OCD-ARTESIA

Form 3160-3 (April 2004) UNITED STATES		and the second second	,	OMB No	APPROVED . 1004-0137 Iarch 31, 200	07
DEPARTMENT OF THE	INTERIOR			5. Lease Serial No. NM NM 10553	8	
APPLICATION FOR PERMIT TO		REENTERMON	1 2007	8 If Indian, Allotee	or Tribe N	ame
la. Type of work: DRILL REENT	ER	OCD-	ARTESIA.	If Unit or CA Agre	ement, Nan	ne and No.
lb. Type of Well: Oil Well Gas Well Other	Sing	le Zone Molti	ple Zone	8. Lease Name and \ Out Box 1921-		3648
2. Name of Operator Parallel Petroleum Corporation	2303			9. API Well No.	115.	35587
3a. Address 1004 North Big Spring, Suite 400 Midland, Texas	3b. Phone No. 432/684	(include area code) -3727 Bunt	ing Ra	10. Field and Pool, or l	Exploratory	
4. Location of Well (Report location clearly and in accordance with at At surface 1062' FNL and 605' FWL At proposed prod. zone 1062' FNL and 660' FEL	ty State requiremer		J	11. Sec., T. R. M. or B 29-19S-21E	lk.and Surv	vey or Area
14. Distance in miles and direction from nearest town or post office* 12 miles south of Hope, New Mexico				12. County or Parish Eddy		13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	16. No. of acr	No. of acres in lease 17. Spacing Unit dedicated to 36.39 320			vell	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. none	5,000' TV	roposed Depth 20. BLMBIA Bond No. on file NMB000265				
21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL 4542'		Approximate date work will start* 23. Estima 38/01/2007 30 ds			n	
	24. Attach	nments				
The following, completed in accordance with the requirements of Onsho 1. Well plat certified by a registered surveyor. 2. A Drilling Plan.	ore Oil and Gas O		the operatio	is form: ons unless covered by an	existing bo	ond 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).	Lands, the	Operator certifi Such other site authorized offi	specific inf	ormation and/or plans as	may be re	quired by the
25. Signature Clave Valen	· · · · · ·	(Printed/Typed) Deane Durham		Date 3-8	7-07	
Title Drilling Engineer, Parallel Petroleum Corporati	on					
Approved by (Signature)	Name (Name (Printed/Typed) Isi James Stevall Date			PR 2 7 200	
Title ACTINFIELD MANAGER	Office	BLM-C	ARLS	BAD FIEL	D O	FFICE
Application approval does not warrant or certify that the applicant hol conduct operations thereon. Conditions of approval, if any, are attached.	ds legal or equita	able title to those rig	hts in the sul	bject lease which would o		• •
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a States any false, fictitious or fraudulent, statements or representations as	crime for any pe	rson knowingly and	willfully to 1			

*(Instructions on page 2)

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Roswell Controlled Water Basia

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

Subject to Like Approval By State

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction. DISTRICT I 1625 N. French Dr., Hobbs, NM 88240

State of New Mexico Energy, Minerals & Natural Resources Department

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

=DISTRICT II 1301 W. Grand Avenue, Artesia, NM 88210

OIL CONSERVATION DIVISION 1220 South St. Frances Dr. Santa Fe, NM 87505

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

☐ AMENDED REPORT

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

API	Number	Pool Code 97605 BUNTING Ranch WOLKCOMP Property Name Well Number							
Property	Property Code Property Name O Well Number OUT BOX 1921-29 FEDERAL 1								
OGRID N	0.	Operator Name Elevation PARALLEL PETROLEUM CORPORATION 4542'							
- ***	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	29	19 S	21 E		1062	NORTH	605	WEST	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
A	29	19 S	21 E		1062	NORTH	660	EAST	EDDY
Dedicated Acres	Joint o	r Infill (consolidation	Code Or	der No.				<u> </u>
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

4508.8'	Producing Area	,	(BHL) 660	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 posting agreement or a computery posting order heretofore entered by the division. 3-8-07 Signature Dear Darham Printed Name
				SURVEYOR CERTIFICATION
	Coordina Description Out Box 1921-29 Federa Surface Location Out Box 1921-29 Federa Penetration Point	Plane Coordinate al #1 X = 349,463.1 Y = 595,317.6 al #1 X = 349,763.1 Y = 595,316.1	Project Area	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.
	Out Box 1921-29 Feder Bottom Hole Location	1 #1 X = 353,460.6 Y = 595,297.5		Date of Survey
NOTE:	wn hereon are Transverse			Signature & Seal of Professional Surveyor
Mercator Grid and Co Coordinate System", Ne	nform to the "New Mexico w Mexico East Zone, North Distances shown hereon are			W.O. Núm, 2006 1034 Certificate No. MACON McDONALD 12185

ATTACHMENT TO FORM 3160-3 OUT BOX 1921-29 FEDERAL #1 Surface Hole Location 1062 FNL AND 605 FWL, SEC 29, 19S, 21E Bottom Hole Location 1062 FNL AND 660 FEL, SEC 29, 19S, 21E EDDY 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

Glorieta 1739'(+2803')
Tubb 2745'(+1797')
Yeso 2885' (+1657')
Abo Shale 3385' (+1157')
Abo Carbonate 3499' (+1043')
Wolfcamp 4330' (+212')
Wolfcamp Shale 4430'(+112')

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

Fresh water

790'

Oil and Gas

Wolfcamp 4330' (+212')

No H₂S gas should be encountered

4. CASING AND CEMENTING PROGRAM

Casing Size	<u>From To</u>	<u>Weight</u>	<u>Grade</u>	<u>Joint</u>
16" conductor	0'-120'			
8 5/8"	0' – 1500'	24#	J-55	STC
5 1/2"	0' – TOTAL DEPTH	17#	N-80	LTC
	81701			

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

OUT BOX 1921-29 FEDERAL #1 Page 2

8-5/8" slurry: Lead: 225 sacks (50:50) Poz (Fly Ash): Class C + 5% bwow Sodium Chloride + 10% bwoc Bentonite + 151.7% fresh water. Tail: 235 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" Acid-soluble cement 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 approximately 4,600', using cut brine to an approximate depth of 3,300' 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 3,948'.
- h. Build angle at 15 degrees per 100' to 90 degrees and hold.
- i. Drill 7 7/8" horizontal drain hole to a terminus of 660' FEL approximately 8.170'.
- j. Run 5 ½" 17# N-80 CSG to TD. Cement with 750 sx Class C Acid Soluble
- k. Circulate to surface or run temperature survey to verify tie in to surface casing.

>COA

1. Rig Down Rotary Tools

OUT BOX 1921-29 FEDERAL #1 Page 3

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 3,300' will utilize a cut brine mud system from 8.8 to 9.2 ppg.
- d. The remaining production section from 3,300' to TD will be a polymer mud system with mud weight (8.8 9.6) sufficient to control formation pressure anticipated to be approximately 1,900 psi.

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT

None required.

8. LOGGING, TESTING, AND CORING PROGRAM

Mud logs as well as CNL/LDT/CAL/GR logging is planned. Additional openhole logs, drill stem tests, cores and sidewall cores are possible.

9. <u>ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES & POTENTIAL HAZARDS</u>

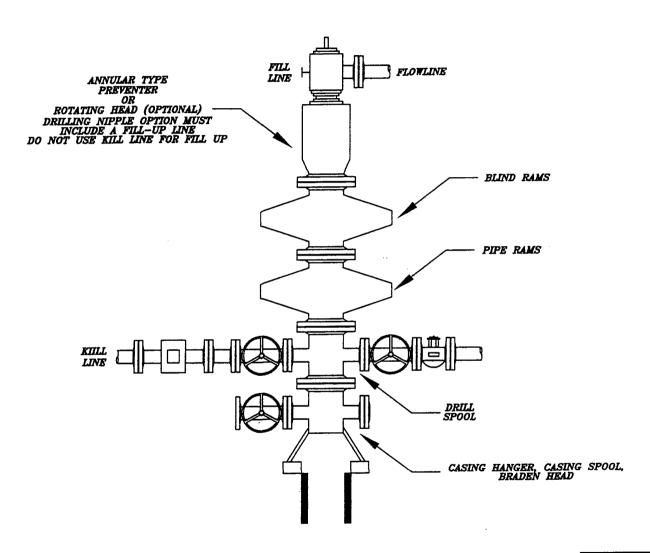
None anticipated.

BHP expected to be 1,900 psi.

10. ANTICIPATED STARTING DATE:

It is planned that operations will commence around third quarter of 2007 with drilling and completion operation lasting about 35 days.

MINIMUM BOP SCHEMATIC



DATE: 7/26/05 DWN. BY:

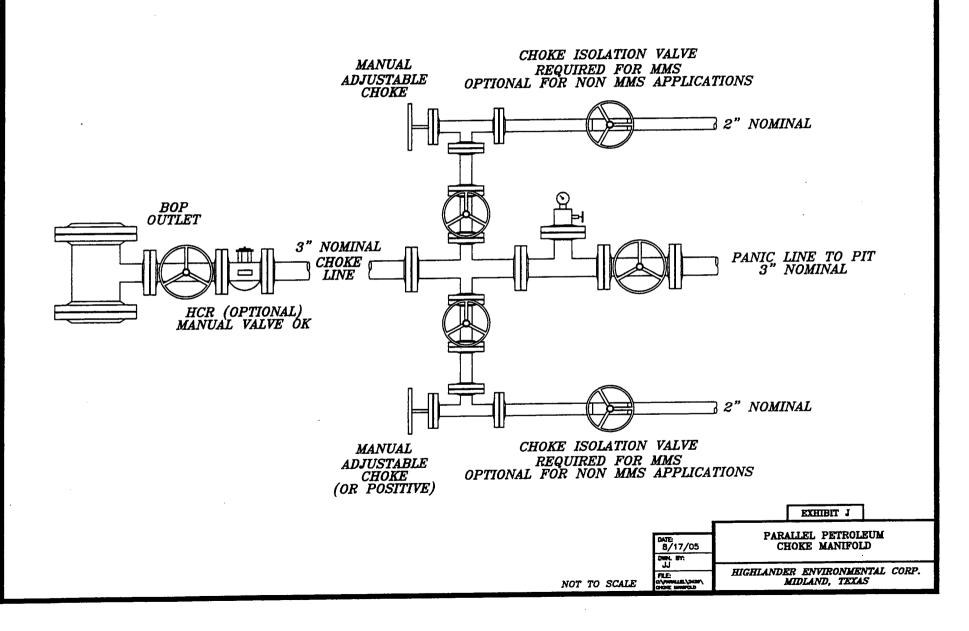
NOT TO SCALE

FILE: C\PHINILE\3435\ BOP SCHEME PARALLEL PETROLEUM BOP SCHEMATIC

EXHIBIT I

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

CHOKE MANIFOLD SM SERVICE



11	PET	AR	A L	LE		IRVEY C	CALCULA	TION	N PROGR	?AM	
	ATOR:			etroleum C		on	Supervisor	s:			
WELL				921-29 Fee							
	TION: UMBER		N/2 Sec. 2	9 T-19-S R	k-21-E	**********************	ļ				
API N	OMBE		COMM	ENTS:			<u> </u>				
			C.ORINI	<u> </u>				MAG D	EC.(-/+)		
									ORR.(-/+)		_
									CORR.(-/+)	0.0	
		DATE:	02/22/07		TIME:	2:16 PM	TRUE TO GRID)		-	P
MINIMI SVY	JM CURV	ATURE C	ALCULATIO	NS(SPE-3362) P VERT	ROPOSED I	DIRECTION	90.0 DLS/	TARGET T TO CE ABOVE(+)	NTER	
NUM	MD	INC	AZM	TVD	SECT	N-S	E-W	100	BELOW(-)		
TIE	0	0.0	0.0	0.0	0.0	0.0	0.0			.==:::.	
1	3948	0.0	0.0	3948.0	0.0	0.0	0.0	0.0	382.0	0.0	
2	3958	1.5	90.0	3958.0	0.1	0.0	0.1	15.0	372.0	0.0	
3	3968	3.0	90.0	3968.0	0.5	0.0	0.5	15.0	362.0	0.0	
4	4548	90.0	90.0	4330.0	382.0	0.0	382.0	15.0	0.0	0.0	
5	8170	90.0	90.0	4330 n	4004.0	0.0	4004.0	0.0	0.0	0.0	

KOP @ 3948' MD BUR = 15 DEG per 100 FT End Curve @ 4548' MD, 4330' TVD BHL @ 8170' MD, 4330' TVD, 4004' VS

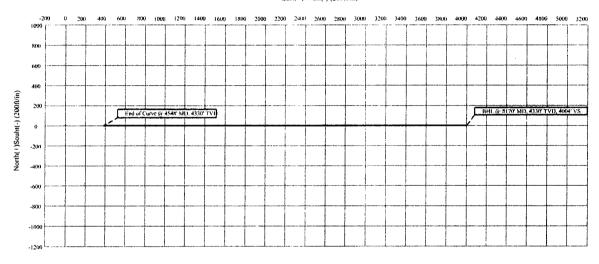
Parallel Petroleum Corp.

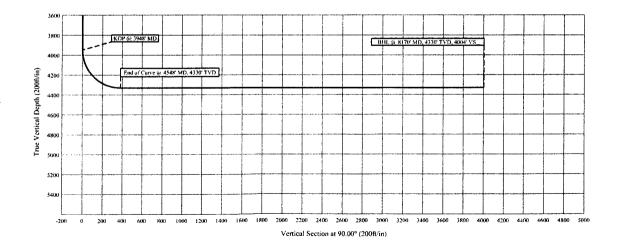
COMPANY DETAILS

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

Out Box 1921-29 Federal #1 N/2 Sec. 29, T-19-S, R-21-E Eddy County, New Mexico

East(+)/West(-) (200f/in)





OUT BOX 1921-29 FEDERAL #1 Page 2

EXHIBITS:

- A. Area Road Map
- B. Drilling Rig Layout
- C. Pad Elevation Plat
- D. Vicinity Map
- E. Area Production Map
- F. Topographic & Location Verification Map
- G. Well Location & Acreage Dedication Map (NMOCD Form C-102)
- H. NMOCD Form C-144, Pit Registration (Original forwarded to NMOCD)
- I. Blow Out Preventer (BOP) Schematic
- J. Choke Manifold Schematic
- K. Estimated Horizontal Survey Calculation Program
- L. Estimated Wellbore Plot

1. EXISTING ROADS

- A. Exhibits A and D are area road maps showing existing roads in the vicinity of the site.
- B. Exhibit F is a topographic map of the location showing existing roads and the proposed new access road.

2. ACCESS ROADS

A. <u>Length and Width</u>

The access road was built as shown on Exhibit F and F-1. The access road comes off County Road 20 and goes west on and existing caliche road for approximately .9 mile. This road was previously constructed and ROW secured for the Dale Evans 1920-16 State Com #1 and Drewfords Boom Box 1921.19 State Com #1. The road goes through the location and no additional road will be constructed other than a bypass around the site during drilling operations. The edge of the well pad will be used for the bypass.

B. Surface Material

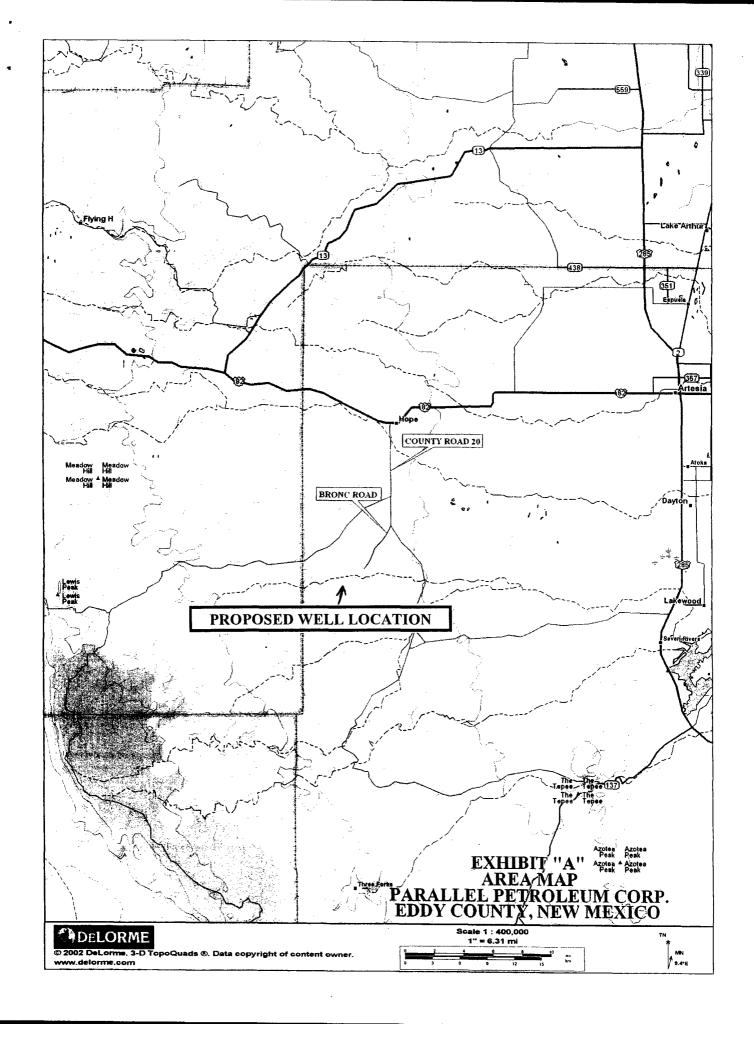
Caliche from a commercial source.

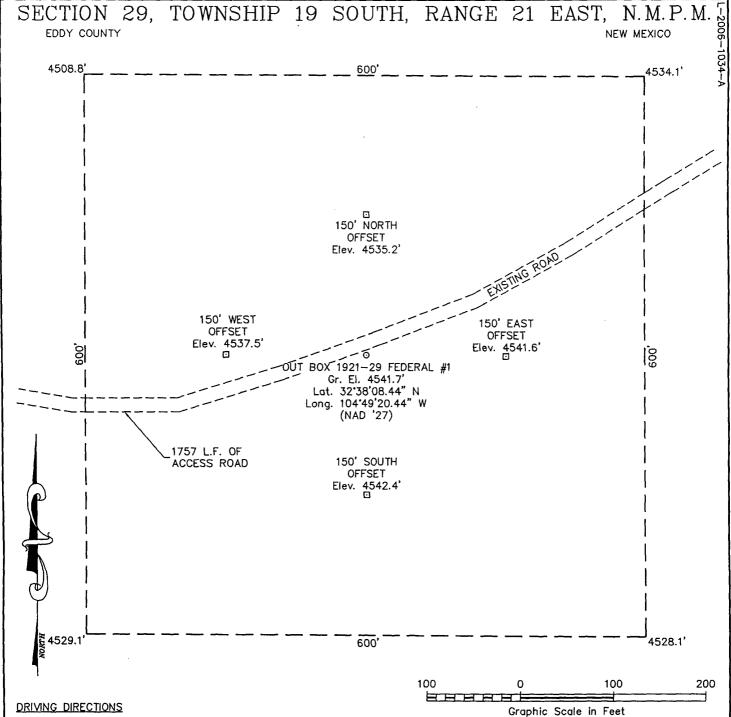
C. Maximum Grade

Less than five percent.

D. Turnouts

No turnouts are planned on the access road.





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 7.0 MILES TO AN ACCESS ROAD ON WEST (RIGHT) SIDE OF ROAD, THEN GO NORTHWEST ALONG SAID ACCESS ROAD 0.9 MILE TO THE PROPOSED LOCATION.



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

PARALLEL PETROLEUM CORPORATION

OUT BOX 1921-29 FEDERAL #1

Located 1062' FNL & 605' FWL, Section 29 Township 19 South, Range 21 East, N.M.P.M. Eddy County, New Mexico

Drawn By: LVA	Date: November 17, 2006					
Scale: 1"=100'	Field Book: 348 / 32-38					
Revision Date:	Quadrangle: Holt Tank					
W.O. No: 2006-1034	Dwg. No.: L-2006-1034-A					



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

Operator's Name: Parallel Petroleum Corporation

Well Name & No. 1-Out Box 1921-29 Federal

Location SHL: 1062 FNL, 0605 FWL, Section 29, T-19-S, R-21-E Location BHL: 1062 FNL, 0660 FEL, Section 29, T-19-S, R-21-E

Lease: NMNM-105538

I. DRILLING OPERATIONS REQUIREMENTS:

- A. The Bureau of Land Management (BLM) is to be notified a minimum of 4 hours in advance for a representative to witness:
 - 1. Spudding well
 - 2. Setting and/or Cementing of all casing strings
 - 3. BOPE tests
 - Eddy County call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822
- B. Although there is no measured Hydrogen Sulfide in this section, minor amounts have been measured in section 7 at less than 10 ppm in STVs. A Hydrogen Sulfide plan is attached to the APD.
- C. 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.

II. CASING: If equivalent or adequate grades and weights of casing are substituted, they must meet API specs.

- A. The <u>8-5/8</u> inch surface casing shall be set at <u>1500</u> feet and cemented to the surface.
 - 1. 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.
 - 2. Wait on cement (WOC) time for a primary cement job will be a minimum of 12 hours for a non-water basin, 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compression strength, whichever is greater. (This is to include the lead cement)
 - 3. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compression strength, whichever is greater.
 - 4. If cement falls back, remedial action will be done prior to drilling out that string.

Possible lost circulation in the San Andres, Florieta, and Wolfcamp formations.

B. The minimum required fill of cement behind the <u>5-1/2</u> inch production casing is cement is to extend a minimum of 200 feet inside of the surface casing. Additional cement required on production casing to tie back to surface casing.

C. 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.

III. PRESSURE CONTROL: Choke manifold diagram is for 3M system.

- A. 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.
- **B.** 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.
- C. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - 1. The tests shall be done by an independent service company.
 - 2. The results of the test shall be reported to the appropriate BLM office.
 - 3. 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.
 - 4. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi in accordance with API RP 53. 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.
 - 5. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the <u>Wolfcamp</u> formation. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

IV. DRILLING MUD:

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

Engineer on call phone: 505-706-2779

WWI 032307