District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr. Santa Fe. NM 87505

Date: 1-16-01

Phone: 432-684-3727

# State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

5618 Form (7) 101 May 27, 2004	
Submit to Appropriate District Office	367 767
ARTEO	<b>7</b>

NOTIFY OCD OF SPUD & TIME

TO WITNESS CEMENTING OF

SURFACE CASING

1220 S. St. Francis Dr., Santa Fe, NM 87505 APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE Operator Name and Address Parallel Petroleum Corp. 1004 N. Big Spring Street, Suite 400, Midland, TX. 79701 Hope Unit 1821-15 State <sup>9</sup> Proposed Pool 1 10 Proposed Pool 2 Wolfcamp Surface Location Feet from the North/South line UL or lot no. Lot Idn East/West line County Section Township Feet from the 21E P 16 18S 760 South 200" East Eddy <sup>8</sup> Proposed Bottom Hole Location If Different From Surface Feet from the UL or lot no. Section Township Lot Idn North/South line Feet from the East/West line County 21E 760' 660' East Eddy P 15 18S South Additional Well Information 15 Ground Level Elevation 11 Work Type Code 12 Well Type Code 13 Cable/Rotary 14 Lease Type Code 0 & G 4223 N R 16 Multiple 17 Proposed Depth 18 Formation 19 Contractor 20 Spud Date 8986MD.4550TVD No Wolfcamp NA NA Depth to Groundwater 690° Distance from nearest fresh water well 6000' Distance from nearest surface water 800 Liner: Synthetic X 12 mils thick Clay Pit Volume:25,000 bbls Drilling Method: Pit: Fresh Water X Brine Diesel/Oil-based Gas/Air Closed-Loop System <sup>21</sup> Proposed Casing and Cement Program Casing weight/foot Setting Depth Sacks of Cement Estimated TOC Hole Size Casing Size 1500 11" 8-5/8" 24# 325 Surface 7-7/8" 5-1/2" 17# TVD 4550' Tie back to NA MD 8986 Surface casing Describe the proposed program. If this application is to DEEPEN or PLUBACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary. Well to be Drilled as a Horizontal Wolfcamp test. The attached drilling plan will be utilized for this test and contains details on the cement and mud programs as well as the directional information. The following is a summary of this plan. 1. Prepare surface location. Move in and rig up drilling rig, spud well and drill and set conductor. Install and test BOP's. Drill 11" Surface hole to a minimum depth of 1500'. Set 8 5/8" casing and cement. Drill 7 7/8" production hole to 5500' TD and evaluate running mud logs as well as DLL/CNL/LDT/CAL/GR to TD. Plug back hole and set kickoff point at 3680' drill and advance 7-7/8" hole to a Wolfcamp penetration point at approximately 760' FSL and 660' FWL of the section and continue drilling to BHL. (8986' MD & 4550' TVD) Set 5 ½" to TD and tie cement back to the surface casing. Perforate porosity and stimulate as necessary (specific procedure to be determined). Place well on test. 6. No H2S if anticipated during the drilling of this well, <sup>23</sup> I hereby certify that the information given above is true and complete to the OIL CONSERVATION DIVISION best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines X, a general permit , or an Approved by: BRYAN G. ARRANT DISTRICT II GEOLOGIST Printed name: Deane Durham, Title: JAN 1 9 2008 Approval Date: JAN 1 9 2007 Title: Drilling Engineer E-mail Address: ddurham@plll.com

Conditions of Appr

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

1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410

NOTE:

State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION

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

1220 South St. Frances Dr. Santa Fe, NM 87505

☐ AMENDED REPORT

DISTRICT IY 1220 S. St. Francis Dr., Santa Fe, NM 87505

### WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name		
	97489	Wildcar:	Walframs	
Property Code	Prop	erty Name		Well Number
	HOPE UNIT	1821-15 STATE		2
OGRID No.	Oper-	ator Name	·	Elevation
	PARALLEL PETRO	LEUM CORPORATIO	N	4223'

### Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	16	18 S	21 E		760	SOUTH	200	EAST	EDDY

### 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
P	15	18 S	21 E		760	SOUTH	660	EAST	EDDY
Dedicated Acres	Joint or	r Infill Co	onsolidation	Code Or	der 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

Plane Coordinates shown     Mercator Grid and Confo     Coordinate System", New     American Datum of 1927. I     mean horizontal surface v	orm to the "New Mexico Mexico East Zone, North Distances shown hereon are		
16		Project Area	Producing Area
	200'- (SL) 0	(PP) \$ 89'52'42"	E - 3946.7' 660'
	Surface Location Plane Coordinate X = 359,223.5 Y = 634.132.7	Penetration Point Plane Coordinate X = 360,083.2 Y = 634,130.9	Bottom Hole Location Plane Coordinate X = 364,028.8 Y = 634,122.5

Y = 634,130.9

Geodetic Coordinate Lat. 32°44'33.06" N Long. 104°46'32.00" V

(NAD '27)

Geodetic Coordinate
Lat. 32\*44'32.98" N
Long. 104\*47'18.20" V
(NAD '27)

Y = 634, 132.7

1 = 634,132.7 <u>Geodetic Coordinate</u> Lat. 32\*44'32.96" N Long. 104\*47'28.26" W (NAD '27)

# 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 ottom hole location or has a right to drill this well at this location pursu a contract with an owner of such a mineral or working interest, or to a voluntary pooling gareement or a compulsory pooling order heretofore entered by

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.

January 5, 2007

Date of Survey

ΊVΑ

Signature & Seal of Professional Surveyor

W.O. Num, 2006-1286

Certificate No. MACON McDONALD 12185

# PARALLEL PETROLEUM CORPORATION HOPE UNIT 1821-15 STATE #2

SL: 760' FSL AND 200' FEL, BHL: 760' FSL AND 660' FEL SL: SEC 16, T18S, R21E, BHL: SEC 15, T18S, R21E EDDY COUNTY, NEW MEXICO

### **Objective**

Drill a horizontal in the Wolfcamp.

### **Expected Geologic Tops**

GL: 4223', KB 4235'. Glorieta 1825' Tubb 2835' Abo Shale 3425' Wolfcamp 4550' Wolfcamp Shale 4740'

### **Well Geometry**

- 8 5/8" casing at 1500"
- kick-off at 3680' for horizontal zone of interest
- 5 1/2" casing through the horizontal Wolfcamp; Cement per completion.

# **Casing Program**

$\frac{\text{MD}}{\text{(ft)}}$	Casing	Weight	Grade	Coupling	COMMENT
0 – 1500	8-5/8"	24	J55	ST&C	
0 – 8986'	5-1/2"	17	N80	LT&C	Run through the horizontal lateral.
	(ft) 0 - 1500 0 -	(ft) 0 - 8-5/8" 1500 0 - 5-1/2"	(ft) 0 - 8-5/8" 24 1500 0 - 5-1/2" 17	(ft) 0 - 8-5/8" 24 J55 1500 0 - 5-1/2" 17 N80	(ft)         0 -         8-5/8"         24         J55         ST&C           1500         0 -         5-1/2"         17         N80         LT&C

### **Casing Cementing Program**

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 OCD. A temperature survey will be required. Top out to surface with 1" pipe in the annulus.

Note: 5-1/2" Cement with acid-soluble CMT per completion procedure. Top of cement should be a tied-back to surface casing.

### **Mud Program**

Depth	Hole	MW	Visc.	WL	Synopsis
0 - 1500	11"	8.4 –	28 - 29	No	FRESH WATER mud only to
		8.6		control	1500 ft. Severe loss potential.
					Circulate inner reserve. LCM:
					paper, fiber, cotton seed hulls.
1500 - 3400	7-7/8"	8.6 –	28 -29	No	Cut brine. Start w/existing & add
		9.2		control	brine t/50K- 60K chlorides
3400 – KOP	7-7/8"	8.9 –	38 - 45	12-14	XCD/polymer as req'd for hole
		9.5			cleaning. Lubricants.
KOP – TD	7-7/8"	8.9 –	38 - 45	12-14	XCD/polymer as req'd for hole
Horizontal		9.5			cleaning. Lubricants.

### SURVEY CALCULATION PROGRAM PETROLEUM CORPORATION Parallel Petroleum Corporation OPERATOR: Supervisors: WELL: Hope Unit 1821-15 State #2 SURF. LOCATION: 760 FSL, 200 FEL Sec. 16 T-18-S R-21-E 760 FSL, 660 FEL Sec. 15 T-18-S R-21-E BH LOCATION: COMMENTS: MAG DEC.(-/+) GRID CORR.(-/+) TOTAL CORR.(-/+) 0.0 ▾ DATE: 01/12/07 TIME: 9:37 AM TRUE TO GRID MINIMUM CURVATURE CALCULATIONS(SPE-3362) PROPOSED DIRECTION 90.0 TARGET TRACKING TO CENTER SVY ABOVE(+) RIGHT(+) GRID VERT DLS/ BELOW(-) LEFT(-) NUM MD INC AZM TVD SECT N-S E-W 100 TIE 0 0.0 0.0 0.0 0.0 0.0 0.0 870.0 0.0 1 3680 0.0 0.0 3680.0 0.0 0.0 0.0 0.0 2 860.0 0.0 3690 0.7 90.0 3690.0 0.1 0.0 0.1 6.6 3 3700 850.0 0.0 1.3 90.0 3700.0 0.2 0.0 0.2 6.6 4 5047 90.0 90.0 4550.2 870.3 0.0 870.3 6.6 -0.2 0.0 5 8986 90.0 90.0 4809.3 0.0 4550.2 4809.3 0.0 0.0 -0.2

KOP @ 3680' MD BUR = 6.6 DEG per 100 FT End Curve @ 5047' MD, 4550' TVD BHL @ 8986' MD, 4550' TVD, 4810' VS

# Parallel Petroleum Corp.

Hope Unit 1821-15 State #2 760 FSL, 200 FEL Sec. 15, T-18-S, R-21-E 760 FSL, 660 FEL Sec. 15, T-18-S, R-21-E Eddy County, New Mexico

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908 99 \$ 200

COMPANY DETAILS

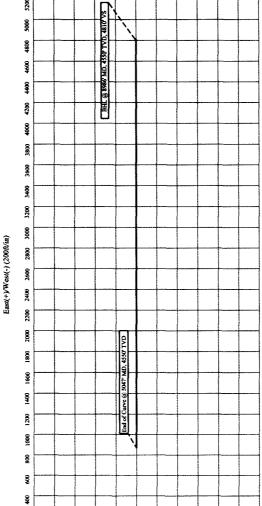
Parallel Petroleum Corp. 1004 N. Big Spring, Ste 400 Midland, Texas 79701

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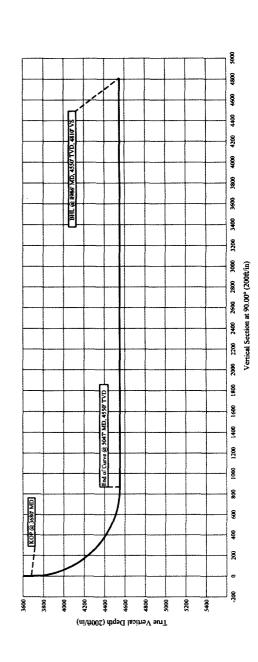


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1004 North Big Spring, Suite 400 • Midland, TX 79701 • Ph: 432-684-3727 • Fax: 432-685-6580

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 <a href="mailto:ddurham@plll.com">ddurham@plll.com</a>.

Sincerely.

A. Deane Durham Senior Engineer