

CONFIDENTIAL

RECEIVED

Form 3160-3
(August 2007)

OCT 22 2012

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Farmington Field
Bureau of Land Management

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NM 909398
6. If Indian, Allottee or Tribe Name
RCVD JAN 9 '13

1a. Type of work: DRILL REENTER
1b. Type of Well: Oil Well Gas Well Other Single Zone Multiple Zone

7. If Unit or CA Agreement, Name and No.
OIL CONS. DIV.
8. Lease Name and Well No.
Logos #5 DIST. 3

2. Name of Operator Logos Operating, LLC

9. API Well No.
30-045-38423

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

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

10. Field and Pool, or Exploratory
Basin Dakota-Nageezi Gallup
Basin Mancos

Well

4. Location of Well (Report location clearly and in accordance with any State requirements.)
At surface 671' FSL, 973' FEL
At proposed prod. zone same as above

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 4, T23N, R8W, UL P

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

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) 671'

16. No. of acres in lease
640.35 acres

17. Spacing Unit dedicated to this well
Basin Dakota - S/2 320 acres
Nageezi Gallup - SE/4SE/4
Basin Mancos

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

19. Proposed Depth
~6500'

20. BLM/BIA Bond No. on file
1062415 NM B000917

21. Elevations (Show whether DF, KDB, RT, Cil., etc.)
6867' 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:

- 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 required by the BLM.

25. Signature
Title
Agent/Engineer

Name (Printed/Typed)
John C. Thompson

Date
10/22/2012

Approved by
Title
AFM

Name (Printed/Typed)
Office
FEO

Date
11/7/13

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)

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

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

NMOCD
PY

JAN 18 2013 ca

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

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

DISTRICT I
1825 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

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

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

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 478-3460 Fax: (505) 478-3462

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 30-045-35423		*Pool Code 47232; 71599		*Pool Name MANCOS & BASIN DAKOTA	
*Property Code 311963		*Property Name LOGOS			*Well Number 5
*OGRID No. 289408		*Operator Name LOGOS OPERATING, LLC			*Elevation 6867'

10 Surface Location

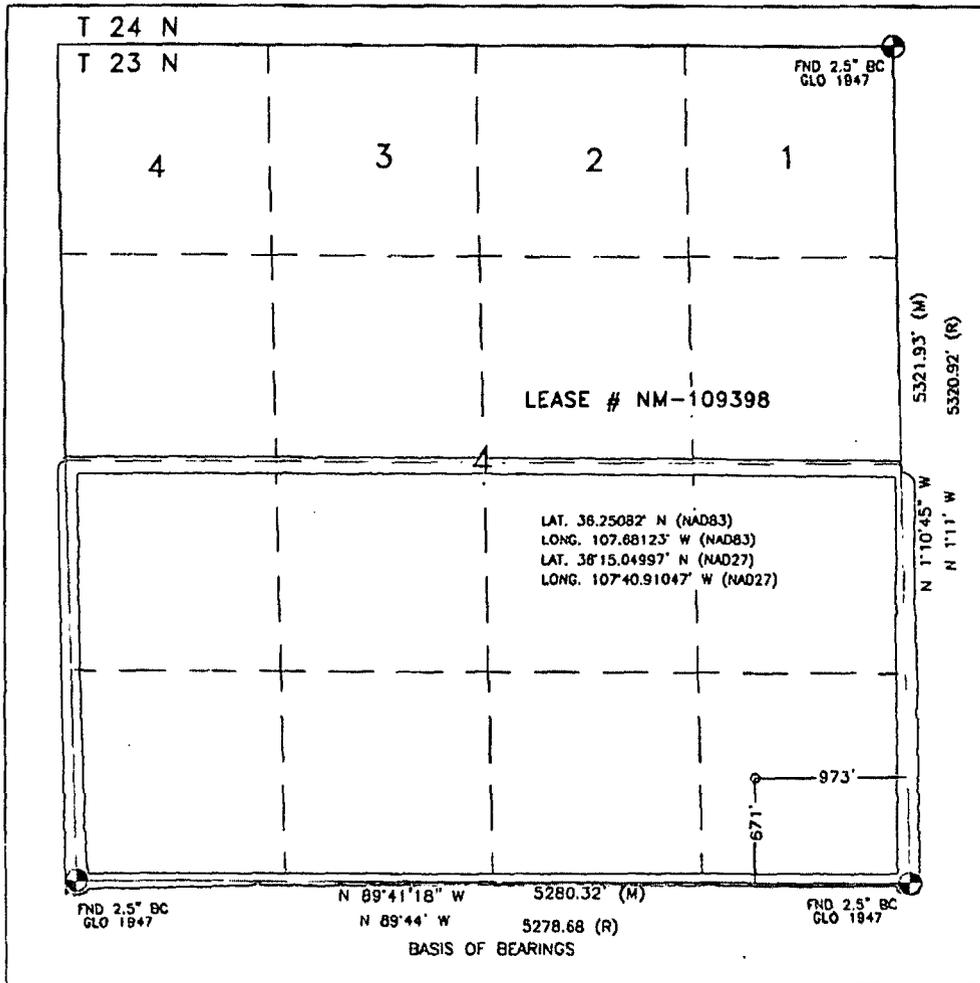
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	4	23N	8W		671'	SOUTH	973'	EAST	SAN JUAN

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
									RCVD JAN 15 '13
*Dedicated Acres Both Pools 320 - 5/2		*Joint or Infill		*Consolidation Code		*Order No. 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

16



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] 11/14/13
Signature Date

Kristy Graham
Printed Name

Kgraham@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.

OCTOBER 1, 2012
Date of Survey

[Signature]
Signature and Title of Registered Professional Surveyor

DAVID R. RUSSELL
REGISTERED PROFESSIONAL LAND SURVEYOR
10201

DAVID RUSSELL

Certificate Number **10201**

RECEIVED

NOV 11 2012

LOGOS OPERATING, LLC.
OPERATIONS PLAN
LOGOS #5

Bureau of Land Management
Farmington Field Office

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

I. Location: 671' FSL & 973' FEL Date: October 31, 2012
Sec 4, T23N, R8W
San Juan County, NM

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

II. Geology: Surface formation _ Nacimiento

A. Formation Tops	Depths
Ojo Alamo	929'
Kirtland	1,152'
Pictured Cliffs	1,651'
Lewis	1,727'
Chacra	2,019'
Chacra Mrkr	2,443'
Cliff House	3,091'
Menefee	3,147'
Point Lookout	4,148'
Mancos	4,238'
Niobrara B	5,065'
Niobrara C	5,166'
Greenhorn	5,990'
Dakota	6,136'
Morrison	6,516'
Total Depth	6,526'

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

Water and gas - 1,651', 2,019', 3,091', 4,148'
Water, gas, and oil - 4,238', 5,065', 5,166', and 6,136'

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 PBD 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"	6,526'	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 4,288'**. 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 #5
671' FSL & 973' FEL
LOCATED IN THE SE/4 SE/4 OF SECTION 4,
T23N, R8W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO

DIRECTIONS

- 1) FROM THE INTERSECTION OF HWY 550 AND HWY 64 IN BLOOMFIELD, GO 41 MILES.
- 2) TURN LEFT, JUST PAST THE GUARDRAIL, WHERE THE ACCESS BEGINS AT THE R/W FENCE.

WELL FLAG LOCATED AT LAT. 36.25082° N, LONG. 107.68123° W (NAD 83).

JOB No.: LGS008
DATE: 10/02/12



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)

