

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

David R. Catanach, 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 3160-3 APD form.

Operator Signature Date: 1/18/2017

Well information;

Operator LOGOS, Well Name and Number LOGOS 2508 20D #15

API# 30-045-35828, Section 20, Township 25 N/S, Range 8 E/W

Conditions of Approval: (See the below checked and handwritten conditions)

- Notify Aztec OCD 24hrs prior to casing & cement.
- Hold C-104 for directional survey & "As Drilled" Plat
- Hold C-104 for NSL, NSP, DHC
- Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
 - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
 - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
 - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- Submit Gas Capture Plan form prior to spudding or initiating recompletion operations
- Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

Chad Horn
NMOCD Approved by Signature

5-17-2017
Date

RECEIVED

Form 3160-3
(June 2015)

JAN 18 2017

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

UNITED STATES
DEPARTMENT OF THE INTERIOR **Farmington Field Office**
BUREAU OF LAND MANAGEMENT **Bureau of Land Management**

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No NMM118134	
6. If Indian, Allottee or Tribe Name	
7. If Unit or CA Agreement, Name and No.	
8. Lease Name and Well No. LOGOS 2508 20D 15	
9. API Well No. 30-045-35828	
10. Field and Pool, or Exploratory Duffers Point-Gallup Dakota	11. Sec., T. R. M. or Blk. and Survey or Area Sec 20, T25N, R08W, UL D
12. County or Parish San Juan	13. State NM
14. Distance in miles and direction from nearest town or post office* 25 miles south of Bloomfield NM	15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 480'
16. No of acres in lease 320	17. Spacing Unit dedicated to this well NW4 Sec 20 T25N R08W = 160 Acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 0'	19. Proposed Depth 6720'
20. BLM/BJA Bond No. in file BLM NMB000917	21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6544' GL
22. Approximate date work will start* 3/18/2017	23. Estimated duration 45 days

OIL CONS. DIV DIST. 3

MAY 09 2017

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- 1. Well plat certified by a registered surveyor
- 2. A Drilling Plan.
- 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above)
- 5. Operator certification
- 6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature *Tamra Sessions* Name (Printed/Typed) Tamra Sessions Date 1-18-17

Title Regulatory Specialist

Approved by (Signature) *[Signature]* Name (Printed/Typed) Office Date 5/8/17

Title Regulatory Specialist

Application approval 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. Conditions of approval, if any, are attached.

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

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

(Continued on page 2)

AV *(Instructions on page 2)
NMOCD

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
611 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Branco Rd., Arloc, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87506
Phone: (505) 476-3460 Fax: (505) 476-3482

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-35828		² Pool Code 19859	³ Pool Name DUFFERS POINT-GALLUP DAKOTA	
⁴ Property Code 317770	⁵ Property Name LOGOS 2508 20D		⁶ Well Number 15	
⁷ OGRID No. 289408	⁸ Operator Name LOGOS OPERATING, LLC		⁹ Elevation 6544	

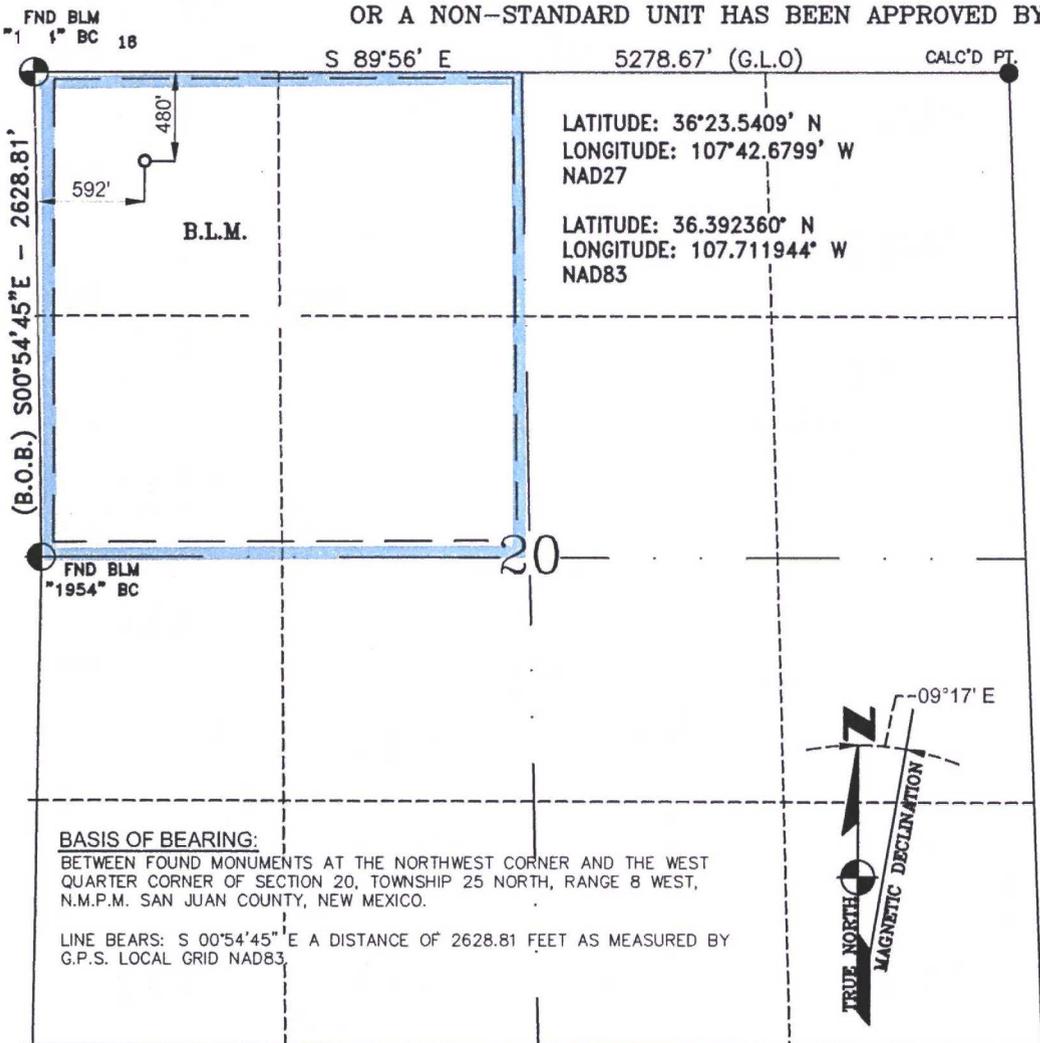
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	20	25-N	8-W		480	NORTH	592	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres G-DK 160.00 ACRES NW/4									
¹³ Joint or Infill			¹⁴ Consolidation Code			¹⁵ Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or a working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Tamra Sessions 1-17-17
Signature Date
Printed Name
tsessions@logosresourcesllc.com
E-mail Address

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

SEPTEMBER 8, 2017
Date of Survey
Signature and Seal
GLEN W. RUSSELL
Certificate Number 15703

LOGOS OPERATING, LLC.
DRILLING PLAN
LOGOS 2508 20D 15

III. Drilling

a. Contractor: To be determined.

b. Mud Program:

The surface hole will be drilled with a fresh water mud.

The production hole will be drilled with a fresh water mud and will use bentonite to increase the viscosity. The weighting material will be drill solids or if conditions dictate, barite. The maximum mud weight expected in 9.2 ppg. The water loss will be controlled to a 6-8 cc/30 min. and loss circulation will be controlled with cedar fiber, paper, etc.

The Charca, Cliff House, Menefee, Point Lookout, Mancos, and Gallup formations will all be considered for completion in this well. A completion procedure will be developed after evaluating the wireline and mud logs.

c. Minimum Blowout Control Specifications:

Double ram type 2000 psi working pressure BOP with a rotating head. See the attached Exhibit #1 for details on the BOP equipment. All ram type preventers and related equipment will be hydraulically tested at nipple-up to 250 psi (Low) for 5 minutes and 1,500 psi (High) for 10 minutes. All tests and inspections will be recorded in the daily drilling tour book.

The blind rams will be hydraulically activated and checked for operational readiness each time pipe is pulled out of the hole. All checks of the BOP stack and equipment will be noted on the daily drilling report. The BOP equipment will include a kelly cock, floor safety valve, and choke manifold all rated to 2000 psi.

IV. Materials

a. Casing Program

Hole Size	Depth	Casing Size	Wt. & Grade
12-1/4"	330'	9-5/8"	36# J or K-55
7-7/8"	6720'	5-1/2"	17# P-110

b. Float Equipment:

- i. Surface Casing: Notched collar, aluminum insert float in the first collar, and 3 centralizers on the bottom 3 joints.
- ii. Production Casing: 5-1/2" cement float shoe and self-fill insert float collar. Place float one joint above shoe. **Place DV tool at 4661'**. Place ten centralizers spaced every other joint above the shoe, two turbolizers on the collars below the DV tool and two turbolizers above the DV tool. Place five turbolizers every third joint from the top of the well.

LOGOS OPERATING, LLC.
DRILLING PLAN
LOGOS 2508 20D 15

V. Cementing:

Note: Cement volumes will be adjusted based on actual conditions.

Surface casing: 9-5/8" – use 225 sx (266) cu. ft.) of Type V with 2% CaCl₂ and ¼ #/sk Celloflake (Yield = 1.18 cu. ft./sk; slurry weight = 15.6 PPG). 100% excess to circulate cement to surface. WOC 12 hours. Pressure test surface casing to 1500 psi.

Production casing: 5-1/2" – Before cementing circulate hole with at least 1-1/2 hole volumes of mud. Precede cement with 30 bbls of fresh water. **1st stage: Lead** with 260 sx (458 cu. ft.) of Cl "B" 65/35 poz with 6% gel, 1% CaCl₂, 4% Phenoseal, and ¼ #/sx Celloflake (Yield = 1.6 cu. ft./sk; slurry weight = 12.8 PPG) > **Tail** with 100 sx (146 cu. ft.) of Cl "B" 50/50 poz with 0.15% dispersant, 1% CaCl₂ and ¼ #/sk. Celloflake. (Yield 1.46 cu.ft./sk; slurry weight = 13.0 PPG). **2nd stage:** Precede cement with 20 bbls of water. **Lead** with 600 sx (1056 cu. ft.) Cl "B" 65/35 poz with 6% gel, 1% CaCl₂, and ¼ #/sx Celloflake (Yield = 1.76 cu. ft./sk; slurry weight = 12.8 PPG). **Tail** with 100 sx (146 cu. ft.) of Cl "B" 50/50 poz with 0.15% dispersant, 1% CaCl₂, and ¼ #/sk. Celloflake. (Yield = 1.46 cu. ft./sk; slurry weight = 13.0 PPG). Total cement volume is 1806 cu. ft. (50% excess to hole volume to circulate cement to surface).

**LOGOS OPERATING, LLC.
DRILLING PLAN
LOGOS 2508 20D 15**

Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

**Exhibit #1
Typical BOP setup**

Location: San Juan Basin, New Mexico

Date: August 24, 2004
By: John Thompson (Walsh E&P)

