

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

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. <b>SF 079060</b>
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator <b>Devon Energy Production Company, L.P.</b>		7. If Unit or CA Agreement, Name and No. <b>Northeast Blanco Unit</b>
3a. Address <b>PO Box 6459 Farmington, NM 87419</b>		8. Lease Name and Well No. <b>NEBU 19M</b>
3b. Phone No. (include area code) <b>405-552-7917</b>		9. API Well No. <b>30-039-30150</b>
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface <b>840' FNL &amp; 1,380' FEL, Unit B, NW NE</b> At proposed prod. zone <b>1,225' FNL &amp; 1,650' FEL, Unit B, NW NE</b>		10. Field and Pool, or Exploratory <b>Basin Dakota/S La Jara PC</b>
14. Distance in miles and direction from nearest town or post office* <b>Approximately 28.5 miles</b>		11. Sec., T. R. M. or Blk. and Survey or Area <b>20-30N-7W</b>
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>840'</b>	16. No. of acres in lease <b>DK-320, PC-160 Acres</b>	17. Spacing Unit dedicated to this well <b>320 OK F/L 2036.44 Acres 160 PC NE/4</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth <b>8,351 TMD</b>	20. BLM/BIA Bond No. on file
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>GR 6,388'</b>	22. Approximate date work will start* <b>02/01/2007</b>	23. Estimated duration <b>Unknown</b>

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) <b>Melisa Castro</b>	Date <b>12-19-06</b>
Title <b>Senior Staff Operations Technician</b>		
Approved by (Signature) 	Name (Printed/Typed) <b>AFM</b>	Date <b>1/23/07</b>
Title <b>PEO</b>		

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)

HOLD C104 FOR direct final survey +  
BH survey

NOTIFY AZTEC OGD 24 HRS Csgtment  
BEFORE TO WITNESS

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".

NMOCD

1/26/07

P/3

District I  
PO Box 1980, Hobbs NM 88241-1980  
District II  
PO Drawer KK, Artesia, NM 87211-0719  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

**OIL CONSERVATION DIVISION**  
PO Box 2088  
Santa Fe, NM 87504-2088

Form C-102  
Revised February 21, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

OIL CONS. DIV.

1 API Number <b>30-039-30150</b>		2 Pool Code <b>96199</b>		3 Well Name <b>Basin Dakota / <del>Salt Wells</del> Pictured Cliffs</b>	
4 Property Code <b>19641</b>		5 Property Name <b>NEBU</b>		6 Well Number <b># 19M</b>	
7 OGRID No. <b>6137</b>		8 Operator Name <b>Devon Energy Production Company, L.P.</b>		9 Elevation <b>6388</b>	

**10 Surface Location**

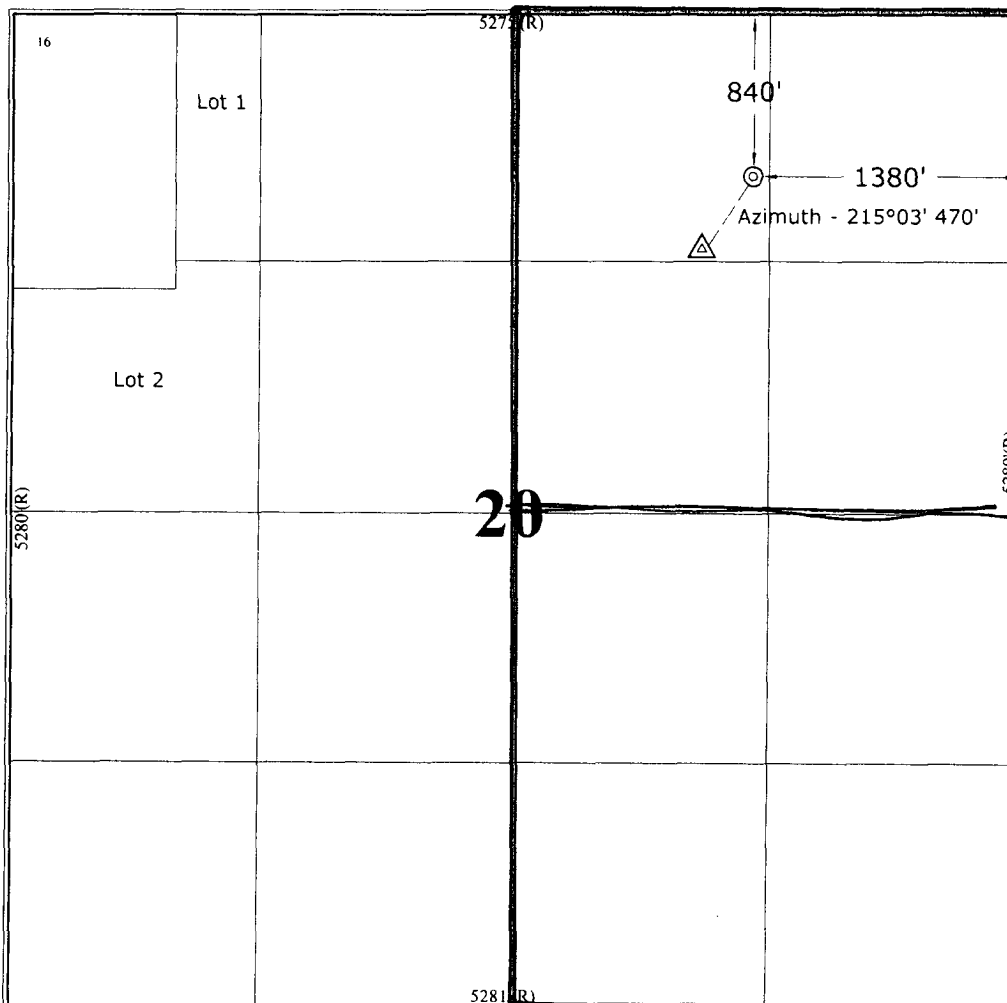
UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>B</b>	<b>20</b>	<b>30 N</b>	<b>7 W</b>		<b>840</b>	<b>NORTH</b>	<b>1380</b>	<b>EAST</b>	<b>Rio Arriba</b>

**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
<b>B</b>	<b>20</b>	<b>30 N</b>	<b>7 W</b>		<b>1225</b>	<b>NORTH</b>	<b>1650</b>	<b>EAST</b>	<b>Rio Arriba</b>

12 Dedicated Acres <b>320-DK 160-PC</b>	13 Joint or Infill	14 Consolidation Code	15 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



**17 OPERATOR CERTIFICATION**

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

Signature: *[Signature]*  
Printed Name: **Melise S Castro**  
Title: **Sr. Staff Operations Tech**  
Date: **December 19, 2006**

**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.

Restated: **October 3, 2006**  
Date of Survey: **September 8, 2005**  
Signature and Seal of Professional Surveyor

**GARY D. VANN**  
**NEW MEXICO**  
**REGISTERED PROFESSIONAL LAND SURVEYOR**  
**7016**  
7016  
Certificate Number

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  
March 4, 2004

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

WELL API NO. <b>30-039-30150</b>
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. SF 079060

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (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 type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other	7. Lease Name or Unit Agreement Name <b>NORTHEAST BLANCO UNIT</b>
2. Name of Operator <b>Devon Energy Production Company, L.P.</b>	8. Well Number 19M
3. Address of Operator <b>PO Box 6459, Navajo Dam, NM 87419</b>	9. OGRID Number 6137
4. Well Location  Unit Letter <u>B</u> : <u>840</u> feet from the <u>North</u> line and <u>1,380</u> feet from the <u>East</u> line  Section <u>20</u> Township <u>30N</u> Range <u>7W</u> NMPM County - <u>Rio Arriba</u>	10. Pool name or Wildcat Dakota / S Los Pinos Pictured Cliffs
11. Elevation (Show whether DR, RKB, RT, GR, etc.) GR 6,388'	
Pit or Below-grade Tank Application (For pit or below-grade tank closures, a form C-144 must be attached)	
Pit Location: UL <u>B</u> Sect <u>20</u> Twp <u>30N</u> Rng <u>7W</u> Pit type <u>Drilling</u> Depth to Groundwater <u>&gt;100'</u> Distance from nearest fresh water well <u>&gt;1000'</u> Distance from nearest surface water <u>&gt;1000'</u> Below-grade Tank Location UL <u>      </u> Sect <u>      </u> Twp <u>      </u> Rng <u>      </u> ; feet from the <u>      </u> line and <u>      </u> feet from the <u>      </u> line	

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 COMPLETION ☐  
OTHER: **CONSTRUCT DRILLING PIT** ☒

SUBSEQUENT REPORT OF:

- REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐  
CASING TEST AND CEMENT JOB ☐  
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.

14. **Devon Energy will be constructing a lined drilling pit. The closure of said pit will be in accordance with the NMOCD regulations with the cutting of the liner applying to the BLM rules.**

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 Melisa Castro TITLE Sr. Staff Operations Technician DATE 12-19-06

Type or print name Melisa Castro E-mail address: Melisa.castro@dvn.com Telephone No. 405-552-7917

(This space for State use)

APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. # DATE JAN 26 2007

Conditions of approval, if any:

Nebu # 19M  
840' F/NL 1380' F/EL  
SEC. 20, T30N, R7W, N.M.P.M.  
RIO ARRIBA COUNTY, NEW MEXICO

**Lat:** 36.80306°  
**Long:** 107.59009°(83)

**A**

**B**

**C**

**PROPOSED FLARE PIT**

**PROPOSED RESERVE PIT**

**Existing Well Head Nebu #413**

**Mud Tanks**

**ELEV. 6388**

**Rig**

**F 2'**

**N 88° W**

**LAYDOWN**

**Existing Compressor**

**Existing Pit**

**Existing Well Head Nebu #19**

**Proposed Access Road**

**Existing Field Road**

**CONSTRUCTION ZONE**

**NOTES:** Reserve Pit Dike - Should be 8' above Deep side (overflow - 3' wide & 1' above shallow side)  
Flare Pit - Overflow pipe should be halfway between top and bottom and extend over plastic liner and into flare pit.

**Area of Construction Zone - 330'x400' or 3.12 acres, more or less.**

**SCALE: 1"=60'-HORI  
1"=40'-VERT**

The image displays three cross-section diagrams of a road profile, labeled A-A, B-B, and C-C, plotted on a grid. Each diagram shows a road surface with a centerline (CL) and a dashed line indicating a specific profile. Arrows indicate the direction of traffic flow.

- Diagram A-A:** Shows a road profile with a centerline (CL) and a dashed line. The profile is relatively flat, with a slight dip in the center. Arrows indicate traffic flow from both directions.
- Diagram B-B:** Shows a road profile with a centerline (CL) and a dashed line. The profile is slightly higher in the center, with a slight dip on the right side. Arrows indicate traffic flow from both directions.
- Diagram C-C:** Shows a road profile with a centerline (CL) and a dashed line. The profile is slightly higher in the center, with a slight dip on the right side. Arrows indicate traffic flow from both directions.

NOTE. Contractor should call One-Call for location of any marked or unmarked buried pipelines or cables on well pad and/or access road at least two (2) working days prior to construction.

Cuts and fills shown are approximate - final finished elevation is to be adjusted so earthwork will balance. Corner stakes are approximate and do not include additional areas needed for sideslopes and drainages. Final Pad Dimensions are to be verified by Contractor.

VANN SURVEYS  
P. O. Box 1306  
Farmington, NM

**NEBU 19M**  
**Unit B 20-30N-7W**  
**San Juan Co., NM**

**DRILLING PLAN**

**1. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS & ANTICIPATED WATER, OIL, GAS OR MINERAL FORMATIONS:**

<b>Formation</b>	<b>TMD (ft)</b>	<b>TVD (ft)</b>	<b>Hydrocarbon/Water Bearing Zones</b>
San Jose	Surface	Surface	
Ojo Alamo	2332	2288	Aquifer
Kirtland	2441	2395	
Fruitland	2865	2816	Gas
Fruitland 1 <sup>st</sup> Coal	3092	3043	Gas
Pictured Cliffs Tongue	3362	3313	Gas
Pictured Cliffs Main	3363	3314	Gas
Lewis	3447	3398	Gas
<b>Intermediate TD</b>	3547	3498	
Huefanito Bentonite	4041	3992	Gas
Chacra / Otera	4408	4359	Gas
Cliff House	4906	4857	Gas
Menefee	5251	5202	Gas
Point Lookout	5564	5515	Gas
Mancos	5939	5890	Gas
Gallup	6881	6832	Gas
Greenhorn	7551	7502	
Graneros	7622	7573	Gas
Paguate	7753	7704	
Cubero	7776	7727	
Oak Canyon	7840	7791	
Encinal Canyon	7865	7816	

Lower Encinal Canyon	7895	7846	
Burro Canyon	7935	7886	
Morrison	7975	7926	
TD	8351	8302	

\*All shows of fresh water and minerals will be adequately protected and reported.

## **2. PRESSURE CONTROL EQUIPMENT:**

All well control equipment shall be in accordance with Onshore Order #2 for 2M systems.

The minimum specifications for pressure control equipment that will be provided are included on the attached schematic diagram, with a size of 2", and pressure ratings.

- 2000# BOP With Pipe Rams and 2000# BOP With Blind Rams

Auxiliary equipment to be used:

- Upper kelly cock with handle available.

The manifold includes appropriate valves and adjustable chokes. The kill line will have one check valve. Ram type preventers will be pressure tested to full working pressure (utilizing a test plug) or 70% of the internal yield pressure (without a test plug) at:

- Initial installation
- Whenever any seal subject to test pressure is broken
- Following related repairs
- At 30 day intervals

Pipe and blind rams shall be activated each trip.

A BOPE pit level drill will be conducted weekly for each drilling crew.  
All tests and drills will be recorded in the drilling log.

The accumulator will have sufficient capacity to close all rams and retain 200 psi above pre-charge pressure without the use of closing unit pumps.

Master controls will be at the accumulator. Anticipated bottom hole pressure is 3400 psi.

## **3. CASING & CEMENTING PROGRAM:**

A. The proposed casing program will be as follows:

TMD	TVD	Hole Size	Size	Grade	Weight	Thread	Condition
0-285'	0-285'	12-1/4"	9-5/8"	H-40	32#	STC	New
0-3547	0-3498	8-3/4"	7"	K-55	23#	LTC	New
0- TD	0- TD	6-1/4"	4-1/2"	J-55	11.6 #	LTC	New

The 9-5/8" surface pipe will be tested to 750 psi. All casing strings below the surface

shoe shall be pressure tested to 0.22 psi/ft. of casing string length or 1500 psi, whichever is greater, but not to exceed 70% minimum internal yield.

**Surface:** The bottom three joints of the surface casing will have a minimum of one centralizer per joint and one centralizer every joint thereafter (Total 5 centralizers estimated)

**Intermediate:** The bottom three joints of the 7" casing will have a minimum of one centralizer per joint and one centralizer every fifth joint thereafter to above Ojo Alamo with turbolizers below and throughout the Ojo Alamo. (Total 12 centralizers, 3 turbolizers estimated).

**Production:** The bottom three joints will have a minimum of one centralizer per joint and one centralizer every fifth joint to 3500' (estimated 25 centralizers used). Centralizers will be open bow spring or basket bow spring type.

B. The proposed cementing program will be as follows:

**Surface String:** Cement will be circulated to surface.

**Lead:** 200 sx Class "B" with 100% Standard Cement, 2.00% CaCl<sub>2</sub>, .25 #/sx Flocele. Density: 15.6 lb/gal; Yield: 1.18 cuft/sx; Water: 5.24 gal/sx

**\* Minor variations possible due to existing conditions**

**Intermediate String:** Cement will be circulated to surface.

**Lead:** 500 sx 50/50 Poz, Yd-1.45, Water Gal/sx 6.8, Mixed @ 13ppg Foamed W/ N<sub>2</sub> Down To 9.0# Additives 2% Gel, 0.2% Versaset, 0.1% Diacel Lwl.

**Tail:** 75 sx 50/50 Poz, Yd-1.45, Water Gal/Sk 6.8, Additives 2% Gel, 0.2% Versaset, 0.1% Diacel Lwl.

**\* Minor variations possible due to existing conditions**

**If hole conditions dictate, an alternate, cement design will be used:**

**Lead:** 575 sx 50/50 Poz with 50% Class B Cement, 50% San Juan Poz, .4% Halad-344, .1% CFR-3, 3% Bentonite, 5#/sx Gilsonite, .25#/sx Flocele. Density: 13.0 lb/gal; Yield: 1.46 cuft/sx; Water: 6.42 gal/sx

**Tail:** 75 sx 50/50 Poz with 94#/sx Standard Cement, 0.3% Halad-344, .25 #/sx Flocele. Density: 15.6 lb/gal; Yield: 1.18 cuft/sx; Water: 5.23 gal/sx

**\* Minor variations possible due to existing conditions**

**Production String:** TOC designed to circulate 1000' into intermediate string, cement will tie into the intermediate casing as a minimum. Volumes may vary with actual well characteristics.

**Lead:** 250 sx 50/50 Poz with 2% Gel, 0.2% Halad, 0.1% CFR-3, 5 #/sx Gilsonite, 0.25 #/sx Flocele. Mixed at 13 ppg, 1.47 ft 3/sx foamed to 9 ppg, 2.18 ft 3/sx.

**Tail:** 450 sx 50/50 Poz with 50% Standard Cement, 50% San

Juan Poz, 3% Bentonite, 1.40% Halad-9, .10% CFR-3, .10% HR-5, 5 #/sx Gilsonite, 0.25 #/sx Flocele. Density: 13.0 lb/gal; Yield: 1.47 cuft/sx; Water: 6.35 gal/sx \*

\* **Minor variations possible due to existing conditions**

**Actual volumes will be calculated and adjusted with caliper log prior to cementing.**

#### **4. DRILLING FLUIDS PROGRAM:**

<b>TMD Interval</b>	<b>TVD Interval</b>	<b>Type</b>	<b>Weight (ppg)</b>	<b>Viscosity</b>	<b>pH</b>	<b>Water Loss</b>	<b>Remarks</b>
0-285'	0-285'	Spud-foam	8.4-9.0	29-70	8.0	NC	FW gel, LSND or stiff foam
285'-3,547'	285'-3,498'	Air				NC	
3,547' - TD	3,498' - TD	Air/N2 or Mud	8.5-9.0*	30-50	8.0-10.0	8-810cc @ TD	Low solids-non-dispersed. * min Wt. to control formation pressure

NC = no control

Sufficient quantities of mud material will be maintained on site or be readily accessible for the purpose of assuring well control. SPR will be recorded on daily drilling report after mudding up. Visual mud monitoring will be conducted during operations.

#### **5. EVALUATION PROGRAM:**

**Logs:** Density  
Neutron  
Induction

In the event open hole logs are not run in the well, a cased hole evaluation log will Be run.

**Survey:** Deviation surveys will be taken every 500' from 0-TD or first succeeding bit change. The hole will be air drilled from intermediate casing point to TD. The equipment used in this type of operation will not allow for single shot surveys without considerable operational delays. A survey will be taken at TD. Similar wells in this area have not shown significant deviation in this section of the hole.

**Cores:** None anticipated.

**DST's:** None anticipated.

#### **6. ABNORMAL CONDITIONS:**

The Fruitland Coal will be encountered in the 8-3/4" hole. Estimated formation pressure is 300 psi. No other abnormal pressures and/or temperatures are expected. No hydrogen



sulfide should be present.

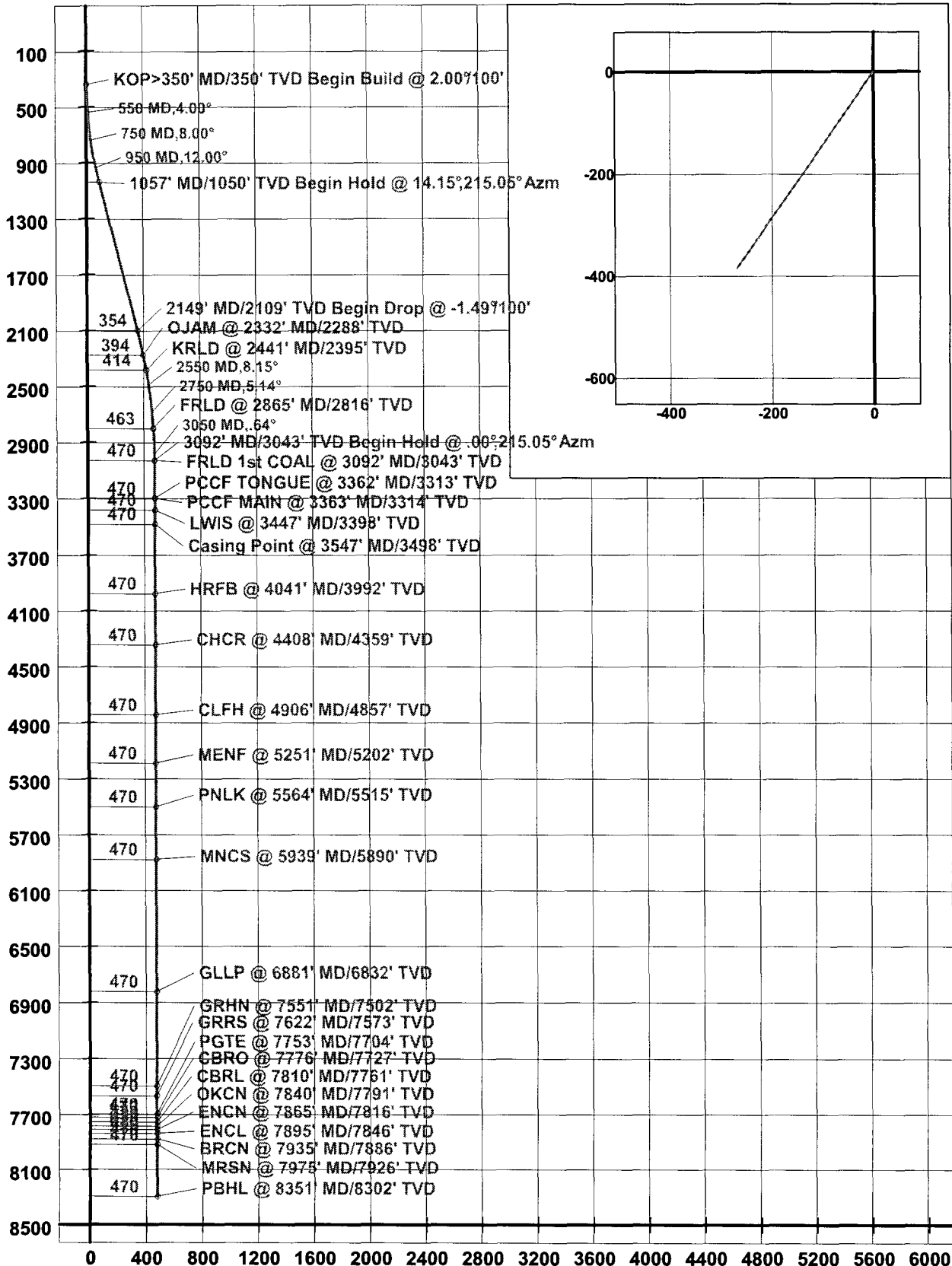
**7. OTHER INFORMATION:**

The anticipated starting date and duration of the operation will be as follows:

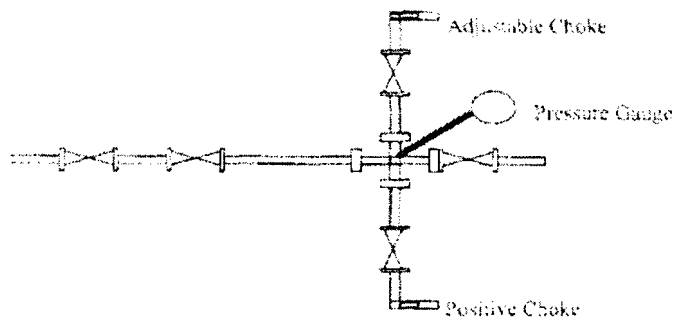
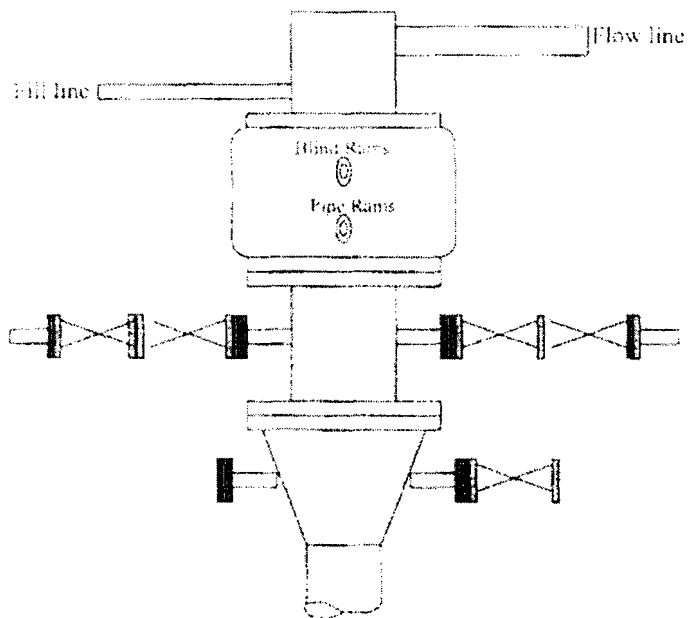
Starting Date:	Upon Approval
Duration:	20 days

If the well is completed as a dry hole or as a producer, Well Completion or Recompletion Report and Log (Form 3160-4) will be submitted within 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3160. Copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample descriptions, daily drilling reports, daily completion reports, and all other surveys or data obtained and compiled during the drilling, completion, and/or workover operations, will be submitted directly to the Authorized Officer or filed with Form 3160-4.

Company: Devon Energy  
Lease/Well: NEBU 19 M  
Location: Rio Arriba County  
State/Country: TX



## Well Control Equipment 2,000 psi Configuration



All well control equipment designed to meet or exceed the Onshore Oil and Gas Order No. 2, BLM 43 CFR 31.60 requirements for 2M systems.