

Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

5. Lease Serial No.
NO-G-0402-1710

6. If Indian, Allottee or Tribe Name
NAVAJO NATION

7. If Unit or CA Agreement, Name and No.
N/A

8. Lease Name and Well No.
EAGLE 1-G #1

9. API Well No.
30-045-33863

10. Field and Pool, or Exploratory
WC 31N 20W 1 PARADOX

11. Sec., T. R. M. or Blk. and Survey or Area
G 1-31N-20W NMPM

1a. Type of work: ☒ DRILL ☐ REENTER

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

2. Name of Operator
NAVAJO NATION OIL & GAS CO., INC.

3a. Address P. O. BOX 4439
WINDOW ROCK, AZ 86515

3b. Phone No. (include area code)
(928) 871-4880

4. Location of Well (Report location clearly and in accordance with any State requirements.)

At surface 2494' PSL & 1368' FEL
At proposed prod. zone SAME FNL

14. Distance in miles and direction from nearest town or post office*
15 AIR MILES NW OF SHIPROCK, NM

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) 8,066'

16. No. of acres in lease
12,160

17. Spacing Unit dedicated to this well
SWNE 40 AC

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft. 3,743' (EAGLE 6-K 1)

19. Proposed Depth
6,750'

20. BLM/BIA Bond No. on file
BIA RLB0006712

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
4,908' GL

22. Approximate date work will start*
11/01/2006

23. Estimated duration
5 WEEKS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall 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 shall 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 authorized officer.

25. Signature

Brian Wood

Name (Printed/Typed)
BRIAN WOOD

Date
07/24/2006

Title

CONSULTANT

PHONE: (505) 466-8120

FAX: (505) 466-9682

Approved by (Signature)

Brian Wood

Name (Printed/Typed)

Date

5/16/07

Title

ACTU

Office

FFO

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.

*(Instructions on page 2)

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

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

5/18/07

NMOCD

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

State of New Mexico
Energy, Minerals & Mining Resources Department
OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C - 102

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

APA Number 30-045- 33863	Pool Code 97611	Pool Name WC 31N20W1j Paradox Oil
Property Code 36510	Property Name EAGLE 1-G	Well Number 1
OGRD No. 242841	Operator Name NAVAJO NATION OIL & GAS CO., INC.	Elevation 4908'

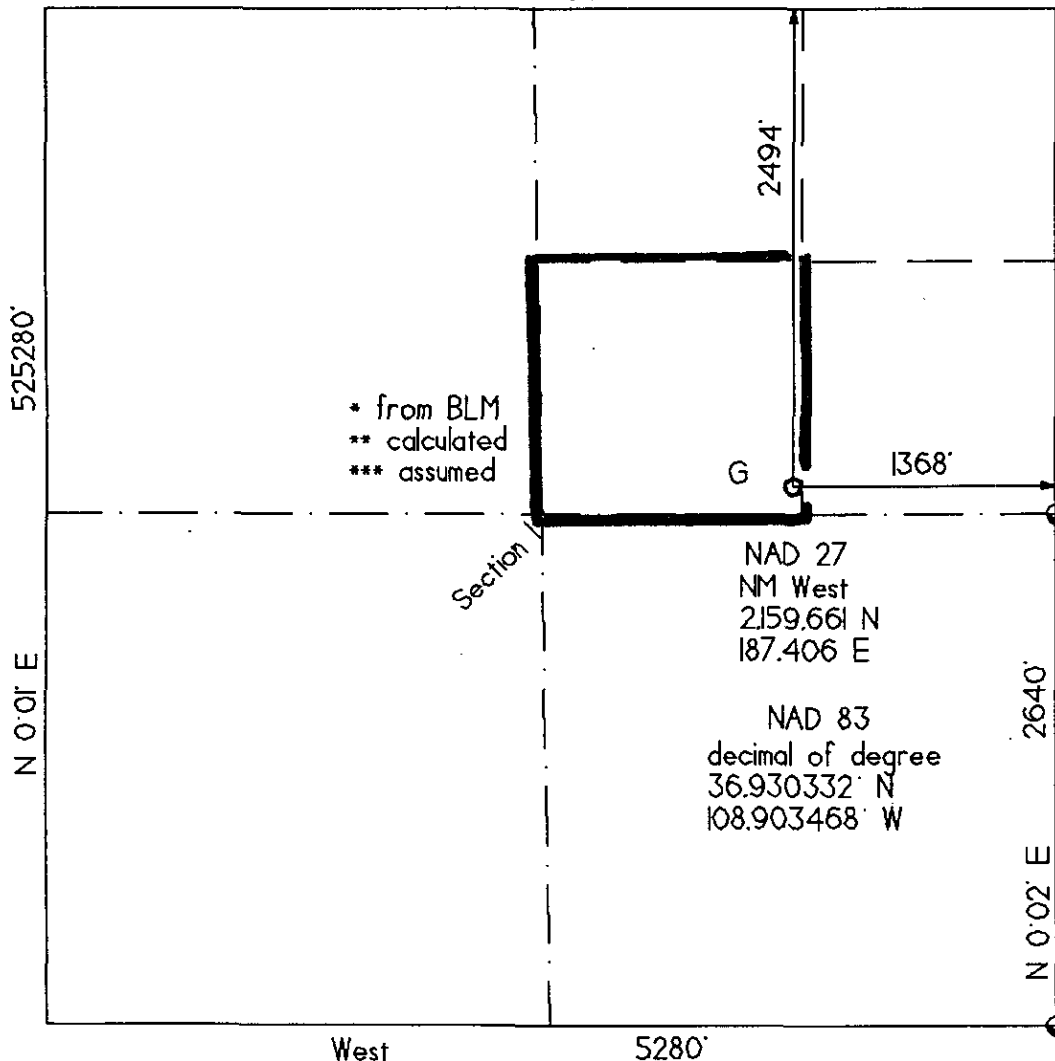
Surface Location

UL or Lot G	Sec. 1	Twp. 31 N.	Rge. 20 W.	Lot Lch.	Feet from > 2494'	North/South NORTH	Feet from > 1368'	East/West EAST	County SAN JUAN
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Bottom Hole Location If Different From Surface

UL or Lot	Sec.	Twp.	Rge.	Lot Lch.	Feet from >	North/South	Feet from >	East/West	County RCVD MAY18'07
Dedication 40	Joint ?	Consolidation	Order No.	OIL CONS. DIV. DIST. 3					

NO ALLOWABLE WILL ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION
West 5280'



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Brian Wood

Printed Name

BRIAN WOOD

Title

CONSULTANT

Date

JULY 24, 2006

SURVEYOR CERTIFICATION

I hereby certify that the well location 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

03/25/06

Signature and Seal of Professional Surveyor



87505

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

May 27, 2004

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 1301 W. Grand Ave., Artesia, NM 88210 <u>District III</u> 1000 Rio Brazos Rd., Aztec, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505	OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505	WELL API NO. 33863 30-045- 5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/> 6. State Oil & Gas Lease No. NO-G-0402-1710 7. Lease Name or Unit Agreement Name EAGLE 1-G 8. Well Number #1 9. OGRID Number 242841 10. Pool name or Wildcat WC DESERT CREEK, ISMAY, AKAH, & BARKER
SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		
1. Type of Well: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>		
2. Name of Operator NAVAJO NATION OIL & GAS CO., INC.		
3. Address of Operator P. O. BOX 4439, WINDOW ROCK, AZ 86515		
4. Well Location <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div>Unit Letter: G</div> <div>2494' FNL & 1368' FEL</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div>Section 1</div> <div>Township 31 N Range 20 W NMPM SAN JUAN County</div> </div>		
11. Elevation (<i>Show whether DR, RKB, RT, GR, etc.</i>) 4,908' GL		
Pit or Below-grade Tank Application <input checked="" type="checkbox"/> or Closure <input type="checkbox"/>		
Pit type: <u>DRILLING</u> Depth to Groundwater: <u>>100'</u> Distance from nearest fresh water well: <u>>5,000'</u> Distance from nearest surface water: <u>>100'</u>		
Pit Liner Thickness: 12 mil Below-Grade Tank: Volume bbls: Construction Material		

OTHER:

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

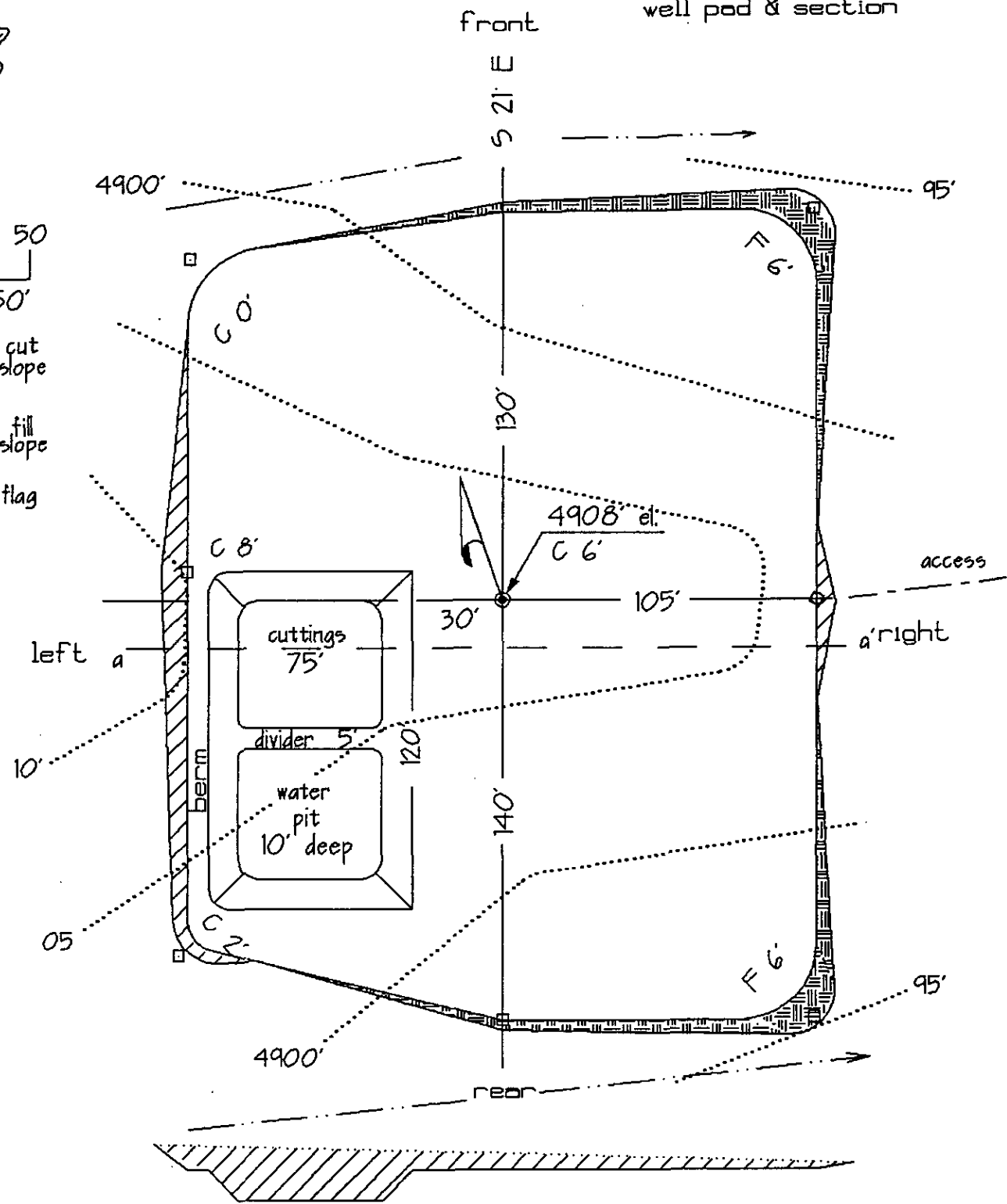
Conditions of Approval (if any):

Eagle # 1
well pad & section



0' 50'
Scale 1" = 50'

- cut slope
- fill slope
- stake/pin flag



a Cross section a'

Navajo Nation Oil & Gas Co., Inc.
Eagle 1-G #1
2494' FNL & 1368' FEL
Sec. 1, T. 31 N., R. 20 W.
San Juan County, New Mexico

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Drilling Program

1. FORMATION TOPS

The estimated tops of important geologic markers are:

<u>Formation Name</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
Mancos Shale	0'	15'	+4,908'
Dakota Sandstone	365'	380'	+4,543'
Morrison Burro Canyon	425'	440'	+4,483'
Chinle Shale	2,520'	2,535'	+2,388'
DeChelly	3,385'	3,400'	+1,523'
Organ Rock	3,648'	3,663'	+1,260'
Cutler Formation	4,160'	4,175'	+748'
Honaker Trail	5,130'	5,145'	-87'
Paradox	5,570'	5,585'	-662'
Ismay	5,990'	6,005'	-1,082'
Desert Creek	6,130'	6,145'	-1,222'
Akah	6,320'	6,335'	-1,412'
Barker Creek	6,470'	6,485'	-1,562'
Total Depth (TD)	6,750'	6,765'	-1,842'

2. NOTABLE ZONES

Desert Creek and Ismay oil production is the primary goal. Akah and Barker Creek oil production is the secondary goal. Oil and gas shows which appear to the well site geologist to be commercial will be tested. All fresh water and prospectively valuable minerals will be recorded by depth and protected with casing and cement.

Navajo Nation Oil & Gas Co., Inc.
Eagle 1-G #1
2494' FNL & 1368' FEL
Sec. 1, T. 31 N., R. 20 W.
San Juan County, New Mexico

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3. PRESSURE CONTROL

The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. A typical 3,000 psi model is on PAGE 3. An 8-5/8" x 11" 3,000 psi double ram BOP system with a choke manifold and mud cross will be tested to 300 psi and then to 3,000 psi. Upper and lower Kelly cocks with valve handle and subs to fit all drill string connections which are in use will be available on the rig floor.

Tests will be run when:

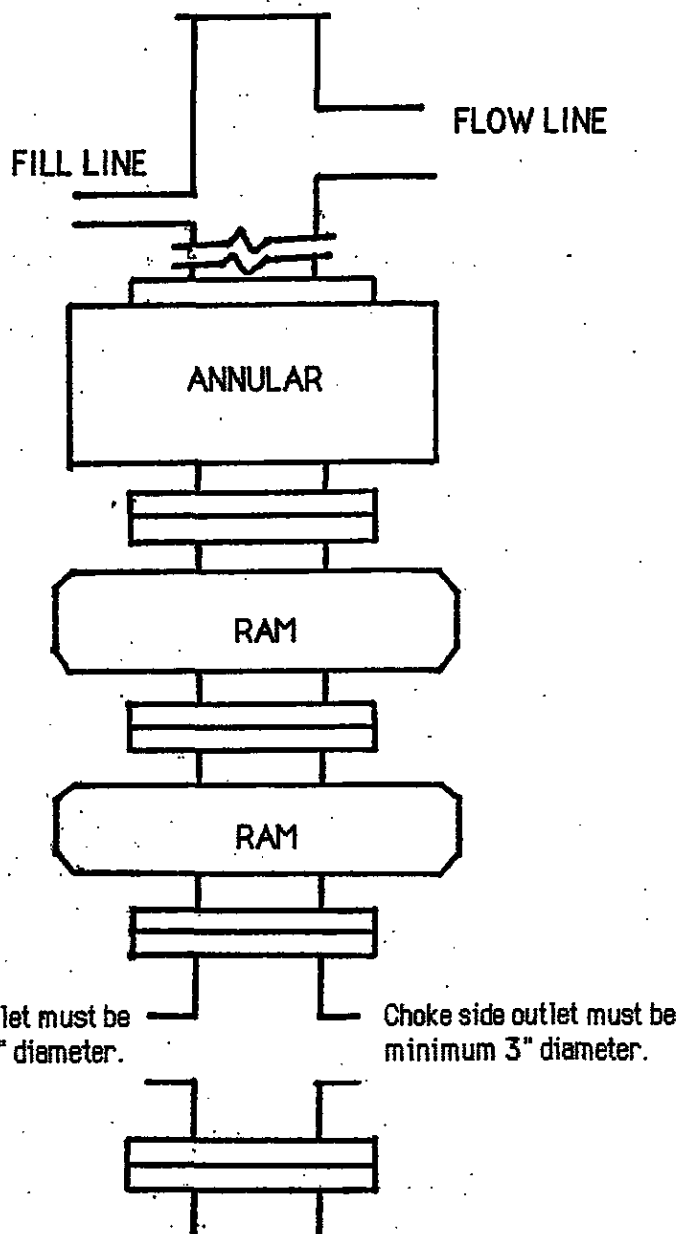
- 1) installed
- 2) anytime a pressure seal is broken (test only affected equipment)
- 3) at least once every 20 days
- 4) blind & pipe rams will be activated each trip, but no more than daily

BOP systems will be consistent with API RP 53. Blowout preventers will be installed and tested before drilling surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated daily to ensure good mechanical working order and this inspection recorded on the daily drilling report. Preventers and casing will be pressure tested before drilling casing cement plugs. Maximum expected bottom hole pressure will be \approx 2,900 psi.

4. CASING & CEMENT

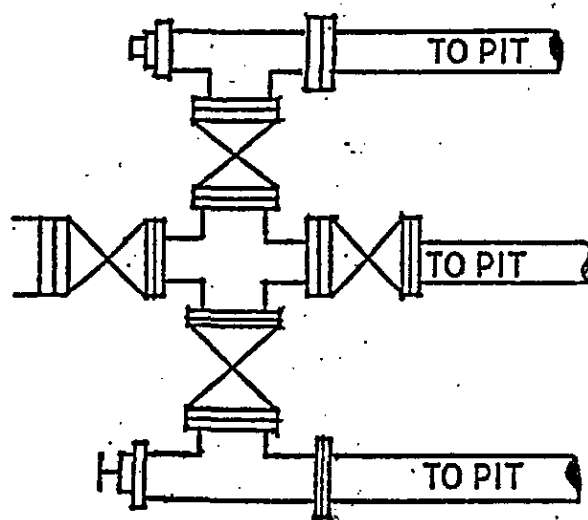
<u>Hole Size</u>	<u>O. D.</u>	<u>Pounds/Foot</u>	<u>Grade</u>	<u>Age</u>	<u>Connections</u>	<u>Depth Set</u>
12-1/4"	8-5/8"	24	K-55	New	ST & C	500'
7-7/8"	5-1/2"	15.5	K-55	New	ST & C	6,750'

Surface casing will be cemented to the surface with \approx 371 sacks (\approx 427 cubic feet) Class G with 2% CaCl₂ + 1/4 pound per sack cello flake. Weight = 15.8 pounds per gallon. Yield = 1.15 cubic feet per sack. Volume calculated at 10% excess over annular volume.



TYPICAL BOP STACK & CHOKE MANIFOLD

There will be at least 2 chokes and 2 choke line valves (3" minimum). The choke line will be 3" in diameter. There will be a pressure gauge on the choke manifold.



Kill line will be minimum 2" diameter and have 2 valves, one of which shall be a minimum 2" check valve.

Upper kelly cock will have handle available.
Safety valve and subs will fit all drill string connections in use.
All BOPE connections subjected to well pressure will be flanged, welded, or clamped.

Navajo Nation Oil & Gas Co., Inc.
Eagle 1-G #1
2494' FNL & 1368' FEL
Sec. 1, T. 31 N., R. 20 W.
San Juan County, New Mexico

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A stage collar will be set at $\approx 3,500'$. Weight on cement at least four hours between stages.

First stage of the production casing will be cemented from TD to $\approx 3,500'$. Lead with ≈ 250 sacks (≈ 462 cubic feet) Class G 65:35 poz with 6% gel + 1/4 pound per sack cello flake. Weight = 12.7 pounds per gallon. Yield = 1.85 cubic feet per sack. Tail with ≈ 220 sacks (≈ 253 cubic feet) Class G cement with 2% CaCl_2 . Weight = 15.8 pounds per gallon. Yield = 1.15 cubic feet per sack. Total first stage cement = 715 cubic feet ($\geq 25\%$ excess in open hole).

Second stage will be cemented from $\approx 3,500'$ to the surface. Lead with ≈ 355 sacks (≈ 657 cubic feet) Class G 65:35 poz with 6% gel + 1/4 pound per sack cello flake. Weight = 12.7 pounds per gallon. yield = 1.85 cubic feet per sack. Tail with ≈ 100 sacks (≈ 115 cubic feet) Class G with 2% CaCl_2 . Weight = 15.8 pounds per gallon. Yield = 1.15 cubic feet per sack. Total second stage cement = 772 cubic feet ($\geq 25\%$ excess in open hole).

5. MUD PROGRAM

Fresh water, gel, lime, and native solids with a weight of 8.3 pounds per gallon will be used from the surface to $\approx 3,000'$. Gel/lime sweeps will be used as necessary for hole cleaning.

A low solids, non-dispersed polymer system will be used from $\approx 3,000'$ to TD. Weight = 8.6 to 9.5 pounds per gallon. Gel/lime sweeps will be used as needed to clean the hole. Fluid loss will be maintained at 15 – 20 cc. Fluid loss will be reduced to ≤ 15 cc before coring, logging or drill stem tests.

A two person mud logging unit will be on site from $\approx 4,000'$ to TD. Cuttings will be collected every $\approx 30'$ to the top of the Paradox or $\approx 5,500'$. After that point, cuttings will be collected every $\approx 10'$ to TD.

Navajo Nation Oil & Gas Co., Inc.
Eagle 1-G #1
2494' FNL & 1368' FEL
Sec. 1, T. 31 N., R. 20 W.
San Juan County, New Mexico

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6. CORES, LOGS, & TESTS

A conventional core may be cut in the Desert Creek or at strong shows. Side wall cores may also be cut. GR - Sonic and DLL-Micro-SFL log suites will be run from TD to the surface. FDC-CNL logs will be run from TD to $\approx 4,000'$. No drill stem tests are currently planned.

7. DOWN HOLE CONDITIONS

No abnormal temperatures or abnormal pressures are expected. No hydrogen sulfide has been found within a ≈ 7 mile radius.

8. OTHER INFORMATION

The anticipated spud date is November 1, 2006. It is expected it will take 3 weeks to drill and 2 weeks to complete the well.