

State of New Mexico  
Energy, Minerals and Natural Resources Department

Susana Martinez  
Governor

David Martin  
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.  
Deputy Cabinet Secretary

Jami Bailey, 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: 7/9/13

Well information;

Operator Logos, Well Name and Number Jicarilla 0 3E

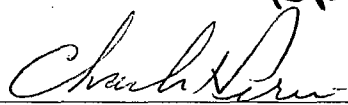
API# 30-043-21165, Section 10, Township 22 NS, Range 3 EW

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
- ☐ 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

Verbal approval given via email on 11-27-13-AV

  
NMOCD Approved by Signature

12-2-2013 ca  
Date

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

CONFIDENTIAL

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

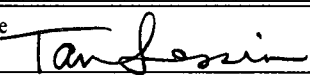
APPLICATION FOR PERMIT TO DRILL OR REENTER

III 11 2013

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. Jicarilla Apache Lease #417	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name Jicarilla Apache Nation	
2. Name of Operator Logos Operating, LLC		7. If Unit or CA Agreement, Name and No.	
3a. Address 4001 North Butler Ave., Building 7101 Farmington, NM 87401		8. Lease Name and Well No. Jicarilla O 3E	
3b. Phone No. (include area code) 505-330-9333		9. API Well No. 30-043-21165	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 919' FSL, 1738' FEL At proposed prod. zone same as above		10. Field and Pool, or Exploratory Lindrith Gallup-Dakota, West	
14. Distance in miles and direction from nearest town or post office* 11.7 miles SW of Lindrith, NM		11. Sec., T. R. M. or Blk. and Survey or Area Sec 10, T22N, R3W, UL O	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 919'		12. County or Parish Sandoval	
16. No. of acres in lease 1280.00 480.0 acres		13. State NM	
17. Spacing Unit dedicated to this well SW/4 SE/4 00 acres		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1126'	
19. Proposed Depth ~6850'		20. BLM/BIA Bond No. on file 1062402	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7072' GL		23. Estimated duration 45 days	
22. Approximate date work will start* 09/01/2013		24. Attachments	

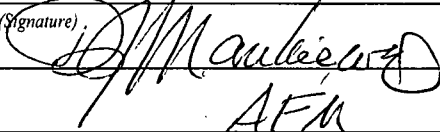
The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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 	Name (Printed/Typed) Tamra Sessions	Date 07/09/2013
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Title

Operations Technician

Approved by (Signature) 	Name (Printed/Typed) J. M. Mauldin	Date 11/25/13
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Title

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.

(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

NMOC

PC

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

This action is subject to technical and  
procedural review pursuant to 43 CFR 3165.2  
and appeal pursuant to 43 CFR 3165.4

**DISTRICT I**

1635 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 Brazos Rd., Aztec, N.M. 87410  
Phone: (505) 334-5178 Fax: (505) 334-6170

**DISTRICT IV**

1820 S. St. Francis Dr., Santa Fe, NM 87506  
Phone: (505) 478-3460 Fax: (505) 478-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department

**RECEIVED**

Form C-102

Revised August 1, 2011

JUL 1 2013 Submit one copy to appropriate  
District Office

**OIL CONSERVATION DIVISION**

1220 South St. Francis Dr. Farmington Field Office  
Santa Fe, NM 87505 Bureau of Land Management

**AMENDED REPORT****WELL LOCATION AND ACREAGE DEDICATION PLAT**

<sup>1</sup> API Number <b>30-043-21165</b>		<sup>2</sup> Pool Code 39189	<sup>3</sup> Pool Name Lindrith Gallup-Dakota, West
<sup>4</sup> Property Code 311962	<sup>5</sup> Property Name JICARILLA O		<sup>6</sup> Well Number 3E
<sup>7</sup> GRID No. 289408	<sup>8</sup> Operator Name LOGOS RESOURCES, LLC		<sup>9</sup> Elevation 7072'

**<sup>10</sup> Surface Location**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	10	22N	3W	300	919'	SOUTH	1738'	EAST	SANDOVAL

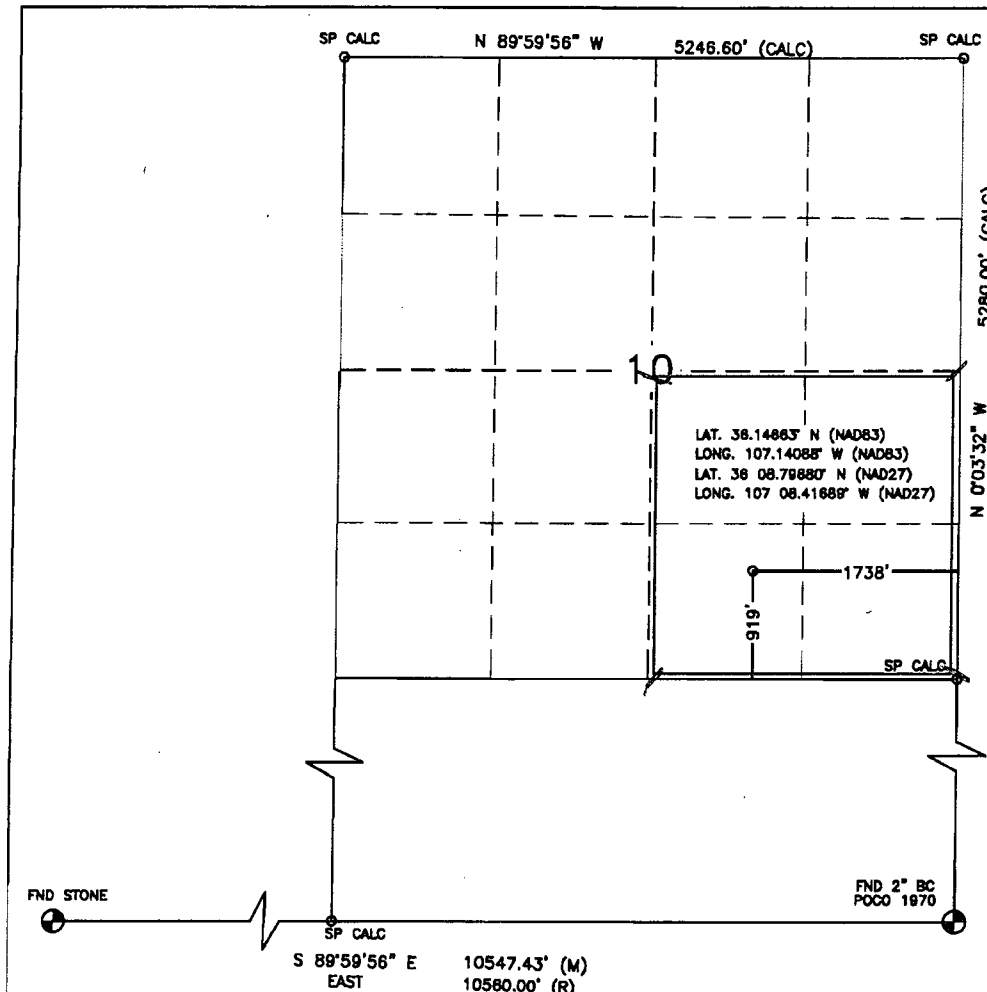
**<sup>11</sup> Bottom Hole Location If Different From Surface**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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<sup>12</sup> Dedicated Acres 160 acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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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

18

**<sup>17</sup> 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.

*Tamra Sessions* 07/09/13  
Signature Date

Tamra Sessions  
Printed Name

tssessions@logosresourcesllc.com  
E-mail Address

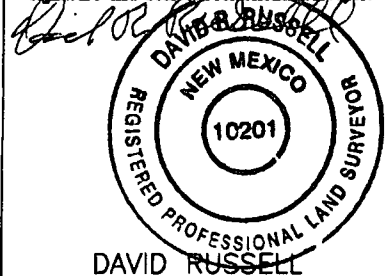
**<sup>18</sup> SURVEYOR CERTIFICATION**

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.

AUGUST 14, 2012

Date of Survey

Signature and Seal of Professional Surveyor



DAVID RUSSELL  
Certificate Number 10201

LOGOS OPERATING, LLC.  
OPERATIONS PLAN  
JICARILLA O 3E

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

I. Location: 919' FSL & 1738' FEL                      Date: July 9, 2013  
                    Sec 10, T22N, R3W  
                    Sandoval County, NM

Field: Gallup-Dakota                                      Elev: GL 7,072'  
Surface: Tribal  
Minerals: Tribal

II. Geology: Surface formation \_ Nacimiento

A. Formation Tops	Depths
Ojo Alamo	2,035'
Kirtland	2,181'
Pictured Cliffs	2,417'
Lewis	2,503'
Cliff House	3,892'
Menefee	3,935'
Point Lookout	4,517'
Mancos	4,707'
Gallup	5,339'
Sanostee	6,334'
Greenhorn	6,541'
Graneros	6,597'
Dakota	6,630'
Total Depth	6,850'

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

Water and gas - 2,417', 3,892', 4,517'  
Water, gas, and oil - 4,707', 5,339', 6,334', and 6,630'

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 H<sub>2</sub>S 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"	500'	9-5/8"	36# J-55
7-7/8"	6,850'	5-1/2"	17# P-110

##### 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 4,757'**. 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: 9-5/8"** - Use 225 sx (266 cu. ft.) of Type V with 2% CaCl<sub>2</sub> 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. **1<sup>st</sup> Stage:** **Lead** with 260 sx (458 cu.ft.) of Cl "B" 65/35 poz with 6% gel, 1% CaCl<sub>2</sub>, 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% CaCl<sub>2</sub> and ¼#/sk. celloflake. (Yield = 1.46 cu. ft./sk; slurry weight = 13.0 PPG). **2<sup>nd</sup> Stage:** Precede cement with 20 bbls of water. **Lead** with 600 sx (1056 cu.ft) Cl "B" 65/35 poz with 6% gel, 1% CaCl<sub>2</sub>, 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% CaCl<sub>2</sub> 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).

-----  
Jay Paul McWilliams, Engineer

**LOGOS RESOURCES, LLC**

JICARILLA O #3E

919' FSL & 1738' FEL

LOCATED IN THE SW/4 SE/4 OF SECTION 10,

T22N, R3W, N.M.P.M.,

SANDAVOL COUNTY, NEW MEXICO

**DIRECTIONS**

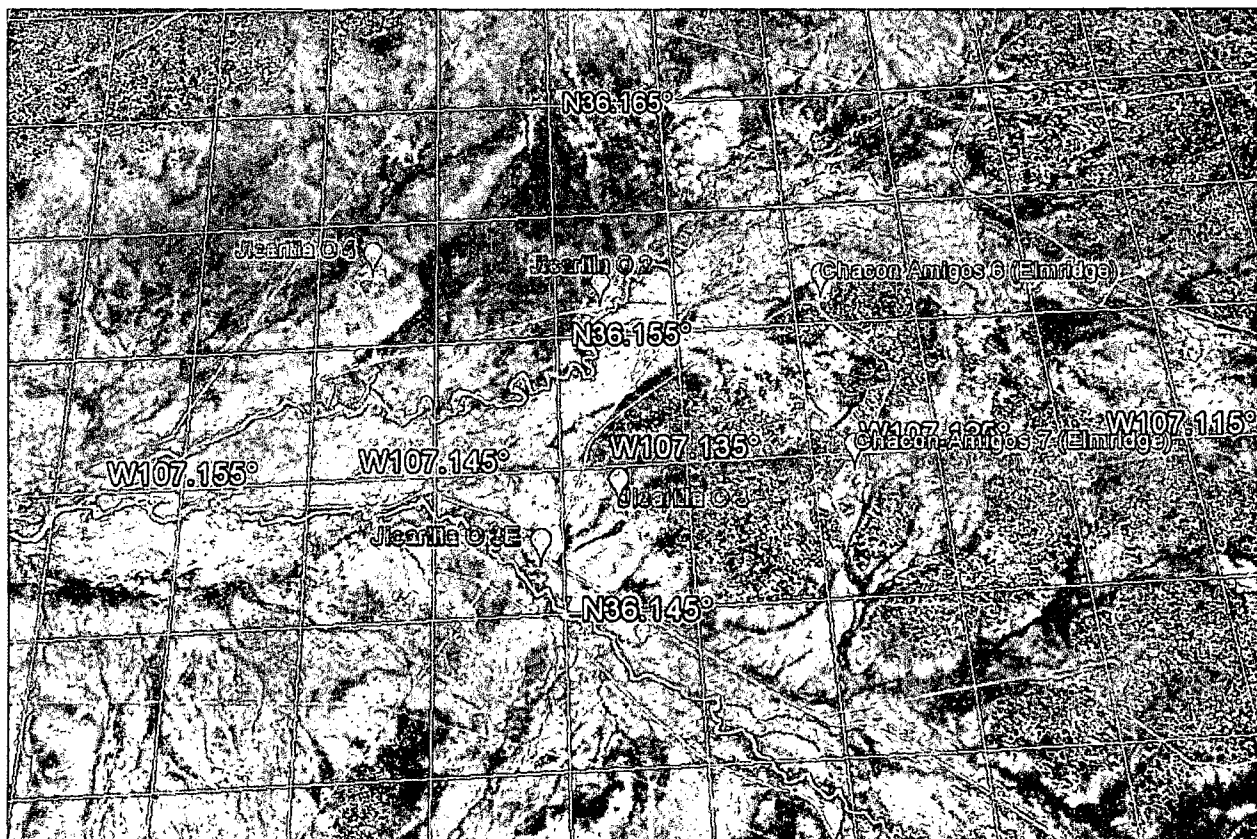
- 1) FROM THE INTERSECTION OF HWY 550 AND J-37, GO NORTHEASTERLY ON J-37 FOR 2.6 MILES TO "Y" INTERSECTION.
- 2) BEAR RIGHT ONTO J-22 AND GO 0.2 MILES TO "Y" INTERSECTION.
- 3) BEAR RIGHT AND GO 1.0 MILE WHERE ACCESS IS STAKED ON RIGHT SIDE OF ROAD.

WELL FLAG LOCATED AT LAT. 36.14663° N, LONG. 107.14088° W (NAD 83).



Jicarilla O 3E\_One mile radius\_UL O, Sec 10, T22N, R03W

API	Well Name	Well #	Type	Status	UL	Section	Township	Range	Current Operator
30-043-20582	JICARILLA O	#002	Oil	Active	A	10	22N	03W	LOGOS OPERATING, LLC
30-043-20649	JICARILLA O	#003	Oil	Active	I	10	22N	03W	LOGOS OPERATING, LLC
30-043-20648	JICARILLA O	#004	Oil	Active	C	10	22N	03W	LOGOS OPERATING, LLC
30-043-20513	CHACON AMIGOS	#006	Oil	Active	C	11	22N	03W	ELM RIDGE EXPLORATION COMPANY LLC
30-043-20604	CHACON AMIGOS	#007	Oil	Active	K	11	22N	03W	ELM RIDGE EXPLORATION COMPANY LLC





# Well Control Equipment Schematic for 2M Service

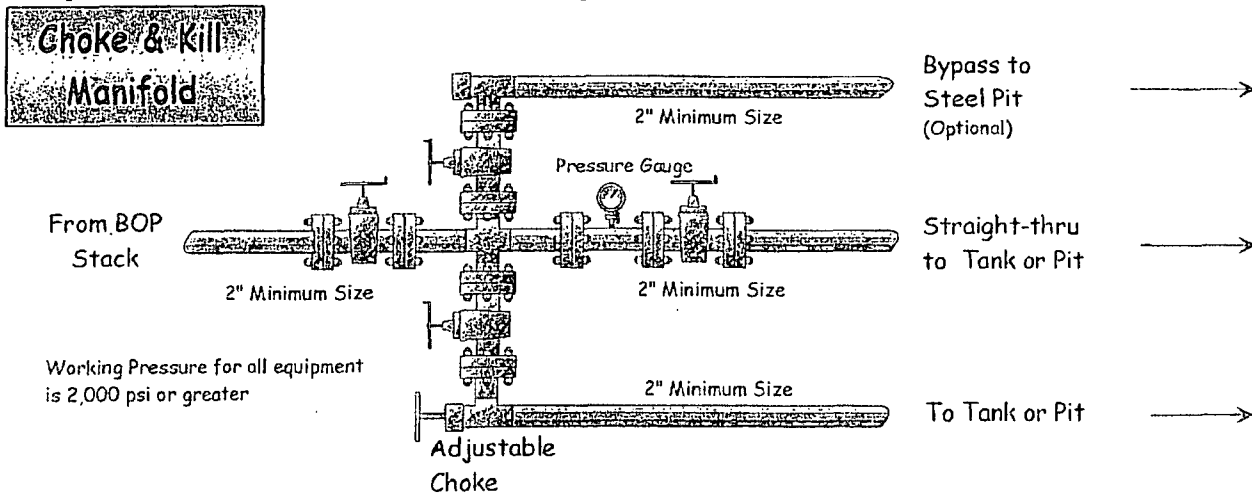
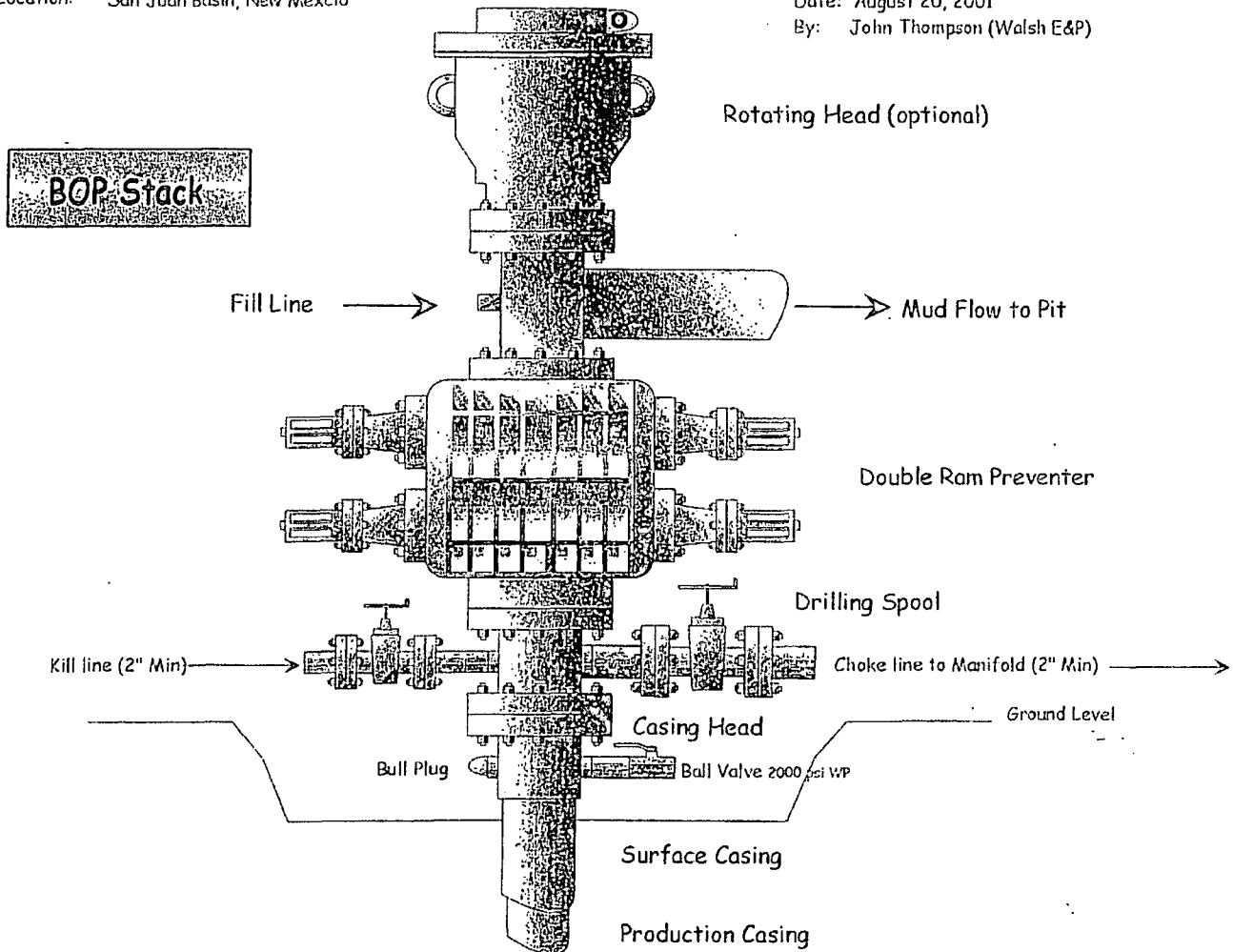
Attachment to Drilling Technical Program

## Exhibit #1 Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)



Working Pressure for all equipment  
is 2,000 psi or greater