HOBBS OCD

OCD Hobbs

Form 3160-3
(April 2004)

FEB 07 2013

RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name
BLM NMNM 121958

1a. Type of work: ☐ DRILL ☑ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☑ Other SWD ☐ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. <397127>
Pan Am Federal "25"SWD # 1

2. Name of Operator
Enedeavor Energy, Resources, LP <190595>

9. API Well No.
30-025-23155

3a. Address **110 N. Marienfeld, Suite 200**
Midland, Texas 79701

3b. Phone No. *(include area code)*
432-687-1575

10. Field and Pool, or Exploratory SWD
Delaware <96100>

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **1980 FSL & 660 FWL, UNIT "L"**
At proposed prod. zone **1980 FSL & 660 FWL, UNIT "L"**

11. Sec., T. R. M. or Blk. and Survey or Area
SEC. 25 T25S-R33E

14. Distance in miles and direction from nearest town or post office*
24 MILES SOUTHWEST OF JAL NEW MEXICO

12. County or Parish
Lea

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
653'

16. No. of acres in lease
360

17. Spacing Unit dedicated to this well
40

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
NA

19. Proposed Depth
7050'

20. BLM/BIA Bond No. on file
NMB 000846

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3327' GL

22. Approximate date work will start*
06/15/2012

23. Estimated duration
22

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.
2. A Drilling Plan.
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).
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 authorized officer.

25. Signature — Name *(Printed/Typed)*: **JAN SOUTH** — Date: **06/26/2012**

Title: **REGULATORY ANALYST**

Approved by *(Signature)*: /s/ Don Peterson — Name *(Printed/Typed)*: /s/ Don Peterson — Date: FEB - 5 2013

Title: FIELD MANAGER — Office: CARLSBAD FIELD OFFICE

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.

APPROVAL FOR TWO YEARS

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)

SWD-1304

Carlsbad Controlled Water Basin

KR 02/13/13

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

FEB 14 2013

HOBBS OCD

FEB 07 2013

HOBBS OFFICE O. C. D.

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

ENDEAVOR ENERGY RESOURCES LP	Lease: MAY 12 8 03 AM '69 PAN AMERICAN FEDERAL RECEIVED			Well No. 1
Unit Letter: L	Section: 25	Township: 25-S	Range: 33E	County: Lea

Actual Footage Location of Well:
1980 feet from the South line and 660 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3331	Delaware	Wildcat	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

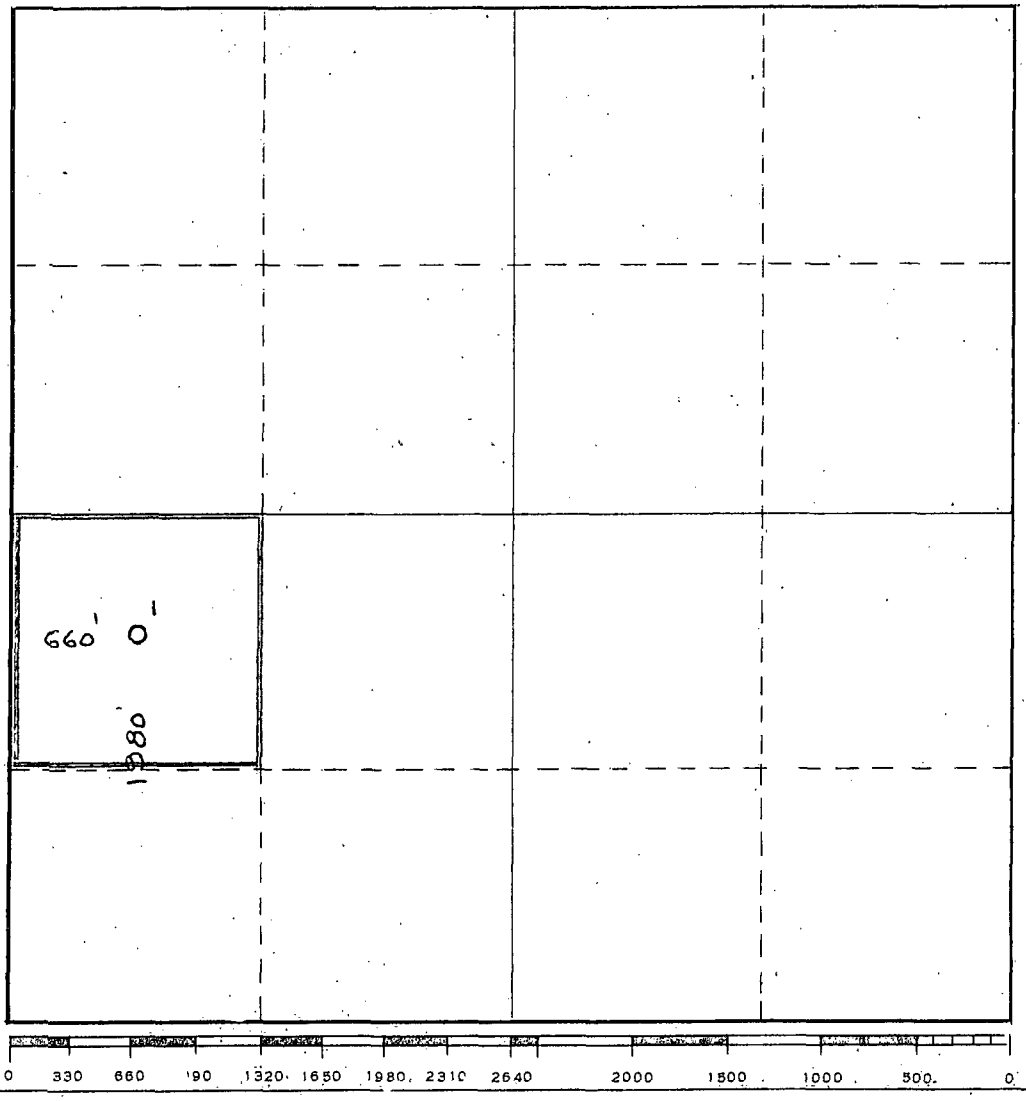
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

Name: M. R. Gibbs

Position: Production Analyst

Company: King Resources Company

Date: May 8, 1969

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 knowledge and belief.

Date Surveyed: APR 26 1969

Registered Professional Engineer and/or Land Surveyor

Certificate No. 1635

ENDEAVOR ENERGY RESOURCES, L.P.
PAN AM FEDERAL "25" SWD #1
1980' FSL, 660' FWL, UNIT "L" SECTION 25, T25S-R33E,
LEA COUNTY, NEW MEXICO

In response to questions asked under Section II of Bulletin NTL - 6, the following information on the above well will be provided.

1. **LOCATION:** 1980' FSL,660' FWL OF SEC 25, T25S-R33E, LEA CO., NM
2. **DRIVING DIRECTIONS:** From Jal, NM: Go W on hwy #128, turn L on CR J1 (Orla Hwy), go 11.0 mi S. Turn L on El Paso Pipeline Rd and go 6.1 ml E, turn L and go 0.8 mi N, turn E into location.
3. **ELEVATION ABOVE SEA LEVEL:** 3327' GL
4. **GEOLOGICAL NAME OF SURFACE FORMATION:** Quaternery, Aeolian Deposits
5. **DRILLING TOOLS AND ASSOCIATED EQUIPMENT:** Conventional rotary drilling rig using drilling mud as a circulating medium for the removal of solids from hole. Site Plan shown in Exhibit "A".
6. **PROPOSED DRILLING DEPTH:** 7050'
7. **ESTIMATED TOPS OF GEOLOGICAL FORMATIONS:** (from surface)

FORMATION	TOP	COMMENTS
Base Quaternary Fill	162'	
Santa Rosa (Triasic) Sand	252' to 458'	Well Developed Sand
Deway Lake (Upper Permian) Sand	700' to 964'	Poorly Developed Sand/Silt
Rustler Anhydrite	1047'	
Salado Salt	1188'	
Base Salado Salt	4872'	
Delaware (Lamar) Lime	5119'	
Delaware Ramsey Sand	5161'	
Delaware Olds Sand	5220'	
Cherry Canyon	6290'	

8. **PROTECTION OF FRESHWATER BEARING FORMATIONS:**

This is a re-entry and 8-5/8" casing was set to 506' with cement circulated to surface. 5-1/2" production string is needed for completion to SWD. Because an additional production string cannot be run through the Dewey Lake formation, Endeavor asks for variance to use salt mud with adequate LCM materials to eliminate seepage. The original open hole was drilled to 5,200' leaving 1,850' of new hole to drill. From time cement plug is drilled out at 506' to time 5-1/2" inch casing is run and cemented is estimated to be 7 days. The casing and cement program has been designed to permanently protect any possible freshwater bearing formations. Exhibit "B" is original electric log through the Dewey Lake formation.

See COA

9. **POSSIBLE MINERAL BEARING FORMATIONS:**
   - NO HYDROCARBON BEARING FORMATIONS WILL BE PENETRATED IN THIS WELL

10. **CASING PROGRAM:**

HOLE SIZE	INTERVAL	CASING OD	WEIGHT	THREAD	COLLAR	GRADE	CONDITION
12-1/4"	0-506'	8-5/8"	24	NA	NA	SURFACE	IN WELL
7-7/8"	0-1500'	5-1/2"	17#	8-R	LT&C	L-80	NEW
7-7/8"	DV TOOL @ 1500'	5-1/2"					NEW
7-7/8"	1500-7050'	5-1/2"	17#	8-R	LT&C	L-80	NEW

8-5/8"	Surface	(existing) assuming 8-5/8" 24# J55 ST&C Perform CIT on existing casing prior to drilling out to 1500 psi for 30 min. 8-5/8" 24# J55 ST&C burst rating = 2950 psi x 70% = 2065 psi
5-1/2"	Production	Burst & Collapse force of 3666 psi (10.0 MW at 7050' TD) • 5-1/2" 17# L80 collapse rating = 6290 psi (1.7 SF) o 5-1/2" 17# L80 burst rating = 7740 psi (2.1 SF) • Tension force of 120k lb in air (7,050' x 17#), 102k lb in 10.0 ppg mud o 5-1/2" 17# L80 LT&C joint strength = 338k psi (3.3 SF)

11. **CEMENTING PROGRAM:**

A. 5-1/2" Production Casing: (annular volume = 0.1733 cu ft/ft)

1. 1st Stage:
   - Lead: 435 sx 35/65/6 Poz/C/Gel (12.4 ppg, 2.10 cu ft/sk, 703.5 cu ft of slurry)
     - Interval: 5550' to DV tool at 1500 ft (calc. with 30% excess)
   - Tail: 255 sx 50/50/2 Poz/C/Gel (14.2 ppg, 1.33 cu ft/sk, 425.6 cu ft of slurry)
   - Interval: 7050' shoe to xxx ft (calc. with 30% excess)
   - Est BHST = 135°F
   - WOC time prior to drill-out: N/A

See COA

2. 2nd Stage:
   - Tail: 150 sx 1/5/85/4 Poz/C/Gel + 2% $CaCl_2$ (13.5 ppg, 1.71 cu ft/sk, 299 cu ft of slurry)
   - Interval: 1500' DV tool to surface (calc. with 30% excess in open hole)
   - Est BHST = 92°F
   - WOC time prior to drill-out: 500 psi compressive strength in 8 hr.

B. Centralizers: TOC Surface

1. Bow-spring centralizers run as follows:
2. 1 bow spring centralizer every 3rd joint on all casing in open hole
3. 1 centralizer immediately above and below DV tool

ENDEAVOR ENERGY RESOURCES, L.P.
PAN AM FEDERAL "25" SWD #1
1980' FSL, 660' FWL, UNIT "L" SECTION 25, T25S-R33E,
LEA COUNTY, NEW MEXICO

12. **PRESSURE CONTROL EQUIPMENT:** See Diagrams

- Exhibit "C" shows a 3,000 PSI b.o.p. consisting of an annular bag type preventor, top blind rams and bottom pipe rams. This b.o.p. will be nippled up on the 8-5/8" casing and remain on the hole to 7,050'. The b.o.p. will be tested after installation to API specifications and remain on hole until 5-1/2" casing is run and cemented.
- Exhibit "D" shows a 3,000 PSI choke manifold with two adjustable manually operated chokes.

13. **PROPOSED MUD CIRCULATING SYSTEM:**

DEPTH	MUD WT	VISC	FLUID LOSS	TYPE MUD SYSTEM
506-7050'	9.5-10.0	28 – 32	NC	Brine water add paper to control seepage and high viscosity sweeps to clean hole.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, cut cores and casing, the viscosity, water loss and other properties may have to be altered to meet these requirements.

THIS WELL WILL BE DRILLED USING A CLOSED MUD SYSTEM.

No reserve pit will be utilized during drilling of this well. All drill cuttings will be hauled off for disposal. Sufficient mud materials will be kept on location at all times to control lost circulation or unexpected kicks.

14. **LOGGING, CORING, AND TESTING PROGRAM:**

DEPTHS	HOLE	LOGS
506-7050'	7-7/8"	Triple Combo (Neutron-Density, GR, Caliper, Resistivity)
Surface – 7050'	Cased Hole	Gamma Ray, Cement Bond, Neutron Collar Logs

DST's: None.

15. **POTENTIAL HAZARDS:**

No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.

Estimated BHP 2800 PSI, and Estimated BHT 135°F.

16. **ANTICIPATED STARTING DATE AND DURATION OF OPERATION:**

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take **7** days. An additional **15** days will be needed to

complete well and construct Saltwater Disposal (SWD) surface facilities and/or lay flowlines in order to place well on production.

17. **OTHER FACETS OF OPERATIONS:**

After running casing, cased hole Gamma Ray, Cement Bond log, Neutron Collar logs will be run from TD back to surface. The Bell Canyon and Cherry Canyon will be perforated and stimulated in order to establish adequate injection rates and injection pressures.

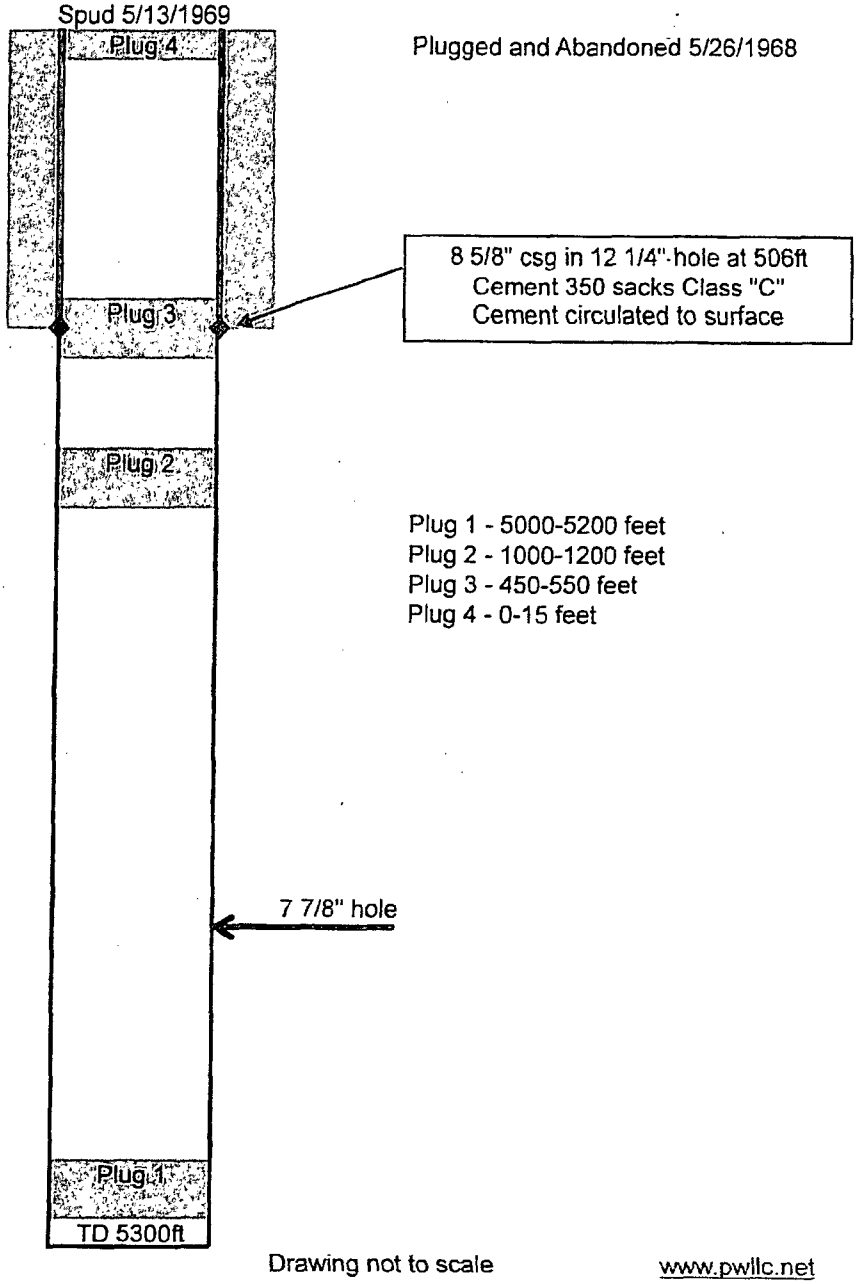
18. **BEFORE/AFTER WELLBORE DIAGRAMS:**

See Exhibit "E" parts 1 and 2.

ENDEAVOR ENERGY RESOURCES,
Hydrogen sulfide contingency plan
For drilling/workover/facility.

This well and it's anticipated facility are not expected to have Hydrogen Sulfide releases there is no known presence of Hydrogen Sulfide in this area. There are no dwellings in the close proximity of this location. However if an indication of any Hydrogen Sulfide should be encountered a plan is in place to monitor the situation. ENDEAVOR ENERGY RESOURCES, L.P. will have a company representative available to the rig personnel throughout the drilling and completion operation. If Hydrogen Sulfide should be detected monitoring equipment will be available for monitoring and testing.

Endeavor Energy Resources, LP
Pan Am Federal "25" SWD # 1
API # 30-025-23155
1980 FSL X 660 FWL
Unit Letter "L", Section 25, T25S, R33E
Lea County, New Mexico
Prior to conversion to SWD



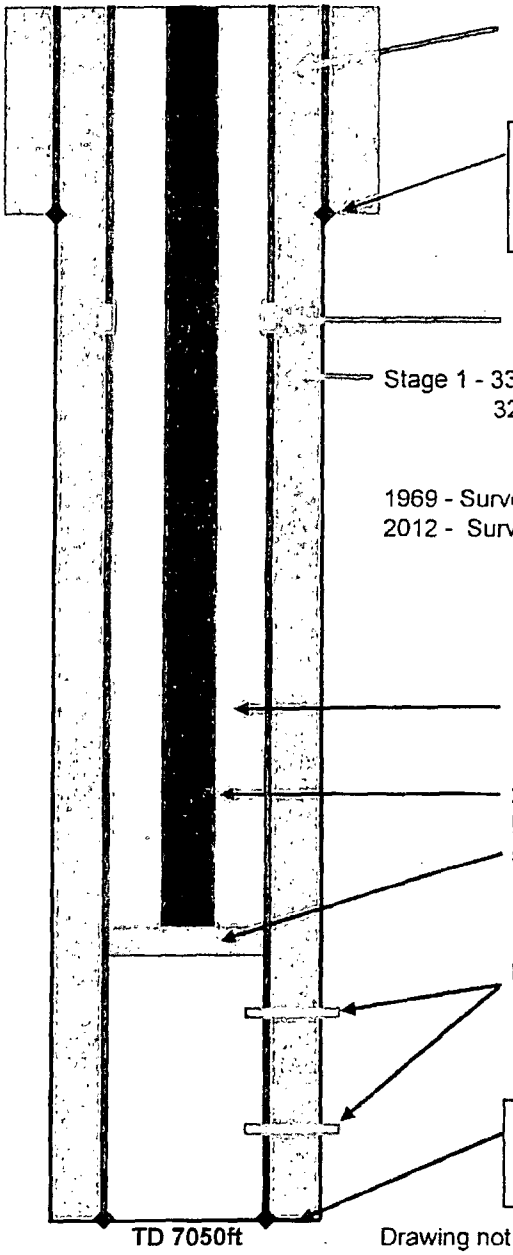
BEP

Drawing not to scale

www.pwllc.net

EXHIBIT "E" (part 2)

Endeavor Energy Resources, LP
Pan Am Federal "25" # 1
API # 30-025-23155
1980 FSL X 660 FWL
Unit Letter "L", Section 25, T25S, R33E
Lea County, New Mexico
After to conversion to SWD



Stage 2 - 175sx 15/85/4Poz/C/gel
w/ 2% CaCL2 (17.71cuft/sk)

8 5/8" csg in 12 1/4" hole at 506ft
Cement 350 sacks Class "C"
Cement circulated to surface
Casing in Place

DV Tool at 1500ft

Stage 1 - 335sx 35/65/6 Poz C/Gel (2.1 cuft/sk) Lead
320sx 50/50/2Poz/C/Gel(1.33cuft/sk) Tail
Attempting to circ cmt above DV Tool

1969 - Survey Plat - 1980 FSL x 660 FWL
2012 - Survey Plat - 1977 FSL x 653 FWL

Packer Fluid

2 7/8" IPC tubing
Maximum pressure 5150 x 0.2 = 1030
5 1/2" NC Arrowset pkr - 5100' +/-

Perforations 5150-6950ft

5 1/2" 17# L80 csg in 7 7/8" hole at 7050ft
DV Tool at 1500ft
Cement in 2 Stages

BEP

TD 7050ft

Drawing not to scale

www.pwllc.net

ENDEAVOR ENERGY RESOURCES, L.P.
PAN AM FEDERAL "25" SWD #1
1980' FSL, 660' FSL, UNIT "L" SECTION 25, T25S-R33E,
LEA COUNTY, NEW MEXICO

EXHIBIT "C"

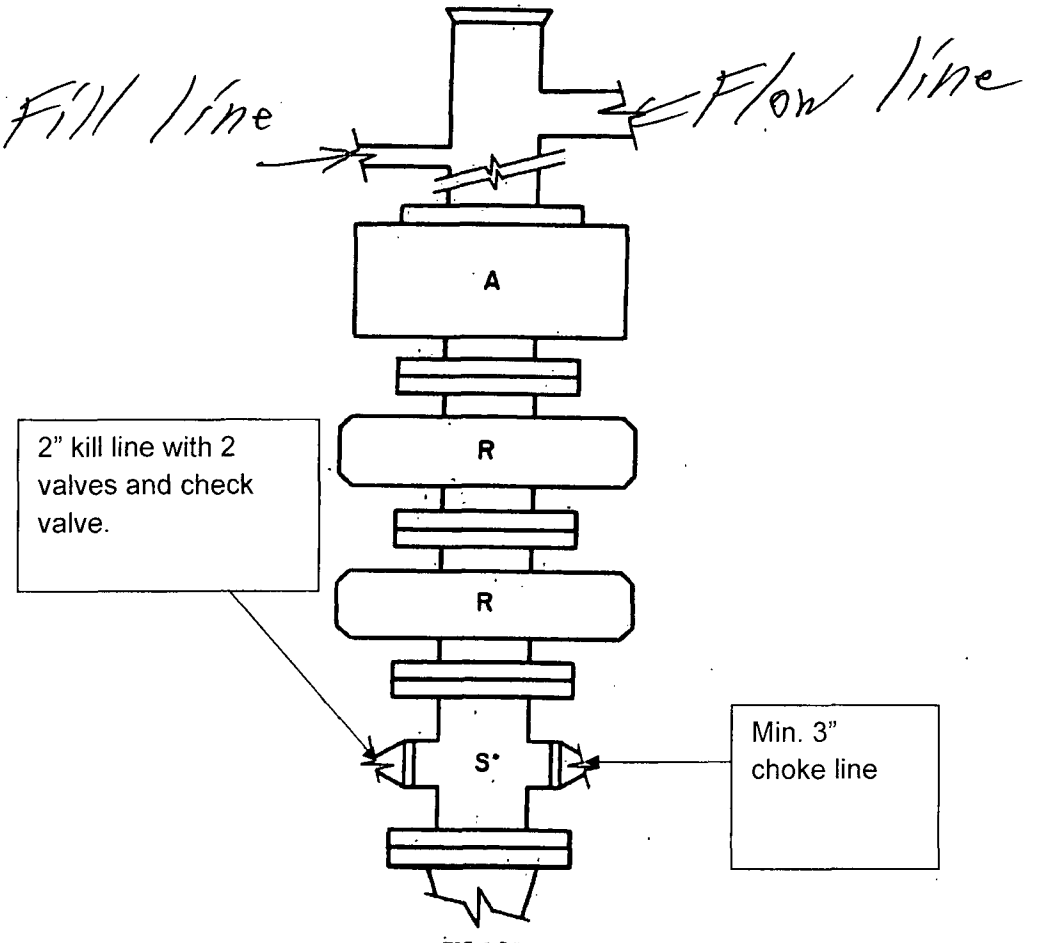


FIG. 2.C.5
ARRANGEMENT S°RRA
Double Ram Type Preventers, R_d, Optional.

ARRANGEMENT S°RRA
DOUBLE RAM TYPE PREVENTERS, R_D, OPTIONAL
BLOWOUT PREVENTER
ARRANGEMENTS FOR 3M RATED
WORKING PRESSURE SERVICE
SURFACE INSTALLATION

ENDEAVOR ENERGY RESOURCES, L.P.
PAN AM FEDERAL "25" SWD #1
1980' FSL, 660' FSL, UNIT "L" SECTION 25, T25S-R33E,
LEA COUNTY, NEW MEXICO

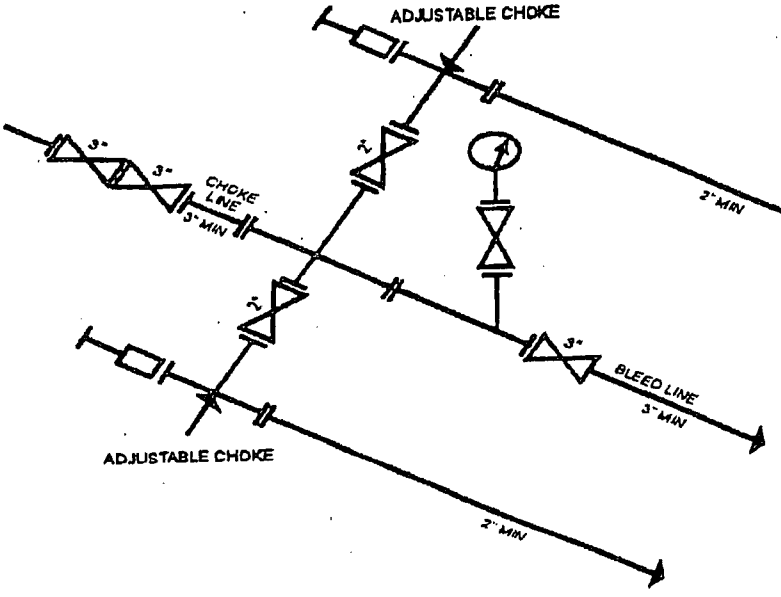
EXHIBIT "D"

BOP'S AND CHOKE MANIFOLD

BOP'S & TESTING: per BLM Onshore Order #2

Annular preventer will be functioned at least weekly. Rams will be functioned on each trip (not more than once per day). BOP drills will be performed weekly with each crew.

13-5/8" 3M double ram hydraulic BOP (see exhibit 1). Dress BOP with pipe rams and blind rams. Test rams to 3,000 psi and annular to 1,500 psi. not exhibit 1 — exhibit "C"



Since no hydrocarbon bearing zones will be penetrated, chokes will be routed to the flare pit, and to the pits with valves to control flow.