AP S-07-151

OCD-ARTESIA

Month - Year
MAR - 5 2007
OCD - ARTESIA, NM

Form 3160-3
(April 2004)

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

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. NM NM 115997
	6. If Indian, Allotee or Tribe Name
	7. If Unit or CA Agreement, Name and No.
1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. Hop Sing 2020-5 Federal #1 H 36358
2. Name of Operator Parallel Petroleum Corporation 230387	9. API Well No. 30-005-63911
3a. Address 1004 North Big Spring, Suite 400 Midland, Texas	3b. Phone No. (include area code) 432/684-3727
	10. Field and Pool, or Exploratory Wildcat; Wolfcamp
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface 1860' ~~FSL~~ FNL and 210' FWL, Sec 4, T20S-R20E At proposed prod. zone 1860' ~~FSL~~ FNL and 660' ~~FEL~~ FWL, Sec 5,T20S-R20E	11. Sec., T. R. M. or Blk. and Survey or Area 5-T20S-R20E
14. Distance in miles and direction from nearest town or post office* 15 miles south of Hope, New Mexico	12. County or Parish Chaves / 13. State 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. Spacing Unit dedicated to this well
660'	2091.85	320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
1300'	5,200'	NMB000265
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
GL 4836'	03/01/2007	30 days

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)	Date
Deane Durham	Deane Durham	01/08/2007

Title: Drilling Engineer, Parallel Petroleum Corporation

Approved by (Signature)	Name (Printed/Typed)	Date
/s/ James Stovall	/s/ James Stovall	FEB 26 2007
Title: ACTING 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 1 YEAR

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.

SEE ATTACHED FOR CONDITIONS OF APPROVAL

(Instructions on page 2)

Roswell Controlled Water Basin

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

Parallel Petroleum Corporation
1004 N. Big Spring St.
Suite 400
Midland, Texas 79701

The undersigned accepts all applicable terms, conditions, stipulations and restrictions covering operations conducted on the leased land or portion thereof, as described below:

Lease No:	NM NM 115997
Legal Description of Land:	Hop Sing 2020-5 Federal #1H SHL: 1860' FNL AND 200' FWL, SEC 4, T20S, R20E BHL: 1860' FNL AND 660' FWL, SEC 5, T19S, R21E Chaves County, New Mexico
Formation(s) (if applicable:	Wolfcamp
Bond Coverage:	$25,000 statewide bond of Parallel Petroleum Corporation
BLM Bond File No:	**NMB000265**

1-8-07
Date

Deane Durham
Name: Deane Durham
Title: Engineer

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, 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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Frances Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	97489	Wildcat; Wolfcamp

Property Code	Property Name	Well Number
	HOP SING 2020-5 FEDERAL	1H

OGRID No.	Operator Name	Elevation
	PARALLEL PETROLEUM CORPORATION	4837'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
5	4	20 S	20 E		1860	NORTH	200	WEST	CHAVES

Bottom Hole Location If Different From Surface

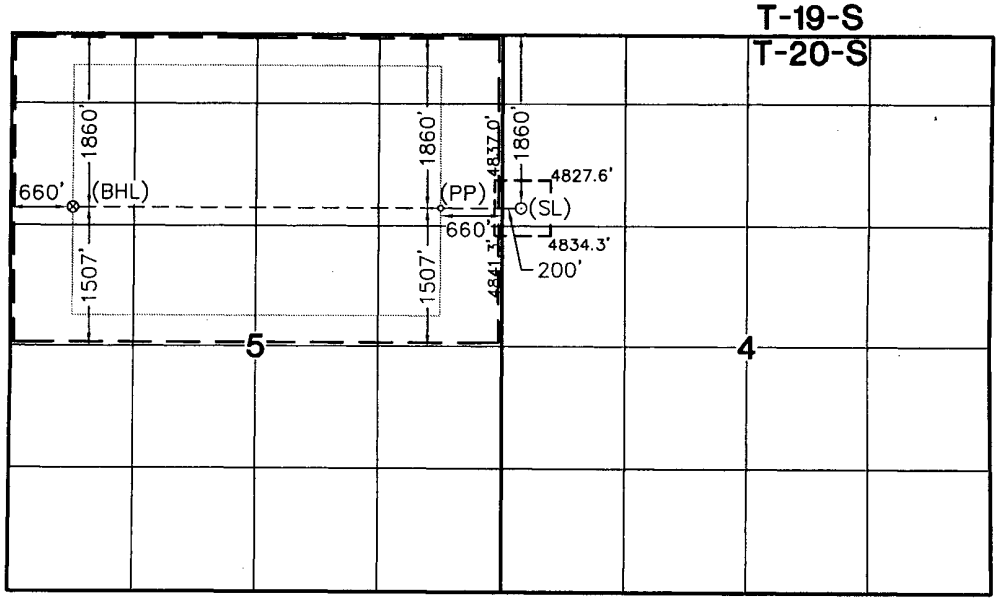
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
5	5	20 S	20 E		1860	NORTH	660	WEST	CHAVES

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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

NOTE:

1) Plane Coordinates shown hereon are Transverse Mercator Grid and Conform to the "New Mexico Coordinate System", New Mexico East Zone, North American Datum of 1927. Distances shown hereon are mean horizontal surface values.



Coordinate Table	
Description	Plane Coordinate
Hop Sing 2020-5 Federal #1 Surface Location	X = 322,531.1
	Y = 584,110.6
Hop Sing 2020-5 Federal #1 Penetration Point	X = 321,671.3
	Y = 584,115.3
Hop Sing 2020-5 Federal #1 Bottom Hole Location	X = 317,713.6
	Y = 584,136.9

OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interestin the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Deane Durham 1-8-07

Signature Date

Deane Durham

Printed Name

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 supervison and that the same is true and correct to the best of my belief.

December 13, 2006

Date of Survey

LVA

Signature & Seal of Professional Surveyor

W.O. Num. 2006-1283

Certificate No. MACON McDONALD 12185

ATTACHMENT TO FORM 3160-5
HOP SING 2020-5 FEDERAL #1
Surface Hole Location
1860 FNL AND 200 FWL, SEC 4, 20S, 20E
Bottom Hole Location
1860 FNL AND 660 FWL, SEC 5, 20S, 20E
CHAVES COUNTY, NEW MEXICO

DRILLING PROGRAM

This well is designed as a horizontal test in the Wolfcamp formation.

1. GEOLOGIC NAME OF SURFACE FORMATION

San Andres

2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

GL 4837'
Glorieta 2439'(+2398')
Tubb 3445'(+1392')
Yeso 3585' (+1252')
Abo Shale 4085' (+752')
Abo Carbonate 4199' (+638')
Wolfcamp 5037' (-200')
Wolfcamp Shale 5130'(-293')
TD 5200' Pilot Hole

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL, OR GAS

Fresh water 790'
Oil and Gas Wolfcamp 5037' (-200')
No H_2S gas should be encountered

4. CASING AND CEMENTING PROGRAM

Casing Size	From To	Weight	Grade	Joint
16" conductor	0'-120'			
8 5/8"	0' – 1500'	24#	J-55	STC
5 1/2"	0' – 9,488'	17#	N-80	LTC

Equivalent or adequate grades and weights of casing may be substituted at time casing is run, depending on availability.

8-5/8" slurry: Lead: 125 sacks (50:50) Poz (Fly Ash): Class C + 5% bwow Sodium Chloride + 10% bwoc Bentonite + 151.7% fresh water. Tail: 200 sacks Class C + 1% bwoc Calcium Chloride + 56.3% fresh water

Note: If cement does not circulate to surface, notify BLM. A temperature survey will be required. Top out to surface with 1" pipe in the annulus.

Note: 5-1/2" Cement casing with enough volume to circulate to surface plus 25%. (Acid soluble CMT). Lead - 560 sacks 50:50 Poz (Fly Ash):Class C CMT + 10% Bentonite + 0.2% FL-52A + 0.2% Sodium Metasilicate + 141% fresh water. Tail – 560 sacks Class H CMT + 0.6% BA-10 + 0.4% CD-32 + 1% FL-62 + 0.1% ASA-301 + 0.4% Sodium Metasilicate + 20 lbs/sack calcium carbonate + 53% fresh water. Cement must tie back to surface casing per completion procedure.

Drilling Procedure

a. Set 16" conductor pipe as deep as possible up to 120' with a rathole unit.
b. Drill 11" surface hole to an approximate depth of 1500', using fresh water and viscous sweeps for hole cleaning. Set 8 5/8", 24# J-55 casing with 460 sx, Class C cement (lead will be 50/50 Poz, circulate to surface, 1" if necessary).
c. Set slips on 8 5/8" CSG. Cut 8 5/8" CSG and NU & test BOP.
d. Drill 7 7/8" production hole to 5200', using cut brine to an approximate depth of 4000' and a polymer mud system to TD.
e. Run open-hole logs
f. Set CMT kick-off plug.
g. Dress CMT to kick off point at approximately 4177'.
h. Build angle at 6.7 degrees per 100' to 90 degrees and hold.
i. Drill 7 7/8" horizontal drain hole to a terminus of 660' FWL.
j. Run 5 ½" 17# N-80 CSG to TD. Cement with enough volume to circulate to surface plus 25%. (Acid soluble CMT). Lead - 560 sacks 50:50 Poz (Fly Ash):Class C CMT + 10% Bentonite + 0.2% FL-52A + 0.2% Sodium Metasilicate + 141% fresh water. Tail – 560 sacks Class H CMT + 0.6% BA-10 + 0.4% CD-32 + 1% FL-62 + 0.1% ASA-301 + 0.4% Sodium Metasilicate + 20 lbs/sack calcium carbonate + 53% fresh water. Cement must tie back to surface casing per completion procedure.
k. Rig Down Rotary Tools

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL

The BOP stack will consist of a 3,000 psi working pressure, dual ram type preventer and annular.

A BOP sketch is attached.

6. TYPES AND CHARACTERS OF THE PROPOSED MUD SYSTEM

a. Spud and drill to 1,500' with 8.3 ppg Fresh Water system and viscous sweeps for hole cleaning.
c. The production section from 1,500' to 4,000' will utilize a cut brine mud system. 9.8ppg MAX
d. The remaining production section from 4,000' to TD will be a polymer mud system with mud weight sufficient to control formation pressures.

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT

None required.

8. LOGGING, TESTING, AND CORING PROGRAM

Mud logs as well as DLL/CNL/LDT/CAL/GR logging is planned. Drill stem tests, cores and sidewall cores are possible. No MWD GR will be used.

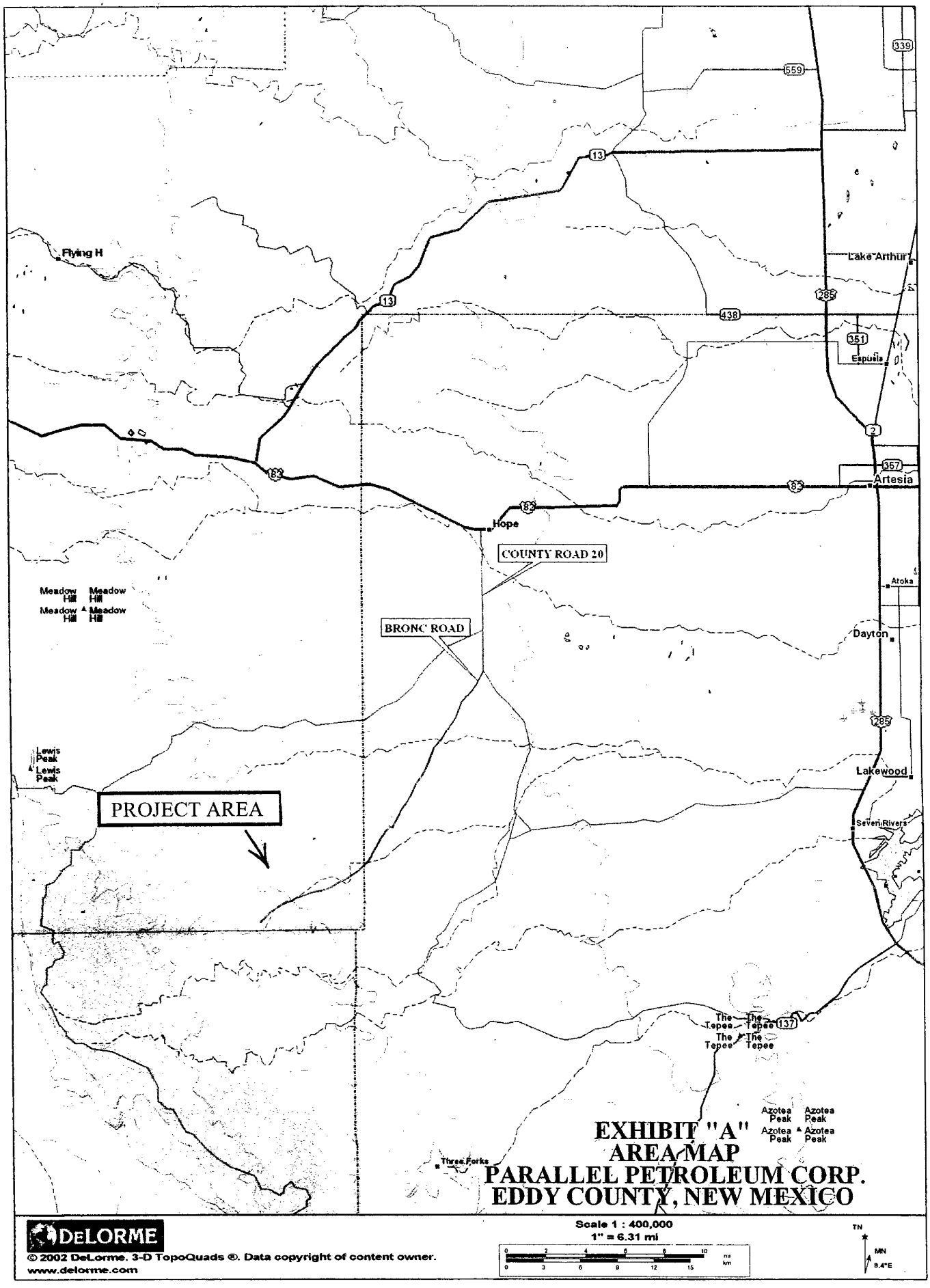
9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES & POTENTIAL HAZARDS

None anticipated.

BHP expected to be 2,100 psi.

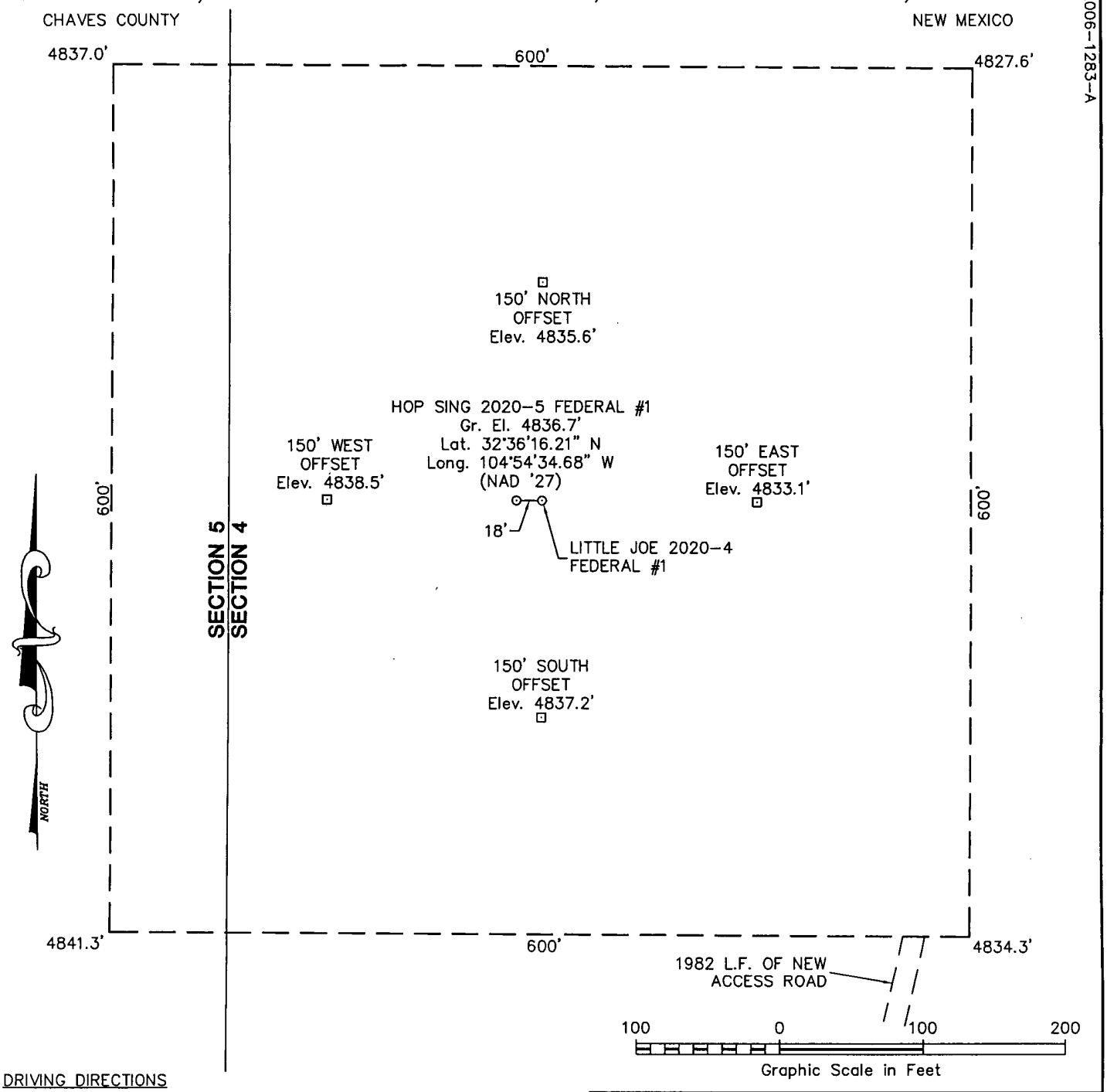
10. ANTICIPATED STARTING DATE:

It is planned that operations will commence around second quarter of 2007 with drilling and completion operation lasting about 30 days.



SECTION 4, TOWNSHIP 20 SOUTH, RANGE 20 EAST, N.M.P.M.

L-2006-1283-A



DRIVING DIRECTIONS

FROM THE INTERSECTION OF U.S. HIGHWAY 82 AND STATE HIGHWAY 449 IN HOPE, NM GO SOUTH ON SAID STATE HIGHWAY 449 2.2 MILES TO THE END OF SAID STATE HIGHWAY 449 AND THE BEGINNING OF COUNTY ROAD 12, THEN CONTINUE SOUTH ANOTHER 4.8 MILES (6.9 TOTAL) TO A FORK IN THE ROAD, THE INTERSECTION OF SAID COUNTY ROAD 12 AND A LEASE ROAD HEADING SOUTHWEST (RIGHT FORK), THEN GO SOUTHWEST ALONG SAID LEASE ROAD 15.0 MILES TO A NEW ACCESS ROAD ON NORTH (RIGHT) SIDE OF ROAD, THEN GO NORTHEAST ALONG SAID ACCESS ROAD 3.2 MILES TO THE PROPOSED LOCATION.

PARALLEL PETROLEUM CORPORATION

HOP SING 2020-5 FEDERAL #1

Located 1860' FNL & 200' FWL, Section 4
Township 20 South, Range 20 East, N.M.P.M.
Chaves County, New Mexico

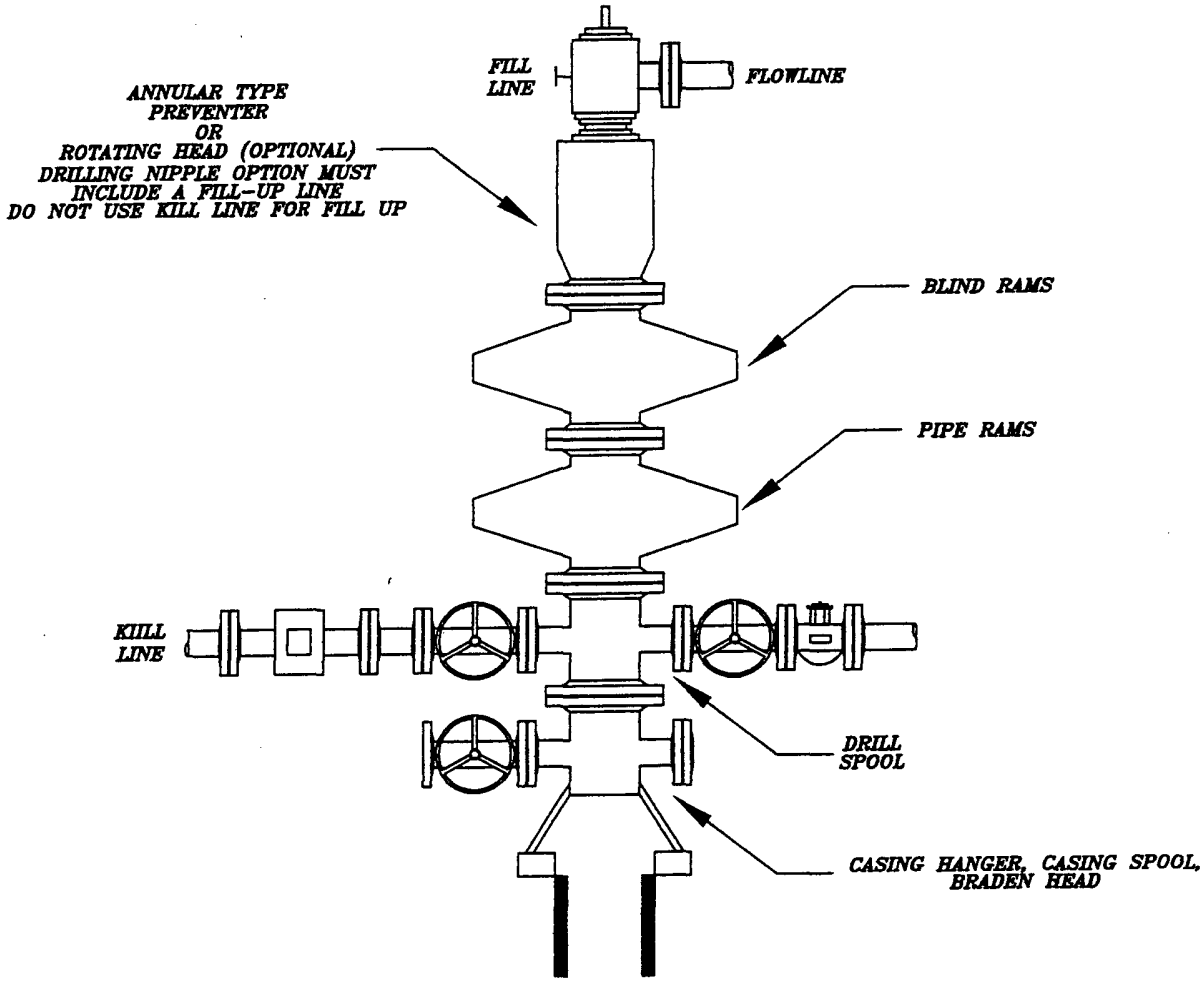
Drawn By: LVA	Date: December 21, 2006
Scale: 1"=100'	Field Book: 348 / 64-66
Revision Date:	Quadrangle: South Taylor Tank
W.O. No: 2006-1283	Dwg. No.: L-2006-1283-A

WEST COMPANY of Midland, Inc.

110 W. LOUISIANA, STE. 110
MIDLAND TEXAS, 79701
(432) 687-0865 - (432) 687-0868 FAX

EXHIBIT C

MINIMUM BOP SCHEMATIC

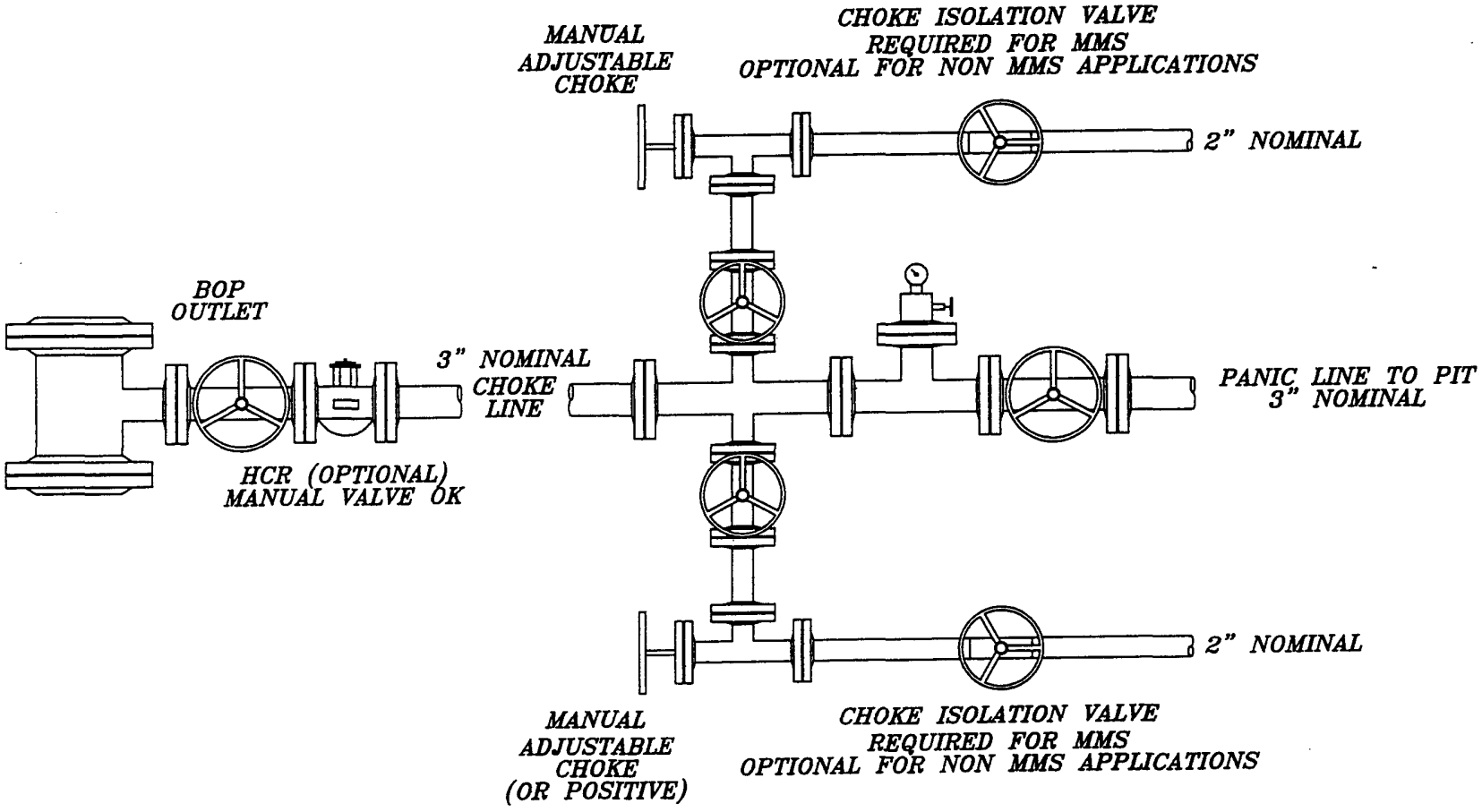


NOT TO SCALE

EXHIBIT I

DATE: 7/26/05	PARALLEL PETROLEUM BOP SCHEMATIC
DWN. BY: JJ	HIGHLANDER ENVIRONMENTAL CORP. MIDLAND, TEXAS
FILE: C:\PARALLEL\2439\BOP SCHEMATIC	

CHOKE MANIFOLD
5M SERVICE



NOT TO SCALE

EXHIBIT J

DATE: 8/17/05	PARALLEL PETROLEUM CHOKE MANIFOLD
DWN. BY: JJ	HIGHLANDER ENVIRONMENTAL CORP. MIDLAND, TEXAS
FILE: C:\PARALLEL\2439\ CHOKE MANIFOLD	

PARALLEL PETROLEUM CORPORATION

SURVEY CALCULATION PROGRAM

OPERATOR:	Parallel Petroleum Corporation	Supervisors:	
WELL:	Hop Sing 2020-5 Federal #1		
LOCATION:	Sec. 5 T-20-S R-20-E		
API NUMBER:			
COMMENTS:			
		MAG DEC.(-/+)	
		GRID CORR.(-/+)	
		TOTAL CORR.(-/+)	0.0

DATE: 01/05/07 TIME: 8:41 AM — TRUE TO GRID

MINIMUM CURVATURE CALCULATIONS(SPE-3362) — PROPOSED DIRECTION: 270.0

SVY NUM	MD	INC	GRID AZM	TVD	VERT SECT	N-S	E-W	DLS/ 100	TARGET TRACKING TO CENTER ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)
TIE	0	0.0	0.0	0.0	0.0	0.0	0.0			
1	4177	0.0	0.0	4177.0	0.0	0.0	0.0	0.0	860.0	0.0
2	4187	0.7	270.0	4187.0	0.1	0.0	-0.1	6.7	850.0	0.0
3	4197	1.3	270.0	4197.0	0.2	0.0	-0.2	6.7	840.0	0.0
4	5528	90.0	270.0	5037.0	860.1	0.0	-860.1	6.7	0.0	0.0
5	9488	90.0	270.0	5037.0	4820.1	0.0	-4820.1	0.0	0.0	0.0

KOP @ 4177' MD
BUR = 6.7 DEG per 100 FT
End Curve @ 5528' MD, 5037' TVD
BHL @ 9488' MD, 5037' TVD, 4820' VS

EXHIBIT K

Parallel Petroleum Corp.

Hop Sing 2020-5 Federal #1
Sec. 5, T-20-S, R-20-E
Eddy County, New Mexico

COMPANY DETAILS

Parallel Petroleum Corp.
1004 N. Big Spring, Ste 400
Midland, Texas 79701

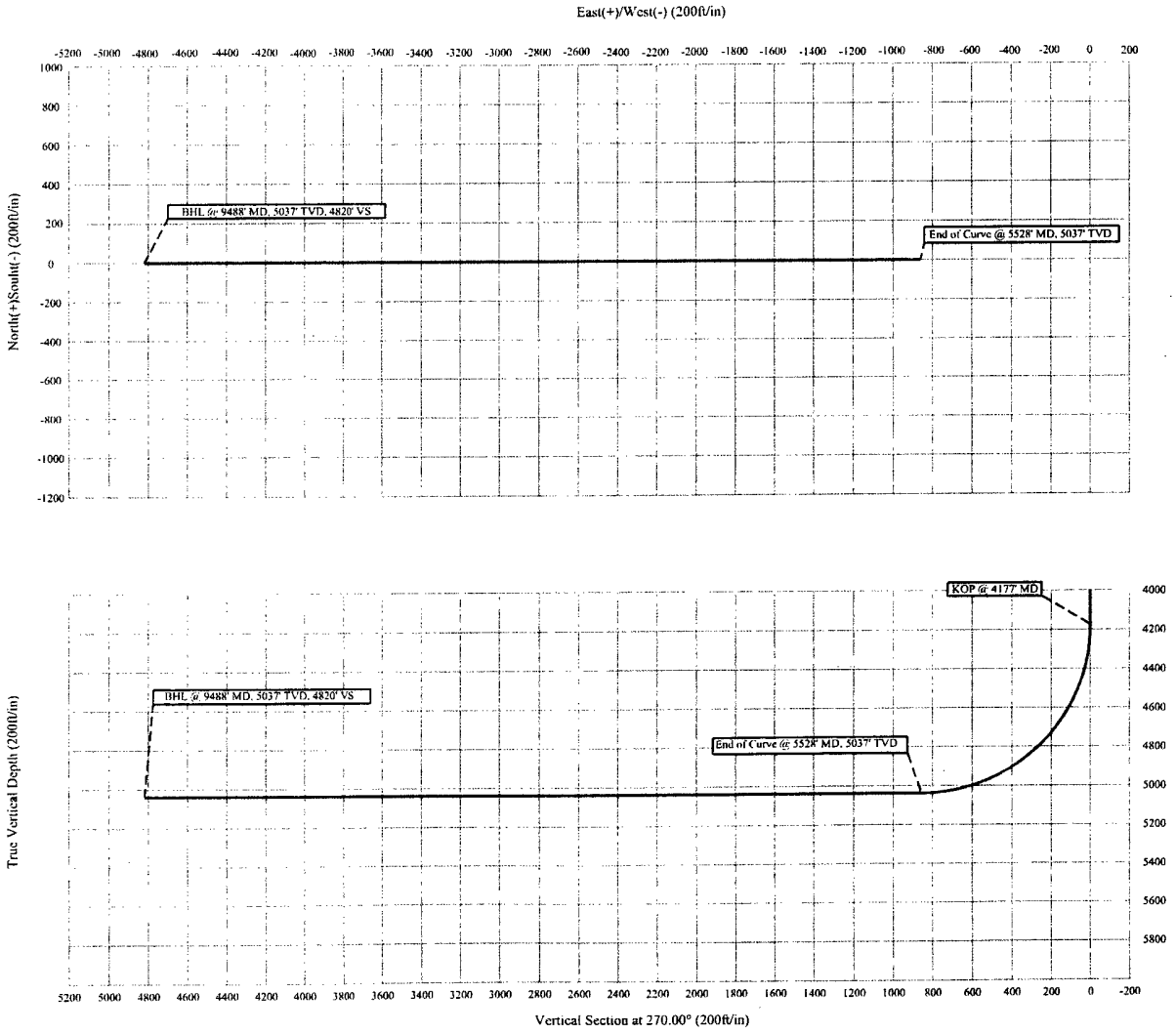


EXHIBIT L

PARALLEL
Petroleum Corporation
1004 North Big Spring, Suite 400 • Midland, TX 79701 • Ph: 432-684-3727 • Fax: 432-685-6580

June 12, 2006

Mr. Bryan Arrant
New Mexico Oil Conservation Division
1301 W. Grand Ave.
Artesia, New Mexico 88210

Re: Hydrogen Sulfide Potential
South Hope Area Wolfcamp Program
SW Chaves and Eddy Counties, New Mexico

Dear Mr. Arrant:

Parallel Petroleum Corporation operates the Boxtop 1921-1 Federal #1 well located in Section 1, T-19-S, R-21-E. The well which was tested in the Wolfcamp formation did not have any indications of hydrogen sulfide from this formation. We believe the potential for it on locations in this area are negligible. There are no occupied dwellings in the area of these new drilling locations.

Should you need any additional information regarding this issue, please contact me at the address or phone number listed or email at ddurham@plll.com .

Sincerely,

A. Deane Durham
Senior Engineer

CONDITIONS OF APPROVAL - DRILLING

Well Name & No. Hop Sing 2020-5 Federal # 1
Operator's Name: Parallel Petroleum Corp.
Location: 1860'FNL, 200'FWL, SEC4, T20S, R20E, Chaves County, NM
BHL: 1860'FNL, 660'FWL, SEC5, T20S, R20E, Chaves County, NM
Lease: NM-115997

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822 for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 16 inch, 8.625 inch, 5.5 inch

C. BOP tests

2. A Hydrogen Sulfide (H2S) Drilling Plan should be activated prior to drilling into the N/A Formation. A copy of the plan shall be posted at the drilling site.

3 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.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

6. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

7. Gamma-Ray/Neutron logs shall be run from the base of the Salado Formation to the surface; cable speed not to exceed 30 feet per minute.

II. CASING:

1. The 8.625 inch surface casing shall be set @ APPROXIMATELY 1500 FEET , below usable water and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 5-1/2 inch production casing is **cement shall CIRCULATE TO 200 feet inside the 8.625 inch surface casing.**

3. Whenever a casing string is cemented in the R-111-P Potash Area, cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the **8.625** inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) is 2000 psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
- A variance to test the _____ to the reduced pressure of ____psi with the rig pumps is approved.
- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.

Engineers can be reached at 505-706-2779 for any variances that might be necessary.

F Wright 1/29/07