

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

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. **JIC68**
6. If Indian, Allottee or Tribe Name
JICARILLA APACHE

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		7. If Unit of CA/Agreement, Name and/or No.
2. Name of Operator ENDURING RESOURCES LLC		8. Well Name and No. JICARILLA B/22
3a. Address 1050 17TH STREET SUITE 2500, DENVER, CO	3b. Phone No. (include area code) (303) 573-1222	9. API Well No. 3003905665
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description) SEC 6/T24N/R5W/NMP		10. Field and Pool or Exploratory Area BASIN/BASIN
		11. Country or Parish, State RIO ARRIBA/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 checked="" type="checkbox"/> Other	
	<input type="checkbox"/> Change Plans	<input 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.)

REQUEST TO PLUG AND ABANDON WELL PER THE ATTACHED PROCEDURE. ATTACHMENTS ALSO INCLUDE CURRENT/PROPOSED WELLBORE DIAGRAMS AND RECLAMATION PLAN.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) HEATHER HUNTINGTON / Ph: (505) 636-9751	Title Permitting Technician
Signature	Date 07/28/2022

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by KENNETH G RENNICK / Ph: (505) 564-7742 / Approved	Title Petroleum Engineer	Date 08/04/2022
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 RIO PUERCO

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)

ENDURING RESOURCES IV, LLC

PLUG AND ABANDONMENT PROCEDURE

WELL: JICARILLA B-22

API: 30-039-05665

ER WELL: NM01440.01

LOCATION: 1850' FNL & 790' FWL, Sec.6, 24N, 05W

COUNTY: RIO ARRIBA

STATE: NM

AFE: WO01555

- NOTES:**
- 1) All cement volumes assume 100% excess volume outside pipe and 50' excess inside pipe. Cement will be Type III (14.6 ppg and 1.39 cuft/sx), or similar. A stabilizing wellbore fluid with density of 8.3 ppg will be sufficient to balance pressures encountered in the well.
 - 2) Any waste fluids circulated from the well to surface, including excess cement, will be stored in steel tanks and then disposed of at an approved disposal facility.
 - 3) Notify BLM and NMOCD prior to beginning P&A well-work operations. Comply with all BLM and NMOCD regulations. Obtain approval from BLM and NMOCD prior to making any changes or adjustments to the approved procedure.
 - 4) Plugs will be adjusted as necessary depending on the results of any RCBLs and pressure tests. All logs and pressure test results will be submitted / reported to Regulatory Agencies.
 - 5) Wait on cement, tag, and spot additional cement plugs as necessary depending on results of casing pressure tests.
 - 6) Ensure all contractors have necessary permits to perform work on the Jicarilla Apache Nation Reservation.
 - 7) Hold safety meetings daily (minimum) with all personnel on location. Record tubing, casing, and bradenhead pressures daily on reports.
 - 8) Test and install rig anchors, if necessary (if rig does not have a base-beam).

- PROCEDURE:**
- 1) MIRU daylight pulling unit and associated equipment.
 - 2) Blow down well. Kill well, if necessary (well is currently in TA status; should not require blowing down or killing).
 - 3) ND WH. NU BOPE.
 - 4) MU 3-7/8" bit on 2-3/8" work-string. TIH to cement @ 4,308' (previously reported TOC for casing leak repair). Load hole & pressure test to 550 psig for 30 minutes.
 - 5) Drill out cement. Continue to TIH to CR @ 6,925'. TOOH.
 - 6) PU and TIH with 3-7/8" bit & 4-1/2" casing scraper on 2-3/8" work-string to to CR @ 6,925'. TOOH & LD bit & scraper.
 - 7) MIRU WL. RIH with GR/CCL/RCBL from 6,925' to surface. RD WL.
 - 8) TIH with 2-3/8" workstring to 6,921'. Load hole & pressure test casing to 550 psig for 30 minutes.
 - 9) **PLUG #1: DAKOTA & GRANEROS TOPS**

Spot balanced plug down work-string. PUH and spot additional plugs.

Plug Coverage:	6,777'	to	6,921'
Cement Volume:	13 sx		
	13 sx	TOTAL	

10) PLUG #2: GALLUP TOP

Spot balanced plug down work-string. TOOH.

Plug Coverage:	5,818'	to	5,918'
Cement Volume:	10 sx		
	10 sx	TOTAL	

11) PLUG #3: MANCOS TOP

RIH with WL. Perf squeeze holes. TIH with 4-1/2" CR on 2-3/8" work-string. Pump cement. TOOH.

Squeeze holes:	5,011'		
4-1/2" CR:	4,961'		
Plug Coverage:	4,911'	to	5,011'
Cement Volume:	36 sx	THRU CICR	
	7 sx	ABOVE CICR	
	43 sx	TOTAL	

12) PLUG #4: CLIFFHOUSE TOP

RIH with WL. Perf squeeze holes. TIH with 4-1/2" CR on 2-3/8" work-string. Pump cement. TOOH.

Squeeze holes:	4,158'		
4-1/2" CR:	4,108'		
Plug Coverage:	4,058'	to	4,158'
Cement Volume:	36 sx	THRU CICR	
	7 sx	ABOVE CICR	
	43 sx	TOTAL	

13) PLUG #5: CHACRA TOP

TIH with 2-3/8" work-string. Spot balanced plug down work-string. PUH and spot additional plugs.

Plug Coverage:	2,989'	to	3,089'
Cement Volume:	10 sx		
	10 sx	TOTAL	

14) PLUG #6: PICTURED CLIFFS, FRUITLAND, KIRTLAND, OJO ALAMO TOP

Spot balanced plug down work-string. TOH.

Plug Coverage:	1,994'	to	2,604'
Cement Volume:	42 sx		
	42 sx	TOTAL	

15) PLUG #7: NACIMIENTO TOP, SURFACE CASING SHOE, SURFACE

RIH with WL. Perf squeeze holes. TIH with 4-1/2" CR on 2-3/8" work-string. Pump cement. TOOH.

Squeeze holes:	438'		
4-1/2" CR:	388'		
Plug Coverage:	0'	to	438'

Cement Volume:	156 sx	THRU CICR
	28 sx	ABOVE CICR
	184 sx	TOTAL

16) ND BOPE. Cut off casing and wellhead (minimum of 3' below finished grade). Top off annulus and casing with cement, if required. RDMO cement equipment. Install P&A marker to comply with BLM and NMOCD and Jicarilla Apache Nation regulations. RDMO.

17) Complete surface reclamation as per approved reclamation plan.

Created by: A. Bridge 2/15/2022

Updated by: A. Bridge 3/3/2022 - corrected depths on Plug #7

OPERATOR: **ENDURING RESOURCES**
 WELL: **JICARILLA B-22**
 FIELD: **BASIN DAKOTA**
 API # **30-039-05665**
 ER WELL #: **NM01440.01**
 WI/NRI: **100.0000%** / **87.5000%**

CNTY: **RIO ARRIE** FTG: **1850' FNL & 790' FWL**
 STATE: **NM** Q-Q: **SW/4 NW/4**
 SPUD: **12/27/61** SEC.: **6**
 COMP: **02/06/62** TWS: **24N**
 STATUS: **SI - TA** RGE: **05W**
 WBD DATE: **02/14/22** BY: **ACB**

PROPOSED P&A WELLBORE DIAGRAM

KBE: **6781'**
 KB: **13'**
 GLE: **6768'**

12-1/4" Hole
 8-5/8" 24.0# csg @ **303'**
 Cmt w/3000 sxs, 24 bbls cmt to surface

TOC @ 1,530' (TS) 1/12/1962

FORMATION TOPS

Nacimiento @	388
Ojo Alamo @	2044
Kirtland @	2221
Fruitland @	2379
Pictured Cliffs @	2554
Lewis @	2748
Chacra @	3039
Cliff House @	4108
Menefee	4186
Point Lookout @	4775
Mancos @	4961
Gallup @	5868
Tocito @	6187
Greenhorn @	6777
Graneros @	6827
Dakota @	6871

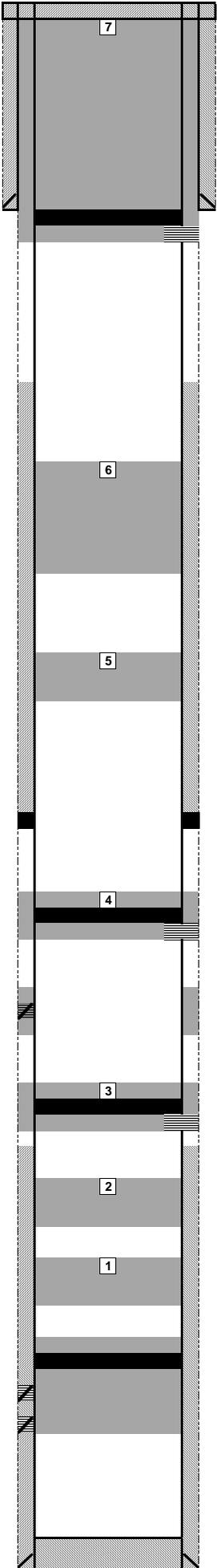
DVT @ 3,714'

CSG LEAK 4,435' - 4,463' (1/18/2013)
 Sqz'd 50 sx cmt (1.44 cuft/sx) thru leak
 Pressure test to 680 PSIG

TOC @ 5,335' (TS) 1/11/1962

CICR @ 6,925' (1/4/2013)
 Sqz'd 60 sx ccm (1.43 cuft/sx) thru CICR
 Spot 0.5 BBLs cmt (1.43 cuft/sx) on top of CICR

ORIG PBTD @ **7100'**
 4-1/2" 11.6# Csg @ **7158'**
 TD @ **7159'**
 DV Tool @ **3714'**
STAGE 1: 450 sx, no cmt to surf
STAGE 2: 500 sx, no cmt to surf



CASING RECORD

HOLE (in)	SIZE (in)	WT (lb/ft)	GRADE	TOP (ft)	BTM (ft)
12 1/4	8 5/8	24	H40	0	303
7 7/8	4 1/2	11.6	J55	0	7158

PERFORATION RECORD

ZONE	TOP (ft)	BTM (ft)	SPF
DAKOTA	6964	6984	4
DAKOTA	6994	7022	4

PLUG #7: NACIMIENTO TOP, SURFACE CASING SHOE, SURFACE

SQZ HOLES	438		
4-1/2" CR	388		
CEMENT	0' -	438'	
PLUG VOLUME	156 sx	THRU CICR	100% excess required (outside casing)
PLUG VOLUME	28 sx	ABOVE CICR	50' excess required (inside casing)

PLUG #6: PICTURED CLIFFS, FRUITLAND, KIRTLAND, OJO ALAMO TOP

BALANCED PLUG			
CEMENT	1994' -	2604'	
PLUG VOLUME	42 sx		50' excess required (inside casing)

PLUG #5: CHACRA TOP

BALANCED PLUG			
CEMENT	2989' -	3089'	
PLUG VOLUME	10 sx		50' excess required (inside casing)

PLUG #4: CLIFFHOUSE TOP

SQZ HOLES	4158		
4-1/2" CR	4108		
CEMENT	4058' -	4158'	
PLUG VOLUME	36 sx	THRU CICR	100% excess required (outside casing)
PLUG VOLUME	7 sx	ABOVE CICR	50' excess required (inside casing)

PLUG #3: MANCOS TOP

SQZ HOLES	5011		
4-1/2" CR	4961		
CEMENT	4911' -	5011'	
PLUG VOLUME	36 sx	THRU CICR	100% excess required (outside casing)
PLUG VOLUME	7 sx	ABOVE CICR	50' excess required (inside casing)

PLUG #2: GALLUP TOP

BALANCED PLUG			
CEMENT	5818' -	5918'	
PLUG VOLUME	10 sx		50' excess required (inside casing)

PLUG #1: DAKOTA & GRANEROS TOPS

BALANCED PLUG			
CEMENT	6777' -	6921'	
PLUG VOLUME	13 sx		50' excess required (inside casing)

PROPOSED CEMENT PLUGS ASSUME TOC AS REPORTED BASED ON TS DURING DRILLING. PLUGS WILL BE ADJUSTED AS REQUIRED BASED ON RESULTS OF CBL AND/OR PRESSURE TESTS

CEMENT & CASING INFORMATION

- ALL PLUGS ASSUME TYPE III NEAT CEMENT	
- STABILIZING WELLBORE FLUID IS 8.3 PPG, SUFFICIENT TO BALANCE ALL WELLBORE PRESSURES, UNLESS NOTED OTHERWISE IN PROCEDURE	
CEMENT DENSITY:	14.60 PPG
CEMENT YIELD:	1.39 CUFT / SX
MIX WATER REQUIRED:	6.69 GAL / SX
4-1/2" CSG CAPACITY:	0.0872 CUFT / FT
4-1/2" CSG x 7-7/8" HOLE CAPACITY:	0.2278 CUFT / FT
4-1/2" CSG x 8-5/8" CSG CAPACITY:	0.2471 CUFT / FT

BLM FLUID MINERALS P&A Geologic Report

Date Completed: 2/17/2022

Well No. Jicarilla B #22 (API# 30-039-05665)	Location	1850	FNL	&	790	FWL
Lease No. JIC68	Sec. 06	T24N			R05W	
Operator Enduring Resources, LLC	County	Rio Arriba		State	New Mexico	
Total Depth 7159'	PBTD 6925'	Formation Dakota				
Elevation (GL) 6768'		Elevation (KB) 6781'				

Geologic Formations	Est. Top	Est. Bottom	Log Top	Log Bottom	Remarks
San Jose Fm			Surface	388	
Nacimiento Fm			388	2044	
Ojo Alamo Ss			2044	2221	Surface/ freshwater aquifer
Kirtland Shale			2221	2379	
Fruitland Fm			2379	2573	Coal/Gas/Possible water
Pictured Cliffs Ss			2573	2623	Gas
Lewis Shale			2623	3039	
Chacra			3039	4108	Gas
Cliff House Ss			4108	4186	Water/Possible gas
Menefee Fm			4186	4775	Coal/Ss/Water/Possible O&G
Point Lookout Ss			4775	4961	Probable water/Possible O&G
Mancos Shale			4961	5868	
Gallup			5868	6777	O&G/Water
Greenhorn			6777	6827	
Graneros Shale			6827	6871	
Dakota Ss			6871	PBTD	O&G/Water

Remarks:

P & A

- BLM pick for the top of the Pictured Cliffs formation varies from Operator.

- Bring the bottom of Plug #6 down to 2623' to cover BLM Pictured Cliffs pick (2573').

- The plugs proposed in the P&A procedure, with recommended changes, will adequately protect any freshwater sands in this well bore.

- Dakota perms 6964' – 7022'.

Reference Well:

1) **Formation Tops**
Same

Prepared by: Chris Wenman

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

AFMSS 2 Sundry ID 2684541

Attachment to notice of Intention to Abandon

Well: Jicarilla B 22

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) Bring the bottom of Plug #6 down to 2623' to cover BLM Pictured Cliffs pick (2573').
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 8/4/2022

**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.

(October 2012 Revision)

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 132189

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 132189
	Action Type: [C-103] NOI Plug & Abandon (C-103F)

CONDITIONS

Created By	Condition	Condition Date
kpickford	CBL required	8/12/2022
kpickford	Notify NMOCD 24 Hours Prior to beginning operations	8/12/2022
kpickford	Adhere to BLM approved COAs and plugs. See GEO report.	8/12/2022