

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: 2/5/2020

Well information:

30-039-06533 MILES FEDERAL #002

BP AMERICA PRODUCTION 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 BLM approved plugs, ensure that the following footages are plugged:

- 6470'-6370' to cover the Dakota top. OCD Graneros top pick @ 6420'
- 5575-5475' to cover the Gallup top. OCD Gallup pick @ 5525'.
- 4670'-4570' to cover the Mancos top. OCD Mancos pick @ 4620''
- 1550'-1450' to cover the Kirtland top. OCD Kirtland pick @ 1500'.


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.

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		5. Lease Serial No. NMSF079162
2. Name of Operator CROSS TIMBERS ENERGY LLC		6. If Indian, Allottee or Tribe Name
Contact: SAMANTHA AVARELLO E-Mail: savarello@mspartners.com		7. If Unit or CA/Agreement, Name and/or No.
3a. Address #36 ROAD 350 FLORA VISTA, NM 87415	3b. Phone No. (include area code) Ph: 827-334-7747	8. Well Name and No. MILES FEDERAL 2
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 7 T26N R7W SESW 0950FSL 1480FWL 36.496338 N Lat, 107.620117 W Lon		9. API Well No. 30-039-06533-00-S1
		10. Field and Pool or Exploratory Area BASIN DAKOTA
		11. County or Parish, State RIO ARRIBA 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 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.

Cross Timbers Energy, LLC intends to P&A the Miles Federal 2. Procedure below

1. MIRU.
2. POOH w/ tubing and packer.
3. Run a casing scraper to 6,550?
4. Set CIBP @ 6,550?
5. Spot 12 sx Class B Cement on top of plug. (est'd TOC @ 6,400). WOC. Tag TOC.
6. RU and run CBL.
7. Circulate hole with mud laden fluid.
8. Spot balanced cement plug from 5,666? ? 5,816? with 12 sx Class B cement. WOC. Tag TOC.
9. Spot balanced cement plug from 3,632? ? 3,782? with 12 sx Class B cement. WOC. Tag TOC.

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #502186 verified by the BLM Well Information System For CROSS TIMBERS ENERGY LLC, sent to the Farmington Committed to AFMSS for processing by ALBERTA WETHINGTON on 02/06/2020 (20AMW0163SE)	
Name (Printed/Typed) SAMANTHA AVARELLO	Title REGULATORY TECHNICIAN
Signature (Electronic Submission)	Date 02/05/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>JOE KILLINS</u>	Title <u>ENGINEER</u>	Date <u>02/12/2020</u>
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 <u>Farmington</u>

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 ****

PN

Additional data for EC transaction #502186 that would not fit on the form

32. Additional remarks, continued

10. Spot balanced cement plug from 2,929' ? 3,079' with 12 sx Class B cement. WOC. Tag TOC.
11. Spot balanced cement plug from 2,055' ? 2,205' with 12 sx Class B cement. WOC. Tag TOC.
12. Spot balanced cement plug from 1,269' ? 1,782' with 40 sx Class B cement. WOC. Tag TOC.
13. Spot balanced cement plug from 350' to surface with 27 sx cement. Ensure cement at surface on all strings of casing.
14. Cut off wellhead below surface casing flange. Install P&A marker.

Attachments
Reclamation Plan
Current/Proposed WBD

**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: Miles Federal 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.
3. Submit electronic copy of the CBL for verification to the following addresses: jkillins@blm.gov , jhoffman@blm.gov and Brandon.Powell@state.nm.us . Based on CBL results inside/outside plugs and volumes will be adjusted accordingly. Please review the General Requirements document to ensure volumes meet required excess inside and outside casing.
4. Plug 6: BLM picks top of Ojo Alamo at 1220 and top of Fruitland at 1950. Modify plug to ensure coverage 50' above and below formation tops.
 - a. Ojo Alamo: 1170-1270
 - b. Fruitland: 1900-2000

**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.

BLM FLUID MINERALS Geologic Report

Date Completed: 12/9/19

Well No.	Miles Federal 2	Location	950'	FSL	&	1480'	FWL
Lease No.	NMSF079162	Sec. 7	T26N				R7W
Operator	Cross Timbers Energy LLC	County	Rio Arriba	State		New Mexico	
Total Depth	6754'	PBTD 6750'	Formation	Basin Dakota			
Elevation (GL)	6175'		Elevation (KB)	6188' (est.)			

Geologic Formations	Est. Top	Est. Bottom	Log Top	Log Bottom	Remarks
San Jose Fm					Surface/Fresh water sands
Nacimiento Fm			Surface	1220'	Fresh water sands
Ojo Alamo Ss			1220'	1500'	Aquifer (fresh water)
Kirtland Shale			1500'	1950'	
Fruitland Fm			1950'	2134'	Coal/Gas/Possible water
Pictured Cliffs Ss			2134'	2180'	Gas
Lewis Shale			2180'	3029'	
Chacra (Upper)			3029'	3732'	Probable water or dry
Cliff House Ss			3732'	3800'	Water/Possible gas
Menefee Fm			3800'	4452'	Coal/Ss/Water/Possible O&G
Point Lookout Ss			4452'	4550'	Probable water/Possible O&G
Mancos Shale			4550'	6580'	
Gallup			5766'	5910'	O&G/Water
Graneros Shale			6360'	6420'	
Dakota Ss			6580'		O&G/Water

Remarks:

P & A

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

- BLM geologist's picks for the top of the Ojo Alamo, Fruitland and Dakota formations vary from operator's picks in this well.

- Please ensure that the tops of the Menefee, Pictured Cliffs and Fruitland 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 fresh water sands in this well bore.

- H₂S has not been reported in this section, however, high concentrations of H₂S (≥ 100 ppm GSV) have been reported in two nearby comingled Mesa Verde/Dakota wells at 1.2 and 1.5 miles from this location.

Reference Well:

1) Logos
Same

Fm. Tops

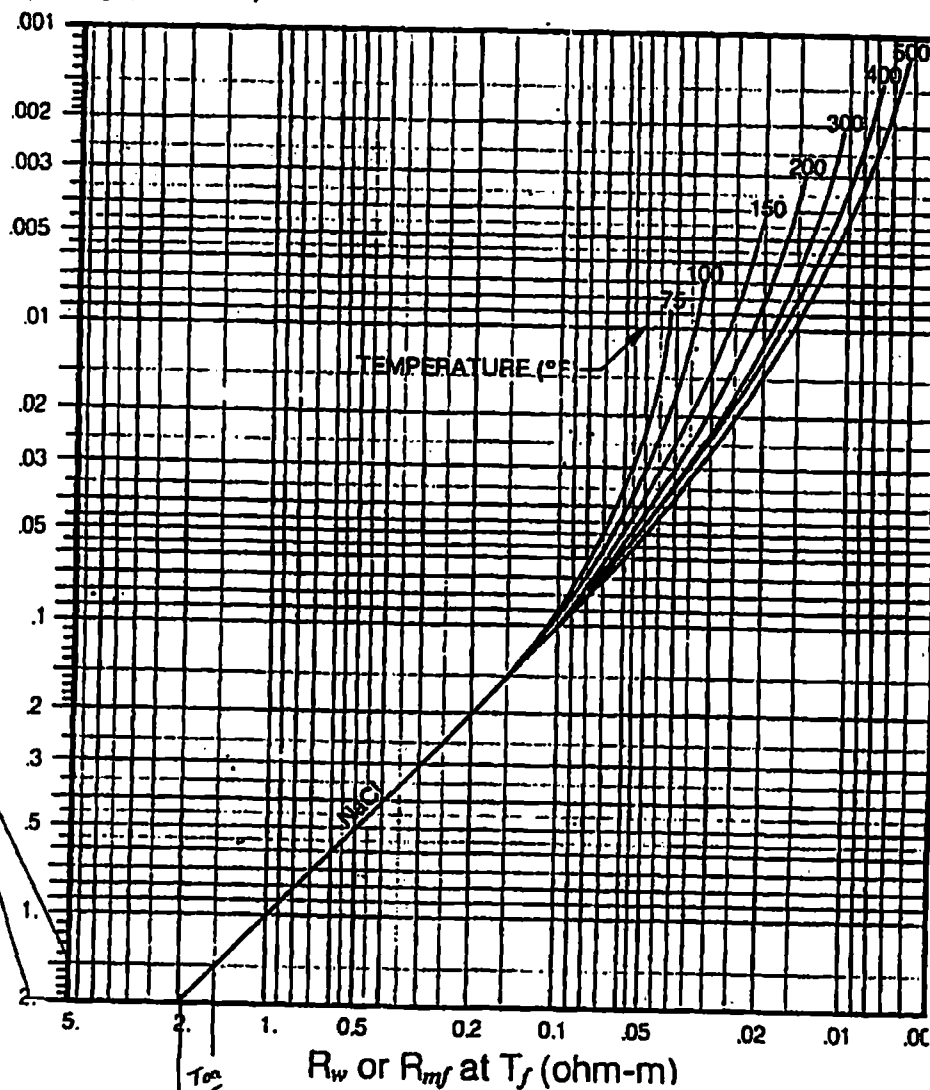
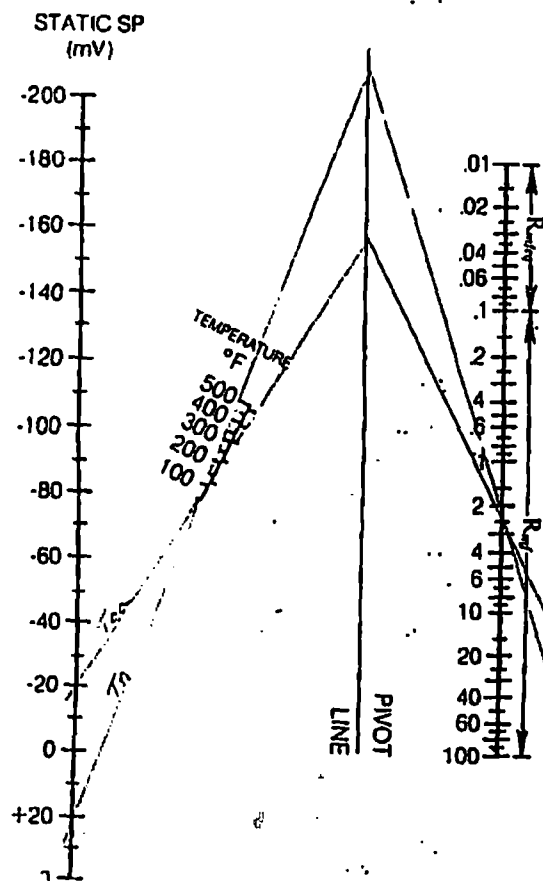
2) Cross Timbers Energy LLC Water
Federal 8 # 22 Analysis
1650' FNL, 1650' FWL
Sec 8, T26N, R7W
GL 6073', KB 6085'

Prepared by: Walter Gage

DE PCO, Inc.
 Fed 8#22
 1650'N, 1650'W
 Sec. 8, 26N-70W
 6L6073' KB6085'

$R_{mf} = 3.44 @ 61^\circ$

R_{weq} or R_{mf} at T_f (ohm-m)



FORMATION	T_{oa}	T_n
DEPTH (BH)	6786'	1786'
$T(BH)$	158°	158°
GEO. GRADIENT	1.45	1.45
DEPTH (F)	1493' 1201-1496'	980' 586-903'
$T(F)$	82°	73°
$R_{mf} @ T(F)$	2.6	2.85
$R_m @ T(F)$		
$R(s)$		
SP	-17.	~+23
$R(s)/R_m$		
h		
SSP		
$R_w @ T(F)$	1.5	2.0
$R_w @ 77^\circ F$		
R_w (CORR)		
TDS	~390 ppm ~450 ppm	3,000 ppm ~2,800 ppm

Corrected 11/20/97
 LEH

Cross Timbers Energy, LLC

Well: Miles Federal #002			Field: Basin Dakota		Date: 04/10/19			
Loc: 950' FSL & 1480' FWL			T26N-R7W-S5					
County: Rio Arriba			State: New Mexico					
AP#	30-039-06533		Size, in	Wgt, lb/ft	Grade	Hole Size	Depth	Cmt - SX
KB: 6188'		Surf. Csg:	8-5/8	24#	J-55	12-1/4"	270	140 sx Class C to Surf
GL: 6175'								
SPUD: June 14, 1965		Prod Csg:	4-1/2	10.5-11.6#	J-55	7-7/8	6754	400 sx
COMPLETION: July 13, 1965		Tbg	2-3/8	4.7	J-55		6595	
MTD: 6754'	PBTD: 6750'	CURRENT STATUS: N/A FAP = N/A						

Surface Casing
8-5/8 @
270 ft
cmt 275 to surf

Production
Casing
4-1/2 @
6754 ft
Cmt w/ 1600 sx
w/ 67 sx excess to surf

Perfs
6567' - 6622'

PBTD: 6750'
MTD: 6754'

[illegible]

Cross Timbers Energy, LLC

Well: Miles Federal #002		Field: Basin Dakota		Date: 04/10/19																																																				
Loc: 950' FSL & 1480' FWL		T26N-R7W-S5																																																						
County: Rio Arriba		State: New Mexico																																																						
API# 30-039-06533	Size, in	Wgt, lb/ft	Grade	Hole Size	Depth																																																			
KB: 6185'	8-5/8	24#	J-55	12-1/4"	270																																																			
GL: 6175'	Surf. Csg:				140 sx Class C to Surf																																																			
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02/03/15 SITP 15 psg, SICP 800 psg, RU swb lts. BFL @ 6,450' F.S. S. 0 BO, 25 BW, 2 runs, 1 hr FFL @ 6,450' F.S.																																																								
SWL RDMO Hurricane SWU #8																																																								
04/30/15 SITP 440 psg, SICP PKR RDMO Hurricane SWU #8, FR for swb. SI well test																																																								
03/21/16 SITP 0 psg, SICP 0 psg (px), MRU Hurricane SWU #8. Bd tbg to pt. RU feet lts. Rth w/2" JDC. POH: Rec. dust pad plug; RU swb lts. BFL @ 4,800' F.S. S. 0 BO, 9.5 BW, 6 runs, 5.5 hrs. FFL @ 5,000' F.S. SWL RDMO Hurricane SWU #8, FR for swb.																																																								
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DV Tool @ 3289'																																																								
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Tbg detail: 7 lts - 2-3/8" @ 6454', 7 lts 2-3/8" @ 127',																																																								
2-3/8" Paxker @ 6469, EOT = 6596'																																																								
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Surface Casing
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270 ft
cmt 275 to surf.

Production
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4-1/2 @
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Cmt w/ 1600 sx
w/ 67 sx excess to surf

packer set @ 6469

Perfs (holes)
4819' - 4846'

PBTD: 6750'
MTD: 6754'

