" x 4-1/2" annulus.
44) N/D BOPE.
45) Cut off wellhead.
46) Check marker joint for correct well information and weld on P&A well marker.
47) Top off all casing strings and whd cellar with 12+/- sx of cement.
48) Release rig.

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Proposed P&A Procedure

Hilcorp Energy Company

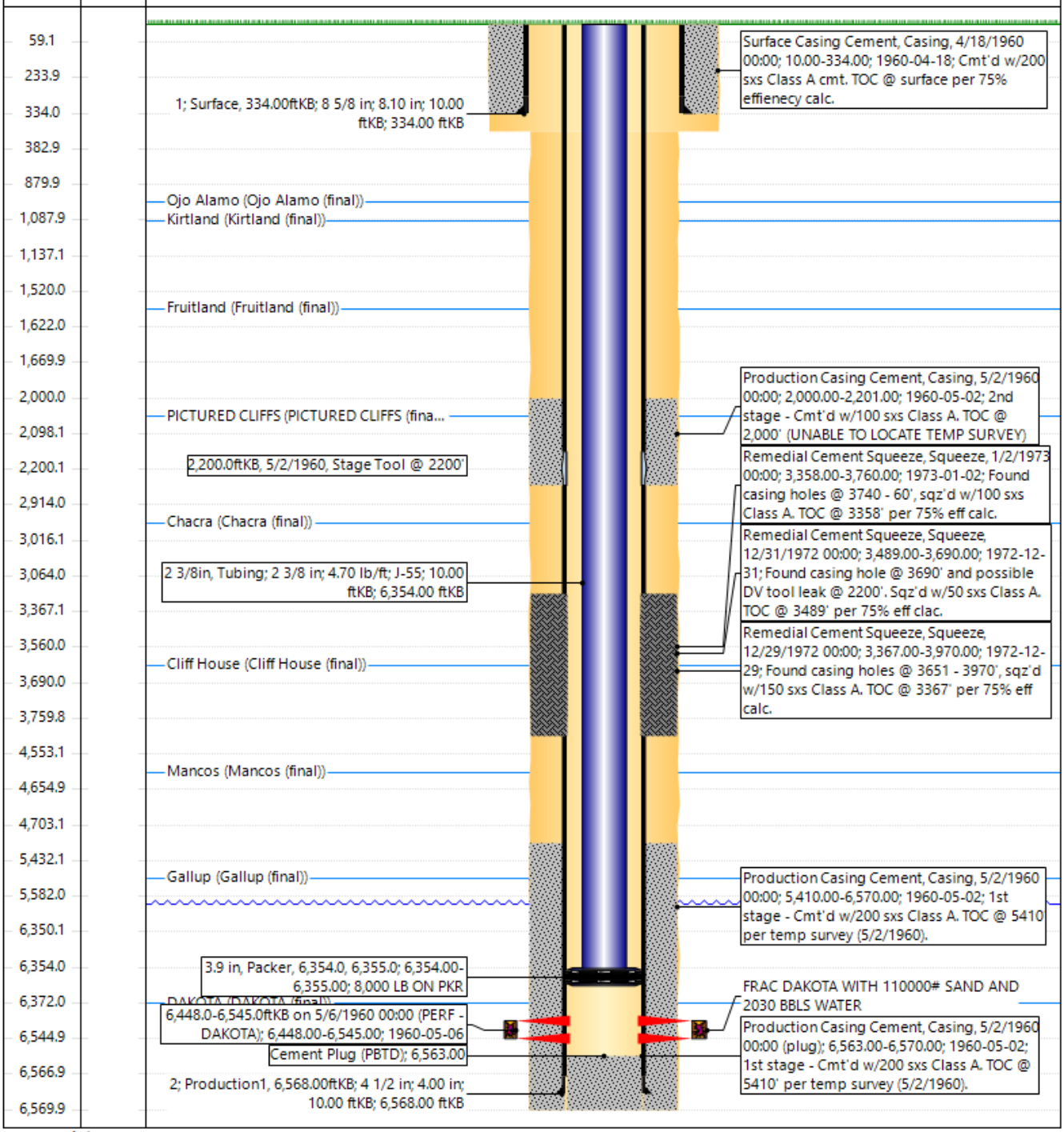
Current Schematic - Completion Comments

Well Name: CAIN #10

API / UWI	Surface Legal Location	Field Name	Route	State/Province	Well Configuration Type
3004507428	015-028N-010W-M	BASIN DAKOTA (PRORATED GAS)	0707	NEW MEXICO	

Ground Elevation (ft)	Original KB/RT Elevation (ft)	KB-Ground Distance (ft)	KB-Casing Flange Distance (ft)	KB-Tubing Hanger Distance (ft)
5,877.00	5,887.00	10.00		

Original Hole



www.peloton.com Page 1/1 Report Printed: 2/22/2023

Hilcorp Energy Company

Proposed P&A Procedure

Hilcorp Energy Company

P&A Proposed Schematic

Well Name: CAIN #10

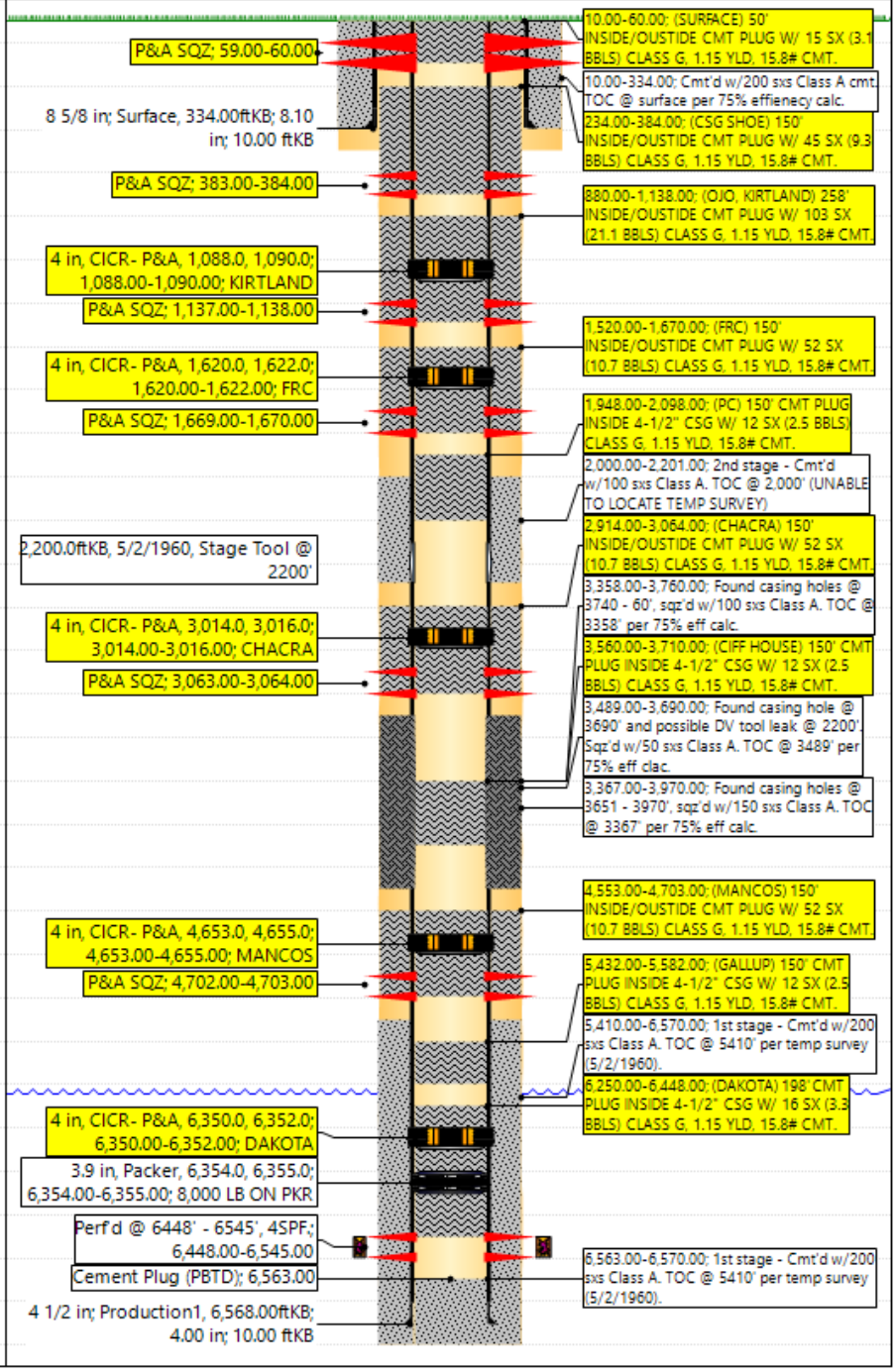
API / UWI	Surface Legal Location	Field Name	Route	State/Province	Well Configuration Type
3004507428	015-028N-010W-M	BASIN DAKOTA (PRORATED GAS)	0707	NEW MEXICO	

Ground Elevation (ft)	Original KB/RT Elevation (ft)	KB-Ground Distance (ft)	KB-Casing Flange Distance (ft)	KB-Tubing Hanger Distance (ft)
5,877.00	5,887.00	10.00		

Original Hole

MD (ftKB)	TVD (ftKB)	Formation Tops	MD
59.1			
233.9			
334.0			
382.9			
879.9		Ojo Alamo	980.0
1,087.9		Kirtland	1,088.0
1,137.1			
1,520.0		Fruitland	1,620.0
1,622.0			
1,669.9			
2,000.0		PICTURED CLIFFS	2,048.0
2,098.1			
2,200.1			
2,914.0		Chacra	3,014.0
3,016.1			
3,064.0			
3,367.1			
3,560.0		Cliff House	3,660.0
3,690.0			
3,759.8			
4,553.1		Mancos	4,653.0
4,654.9			
4,703.1			
5,432.1		Gallup	5,532.0
5,582.0			
6,350.1			
6,354.0			
6,372.0		DAKOTA	6,372.0
6,544.9			
6,566.9			
6,569.9			

Vertical schematic (proposed)



Hilcorp Energy
P&A Final Reclamation Plan
Cain 10
API: 30-045-07428
T28N-R10W-Sec. 15-Unit M
LAT: 36.65739 LONG: -107.88779 NAD 27
Footage: 920' FSL & 1060' FWL
San Juan County, NM

1. **PRE- RECLAMATION SITE INSPECTION**

   A pre-reclamation site inspection was completed with Roger Herrera from the BLM and Eufracio Trujillo, Hilcorp Energy SJ South Construction Foreman on February 21, 2023.

2. **LOCATION RECLAMATION PROCEDURE**

   1. Reclamation work will begin in summer.
   2. Removal of all equipment, anchors, flowlines, cathodic, and pipelines.
   3. All trash and debris will be removed within a 50' buffer outside of the location disturbance during reclamation.
   4. Close out BGT on location when results permit.
   5. Rip compacted soil and walk down disturbed portion of well pad.
   6. Round out Southwest edge down onto location. Close out secondary road at main lease road.
   7. Add diversion ditch along edge of pad to return teardrop to next well pad.
   8. Add silt traps if needed.
   9. Remove all gravel from berms, pads, and meter run and use on lease road where needed.
   10. Harvest meter run will be removed out of their ROW. Remove riser if possible.

3. **ACCESS ROAD RECLAMATION PROCEDURE**

   1. The well access road will be ripped and contoured in.
   2. Block at the location and main lease road with a berm and ditch.
   3. Seed road.

4. **SEEDING PROCEDURE**

   1. A Pinon/Juniper seed mix will be used for all reclaimed and disturbed areas of the well pad and lease road.
   2. Drill seed will be done where applicable, and all other disturbed areas will be broadcast seeded and harrowed. Broadcast seeding will be applied at a double the rate of seed.
   3. Timing of the seeding will be when the ground is not frozen or saturated.

5. **WEED MANAGEMENT**

1. No noxious weeds were identified during this onsite.

BLM - FFO - Geologic Report

Date Completed 3/14/2023

Well No.	Cain		10	Surf. Loc.	920	FSL	1060	FWL
				Sec.	15	T28N		R10W
Lease No.	NMSF 080781							
Operator	Hilcorp			County	San Juan		State	New Mexico
TD	6570	PBTD	6563	Formation	Dakota			
Elevation	GL	5877		Elevation	Est. KB	5887		

Geologic Formation	Est. tops	Subsea Elev.	Remarks
Nacimiento Fm.	Surface	6721	Surface /fresh water sands
Ojo Alamo Ss	895	4992	Aquifer (fresh water)
Kirtland Fm.	1088	4799	
Fruitland Fm.	1540	4347	Coal/gas/possible water
Pictured Cliffs	2048	3839	Possible water
Lewis Shale	2140	3747	
Huerfanito Bentonite	2257	3630	
Chacra (Upper)	2610	3277	Possible water or dry
Lewis Stringer	2930	2957	Possible gas, water
Chacra (Lower)	3014	2873	
Cliff House	3595	2292	Possible gas, water
Menefee Fm.	3788	2099	Coal/ss/water/possible gas
Point Lookout Fm.	4350	1537	Possible gas, water
Mancos Shale	4653	1234	Petroleum source rock
Tocito Ss Lentils	5425	462	O&G
Gallup	5532	355	O&G
Mancos Stringer	6100	-213	
Juana Lopez	6225	-338	
Green Horn Sh	6335	-448	
Graneros	6390	-503	
Dakota	6470	-583	O&G

Remarks:

- Change Plug 4 to 3560' to 3645' to account for the BLM Cliff House formation top.
- Change Plug 7 to 1440' to 1590' to account for the BLM Fruitland formation top.

Reference Wells:

1) Same

Prepared by: Walter Gage

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 H_2S.

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.

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

AFMSS 2 Sundry ID 2717220

Attachment to notice of Intention to Abandon

Well: Cain 10

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. The following modifications to your plugging program are to be made:
   a. Change Plug 4 to 3560’ to 3645’ to account for the BLM Cliff House formation top.
   b. Change Plug 7 to 1440’ to 1590’ to account for the BLM Fruitland formation top.

3. Farmington Office is to be notified at least 24 hours before the plugging operations commence at (505) 564-7750.

You are also required to place cement excesses per 4.2 and 4.4 of the attached General Requirements.

Office Hours: 7:45 a.m. to 4:30 p.m.

K. Rennick 03/15/2022

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 197462

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 197462
	Action Type: [C-103] NOI Plug & Abandon (C-103F)

CONDITIONS

Created By	Condition	Condition Date
kpickford	CBL required	3/17/2023
kpickford	Notify NMOCD 24 Hours Prior to beginning operations	3/17/2023
kpickford	Adhere to BLM approved COAs and plugs. See BLM COAs and GEO report.	3/17/2023