

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

2006 JUL 11 AM 11:38

RECEIVED

070 FARMINGTON NM

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NO-G-0402-1710
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name NAVAJO NATION
2. Name of Operator NAVAJO NATION OIL & GAS CO., INC.		7. If Unit or CA Agreement, Name and No. N/A
3a. Address P. O. BOX 4439 WINDOW ROCK, AZ 86515		8. Lease Name and Well No. HAWK 32-N #1
3b. Phone No. (include area code) (928) 871-4880		9. API Well No. 30-045- 33580 33850
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 538' FSL & 1553' FWL At proposed prod. zone SAME		10. Field and Pool, or Exploratory WC 32N19W32; Paradox oil WC 32N19W32; Leadville gas
14. Distance in miles and direction from nearest town or post office* 12 AIR MILES NW OF SHIPROCK, NM		11. Sec., T. R. M. or Blk. and Survey or Area N 32-32N-19W NMPM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 3,727'	16. No. of acres in lease 12,160	12. County or Parish SAN JUAN
17. Spacing Unit dedicated to this well SESW (Des. Creek & Is.) & all Sec 33 (Lead.) 160	18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. N/A	13. State NM
19. Proposed Depth 7,200'	20. BLM/BIA Bond No. on file BIA RLB0006712	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 5,100' GL	22. Approximate date work will start* 09/01/2006	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:

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

25. Signature 	Name (Printed/Typed) BRIAN WOOD	Date 07/07/2006
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Title CONSULTANT	PHONE: (505) 466-8120	FAX: (505) 466-9682
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Approved by (Signature) 	Name (Printed/Typed)	Date 5/16/07
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Title AFM	Office FFO
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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)

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

NOTIFY AZTEC OGD 24 HRS.
PRIOR TO CASING & CEMENT

NMOC

W

5/18/07

HOLD 0104 FOR NSL in Leadville

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 33850 30-045-33580	Pool Code 97413 97612	Pool Name WC 32N19W32; WC 32N19W32; Paradox Oil
Property Code 36509	Property Name HAWK 32-N	Well Number 1
OGRD No. 242841	Operator Name NAVAJO NATION OIL & GAS CO., INC.	Elevation 5100'

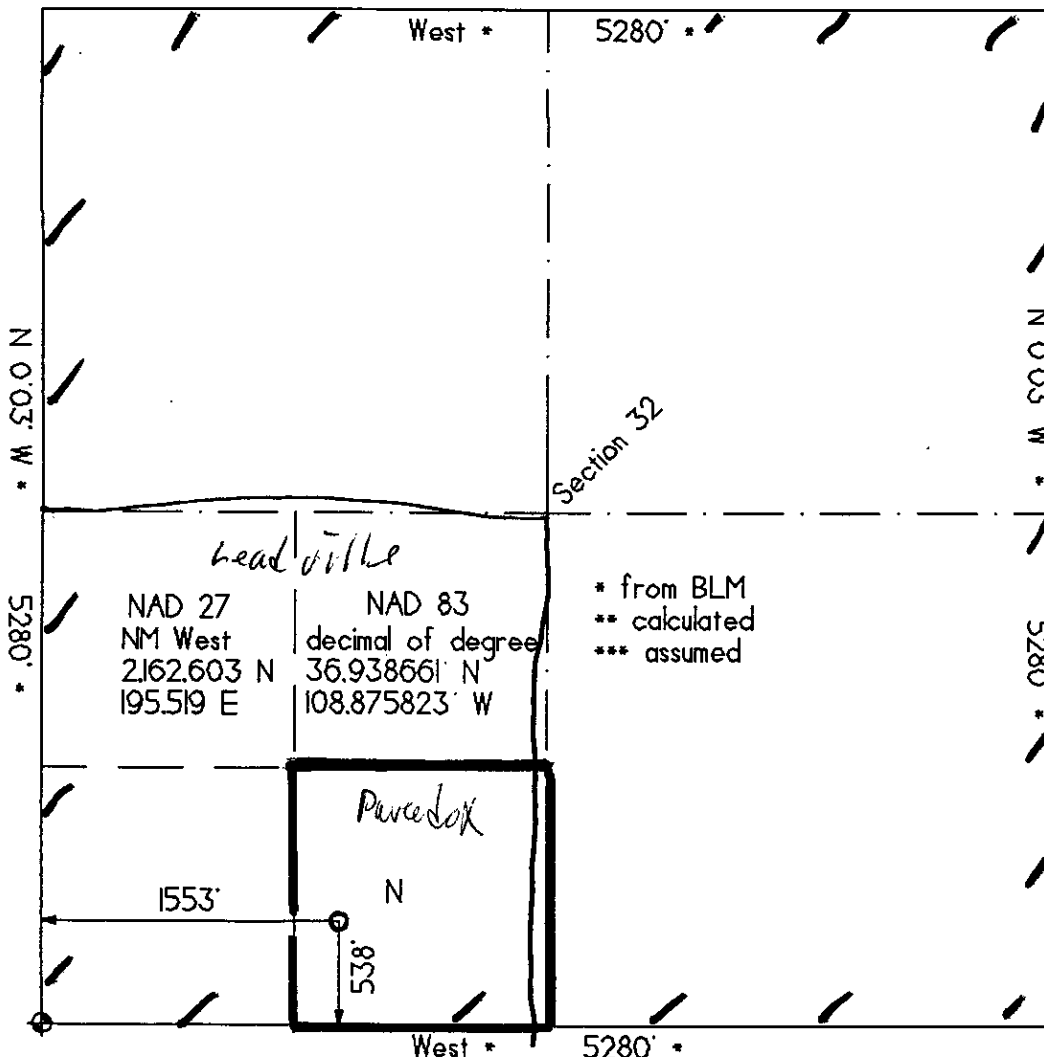
Surface Location

UL or Lot	Sec.	Twp.	Rge.	Lot Idh.	Feet from	North/South	Feet from	East/West	County
N	32	32 N.	19 W.	UØØ	538'	SOUTH	1553'	WEST	SAN JUAN

Bottom Hole Location If Different From Surface

UL or Lot	Sec.	Twp.	Rge.	Lot Idh.	Feet from	North/South	Feet from	East/West	County
									RCUD MAY18'07
Dedication 160 40 & 900	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



OPERATOR CERTIFICATION	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
Signature	<i>B. Wood</i>
Printed Name	BRIAN WOOD
Title	CONSULTANT
Date	JULY 7, 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	02/22/06
Signature and Seal of Professional Surveyor	<i>GERALD H. DODDLESTON</i>

Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
May 27, 2004

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

WELL API NO. 30-045- 33580 33850
5. Indicate Type of Lease
STATE ☐ FEE ☐
6. State Oil & Gas Lease No.
NO-G-0402-1710

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 ☒ Gas Well ☐ Other ☐

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
Unit Letter: N 538' FSL & 1553' FWL
Section 32 Township 32 N Range 19 W NMPM SAN JUAN County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
5,100' GL

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type: DRILLING Depth to Groundwater: >100' Distance from nearest fresh water well: >5,000' Distance from nearest surface water: >300'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume bbls; Construction Material

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: DRILLING PIT ☒

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.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒ a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Brian Wood TITLE: CONSULTANT

DATE: JULY 7, 2006

Type or print name: BRIAN WOOD

E-mail address: brian@permitswest.com

Telephone No.: (505) 466-8120

For State Use Only

APPROVED BY:

Conditions of Approval (if any):

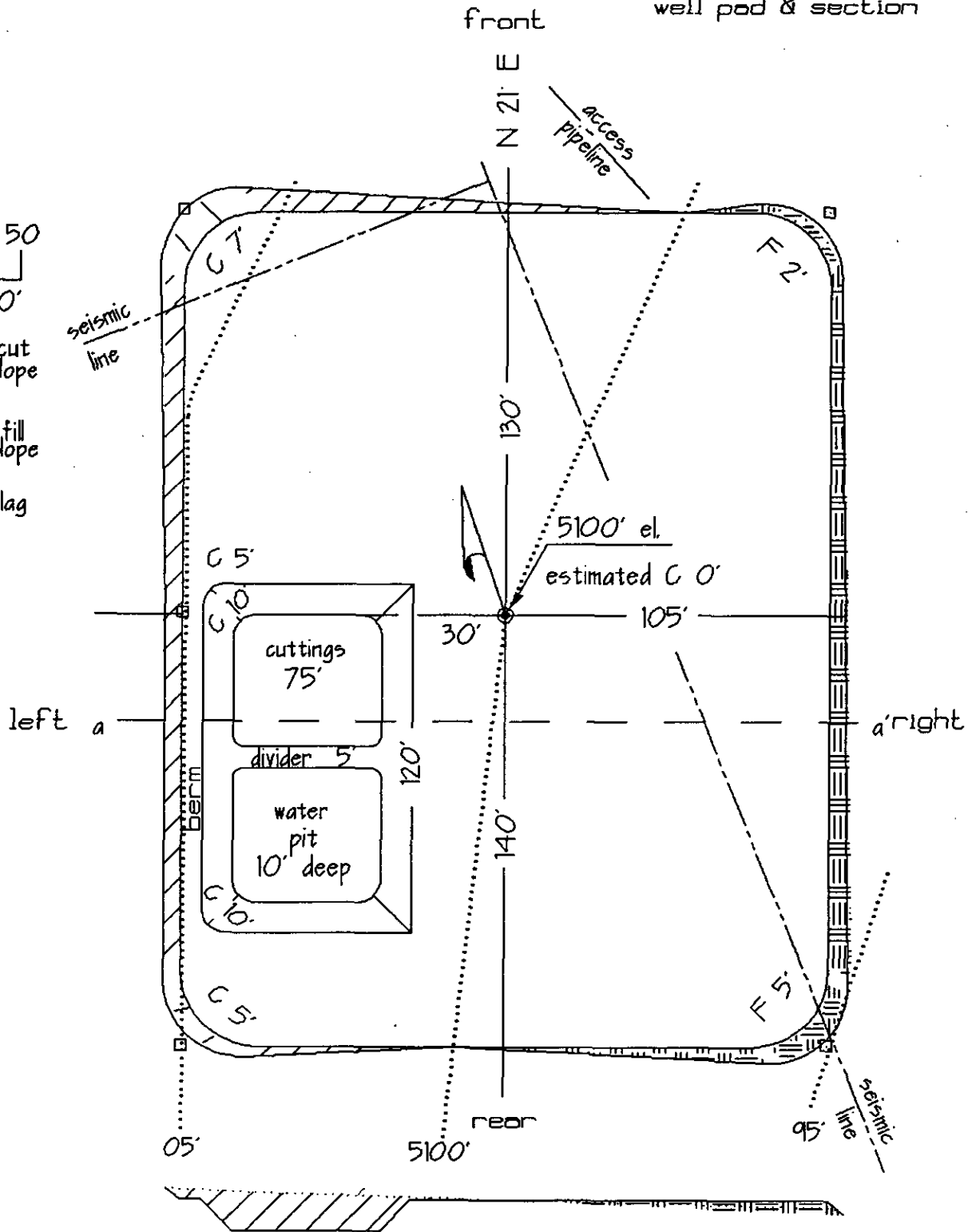
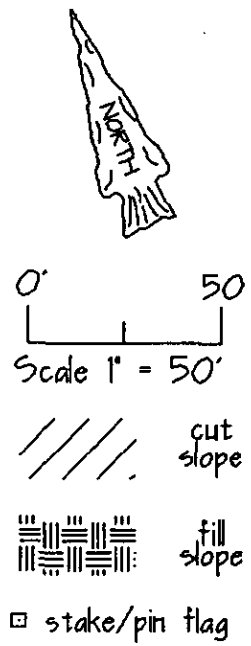
TITLE

DEPUTY OIL & GAS INSPECTOR, DIST. #1

DATE

MAY 18 2007

Hawk # 1
well pad & section



a

Cross section

a'

Navajo Nation Oil & Gas Co., Inc.
Hawk 32-N #1
538' FSL & 1553' FWL
Sec. 32, T. 32 N., R. 19 W.
San Juan County, New Mexico

PAGE 1

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'	+5,100'
Dakota Sandstone	595'	610'	+4,505'
Morrison Burro Canyon	665'	670'	+4,435'
Chinle Shale	2,655'	2,670'	+2,445'
DeChelly	3,570'	3,585'	+1,530'
Organ Rock	3,795'	3,810'	+1,305'
Cutler Formation	4,360'	4,375'	+740'
Honaker Trail	5,198'	5,213'	-98'
Paradox	5,640'	5,655'	-540'
Ismay	6,110'	6,125'	-1,010'
Desert Creek	6,250'	6,265'	-1,150'
Akah	6,418'	6,433'	-1,318'
Barker Creek	6,593'	6,608'	-1,493'
Pinkerton Trail	6,786'	6,801'	-1,686'
Molas	6,896'	6,911'	-1,796'
Leadville	6,960'	6,975'	-1,860'
Total Depth (TD)	7,200'	7,215'	-2,100'

2. NOTABLE ZONES

Desert Creek and Ismay oil production is the primary goal. Leadville gas 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.
Hawk 32-N #1
538' FSL & 1553' FWL
Sec. 32, T. 32 N., R. 19 W.
San Juan County, New Mexico

PAGE 2

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:

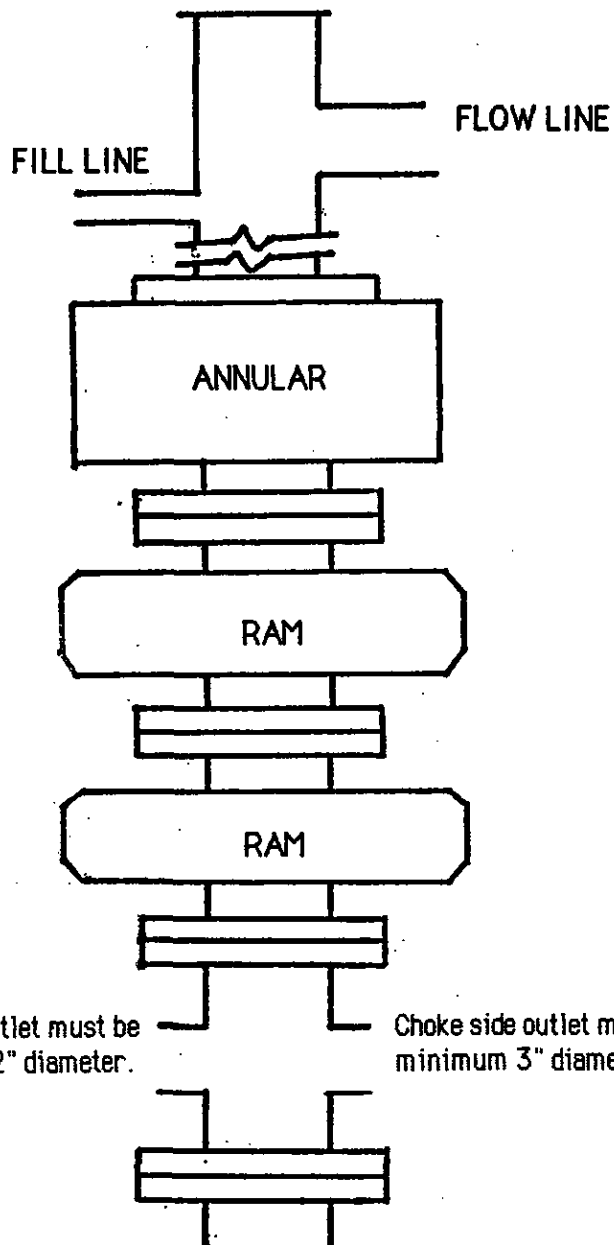
- 1) installed
- 2) anytime a pressure seal is broken (test only affected equipment)
- 3) at least once every 20 days
- 4) blind & pipe rams will be activated each trip, but no more than daily

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 3,000 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	7,200'

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.



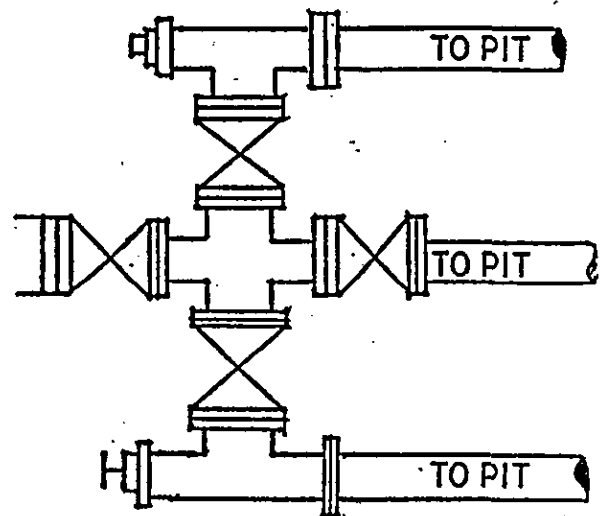
**TYPICAL BOP STACK
& CHOKE MANIFOLD**

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 side outlet must be minimum 2" diameter.

Choke side outlet must be minimum 3" diameter.

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.
Hawk 32-N #1
538' FSL & 1553' FWL
Sec. 32, T. 32 N., R. 19 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 ≈ 285 sacks (≈ 527 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 ≈ 250 sacks (≈ 287 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 = 814 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.