

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  
2007 AUG 9 22  
RECEIVED

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		7. If Unit or CA Agreement, Name and No <b>Northeast Blanco Unit</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		8. Lease Name and Well No. <b>NEBU 345</b>	
2. Name of Operator <b>Devon Energy Production Company, L.P.</b>		9. API Well No. <b>30-039-30315</b>	
3a. Address <b>20 N. Broadway Oklahoma City, OK 73102</b>		3b. Phone No. (include area code) <b>405-552-7917</b>	
10. Field and Pool, or Exploratory <b>La Java- Basin Dakota / <del>S. East</del> PC</b>		11. Sec, T R M or Blk. and Survey or Area <b>H Sec. 29, 30N, 7W</b>	
4. Location of Well (Report location clearly and in accordance with any State requirements *) At surface <b>1,575' FNL &amp; 1,105' FEL, Unit H, SE NE</b> At proposed prod. zone <b>900' FNL &amp; 900' FEL, Unit A, NE NE</b>		12. County or Parish <b>Rio Arriba</b>	
13. State <b>NM</b>		14. Distance in miles and direction from nearest town or post office* <b>Approximately 29.4 miles</b>	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig unit line, if any) <b>1,105'</b>	16. No. of acres in lease <b>2236.44 Acres</b>	17. Spacing Unit dedicated to this well <b>N/A 320 Acres - DK / 160 Acres - PC NE/4</b>	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft <b>51'</b>	19. Proposed Depth <b>7,849'</b>	20. BLM/BIA Bond No. on file <b>CO 1104</b>	
21. Elevations (Show whether DF, KDB, RT, GL, etc) <b>GR 6,340'</b>	22. Approximate date work will start* <b>10/20/2007</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>8-2-07</b>
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Title **Senior Staff Operations Technician**

Approved by (Signature) 	Name (Printed/Typed) <b>AFM</b>	Date <b>8/31/07</b>
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Title **AFM** Office **PFO**

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 USC Section 1001 and Title 43 USC 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.

**NOTIFY AZTEG OCD 24 HRS.  
PRIOR TO CASING & CEMENT**

\*(Instructions on page 2)

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".

Obtain a pit permit from NMOCD prior to constructing location

**NMOCD** HOLD C101 FOR directional survey  
9-16-07  
aw

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

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

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

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 210-511-1111

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number <b>30-039-30315</b>		2 Pool Code <b>71599/96199</b>		3 Pool Name <b>Basin Dakota / La Jara / Pictured Cliffs</b>	
4 Property Code <b>19641</b>		5 Property Name <b>NEBU</b>		6 Well Number <b># 345</b>	
7 OGRID No <b>6137</b>		8 Operator Name <b>Devon Energy Production Company, L.P.</b>		9 Elevation <b>6340</b>	

10 Surface Location

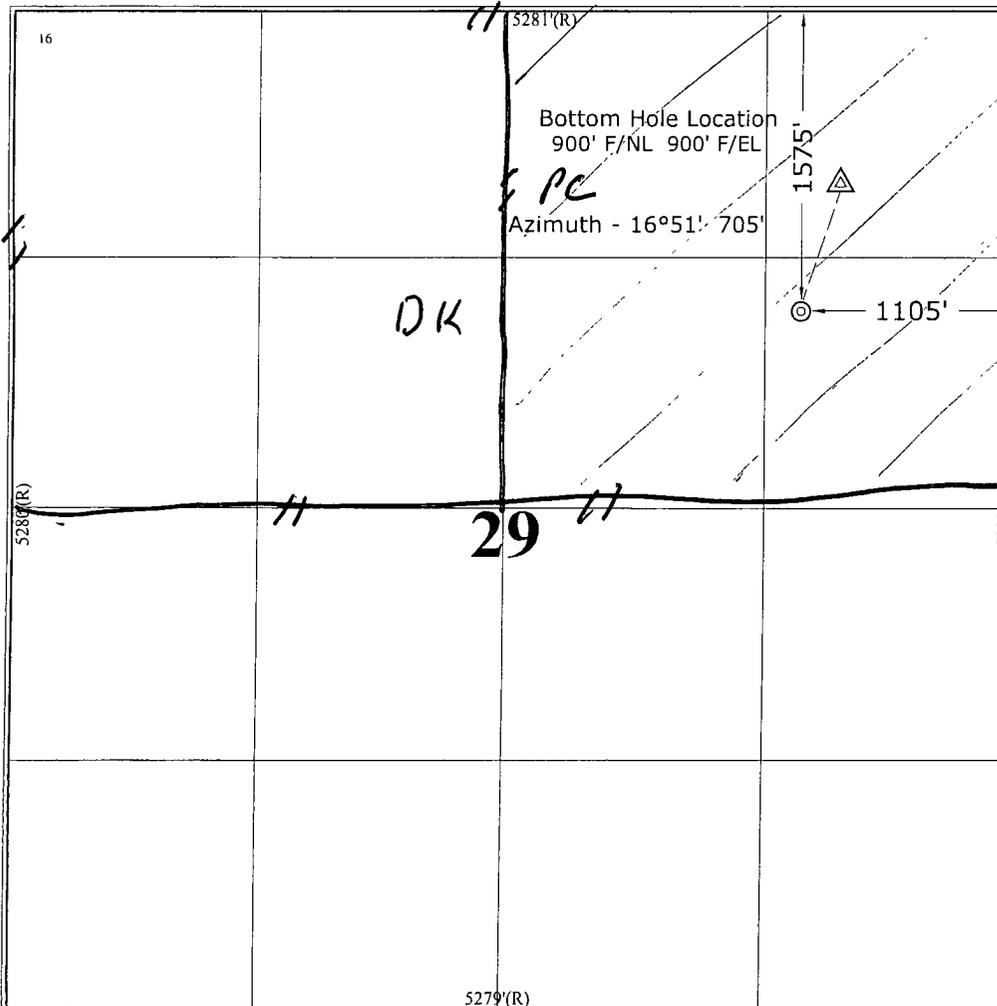
UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>H</b>	<b>29</b>	<b>30 N</b>	<b>7 W</b>		<b>1575</b>	<b>NORTH</b>	<b>1105</b>	<b>EAST</b>	<b>Rio Arriba</b>

11 Bottom Hole Location If Different From Surface

7 UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>A</b>	<b>29</b>	<b>30 N</b>	<b>7 W</b>		<b>900</b>	<b>NORTH</b>	<b>900</b>	<b>EAST</b>	<b>Rio Arriba</b>

12 Dedicated Acres <b>320-1/2 DK</b> <b>160-1/4 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



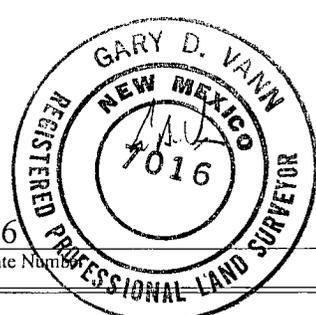
17 OPERATOR CERTIFICATION  
 I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature: *Melisa S. Castro*  
 Printed Name: **Melisa S. Castro**  
 Title: **Sr. Staff Operations Technician**  
 Date: **August 2, 2007**

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.

Date of Survey: **July 10, 2006**  
 Signature and Seal of Professional Surveyor: *Gary D. Vann*

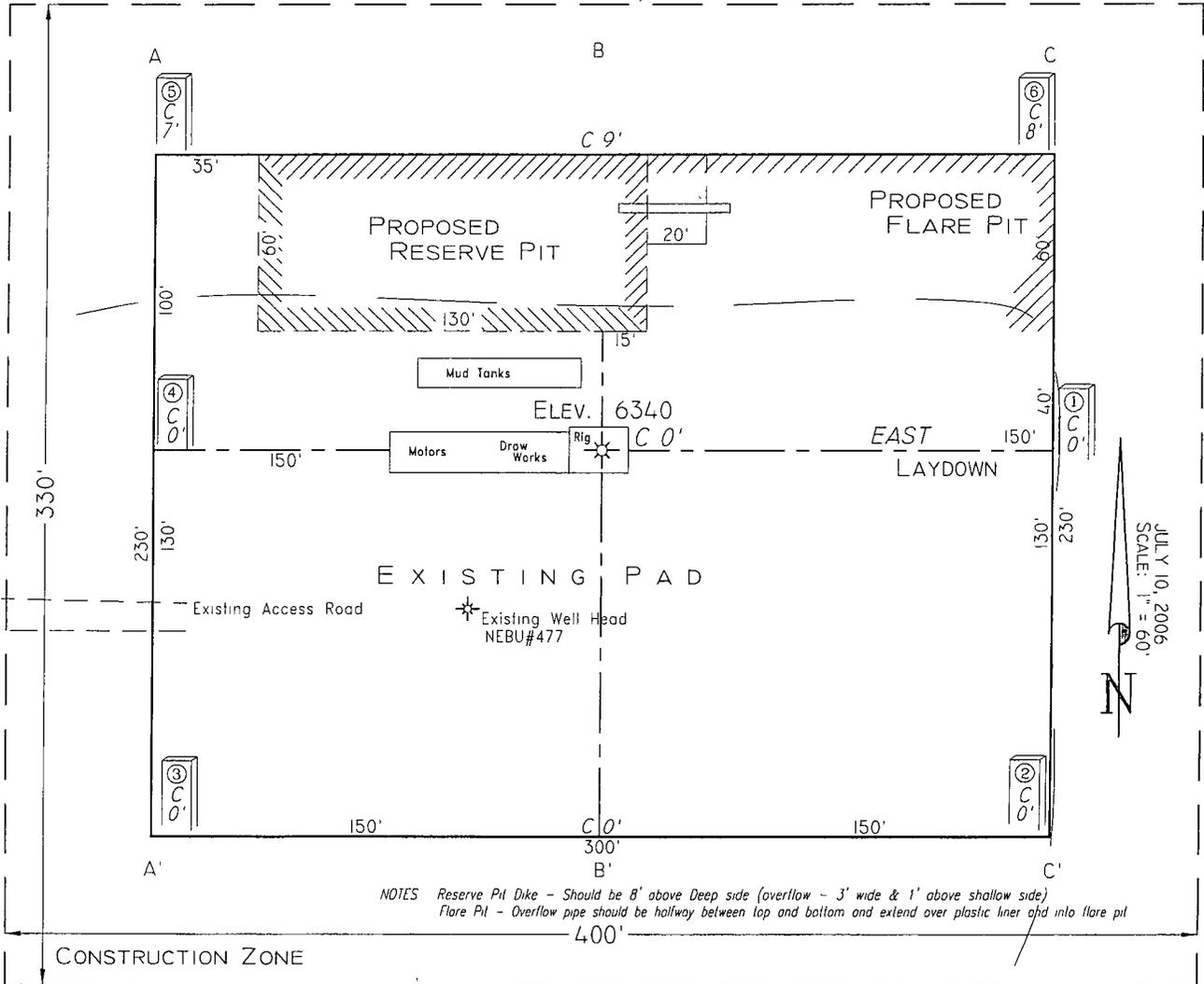
7016  
 Certificate Number



**PAD LAYOUT PLAN & PROFILE**  
**DEVON ENERGY PRODUCTION COMPANY, L.P.**

Nebu # 345  
 1575' F/NL 1105' F/EL  
 SEC. 29, T30N, R7W, N.M.P.M.  
 RIO ARRIBA COUNTY, NEW MEXICO

Lat: 36.78655° (83)  
 Long: 107.58914°



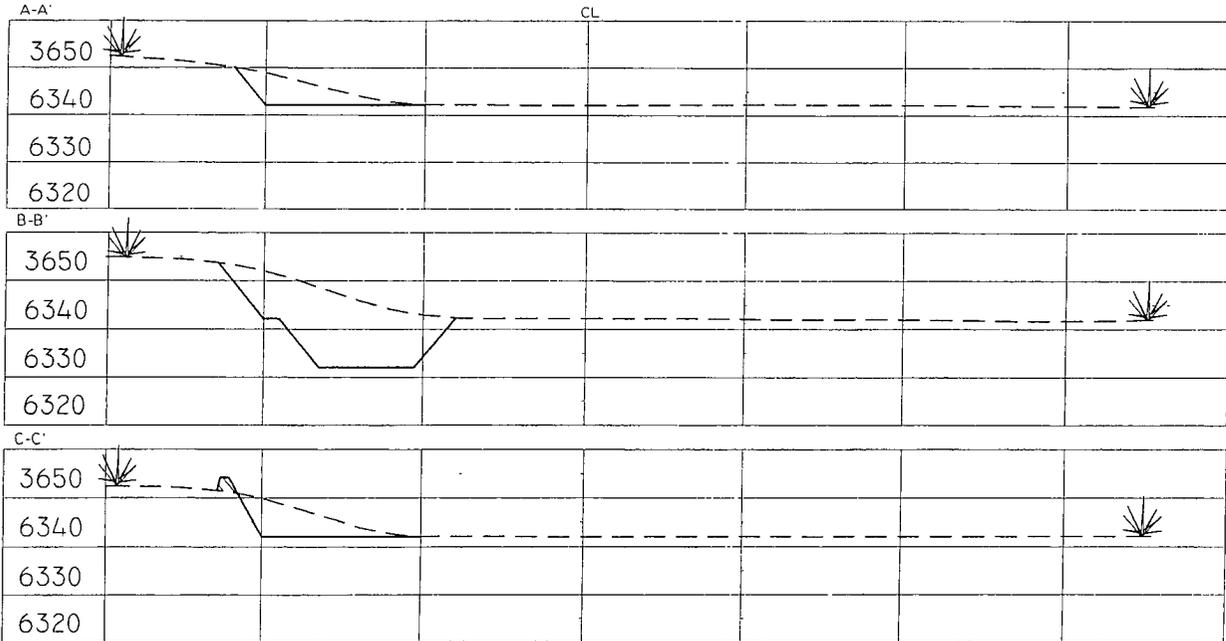
JULY 10, 2006  
 SCALE: 1" = 60'



*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 303 acres, more or less

SCALE 1"=60'-HORIZ  
 1"=40'-VERT



*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*

YANN SURVEYS  
 P O Box 1306  
 Farmington, NM

**NEBU 345**  
**Unit H 29-30N-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	2314	2218	Aquifer
Kirtland	2438	2338	
Fruitland	2884	2776	Gas
Fruitland 1 <sup>st</sup> Coal	3122	3013	Gas
Pictured Cliffs Tongue	3365	3255	Gas
Pictured Cliffs Main	3370	3260	Gas
Lewis	3478	3368	Gas
<b>Intermediate TD</b>	3578	3468	
Huefanito Bentonite	4055	3945	Gas
Chacra / Otera	4363	4253	Gas
Cliff House	4943	4833	Gas
Menefee	5220	5110	Gas
Point Lookout	5583	5473	Gas
Mancos	5934	5824	Gas
Gallup	6869	6759	Gas
Greenhorn	7558	7448	
Graneros	7610	7500	Gas
Paguate	7745	7635	
Cubero	7771	7661	
Oak Canyon	7837	7727	
<b>TD</b>	7849	7739	

\*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.
- *Safety valve & subs to fit all drill strings in use*

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
0-3578	0-3468'	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:**

TMD Interval	TVD Interval	Type	Weight (ppg)	Viscosity	pH	Water Loss	Remarks
0-285'	0-285'	Spud-foam	8.4-9.0	29-70	8.0	NC	FW gel, LSND or stiff foam
285'-3,578'	285'-3,468'	Water/Mud	8.4-9.0	29-70	8.0	NC	
3,578' - TD	3,468' - TD	Air/N <sub>2</sub> 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.

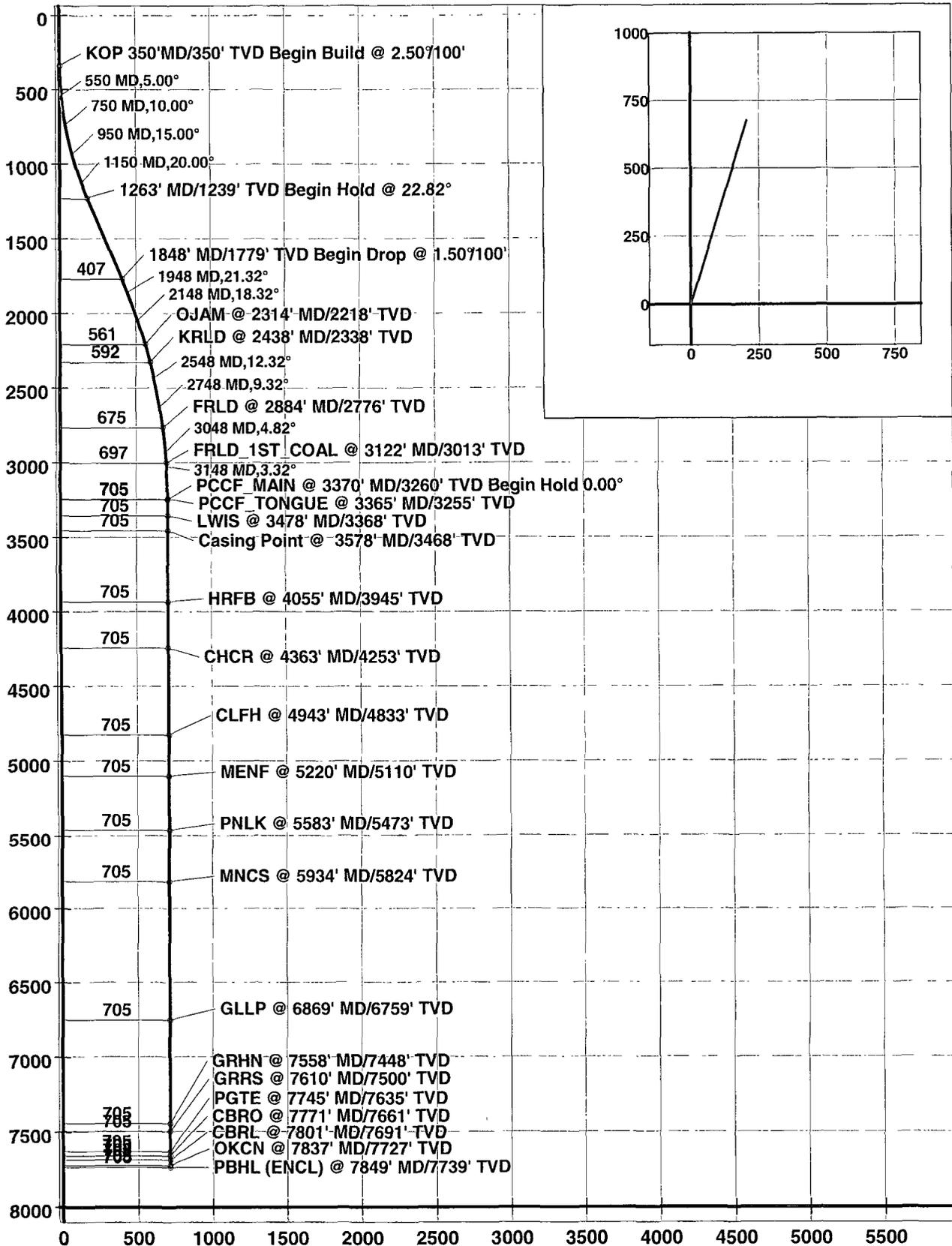
**6. ABNORMAL CONDITIONS:**

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.

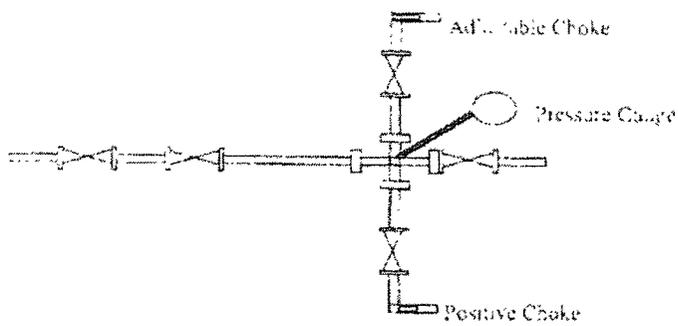
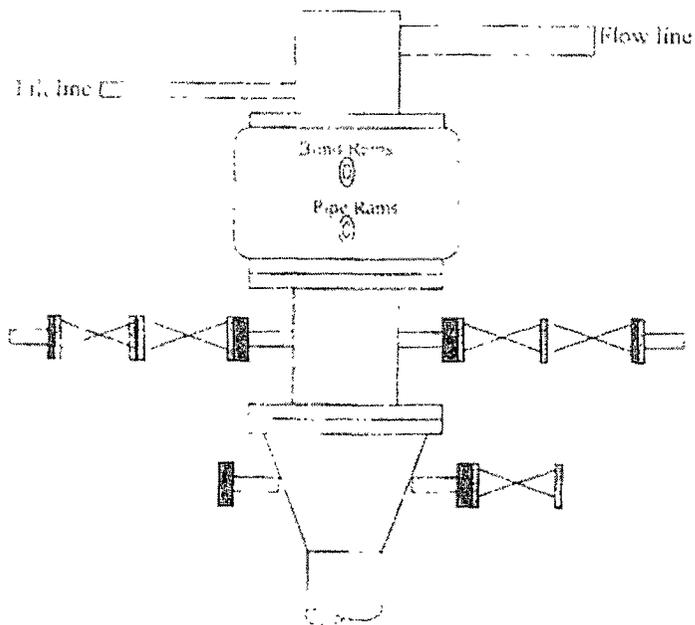
**7. OTHER INFORMATION:**

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

**Company:** Devon Energy  
**Lease/Well:** NEBU #345  
**Location:** Rio Arriba County  
**State/Country:** New Mexico



## 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 3150 requirements for 2M systems.