JUN -2 2010

AT5-10-503

OCD-ARTESIA NMOCD ARTESIA

(April 2004)			OMB No	o 1004-0137 March 31, 2007 <b>EA 10-6</b> ,	69	
UNITED STATES DEPARTMENT OF THE BUREAU OF LAND MAN	5 Lease Senal No LC 067144		0			
APPLICATION FOR PERMIT TO	6 If Indian, Allotee or Tribe Name					
la Type of work DRILL REENT	ER		7 If Unit or CA Agre	eement, Name and No		
lb Type of Well	✓ Single Zone Multi	ole Zonc	8 Lease Name and ' North Indian	Well No. 78 Flats 25 Federal #10	7077	
Name of Operator BOPCO, L. P. (2607)	37)		9 API Well No <b>30-015</b>	-37902	,	
3a Address P. O. Box 2760 Midland, TX 79702	3b Phone No. (include area code) 432-683-2277		Undesignated	Exploratory /NOI A+ (Delaware) OEUA		
4 Location of Well (Report location clearly and in accordance with at At surface NWNW (UL D.)990' FNL, 660' FW At proposed prod zone Same		046511	11 Sec T R M or B Sec 25, T21S-I		3373	
14 Distance in miles and direction from nearest town or post office*	· · · · · · · · · · · · · · · · · · ·		12 County or Parish	13 State		
6 miles east of Carlsbad			Eddy County	NM		
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any)	16 No of acres in lease	17 Spacin	g Unit dedicated to this v	well		
18 Distance from proposed location*	19 Proposed Depth	20 BLM/I	M/BIA Bond No on file			
to nearest well, drilling, completed, applied for, on this lease, ft	3400'		3000050			
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 3225'	22 Approximate date work will sta 11/01/2010	rt*	23 Estimated duratio 8 Days	n		
	24. Attachments					
The following completed in accordance with the requirements of Onsho	re Oil and Gas Order No 1, shall be a	ttached to th	is form			
1 Well plat certified by a registered surveyor 2 A Drilling Plan	4 Bond to cover t Item 20 above)	he operatio	ns unless covered by an	existing bond on file (see		
3 A Surface Use Plan (if the location is on National Forest System SUPO shall be filed with the appropriate Forest Service Office)		specific info	ormation and/or plans as	s may be required by the		
25 Signature Vilders	Name (Printed Typed) Annette Childers			Date 4-19-2010	)	
Title Regulatory Clerk						
Approved by (Signature) /s/ Don Peterson	Name (Printed Typed)			Date MAY 27 201	10	
Title FIELD MANAGER	Office		CARLSBAD FIE			
Application approval does not warrant or certify that the applicant hole conduct operations thereon Conditions of approval, if any, are attached	Is legal or equitable title to those righ	ts in the sub	_	entitle the applicant to YAL FOR TWO	YEARS	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a c States any false, fictitious or fraudulent statements or representations as		villfully to n	ake to any department o	or agency of the United		

\*(Instructions on page 2)

Capitan Controlled Water Basin



Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1801 W. Grand Avenue, Artesia, NM 88210

DISTRICT III

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102 Revised October 15, 2009

Submit one copy to appropriate

District Office

#### OIL CONSERVATION DIVISION

1220 South St. Francis Dr. Santa Fe, New Mexico 87505

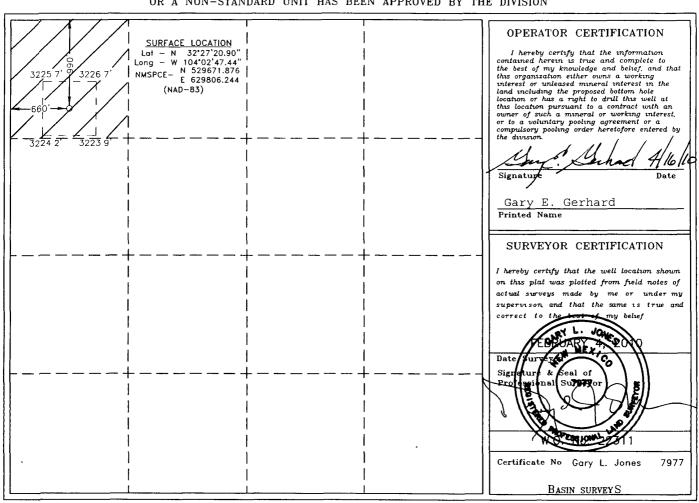
1000 Rio Brazos Rd., Aztec, NM 87410 DISTRICT IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

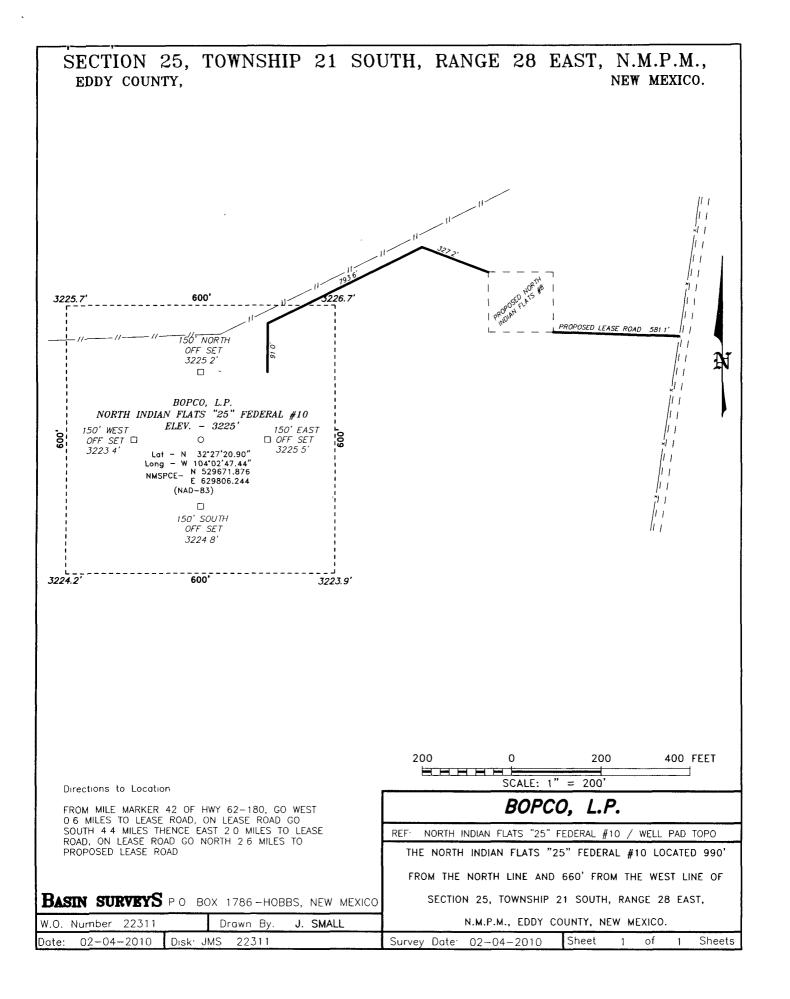
WELL LOCATION AND ACREAGE DEDICATION PLAT

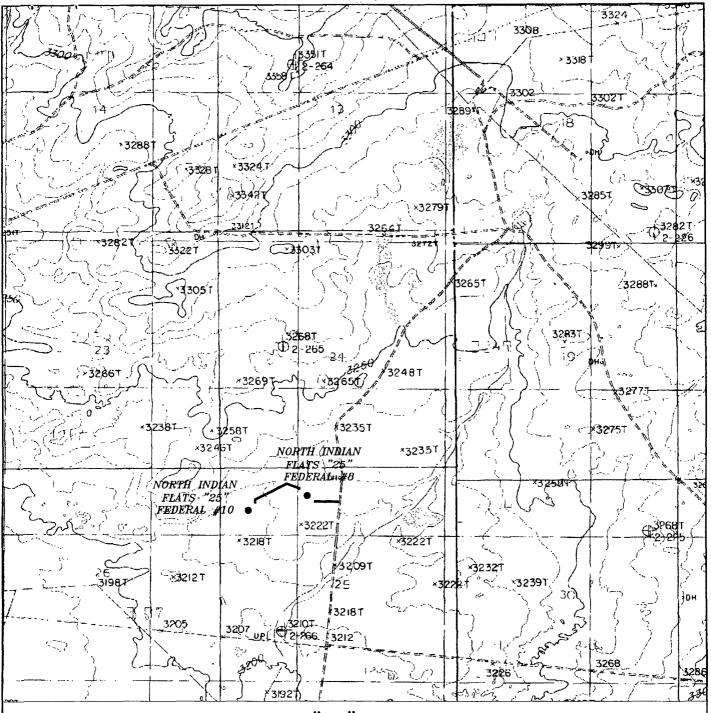
☐ AMENDED REPORT

-2	Number 60-014	-37902		Pool Code 3735	Ur	NO  AN     idesignated (	Pool Name LATS; DE Delaware)	ELANARE	E	
Property_	Code 7077				Property Nan	ne		Well No	Well Number	
30641	60017	<u></u>	NC	RTH IN	DIAN FLATS	"25" FEDERAL	·	10		
OGRID N	0.				Operator Nan	1e	, , , , , .	Elevat		
26073	7				BOPCO, L.	P		322	5'	
	Surface Location									
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
D	25	21 S	28 E		990	NORTH	660	WEST	EDDY	
			Bottom	Hole Loc	cation If Diffe	erent From Sur	face			
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County	
Dedicated Acre	Joint o	r Infill Co	nsolidation	Code Or	der No.					

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







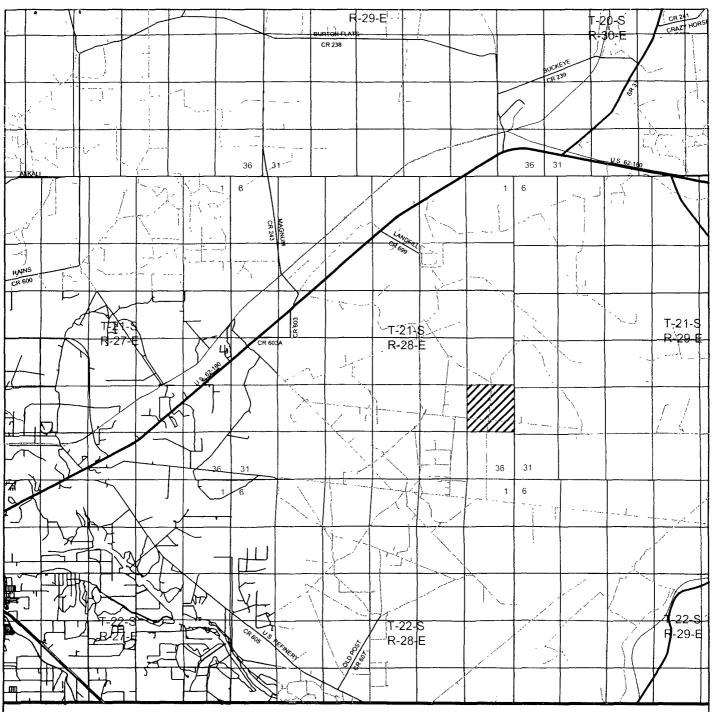
NORTH INDIAN FLATS "25" FEDERAL #10 Located 990' FNL and 660' FWL Section 25, Township 21 South, Range 28 East, N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786 1120 N. West County Rd. Hobbs, New Mexico 88241 (575) 393-7316 - Office (575) 392-2206 - Fax basinsurveys.com

W.O. Number: JMS 22311					
Survey Date 02-04-2010					
Scale. 1" = 2000'					
Date: 02-11-2010	1				

BOPCO, L.P.



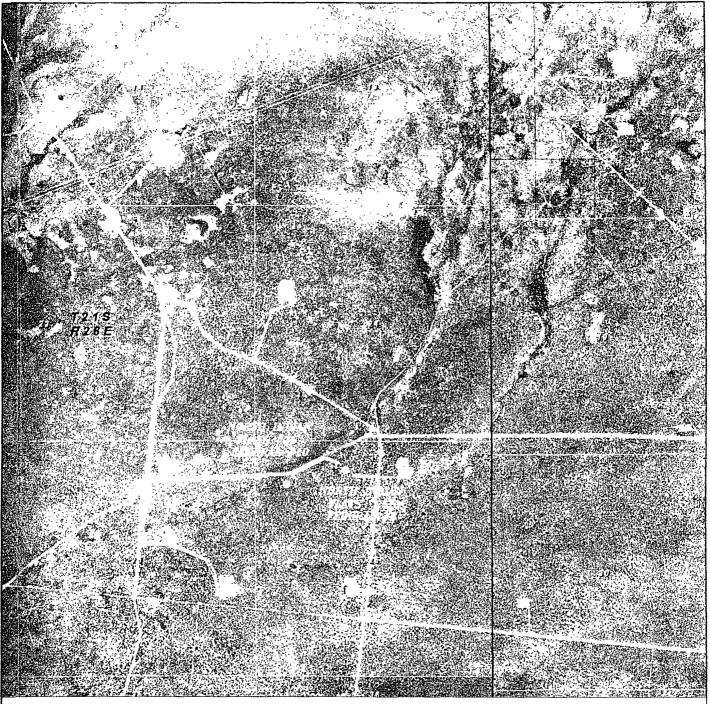
NORTH INDIAN FLATS "25" FEDERAL #10 Located 990' FNL and 660' FWL Section 25, Township 21 South, Range 28 East, N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786 1120 N. West County Rd. Hobbs, New Mexico 88241 (575) 393-7316 - Office (575) 392-2206 - Fax basinsurveys.com

W.O. Number. JMS 22311	
Survey Date. 02-04-2010	
Scale: 1" = 2 Miles	4
Date 02-11-2010	4

BOPCO, L.P.



NORTH INDIAN FLATS "25" FEDERAL #10 Located 990' FNL and 660' FWL Section 25, Township 21 South, Range 28 East, N.M.P.M., Eddy County, New Mexico.



P O Box 1786 1120 N West County Rd Hobbs, New Mexico 88241 (575) 393-7316 - Office (575) 392-2206 - Fax basinsurveys.com W O Number JMS 22311

Scale 1" = 2000'

YELLOW TINT — USA LAND BLUE TINT — STATE LAND NATURAL COLOR — FEE LAND BOPCO, L.P.

## North Indian Flats 25 Fed #10 Exhibit "A"



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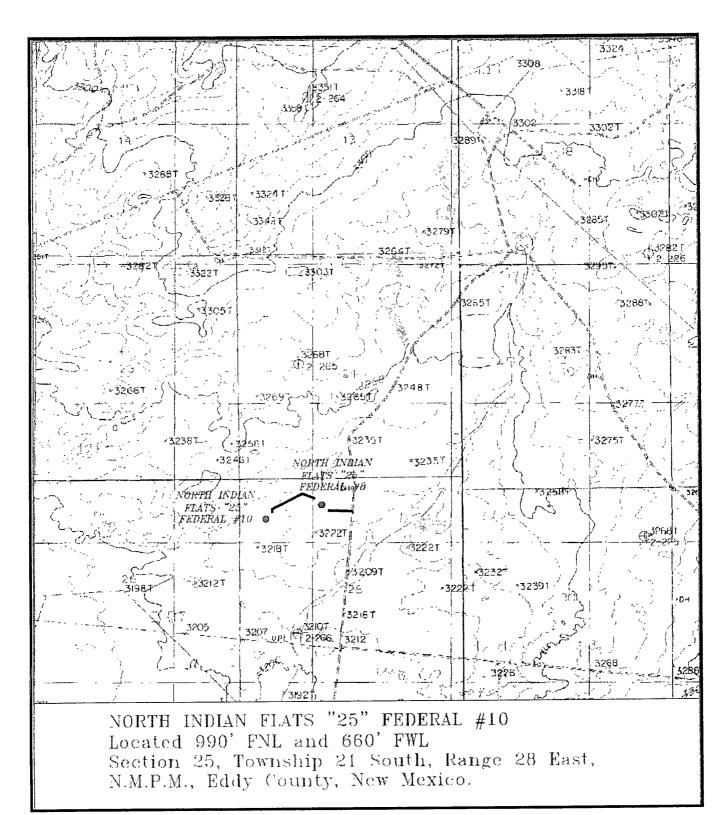
## North Indian Flats 25 Fed #10 Exhibit "B"



SECTION 25, TOWNSHIP 21 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO. 3225.7 600 758' VONTA 134 SET 3225 2' BOPCO, L.P. NORTH INDIAN FLATS "25" FEDERAL #10 ELEV. - 3225' 150" NEST D 5045 SET D 32214 150 EAST ロ 194- 近下 3225つ 90  $\circ$ Lat = N 37'27'20.90" Long = W 104'02'47,44" NMSPCE= N 529671.876 E 629806.244 (NAD-83) 150" SOUTH 37.24 8 600 3224.2 3223 9' 200 200 400 FEET SCALE: 1" = 200 Directions to Location FROM MILE MARKER 42 OF HWY 52-180, GO WEST 0.6 MILES TO LEASE ROAD, ON LEASE ROAD GO SOUTH 4.4 MILES THENCE EAST 2.0 MILES TO LEASE ROAD, ON LEASE ROAD GO NORTH 2.6 MILES TO TROPOSED LEASE ROAD BOPCO, L.P. NORTH INDIAN FLATS "25" FEDERAL #10 / WELL PAD TOPO THE NORTH INDIAN FLATS "75" FEDERAL #10 LOCATED 990" FROM THE NORTH LINE AND 660' FROM THE WEST LINE OF BASIN SURVEYS P.O. BOX 1788-HOBBS, NEW MEXICO SECTION 25, TOWNSHIP 21 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO. W.O. Number 22311 Graws By: J. SMALL

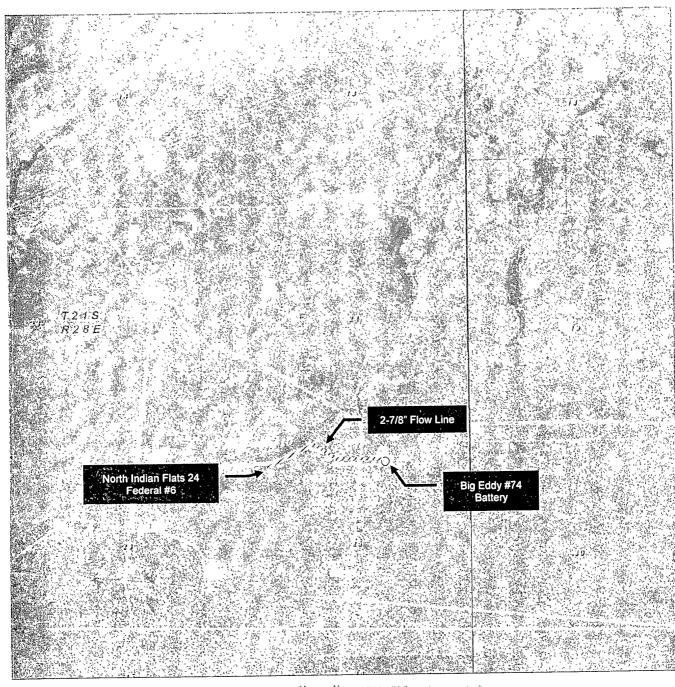
## North Indian Flats 25 Fed #10 Exhibit "C"





## North Indian Flats 25 Fed #10 Exhibit "E"





NORTH INDIAN FLATS "25" FEDERAL #10 Located 990' FNL and 060' FWL Society 25, Township 21 South, Range 28 End. N.M.F.M. Eddy County, New Mexico Surface casing to be set into the Rustler below all fresh water sands.



. .

Production casing will be cemented using Schlumberger TXI LiteWate plus additives with TOC @ 22861

Drilling procedure, BOP diagram, anticipated tops and surface plans attached.

This well is located outside the Secretary's Potash area and outside the R-111 Potash area. There are potash leases within 5 miles of the location (4 miles southeast)

BOPCO, L.P., at P. O. Box 2760, Midland, TX, 79702 is a division office of BOPCO, L.P., 201 Main Street, Ft. Worth, TX 76102, Bond No. COB000050 (Nationwide).

### EIGHT POINT DRILLING PROGRAM BOPCO, L.P.

NAME OF WELL: North Indian Flats 25 Federal #10

LEGAL DESCRIPTION - SURFACE: 990' FNL & 660' FWL, Section 25, T21S, R28E, Eddy County, New Mexico

#### POINT 1: ESTIMATED FORMATION TOPS

(See No. 2 Below)

#### POINT 2: WATER, OIL, GAS AND/OR MINERAL BEARING FORMATIONS

Anticipated Formation Tops: KB 3236'

GL 3225'

	ESTIMATED	EST	IMATED	
FORMATION	TOP FROM KB	SUB	SEA TOP	<b>BEARING</b>
T/Rustler	Surface'			Barren
B/Rustler	. 386'	+	2,850'	Barren
T/Salt	446'	+	2,790'	Barren
B/Salt	2,286'	+	950'	Barren
T/Delaware Mtn Grp	2,677'	+	559'	Oil/Gas
Clean Carb above R. Sc	I. 2,777'	+	459'	Oil/Gas
T/Ramsey Sand	2,805'	+	431'	Oil/Gas
TD	3,400'	-	164'	Oil/Gas

#### **POINT 3: CASING PROGRAM**

<u>TYPE</u>	HOLE SIZE	<b>INTERVALS</b>	<u>PURPOSE</u>	CONDITION
14"	20"	0' - 40'	Conductor	Contractor Discretion
8 5/8", 32#, J-55, 8rd STC	12-1/4"	0' - 436'	Surface	New
5-1/2", 15.5#, J-55, 8rd STC	7-7/8"	0' - 3,400'	Production	New

#### **CASING DESIGN SAFETY FACTORS:**

TYPE	<u>TENSION</u>	COLLAPSE	BURST
8 5/8", 32#, J-55, 8rd STC	28.77	6.62	6.66
5-1/2", 15.5#, J-55, 8rd STC	4.66	1.76	1.42

#### **DESIGN CRITERIA AND CASING LOADING ASSUMPTIONS:**

#### SURFACE CASING

Tension A 1 6 design factor utilizing the effects of buoyancy (9.2 ppg).

Collapse A 1.0 design factor with full internal evacuation and a collapse force equal to the

mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load

on collapse will be considered

#### DESIGN CRITERIA AND CASING LOADING ASSUMPTIONS: - con't...

Burst

A 13 design factor with a surface pressure equal to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure a that depth. Backup pressure will be formation pore pressure. In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient. The effects of tension on burst will not be utilized.

#### PRODUCTION CASING

Tension A 1.6 design factor utilizing the effects of buoyancy (10.0 ppg).

Collapse A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load

on collapse will be considered.

Burst A 1.25 design factor with anticipated maximum tubing pressure (3000 psig) on

top of the maximum anticipated packer fluid gradient. Backup on production strings will be formation pore pressure (0.43 psi/ft) The effects of tension on

burst will not be utilized.

#### POINT 4: PRESSURE CONTROL EQUIPMENT (SEE ATTACHED DIAGRAM)

A BOP equivalent to Diagram 1 will be nippled up on the surface casing head. The BOP stack, blind and pipe rams, chokes, kill line, Upper and lower Kelly valves, inside BOP, choke manifold when rigged up on the surface casing will be tested to 2000 psig (working pressure of BOPE) by independent tester. 8-5/8" casing will be tested to 1500 psig.

These tests will be preformed.

- a) When initially installed
- b) Whenever any seal subject to test pressure is broken
- c) Following related repairs
- d) At 30 day intervals

A function test to insure that the preventers are operating correctly will be performed on each trip. See the attached Diagram 1 for the minimum criteria for the choke manifold.

#### POINT 5: MUD PROGRAM

DEPTH	MUD TYPE	WEIGHT	FV	<u>PV</u>	<u>YP</u>	<u>FL</u>	<u>Ph .</u>
0' - 436'	FW	8.5 - 9.2	45-35	NC	NC	NC	9.5
436' - 3,400'	BW	10.0 - 10.3	28-30	NC	NC	NC	9.5

#### POINT 6: TECHNICAL STAGES OF OPERATION

#### A) TESTING

No drill stem tests are planned

#### POINT 6: TECHNICAL STAGES OF OPERATION - con't...

B) LOGGING See COA

Run #1:

Pex (GR-CNL/LDT) @ TD. GR/CNL to surface.

C) CORING

No cores are anticipated.

D) CEMENT

INTERVAL	AMOUNT SX	FT OF FILL	TYPE	GALS/SX	PPG	FT <sup>3</sup> /SX
SURFACE . Lead 0'-436' (100% excess) (Circulated to surface)	310	453	Class-C + 2% CaCl	6.39	14 8	1.35
PRODUCTION <sup>1</sup> Tail 2,286'-3,400' (100% excess)	270	1107	TXI LiteWate + 0.2% NaCI + 0 3% D167 + 0 15% DO65 + 0.125 pps D130 + 3 pps DO42	7 04	13.0	1.41

## Sel

#### E) DIRECTIONAL DRILLING

No directional services anticipated.

#### POINT 7: ANTICIPATED RESERVOIR CONDITIONS

Normal pressures are anticipated throughout the Delaware section. A BHP of 1472 psi (max) or MWE of 8.33 ppg is expected. The Ramsey production does contain  $H_2S$ . A  $H_2S$  contingency plan covering all of Sec 24 & 25 will be submitted separately.

#### POINT 8: OTHER PERTINENT INFORMATION

A) Auxiliary Equipment

Upper and lower kelly cocks. Full opening stab in valve on the rig floor.

B) Anticipated Starting Date

Spud date is 11/01/2010.

8 days drilling operations

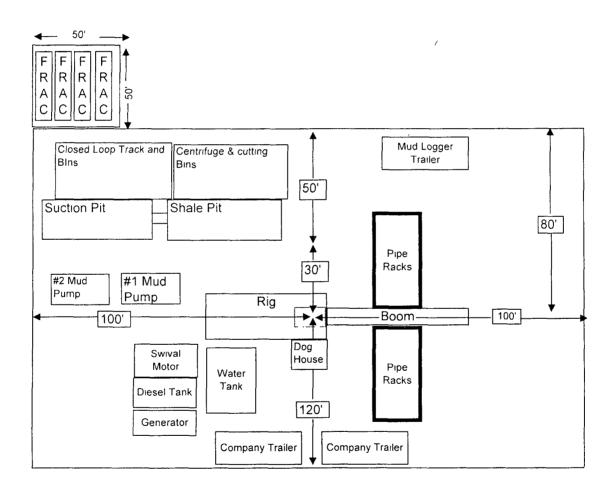
7 days completion operations

GEG/mac

# North Indian Flats 25 Fed #10 Exhibit "D"



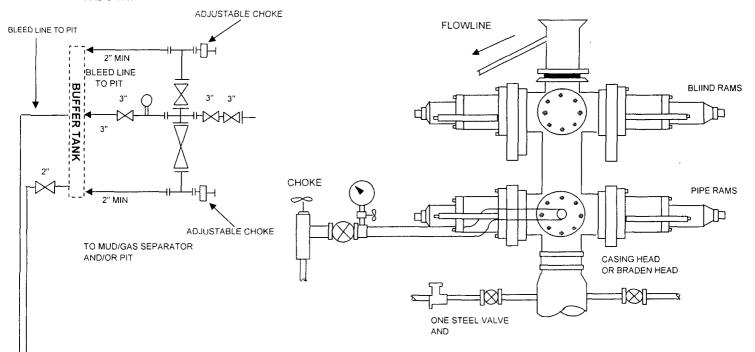
#### BOPCO, L P RIG LAYOUT SCHEMATIC INCLUSIVE OF CLOSED-LOOP DESIGN PLAN CAPSTAR TYPE RIG



V-Door East

# BOPCO, L. P. 2000 PSI WP

TO MUD/GAS SEPARATOR AND/OR PIT



#### THE FOLLOWING CONSTITUTE MINIMUM BLOWOUT PREVENTER REQUIREMENTS

- A. One double gate Blowout preventer with lower pipe rams and upper blind rams, all hydraulically controlled. controlled.
- B. Opening on preventers between rams to be flanged, studded or clamped and at least two inches in diameter.
- C. All connections from operating manifold to preventers to be all steel hose or tube a mininum of one inch in diameter.
- D. The available closing pressure shall be at least 15% in excess of that required with suffficient volume to operate (close, open, and re-close) the preventers.
- E. All connections to and from preventers to have a pressure rating equivalent to that of the BOPs.
- F. Manual controls to be installed before drilling cement plug.
- G. Valve to control flow through drill pipe to be located on rig floor.
- H. Chokes must be adjustable. Choke spool may be used between rams.

DIAGRAM 1

→ TO STEEL MUD TANKS

▶ BLEED LINE TO STEEL PIT (NOT CONNECTED TO BUFFER TANK

#### **MULTI-POINT SURFACE USE PLAN**

NAME OF WELL: North Indian Flats 25 Federal #10

LEGAL DESCRIPTION - SURFACE: 990' FNL & 660' FWL, Section 25, T21S, R28E, Eddy County, New Mexico.

#### POINT 1: EXISTING ROADS

A) Proposed Well Site Location

See Exhibit "A".

B) Existing Roads

From mile marker 42 on Highway 62-180, go west 0.6 miles to lease road. On lease road to south 4 4 miles thence east 2.0 miles to lease road, on lease road go north 2 6 miles to proposed lease road

C) Existing Road Maintenance or Improve Plan

See Exhibit "B"

#### POINT 2: NEW PLANNED ACCESS ROUTE

A) Route Location

See Exhibit "B". The new road will be 12' wide and approximately 3644.9' long from existing lease road. The road will be constructed of watered and 6" of compacted caliche.

B) Width

12' Wide

C) Maximum Grade

Not Applicable.

D) Turnouts

As required by BLM stipulations.

E) Culverts, Cattle Guards, and Surfacing Equipment

None.

#### POINT 3: LOCATION OF EXISTING WELLS

Exhibit "A" indicates existing wells within the surrounding area.

#### D) Access Roads

3644.9' of new access roads are required. See Exhibit "B"

#### POINT 7: METHODS FOR HANDLING WASTE MATERIAL

#### A) Cuttings – Closed Loop System

Cuttings will be contained in the steel pits and will be hauled to an approved disposal facility.

#### B) Drilling Fluids - Closed Loop System

Drilling fluids will be contained in the steel pits, frac tanks, and will be disposed of at licensed disposal facilities.

#### C) Produced Fluids

Water production will be contained in the steel pits.

Hydrocarbon fluid or other fluids that may be produced during testing will be retained in test tanks

#### D) Sewage

Current laws and regulations pertaining to the disposal of human waste will be complied with.

#### E) Garbage

Portable containers will be utilized for garbage disposal during the drilling of this well.

#### F) Cleanup of Well Site

Upon release of the drilling rig, the surface of the drilling pad will be graded to accommodate a completion rig if electric log analysis indicate potential productive zones. Reasonable cleanup will be performed prior to the final restoration of the site.

#### **POINT 8: ANCILLARY FACILITIES**

None required.

#### **POINT 9: WELL SITE LAYOUT**

#### A) Rig Orientation and Layout

Exhibit "D" shows the dimensions of the well pad and closed loop system, and the location of major rig components. Only minor leveling of the well site will be required No significant cuts or fills will be necessary.

#### POINT 12: OPERATOR'S FIELD REPRESENTATIVE

(Field personnel responsible for compliance with development plan for surface use).

DRILLING W. R. Dannels Box 2760 Midland, Texas 79702 (432) 683-2277 PRODUCTION
Dean Clemmer
3104 East Green Street
Carlsbad, New Mexico 88220
(575) 887-7329

Carlos Cruz Box 2760 Midland, Texas 79702 (432) 683-2277

#### **OPERATOR CERTIFICATION**

4/16/10

I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in the plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by BOPCO, L.P. and it's contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filling of a false statement.

Date

Gary E. G<del>é</del>rhard

#### PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:

LEASE NO.:

LC067144

WELL NAME & NO.:

SURFACE HOLE FOOTAGE:

BOTTOM HOLE FOOTAGE

LOCATION:

COUNTY:

BOPCO, L.P.

LC067144

NORTH INDIAN FLATS 25 FEDERAL - 10

0990' FNL & 0660' FWL

SAME

LOCATION:

COUNTY:

Eddy County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

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#### I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

#### II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

#### III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

#### IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

#### V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, see Section X.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

#### VI. CONSTRUCTION

#### A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

#### B. V-DOOR DIRECTION: not stipulated

#### C. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used for interim and final reclamation.

Operator shall separate top-soil from any other materials placed on location as a result of "flipping" surface materials to expose and/or extract caliche from underneath the well-pad location.

#### D. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

#### E. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

#### F. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

#### G. ON LEASE ACCESS ROADS

#### Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

#### Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

#### Crowning

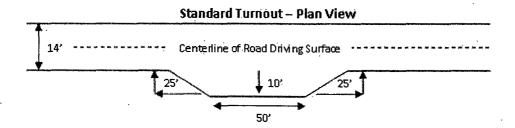
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

#### Ditching

Ditching shall be required on both sides of the road.

#### **Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

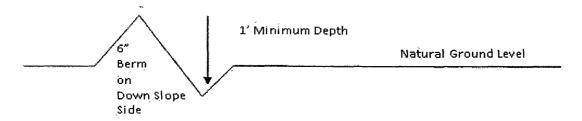


#### **Drainage**

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

#### Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

#### Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: 
$$\frac{400'}{4\%} + 100' = 200'$$
 lead-off ditch interval

#### **Culvert Installations**

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

#### Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

#### **Fence Requirement**

Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

#### **Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

center line of roadway shoulder-1001 transmost interview of the constructed on all single tame roads an all blind curves with additional tunouts as needed to keep spacing below 1000 feet. full turnout width **Typical Turnout Plan** height of fill at shoulder embankment slope above 4° **Embankment Section** crown type .03 + 05 h/h earth surface .02 - .04 h/h .02 - .03 h/h àggregàte surfa paved surface Depth measured from the bostom of the ditch **Side Hill Section** travel surface -(slops 2 - 4% ) (slope 2 - 4% )

Figure 1 – Cross Sections and Plans For Typical Road Sections

**Typical Inslope Section** 

**Typical Outsloped Section** 

#### VII. DRILLING

#### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

#### **⊠** Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

- 1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the Delaware formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.
- 2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
- 3. The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

#### B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

#### Medium Cave/Karst

Possible lost circulation in the Delaware and Bone Spring Formation.

- 1. The 8-5/8 inch surface casing shall be set at approximately 436 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If salt is encountered the casing must be set 25 feet above the salt.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the 5-1/2 inch production casing is:
  - □ Cement to surface due to cave/karst. If cement does not circulate, contact the appropriate BLM office. Additional cement will be required to bring the cement to surface.
- 3. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

#### C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

- 2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
- 3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. Casing cut-off and BOP installation will not be initiated until the cement has had a minimum of 8 hours setup time for a water basin. The casing shall remain stationary and under pressure for at least eight hours after the operator places the cement. In the potash area, the minimum time is 12 hours and the casing shall remain stationary and under pressure during this time period. Casing shall be under pressure if the operator uses some acceptable means of holding pressure or if the operator employs one or more float valves to hold the cement in place. Testing the BOP/BOPE against a plug can commence after meeting the above conditions plus the BOP installation time.
  - b. The tests shall be done by an independent service company utilizing a test plug.
  - c. The results of the test shall be reported to the appropriate BLM office.
  - d. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
  - e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

#### D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

CRW 051910

#### VIII. PRODUCTION (POST DRILLING)

#### A. WELL STRUCTURES & FACILITIES

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

#### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color Shale Green, Munsell Soil Color Chart # 5Y 4/2

#### B. ELECTRIC LINES - Not requested in APD

#### C. PIPELINES –

#### STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

- 1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
- 2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency

or State government.

- 3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
- 4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:
  - a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
  - b. Activities of other parties including, but not limited to:
    - (1) Land clearing.
    - (2) Earth-disturbing and earth-moving work.
    - (3) Blasting.
    - (4) Vandalism and sabotage.
- c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including,

where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construct	tion and main	ntenance act	rivity will be confined to the authorized rig	ht-of-
way width of	25	feet.	•	

- 7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.
- 8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.
- 9. The pipeline shall be buried with a minimum of <u>24</u> inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.
- 10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.
- 11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.
- 12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.
- 13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.
- 14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the

holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

#### D. ELECTRIC LINES – Not requested in APD

#### IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

#### X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared; these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Requirements for ground level dry hole markers

### **Well Identification Markers Conditions of Approval (COA)**

The BLM Carlsbad Field Office (CFO) Conditions of Approval (COA) Requires that ground level dry hole markers be placed on well within the Lesser Prairie Chicken habitat area. The dry hole markers will be to the following specifications. The operator will construct the markers as follows:

- 1. An 8 inch X 8 inch steel plate 1/8 to 3/16 of an inch thick is to be placed on the old dry hole marker stand pipe 2 inches from ground level, in the Lesser Prairie Chicken habitat area.
- 2. Steel plate may be welded or bolted approximately 2 inches from ground level on the stand pipes. If plates are bolted to the stand pipe, the person installing the plate will be required to weld a pipe collar on the plate and place a minimum of two set screws/bolt on each collar. Aluminum data plates may be bolted with minimum ¼ inch bolt and locking nuts or self tapping fine threaded screws. A minimum of one in each corner is to be installed on each plate.
- 3. An 8 inch x 8 inch aluminum plate, which is 12 gauge or .080 sign material (1/8 inch aluminum plate may be used in place of the .080 plate) with the required information for that well stamped or engraved in a minimum 3/8 inch tall letter or number.
- 4. The following information will be stamped or engraved on the 8 inch X 8 inch aluminum plate in the following order.
  - a. First row: Operators name
  - b. Second row: Well name and number
  - c. Third row: Legal location to include ¼ ¼, Section, Township, and range. If the legal location cannot be placed on one row it can be split into two rows with the ¼ ¼ (example: 1980 FNL 1980 FWL) being on the top row.
  - d. Fourth row: Lease Number and API number.
    - i. Example marker plate: (attached)

NMOCD Order No. R-12965 also required the operator to notify NMOCD when this type of dry hole marker is used. This can be done on the subsequent report of abandonment which is submitted to the BLM after the well is plugged. State that a ground level dry hole marker was installed as required in the COA's from the BLM.

#### Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be <u>no</u> primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

Species	<u>lb/acre</u>
Plains Bristlegr	ass 5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsi	is 2lbs/A
Sand Dropseed	1lbs/A

<sup>\*</sup>Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed