

CONFIDENTIAL

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Form 3160-3
(August 2007)

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCT 22 2012

APPLICATION FOR PERMIT TO DRILL FOR REENTER Field Office
Bureau of Land Management

| |
|--|
| 5. Lease Serial No. NM 109399 |
| 6. If Indian, Allottee or Tribe Name ROUD JAN 9 '13 |
| 7. If Unit or CA Agreement, Name and No. OIL CONS. DIV. |
| 8. Lease Name and Well No. Logos #6 DIST. 3 |
| 9. API Well No. 30-045-35422 |
| 10. Field and Pool, or Exploratory Basin Dakota-Nageezi Gallup |
| 11. Sec., T. R. M. or Blk. and Survey or Area Sec 8, T23N, R8W, UL G |
| 12. County or Parish San Juan |
| 13. State NM |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1,662' |
| 16. No. of acres in lease 977 acres |
| 17. Spacing Unit dedicated to this well Basin Dakota - E/2 320 acres Nageezi Gallup - SW/4NE/4 |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. No other wells on lease. |
| 19. Proposed Depth ~6400' |
| 20. BLM/BIA Bond No. on file 1062415 |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6896' GL |
| 22. Approximate date work will start* 11/15/2012 |
| 23. Estimated duration 45 days |

1a. Type of work: DRILL REENTER

1b. Type of Well: Oil Well Gas Well Other Single Zone Multiple Zone

2. Name of Operator Logos Operating, LLC

3a. Address 4001 North Butler Ave., Building 7101
Farmington, NM 87401

3b. Phone No. (include area code)
505-436-2627

4. Location of Well (Report location clearly and in accordance with any State requirements.)*
At surface 1662' FNL, 1973' FEL
At proposed prod. zone same as above

14. Distance in miles and direction from nearest town or post office*

15. Distance from proposed* location to nearest property or lease line, ft.
(Also to nearest drig. unit line, if any)
1,662'

16. No. of acres in lease
977 acres

17. Spacing Unit dedicated to this well
Basin Dakota - E/2 320 acres
Nageezi Gallup - SW/4NE/4

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
No other wells on lease.

19. Proposed Depth
~6400'

20. BLM/BIA Bond No. on file
1062415

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
6896' GL

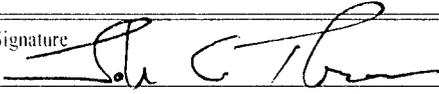
22. Approximate date work will start*
11/15/2012

23. Estimated duration
45 days

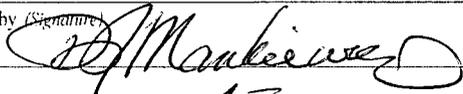
24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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

25. Signature  Name (Printed/Typed) John C. Thompson Date 10/22/2012

Title Agent/Engineer

Approved by (Signature)  Name (Printed/Typed) Office FEO Date 1/4/13

Title AEM

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.

(Continued on page 2)

*(Instructions on page 2)

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

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

NMOCDA

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".

JAN 23 2013 ca

DISTRICT I
 1886 N. French Dr., Hobbs, N.M. 88240
 Phone: (575) 833-8161 Fax: (575) 833-0780

DISTRICT II
 611 S. First St., Artesia, N.M. 88210
 Phone: (575) 748-1888 Fax: (575) 748-0780

DISTRICT III
 1000 Elmo Branch Rd., Aztec, N.M. 87410
 Phone: (505) 834-6176 Fax: (505) 834-6170

DISTRICT IV
 1280 S. St. Francis Dr., Santa Fe, NM 87505
 Phone: (505) 478-8400 Fax: (505) 478-8408

State of New Mexico
 Energy, Minerals & Natural Resources Department

Form C-102
 Revised August 1, 2011

Submit one copy to appropriate
 District Office

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | | | | |
|-----------------------------|--|--|--|---|--|
| *API Number 30-045-35422 | | *Pool Code 71599; 47540 | | *Pool Name BASIN DAKOTA-NAGEEZI GALLUP | |
| *Property Code 311963 | | *Property Name LOGOS | | *Well Number 6 | |
| *OGEID No. 289408 | | *Operator Name LOGOS Operating, LLC | | *Elevation 6893' | |

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 |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| G | B | 23N | 8W | | 1662' | NORTH | 1973' | EAST | 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 |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| | | | | | | | | | |

*Dedicated Acres: Basin Dakota (320) E2
 Nageezi Gallup (40) SWNE

*Joint or Infill: _____

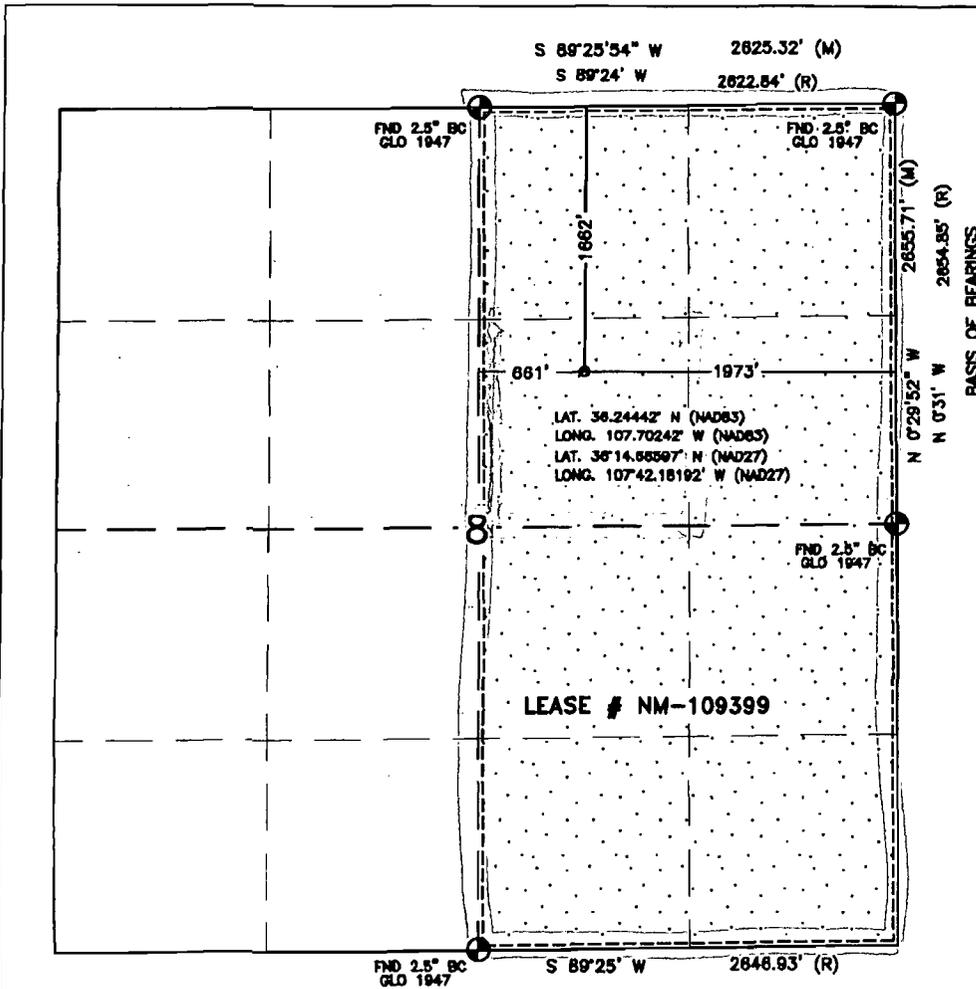
*Consolidation Code: _____

*Order No. _____

RCVD JAN 18 '13
 OIL CONS. DIV.
 DIST. 3

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

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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 working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the Division.

Signature: *Jay Paul McWilliams* Date: 1/17/2013
 Printed Name: Jay Paul McWilliams
 E-mail Address: jmcwilliams@Logosresourcesllc.com

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.

Date of Survey: OCTOBER 19, 2012
 Signature and Seal of Professional Surveyor:
 DAVID R. RUSSELL
 Registered Professional Land Surveyor
 Certificate Number: 10201

LOGOS OPERATING, LLC.
OPERATIONS PLAN
LOGOS #6

Note: This procedure will be adjusted on site based on actual conditions.

I. Location: 1662' FNL & 1973' FEL Date: October 31, 2012
Sec 8, T23N, R8W
San Juan County, NM

Field: Basin Dakota/Nageezi Gallup Elev: GL 6,900'
Surface: Federal
Minerals: Federal

II. Geology: Surface formation _ Nacimiento

| A. Formation Tops | Depths |
|-------------------|--------|
| Ojo Alamo | 799' |
| Kirtland | 1,012' |
| Pictured Cliffs | 1,511' |
| Lewis | 1,587' |
| Chacra | 1,879' |
| Chacra Mrkr | 2,302' |
| Cliff House | 2,951' |
| Menefee | 3,007' |
| Point Lookout | 4,010' |
| Mancos | 4,098' |
| Niobrara B | 4,925' |
| Niobrara C | 5,026' |
| Greenhorn | 5,850' |
| Dakota | 5,996' |
| Morrison | 6,376' |
| Total Depth | 6,386' |

Estimated depths of anticipated water, oil, gas, and other mineral bearing formations which are expected to be encountered:

Water and gas - 1,511', 1,879', 2,951', 4,010'
Water, gas, and oil - 4,098', 4,925', 5,026', and 5,996'

B. Logging Program: Induction/GR and density/neutron logs from TD to the surface casing point. Mud logs will be run from below the surface casing to TD. No DST's or cores are planned for this well. Cased hole GR/CCl and CBL logs will be run from PBTd to surface.

C. No over pressured zones are expected in this well. No H₂S zones will be penetrated in this well. Max. BHP = 2,850 psig. Lost circulation zones may be encountered in the Mesa Verde group and Niobrara sections.

III. Drilling

A. Contractor:

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 is 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, and Point Lookout, Mancos, Niobrara, and Dakota 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" | 320' | 8-5/8" | 32# J-55 |
| 7-7/8" | 6,386' | 5-1/2" | 15.5# J-55 |

B. Float Equipment:

a) Surface Casing: Notched collar, aluminum insert float in the first collar, and 3 centralizers on the bottom 3 joints.

b) Production Casing: Production Casing: 5-1/2" cement float shoe and self-fill insert float collar. Place float one joint above shoe. **Place DV tool at 4,148'**. 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.

V. Cementing:

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

Surface casing: 8-5/8" - 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 = 1.76 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). **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).

John C. Thompson, Engineer

LOGOS OPERATING, LLC
LOGOS #6
1662' FNL & 1973' FEL
LOCATED IN THE SW/4 NE/4 OF SECTION 8,
T23N, R8W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

DIRECTIONS

- 1) FROM THE INTERSECTION OF HWY 550 AND HWY 64 IN BLOOMFIELD, TRAVEL SOUTH ON HWY 550 FOR 44.2 MILES TO THE "44" CONVIENT STORE ON THE LEFT.
- 2) TURN LEFT ON 2-TRACK JUST EAST OF "44" CONVIENT STORE PARKING LOT TO BEGIN ACCESS ON RIGHT SIDE.

WELL FLAG LOCATED AT LAT. 36.24442° N, LONG. 107.70242° W (NAD 83).

JOB No.: LGS009
DATE: 10/19/12



Scorpion Survey &
Consulting, L.L.C.
55 County Road 3312
Aztec, New Mexico 87410
(505) 333-2945

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 20, 2001

By: John Thompson (Walsh E&P)

