

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 reenter an abandoned well. Use Form 3160-3 (APD) for such proposals.

OCD Artesia

FORM APPROVED
OMB No 1004-0135
Expires November 30, 2000

5 Lease Serial No
NM-0437523 & LC-055830

6. If Indian, Allottee or Tribe Name

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

8 Well Name and No

Grateful BOD Federal Com. #1H

9 API Well No.

30-015-38990

10. Field and Pool, or Exploratory Area

Undesignated Bone Springs

11 County or Parish, State

Eddy County, New Mexico

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1 Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2 Name of Operator
Yates Petroleum Corporation

3a Address
105 South Fourth Street, Artesia, NM 88210

3b Phone No (include area code)
(575) 748-1471

4 Location of Well (Footage, Sec., T, R, M, or Survey Description)
Surface: 786' FNL & 545' FEL,
BHL: 660' FNL & 330 FWL,
Section 13, T18S-R29E, Unit Letter (Surface A) (BHL D)

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☒ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

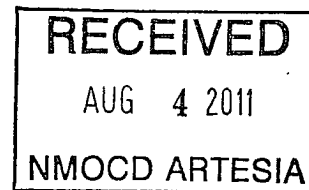
13 Describe Proposed or Completed Operations (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths 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 shall 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 shall be filed once Testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Yates Petroleum Corporation respectfully requests permission to run a packer/port system on the 5 1/2" casing for this well. Cementing will be done with the use of the Packers Plus SF cementer. Cement will be placed from SF tool up to 500' into intermediate casing. See attached Packers Plus diagram and Halliburton cement design

Thank-You

Accepted for record - NMOCD

DES 8-16-11



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

Jeremiah Mullen

Title

Well Planner

Signature

Jeremiah Mullen

Date

July 21, 2011

THIS SPACE FOR FEDERAL OR STATE USE

Approved by

[Signature]

Title

Date

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

JUL 22 2011

Title 18 U.S.C. Section 1001, 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

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

(Instructions on reverse)

Project	Client	Location	Date
Mike Hill	Yates Petroleum	Eddy County, NM	18-Jul-11
Well	Operator	Completion	
Grateful BOD Fed Com #1H	Eddy County, NM	21-Stage StackFRAC HD SFC	
Depth	Description	OD (in)	Length (ft)
PAGE 1 OF 2			
KOP = N/A			
BR = 100'			
N/A, 100'			
	Surface Casing 8-5/8", 32.0 PPF	8 625	7 921
	Open Hole 7-7/8" Horizontal	7 875	7 875
	Production Casing 5-1/2", 17.0 PPF, P-110, LTC	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 5-1/2", 17.0 SF Cementor (PN 122822-P) (Centralized)	7 250	4 800
	12 Shear Pins @ 238 PSI Ea = 2,856 PSI Setting Pressure		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Anchor-Packer (Centralized) PN 120500-000001	7 375	4 700
	5 Shear Pins @ 341 PSI Ea = 1,705 PSI Setting Pressure		
	5-1/2", 17.0 PPF, P-110 LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7 375	4 700
	5 Shear Pins @ 341 PSI Ea = 1,705 PSI Setting Pressure		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 5-1/2" Drillable FracPORT w/ 4 125" seat w/ 4.250" SF-6 Frac Ball PN 108550-000055	7 000	4 700
	9 Shear Pins @ 201 PSI Ea = 1,809 PSI Opening Pressure		4 125
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7 375	4 700
	5 Shear Pins @ 341 PSI Ea = 1,705 PSI Setting Pressure		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 5-1/2" Drillable FracPORT w/ 4 000" seat w/ 4.125" SF-6 Frac Ball PN 108550-000054	7 000	4 700
	9 Shear Pins @ 201 PSI Ea = 1,809 PSI Opening Pressure		4 000
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7 375	4 700
	5 Shear Pins @ 341 PSI Ea = 1,705 PSI Setting Pressure		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 5-1/2" Drillable FracPORT w/ 3 875" seat w/ 4 000" SF-6 Frac Ball PN 108550-000053	7 000	4 700
	9 Shear Pins @ 201 PSI Ea = 1,809 PSI Opening Pressure		3 875
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7 375	4 700
	5 Shear Pins @ 341 PSI Ea = 1,705 PSI Setting Pressure		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 5-1/2" Drillable FracPORT w/ 3 750" seat w/ 3 875" SF-6 Frac Ball PN 108550-000052	7 000	4 700
	9 Shear Pins @ 201 PSI Ea = 1,809 PSI Opening Pressure		3 750
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7 375	4 700
	5 Shear Pins @ 341 PSI Ea = 1,705 PSI Setting Pressure		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 5-1/2" Drillable FracPORT w/ 3 625" seat w/ 3 750" SF-6 Frac Ball PN 108550-000051	7 000	4 700
	9 Shear Pins @ 201 PSI Ea = 1,809 PSI Opening Pressure		3 625
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7 375	4 700
	5 Shear Pins @ 341 PSI Ea = 1,705 PSI Setting Pressure		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 5-1/2" Drillable FracPORT w/ 3 500" seat w/ 3 625" SF-6 Frac Ball PN 108550-000030	7 000	4 700
	9 Shear Pins @ 201 PSI Ea = 1,809 PSI Opening Pressure		3 500
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7 375	4 700
	5 Shear Pins @ 341 PSI Ea = 1,705 PSI Setting Pressure		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 5-1/2" Drillable FracPORT w/ 3 375" seat w/ 3 500" SF-6 Frac Ball PN 108550-000029	7 000	4 700
	9 Shear Pins @ 201 PSI Ea = 1,809 PSI Opening Pressure		3 375
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7 375	4 700
	5 Shear Pins @ 341 PSI Ea = 1,705 PSI Setting Pressure		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 5-1/2" Drillable FracPORT w/ 3 250" seat w/ 3 375" SF-6 Frac Ball PN 108550-000028	7 000	4 700
	9 Shear Pins @ 201 PSI Ea = 1,809 PSI Opening Pressure		3 250
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7 375	4 700
	5 Shear Pins @ 341 PSI Ea = 1,705 PSI Setting Pressure		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 5-1/2" Drillable FracPORT w/ 3 125" seat w/ 3 250" SF-6 Frac Ball PN 108550-000027	7 000	4 700
	9 Shear Pins @ 201 PSI Ea = 1,809 PSI Opening Pressure		3 125
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7 375	4 700
	5 Shear Pins @ 341 PSI Ea = 1,705 PSI Setting Pressure		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5 500	4 892
	Packers Plus 5-1/2" Drillable FracPORT w/ 3 000" seat w/ 3 125" SF-6 Frac Ball PN 108550-000026	7 000	4 700
	9 Shear Pins @ 201 PSI Ea = 1,809 PSI Opening Pressure		3 000
	5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5 500	4 892
	5-1/2", 17.0 PPF, P-110, LTC Lner		

Packer Plus		Do It Once. Do It Right.		Confidential Information: Not to be disclosed outside Yates Petroleum		Completion Proposal	
Mike Hill		Yates Petroleum		18-Jul-11			
Grateful BOD Fed Com #1H		Eddy County, NM		21-Stage StackFRAC HD SFC			
Depth	Drawing	Description	OD (in)	ID (in)	Length (ft)		
PAGE 2 OF 2							
STAGE 11		5-1/2", 17.0 PPF, P-110 LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7.375	4.700			
		5 Shear Pins @ 341 PSI Ea. = 1,705 PSI Setting Pressure					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 5-1/2" Driltable FracPORT w/ 2.875" seat w/ 3.000" SF-6 Frac Ball PN 108550-000025	7.000	4.700			
		9 Shear Pins @ 201 PSI Ea. = 1,809 PSI Opening Pressure			2.875		
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
STAGE 10		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7.375	4.700			
		5 Shear Pins @ 341 PSI Ea. = 1,705 PSI Setting Pressure					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 5-1/2" Driltable FracPORT w/ 2.750" seat w/ 2.875" SF-6 Frac Ball PN: 108550-000024	7.000	4.700			
		9 Shear Pins @ 201 PSI Ea. = 1,809 PSI Opening Pressure			2.750		
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
STAGE 9		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7.375	4.700			
		5 Shear Pins @ 341 PSI Ea. = 1,705 PSI Setting Pressure					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 5-1/2" Driltable FracPORT w/ 2.625" seat w/ 2.750" SF-6 Frac Ball PN 108550-000023	7.000	4.700			
		9 Shear Pins @ 201 PSI Ea. = 1,809 PSI Opening Pressure			2.625		
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
STAGE 8		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN: 104520-000002	7.375	4.700			
		5 Shear Pins @ 341 PSI Ea. = 1,705 PSI Setting Pressure					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 5-1/2" Driltable FracPORT w/ 2.500" seat w/ 2.625" SF-6 Frac Ball PN 108550-000022	7.000	4.700			
		9 Shear Pins @ 201 PSI Ea. = 1,809 PSI Opening Pressure			2.500		
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
STAGE 7		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN: 104520-000002	7.375	4.700			
		5 Shear Pins @ 341 PSI Ea. = 1,705 PSI Setting Pressure					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 5-1/2" Driltable FracPORT w/ 2.375" seat w/ 2.500" SF-6 Frac Ball PN 108550-000021	7.000	4.700			
		9 Shear Pins @ 201 PSI Ea. = 1,809 PSI Opening Pressure			2.375		
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
STAGE 6		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN: 104520-000002	7.375	4.700			
		5 Shear Pins @ 341 PSI Ea. = 1,705 PSI Setting Pressure					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 5-1/2" Driltable FracPORT w/ 2.250" seat w/ 2.375" SF-6 Frac Ball PN 108550-000020	7.000	4.700			
		9 Shear Pins @ 201 PSI Ea. = 1,809 PSI Opening Pressure			2.250		
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
STAGE 5		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN. 104520-000002	7.375	4.700			
		5 Shear Pins @ 341 PSI Ea. = 1,705 PSI Setting Pressure					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 5-1/2" Driltable FracPORT w/ 2.125" seat w/ 2.250" SF-6 Frac Ball PN 108550-000019	7.000	4.700			
		9 Shear Pins @ 201 PSI Ea. = 1,809 PSI Opening Pressure			2.125		
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
STAGE 4		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN: 104520-000002	7.375	4.700			
		5 Shear Pins @ 341 PSI Ea. = 1,705 PSI Setting Pressure					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 5-1/2" Driltable FracPORT w/ 2.000" seat w/ 2.125" SF-6 Frac Ball PN 108550-000018	7.000	4.700			
		9 Shear Pins @ 201 PSI Ea. = 1,809 PSI Opening Pressure			2.000		
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
STAGE 3		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7.375	4.700			
		5 Shear Pins @ 341 PSI Ea. = 1,705 PSI Setting Pressure					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 5-1/2" Driltable FracPORT w/ 1.875" seat w/ 2.000" SF-6 Frac Ball PN 108550-000017	7.000	4.700			
		9 Shear Pins @ 201 PSI Ea. = 1,809 PSI Opening Pressure			1.875		
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
STAGE 2		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7.375	4.700			
		5 Shear Pins @ 341 PSI Ea. = 1,705 PSI Setting Pressure					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 5-1/2" Driltable FracPORT w/ 1.750" seat w/ 1.875" SF-6 Frac Ball PN 108550-000016	7.000	4.700			
		9 Shear Pins @ 201 PSI Ea. = 1,809 PSI Opening Pressure			1.750		
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
STAGE 1		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 8-5/8" X 5-1/2" RockSEAL II (10K) Hydraulic-Set Open-Hole Packer (Centralized) PN 104520-000002	7.375	4.700			
		5 Shear Pins @ 341 PSI Ea. = 1,705 PSI Setting Pressure					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'	5.500	4.892			
		5-1/2", 17.0 PPF, P-110, LTC Liner					
		5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'	5.500	4.892			
		Packers Plus 5-1/2" Driltable FracPORT w/ 1.500" seat w/ 1.750" Ceramic Closing Ball PN 104515-000002	7.000	4.700			
		3 Shear Pins @ 368 PSI Ea. = 1,098 PSI Closing Pressure			1.500		
		5-1/2" Single Valve Float Collar PN 104735	6.000	N/A			
		5-1/2", 17.0 PPF, P-110 LTC Pup Joint 6'	5.500	4.892			
Packer Plus 5-1/2" Dual-External Hydraulic FracPORT (Centralized) PN 105545			7.125	4.710			
6 Shear Pins @ 723 PSI Ea. = 4,338 PSI (11 Pins @ 419 PSI Ea. = 4,609 PSI) Opening Pressure							
5-1/2", 17.0 PPF, P-110, LTC Pup Joint 3'			5.500	4.892			
5-1/2", 17.0 PPF, P-110, LTC Liner							
5-1/2", 17.0 PPF, P-110, LTC Pup Joint 6'			5.500	4.892			
5-1/2", 17.0 PPF, P-110, LTC Liner							
5-1/2" Single Valve Float Collar PN 104735			6.000	N/A			
Packer Plus 5-1/2" Guide Shoe w/ Full Open Circulating Port PN 104911-000002			7.375	4.700			
TD =							
N/A - MD							
N/A - TVD							
Midland TX		432-563-8024		Keith Martin		Don McLean 281-610-6900	

Job Information***Production Casing***

Well Name: Grateful "BOD" Federal Com Well #: 1H

Intermediate Casing	0 - 3300 ft (MD)
Outer Diameter	8.625 in
Inner Diameter	7.921 in
Linear Weight	32 lbm/ft
Job Excess	10 %
8-3/4" Hole	3300 - 12300 ft (MD)
Inner Diameter	8.750 in
Job Excess	35 %
Production Casing	0 - 12300 ft (MD)
Outer Diameter	5.500 in
Inner Diameter	4.892 in
Linear Weight	17 lbm/ft
DV Tool	7500 ft (MD)

Calculations**Production Casing****Stage 1**

Spacer:

$$\begin{aligned} 1234.87 \text{ ft} * 0.2526 \text{ ft}^3/\text{ft} * 35 \% &= 421.09 \text{ ft}^3 \\ \text{Total Spacer} &= 421.10 \text{ ft}^3 \\ &= 75.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} 807.55 \text{ ft} * 0.2526 \text{ ft}^3/\text{ft} * 35 \% &= 275.38 \text{ ft}^3 \\ \text{Total Spacer} &= 280.73 \text{ ft}^3 \\ &= 50.00 \text{ bbl} \end{aligned}$$

Shoe Joint Volume: (41.00 ft fill)

$$\begin{aligned} 41.00 \text{ ft} * 0.1305 \text{ ft}^3/\text{ft} &= 5.35 \text{ ft}^3 \\ &= 0.95 \text{ bbl} \\ \text{Tail plus shoe joint} &= 280.73 \text{ ft}^3 \\ &= 50.00 \text{ bbl} \end{aligned}$$

Stage 2

Spacer:

$$\begin{aligned} 576.04 \text{ ft} * 0.1772 \text{ ft}^3/\text{ft} * 10 \% &= 112.29 \text{ ft}^3 \\ \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl} \end{aligned}$$

Spacer:

$$\begin{aligned} 576.04 \text{ ft} * 0.1772 \text{ ft}^3/\text{ft} * 10 \% &= 112.29 \text{ ft}^3 \\ \text{Total Spacer} &= 112.29 \text{ ft}^3 \\ &= 20.00 \text{ bbl} \end{aligned}$$

Cement : (3700.00 ft fill)

$$\begin{aligned} 500.00 \text{ ft} * 0.1772 \text{ ft}^3/\text{ft} * 10 \% &= 97.47 \text{ ft}^3 \\ 3200.00 \text{ ft} * 0.2526 \text{ ft}^3/\text{ft} * 35 \% &= 1091.21 \text{ ft}^3 \\ \text{Total Lead Cement} &= 1188.68 \text{ ft}^3 \\ &= 211.71 \text{ bbl} \\ \text{Sacks of Cement} &= 435 \text{ sks} \end{aligned}$$

Cement : (1000.00 ft fill)

$$\begin{aligned} 1000.00 \text{ ft} * 0.2526 \text{ ft}^3/\text{ft} * 35 \% &= 341.00 \text{ ft}^3 \\ \text{Lead Cement} &= 341.00 \text{ ft}^3 \\ &= 60.74 \text{ bbl} \end{aligned}$$

Shoe Joint Volume: (0.00 ft fill)

$$\begin{aligned} 0.00 \text{ ft} * 0.1305 \text{ ft}^3/\text{ft} &= 0.00 \text{ ft}^3 \\ &= 0.00 \text{ bbl} \\ \text{Tail plus shoe joint} &= 341.00 \text{ ft}^3 \\ &= 60.74 \text{ bbl} \\ \text{Total Tail} &= 148 \text{ sks} \end{aligned}$$

Job Recommendation**Production Casing**

Install floating equipment, run casing to bottom, and circulate minimum of 2-3 hole volumes prior to cementing as follows:

Stage 1

Fluid 1: 2% KCl Water
167 lbm/Mgal Potassium Chloride (Additive Material) Fluid Volume: 75 bbl

Fluid 2: 2% KCl Water & Sugar
167 lbm/Mgal Potassium Chloride (Additive Material) Fluid Volume: 50 bbl
5 lbm/bbl Sugar (Additive Material)

DV Tool @ 7500 ft (MD)**Stage 2**

Fluid 1: Pump 20 bbl Mud Flush III Fluid Volume: 20 bbl

Fluid 2: Pump 20 bbl Gel Spacer Fluid Volume: 20 bbl
2.5 lbm/bbl WG-19 (Gelling Agent)

Fluid 3: Lead with 440 sks
EconoCem - C

Fluid Weight 11.50 lbm/gal
Slurry Yield: 2.73 ft³/sk
Total Mixing Fluid: 16.14 Gal/sk
Top of Fluid: 2800 ft
Calculated Fill: 3700 ft
Volume: 211.71 bbl
Calculated Sacks: 435.41 sks
Proposed Sacks: 440 sks

Fluid 4: Tail-in with 150 sks
VersaCem - 50/50 Silicalite
5 lbm/sk Gilsonite (Lost Circulation Additive)
0.4 % Halad(R)-344 (Low Fluid Loss Control)

Fluid Weight 11.50 lbm/gal
Slurry Yield: 2.30 ft³/sk
Total Mixing Fluid: 13.06 Gal/sk
Top of Fluid: 6500 ft
Calculated Fill: 1000 ft
Volume: 60.74 bbl
Calculated Sacks: 148.07 sks
Proposed Sacks: 150 sks

Fluid 5: Rheologically Enhanced Spacer
Tuned Spacer III
0.35 lbm/bbl Fe-2 (Buffer)
0.125 gal/bbl D-AIR 3000L (Surfactant)
0.4 gal/bbl Dual Spacer Surfactant B (Surfactant)
233.2 lbm/bbl Barite (Heavy Weight Additive)

Fluid Density: 13 lbm/gal
Fluid Volume: 30 bbl

Fluid 6: Water Based Spacer
Pump 155 bbl KCl & Anhib II Water
0.05 gal/bbl Anhib II (Corrosion Inhibitor)
167 lbm/Mgal Potassium Chloride (Salt)

Fluid Volume: 144.36 bbl