# N.M. Oil Cons. DIV-Dist. 2 1301 W. Grand Avenue

Artesia, NM 88210

Form 3160 -3 (April 2004)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

# 5. Lease Serial No. NM NM 112251 PP

112249 SHL

(BHL Fee)

NOV - 1 2008

6 If Indian, Allotee or Tribe Name

APPLICATION FOR PERMIT TO	6 - If Indian, Allotee or	an, Allotee or Tribe Name				
la. Type of work: 🔽 DRILL REENTI	7 If Unit or CA Agreem	nent, Name and No.				
Ib. Type of Well: Oil Well Gas Well Other	8. Lease Name and We Noor 1525-21 Fe	711 (				
2. Name of Operator  Parallel Petroleum Corporation				9. API Well No. <b>30 · 005</b> ·		
3a Address 1004 North Big Spring, Suite 400 Midland, Texas		ploratory MALNUT CR 5 POOL (97631)				
4. Location of Well (Report location clearly and in accordance with an	ty State requirem	ents.*)		11. Sec, T. R. M. or Blk	and Survey or Area	
At surface SHL 828' FSL AND 175' FEL Sec :  At proposed prod zone BHL 828' FSL AND 660' FEL Sec :	•			21, T15S, R25E		
14 Distance in miles and direction from nearest town or post office*				12 County or Parish	13 State	
5 miles North of Artesia, New Mexico				Chaves	NM NM	
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 660'				ng Unit dedicated to this well cotal, 160 acres federal from this lease		
	19 Proposed	l Depth	20 BLM/I	/BIA Bond No on file		
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft  1200'				000265	,	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL 3483'	22 Approximate date work will start* 10/15/2008			23. Estimated duration 30 days		
	24. Attac	hments	F	OSWELL CONTROLLE	D WATER BASIN	
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		
Well plat certified by a registered surveyor.     A Drilling Plan		4 Bond to cover the Item 20 above).	ne operation	ns unless covered by an ex	isting 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)	Lands, the	5.1 Operator certific 6. Such other site authorized office	specific info	ormation and/or plans as m	ay be required by the	
25. Signature Leane Nuton	- II	(Printed/Typed) Deane Durham		Date 08/07/2008		
Fille Engineer, Parallel Petroleum Corporation					·	
Approved by (Signature)	(Printed/Typed)		D	ate		
Assistant Field Manager Lands And Minerals	R	OSWELL FIEL			VED FOR 2 YEARS	
Application approval does not warrant or certify that the applicant hold conduct operations thereon. Conditions of approval, if any, are attached.	is legal or equit	able title to those righ	ts in the sub	ject lease which would enfi	tie the applicant to	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a catates any false, fictitious or fraudulent statements or representations as			villfully to m	nake to any department or a	ngency of the United	

\*(Instructions on page 2)

i WITNESS

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

DISTRICT | 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

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

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

# WELL LOCATION AND ACREAGE DEDICATION PLAT

API	Number			Pool Code	I		Pool Name		
30.005.64071 97631 Walnut Gock Wolframp									
Property 9	Property Code Property Name Well Number 26.5/8 NOOR 1525-21 FED. COM. 2H								
OGRID N	OGRID No. Operator Name Elevation								on
2303	8/		PAI	TALLEL -				348	3
UL or lot No.	Surface Location  or lot No.   Section   Township   Range   Lot Idn   Feet from the   North/South line   Feet from the   East/West line   Coun							County	
P	20	15 S	Range 25 E	not tun	828	SOUTH	175	EAST	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
Р	21	15 S	25 E		828	SOUTH	660	EAST	CHAVES
Dedicated Acres	Joint or	Infill Co	nsolidation (	ode Ord	ler No.		<u></u>		
320									
NO ALLOWA	BLE WILL					IL ALL INTEREST		CONSOLIDATE	D OR A
Coordinate S	id and Cont System", New um of 1927.	form to the Mexico East Distances show	"New Mexico Zone, North				I hereby certify the the the best of my knowledge working interest or unleas bottom hale location or has a contract with an own	Durkym	ue and complete to ation either owns a luding the proposed location pursuant to g interest, or to a
	2(	)	175' – 3490.6' – (SL) o 3474.3 – N	3484.4 (PP)	89°55'17" E	Project	I hereby certify on this plat we actual surveys supervison an correct to th		ion shown I notes of under my true and f.
	Plo X Y Geod Lat.	rface Locat ne Coording = 462,278. = 726,040. etic Coordi 32*59'45.2 104*27'22. (NAD '27)	ate Pl 6 ; 9 nate Geo 2" N Lat	netration F ane Coordi ( = 463,113 ( = 726,042 detic Coord 32*59'45. 104*27'13 (NAD '27)	nate 3.5 2.0 dinate 24" N 3.11" W L	Octom Hole Location Plane Coordinate X = 467,026.0 Y = 726,015.6 Geodetic Coordinate Lat. 32*59*45.02* N ong. 104*26*27.17* (NAD *27)	W.O. N	121 um. 2008-07	29: (3)



# SURFACE USE AND OPERATING PLAN

# 1. Existing & Proposed Access Roads

- A. The well site survey and elevation plat for the proposed well is shown in Exhibit #1. It was staked by West Company of Midland, Inc., Midland, Texas.
- B. All roads to the location are shown on the topographic map (Exhibit #2). The existing lease roads are illustrated and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling the well will be done where necessary.
- C. Directions to Location: From the intersection of U.S. Highway 380 and 285 in Roswell, New Mexico go south on 285 27 miles to a lease road and cattle guard on the right or east side of the road. Go west on the lease road 1 mile, then turn left and go south 1.5 mile to an existing well location and continue south .2 mile on new access road to the location. See Vicinity Map, Exhibit #3
- D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

# 2. Proposed Access Road:

Exhibit #4 shows that 850' of new road will be required for this location. Any road that is required it will be constructed as follows:

- A. The maximum width of the running surface will be 14'. The road will be crowned, ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.
- B. The average grade will be less than 1%.
- C. No turnouts are planned.
- D. No culverts will be used but a fence will be cut and a cattleguard will be installed in the fence line between Sections 15 and 16 and a low water crossings will be placed in the north/south section of the road.
- E. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM approved caliche pit or reserve pit area.

1: " ....



# 3. Location of Existing Wells:

Exhibit #5 shows all existing wells within a one-mile radius of this well. As shown on this plat there are several wells in this area operated by Parallel Petroleum Corporation (Parallel).

# 4. Location of Existing and/or Proposed Facilities:

- A. Parallel currently operates a well and production facility on this lease, however, a separate production facility will be required for this location. Additionally, this will be a dual well site and there will be two wells and production facilities on this location.
- B. If the well is productive, contemplated facilities will be as follows:
  - 1) Production will be sent to an onsite tank battery.
  - 2) The tank battery and facilities including any piping will be installed according to API specifications.
  - 3) Any additional caliche will be obtained from a BLM approved caliche pit or from a private source. Any additional construction materials will be purchased from contractors.
  - 4) No flow lines will be needed as this is a gas well. The gas pipeline will be permitted and constructed by the gas purchaser.
  - 5) No electric power will be require on this well location.

# 5. Location and Type of Water Supply:

The well will be drilled with a combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to location by transport truck over the existing and proposed access roads shown in Exhibit #2. If a commercial fresh water source is nearby, fast line may be laid along existing road ROW's and fresh water pumped to the well. No water well will be drilled on the location.

# 6. Source of Construction Materials:

All caliche required for construction of the drill pad and proposed new access road (approximately 7,000 cubic yards) will be obtained from a BLM approved caliche pit or from a private source.

Surface Use Plan Noor 1525-21 Fed. Com #2H 828' FSL & 175' FEL Section 20 T-15-S, R-25-E Chaves County, New Mexico



# 7. Methods of Handling Water Disposal:

- A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in rolloff style mud boxes and taken to an NMOCD approved disposal site and no drying pad will be utilized.
- B. Drilling fluids will be contained in steel mud pits.
- C. Water produced from the well during completion will be held temporally in steel tanks and then taken to an NMOCD approved commercial disposal facility.
- D. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill. No toxic waste or hazardous chemicals will be produced by this operation.
- E. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole, only a dry hole marker will remain.

# 8. Ancillary Facilities:

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

# 9. Well Site Layout:

- A. The drill pad layout, with elevations staked by West Company of Midland, Inc., is shown in Exhibit #4. Dimensions of the pad are shown on Exhibit #6. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level, no major cuts will be required.
- B. Exhibit #6 also shows the proposed orientation of closed loop mud system, and access road. No permanent living facilities are planned; however, a temporary foreman/toolpusher and crew quarters trailers will be on location during the drilling operations.

# 10. Plans for Restoration of the Surface:

A. If the well is found to be non-commercial upon completion of the drilling and/or completion operations, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations in the area. The road will be reclaimed as directed by the BLM.



The original top soil will be returned to the pad and contoured, as close as possible to the original topography, and reseeded as per BLM specifications.

# 10. Surface Ownership:

- A. The surface and minerals at this location are Federal and are managed by the Bureau of Land Management, Roswell District. The surface tenant is Mr. Coleman Jackson, 72 West Jackson Rd., Lake Arthur, New Mexico 88253, 505-627-2342. The surface has multiple uses which are primarily grazing of livestock and the production of oil and gas.
- B. The proposed road routes and surface location will be restored as directed by the BLM.

# 11. Other Information:

- A. The area around the well site is grassland and the topsoil is sandy. The vegetation is moderately sparse with native prairie grasses, some mesquite and shinnery oak. No wildlife was observed but it is likely that mule deer, rabbits, coyotes and rodents traverse the area.
- B. Walnut Creek is located .5 mile north of this site. There is no other permanent or live water in the immediate area.
- C. There are two dwellings within 1 1/4 mile of this location and both belong to Mr. Jackson.
- D. A Cultural Resources Examination is being prepared by Southern New Mexico Archaeological Services, Inc., P.O. Box 1, Bent, New Mexico 88314 Phone 505-671-4797, and the results will be forwarded to your office in the near future.

# 13. Bond Coverage:

Bond Coverage is Nationwide Bond # NMB000265.

# 14. Lessee's and Operator's Representative:

The Parallel Petroleum Corporation representative responsible for assuring compliance with the surface use plan is as follows:

Deane Durham, Engineer, Parallel Petroleum Corporation Office: (432) 684-3727 Cell: (432) 413-9701

Surface Use Plan Noor 1525-21 Fed. Com #2H 828' FSL & 175' FEL Section 20 T-15-S, R-25-E Chaves County, New Mexico



# 15. Operator's Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Parallel Petroleum Corporation, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 15th day of May 2008.

Signed:

Printed Name:

Deane Durham

Position:

**Drilling Engineer** 

Address:

1004 North Big Spring Street, Suite 400

Midland, Texas 79701

Telephone:

(432) 684-3727

Field Representative (if not above signatory): Not yet determined

E-mail:

ddurham@plll.com

Exhibit #9

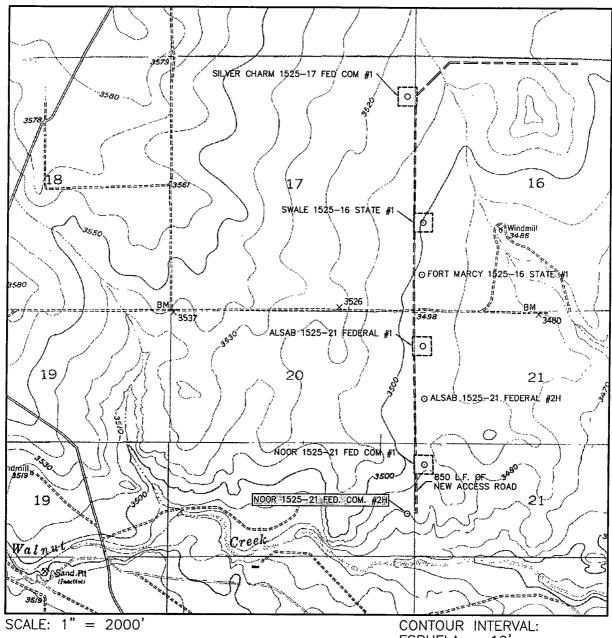


# **Exhibits:**

Exhibit #1 Wellsite and Elevation Plat Form C-102 Well location and acreage dedication plat Exhibit #2 Topographic Map (West) Exhibit #3 Vicinity Map and area roads (West) Exhibit #4 **Elevation Plat (West)** Ownership map showing well location and other wells in the Exhibit #5 area. Pad Layout and orientation Exhibit #6 Exhibit #7 **BOP** and Choke diagrams

Form C-144 NMOCD pit permit application

# LOCATION VERIFICATION MAP



SEC. 20 TWP. 15-S RGE. 25-E

SURVEY N.M.P.M.

COUNTY CHAVES

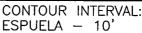
DESCRIPTION 828' FSL & 175' FEL

ELEVATION 3483'

OPERATOR PARALLEL PETROLEUM CORPORATION

LEASE NOOR 1525-21 FED. COM.

U.S.G.S. TOPOGRAPHIC MAP **ESPUELA** 





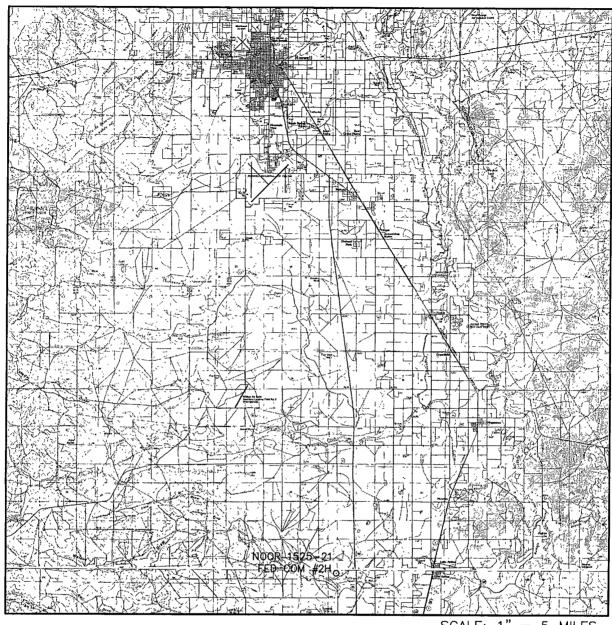
WEST COMPANY

110 W. LOUISIANA, STE. 110

MIDLAND TEXAS, 79701

68 Midland, Inc. (432) 687–0865 – (432) 687–0868 FAX

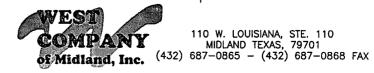
# VICINITY MAP

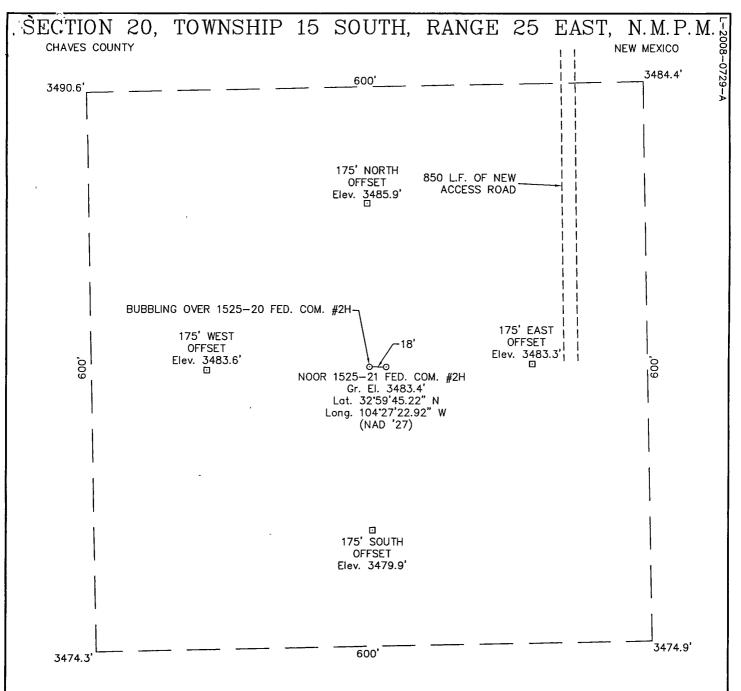


SCALE: 1" = 5 MILES

SEC. 20 TWP. 15-S RGE. 25-E SURVEY N.M.P.M. COUNTY CHAVES DESCRIPTION 828' FSL & 175' FEL ELEVATION 3483' OPERATOR PARALLEL PETROLEUM CORPORATION LEASE NOOR 1525-21 FED. COM.







#### **DRIVING DIRECTIONS**

FROM THE INTERSECTION OF U.S. HIGHWAY 380 and 285 IN ROSWELL, NM GO SOUTH ON SAID U.S. HIGHWAY 285 ABOUT 27 MILES TO A POINT WHERE AN ACCESS ROAD BEGINS ON THE WEST (RIGHT) SIDE OF SAID HIGHWAY 285, THEN GO WEST ON SAID ACCESS ROAD 0.3 MILES TO A POINT, THEN GO SOUTH 242 FEET TO ANOTHER ACCESS ROAD ON WEST (RIGHT) SIDE OF ROAD, THEN GO WEST AND SOUTHWEST 0.7 MILE TO A POINT WHERE THE ACCESS ROAD TURNS SOUTH (LEFT), THEN GO SOUTH 1.5 MILE TO A WELL PAD FOR THE NOOR 1525-21 FED. COM. #1 AND THE BUBBLING OVER 1525-20 FED. COM. #1 WELLS, THEN CONTINUE SOUTH ALONG A NEW ACCESS ROAD 0.2 MILE TO THE PROPOSED LOCATION.



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

# 100 0 100 200 Graphic Scale in Feet

# PARALLEL PETROLEUM CORPORATION

# NOOR 1525-21 FED. COM. #2H

Located 828' FSL & 175' FEL, Section 20 Township 15 South, Range 25 East, N.M.P.M. Chaves County, New Mexico

Drawn By: LVA	Date: March 21, 2007
Scale: 1"=100'	Field Book: 365 / 1-4, 29-30
Revision Date:	Quadrangle: Hagerman SW
W.O. No: 2008-0729	Dwg. No.: L-2008-0729-A

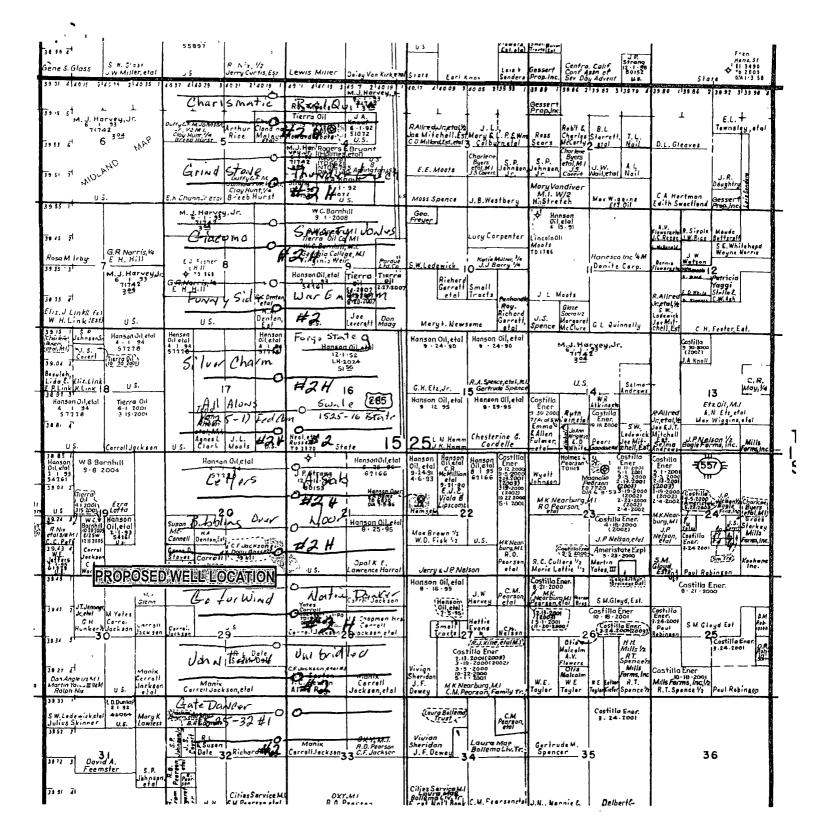
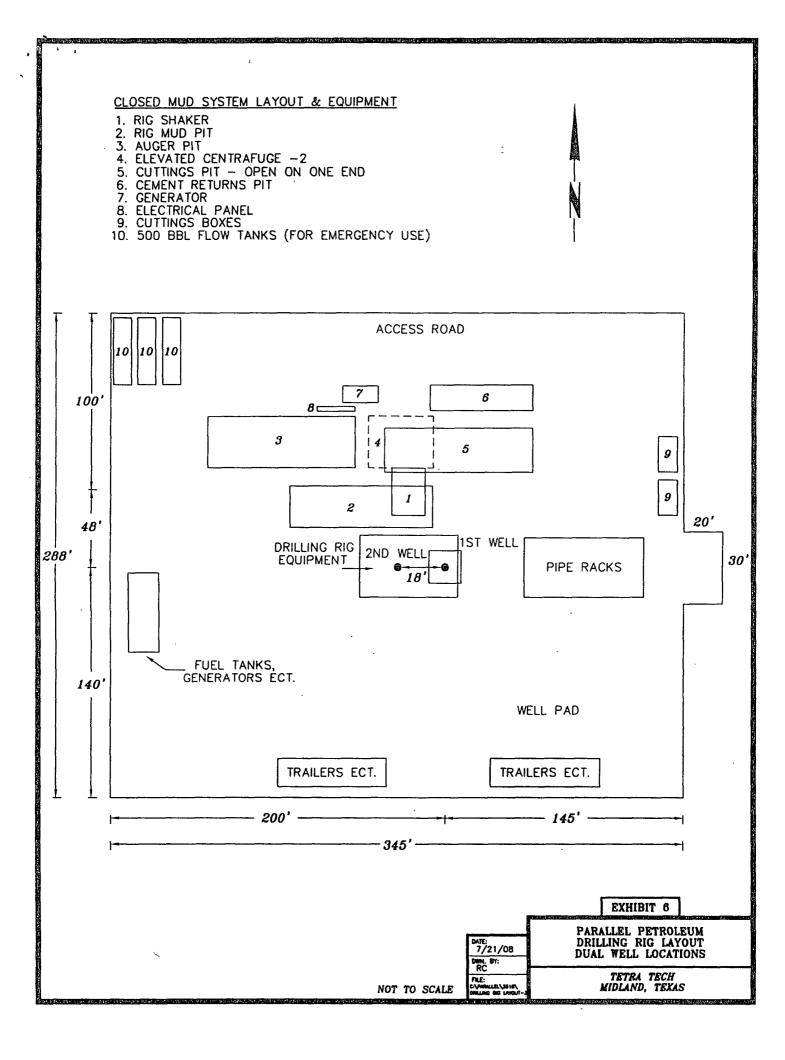
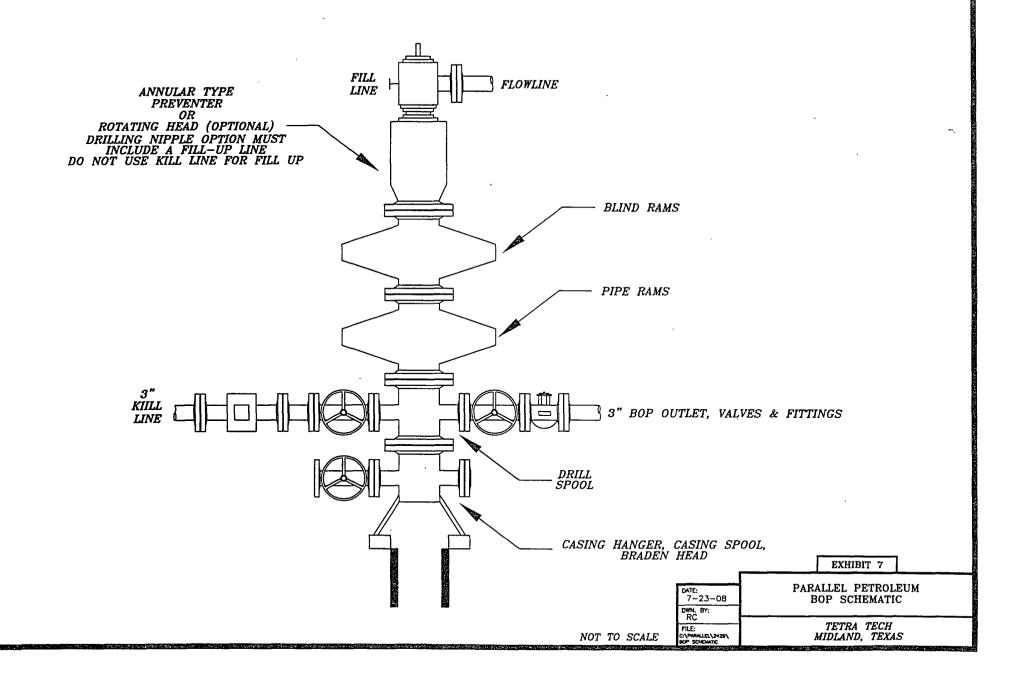


Exhibit "5"

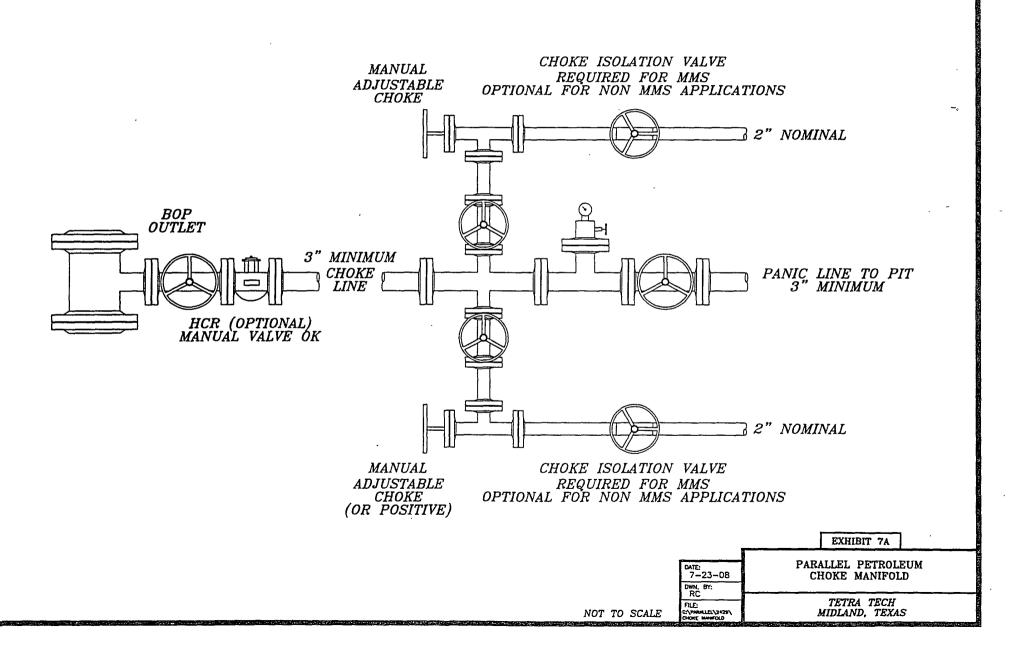
AREA PRODUCTION MAP
PARALLEL PETROLEUM CORPORATION
Noor 1525-21 Fed Com #2H &
Bubbling Over 1525-20 Fed Com #2H
SHL: 829' FSL AND 175' FEL, SEC 20, T15S, 25E
CHAVES COUNTY, NEW MEXICO



# MINIMUM BOP SCHEMATIC 3M SERVICE MINIMUM



# CHOKE MANIFOLD 3M SERVICE MINIMUM





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

August 7, 2007

New Mexico Oil conservation Division 1301 W. Grand Ave. Artesia, New Mexico 88210

Re: Hvdr

Hydrogen Sulfide Potential Wolfcamp Horizontal Program Chaves County, New Mexico

# Gentlemen:

Parallel Petroleum Corporation operates the Forego State Com 1525-16 #1, All Along 1525-17 Fed Com #1, Gate Dancer 1525-32 #1Y and the Personally 1525-33 #1 wells located in T-15-S, R-25-E and the War Cloud State Com 1425-36 #1 in T-14-S, R-25-E. These wells were tested in the Wolfcamp formation and did not have any indications of hydrogen sulfide from this formation. Please see the gas analysis attached to this letter. We believe the potential for H2S on locations in this area are negligible.

Should you need any additional information regarding this issue, please contact me at the address or phone number listed above.

Sincerely,

Deane Durham Drilling Engineer

# Wildcat Measurement Service P.O. Box 1836

Artesia. New Mexico 88211-1836 TollFree #888-421-9453

Office #505-746-3481 "Quality and Service is our First Concern" PDS 06/25/00

Run No. 261213-02 Date Run 12/13/2006 Date Sampled 12/09/2006

Analysis for: PARALLEL PETROLEUM CORPORATION

Well Name: PORESO 1525-16 STATE "B" #1

Field:

Sta. Humber: Purpose: SPOT Sampling Temp: 22.0 DEG P

Volume/day: 1925 MCF/DAY Pressure on Cylinder: 60.0

PSIG

N2

0.6738

GPANGL, L62

Producer: PARALLEL PETROLEUM CORP. State: NM

County: CHAVES

Sampled By: A.J.G. Atmos Temp: DEG F

Pormation:

Line Pressure: 73.2 PSIA

GAS COMPONENT ANALYSIS Pressure Base: 14.7300

> Mol % GPM Real BTU Dry: 1078.92

Real BTU Wet: 1060.14 Real Calc. Specific Gravity: 0.6732

Field Specific Gravity: 0.0000

Carbon Dioxide CO2 4.3235 Standard Pressure: 14.6960

BTU Dry: 1073.62 BTU Wet: 1054.94

Methane C1 85.9676 Ethane 5.6524 1.5108 C2 Propane C3 1.9299 0.5314 Z Pactor: 0.9974

Iso-Butane IC4 0.2812 0.0920 N Value: 1.2948 HC4 0.4872 0.1536 Nor-Butane Ava Mol Weight: 19.4551 Iso-Pentane IC5 0.1606 0.0588 Avg CuFt/Gal: 57.1122 Nor-Pentane NC5 0.1404 0.0508 26 Lb Product: 0.4332 Methane+ GPM: 17.1358

Ethane+ GPM: 2.5647 Propane+ GPM: 1.0538 Hexanes Plus C6+ 0.3834 0.1673 Butane+ GPM: 0.5225

Pentane+ GPM: 0.2769

TOTAL 100.0000 2.5647

REMARKS:

Nitrogen

Approved by: DON NORMAN

Wed Dec 13 10:13:35 2006

110	PET	AR	A L	PORATIO	202	JRVEY C	CALCUL	ATIOI	N PROGR	AM	
OPER	RATOR.		Parallel P	etroleum C	orporation	on	Superviso	rs:			
WELL			Noor 1525	5-21 Fed C	om #2H					] :: "	• • • • • • • • • • • • • • • • • • • •
LOCA	TION:		S/2 Sec. 2	1 T-15-S R	-25-E					]:''	: • • :
API N	UMBE)	R;								] : : :	
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MINIM	JM CUR	VATURE CA	ALCULATION	S(SPE-3362)	). F	ROPOSED	DIRECTION	90.0	TARGET T	RACK	ING
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SVY			GRID		VERT		2 HB 1 K	DLS/	ABOVE(+)	RIGH	T(+).
MUM	MD	INC	AZM	. TVD::	SECT	N-S	E-W	100	BELOW(-)	LEFT	( <del>-</del> ) ··
TIE	0	0.0	0.0	0.0	0.0	0.0	0.0				
1	3896	0.0	0.0	3896.0	0.0	0.0	0.0	0.0	854.0	0.	.0
2	3906	0.7	90.0	3906.0	0.1	0.0	0.1	6.7	844.0	0.	.0
3	3916	1.3	90.0	3916.0	0.2	0.0	0.2	6.7	834.0	0.	
4	5238	90.0	90.0	4750.0	854.0	0.0	854.0	6.7	0.0	0.	
5	9170	90.0	90.0	4750.0	4786.5	0.0	4786.5	0.0	0.0	0.	

KOP @ 3896' MD BUR = 6.7 DEG per 100 FT End Curve @ 5238' MD, 4750' TVD BHL @ 9170' MD, 4750' TVD, 4786.5' VS

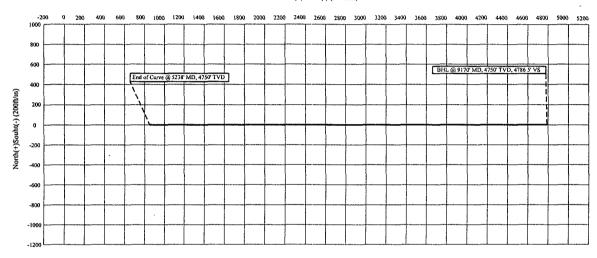
# Parallel Petroleum Corp.

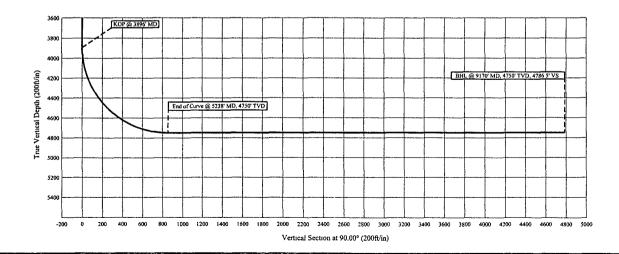
#### COMPANY DETAILS

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

Noor 1525-21 Fed. Com. #2H S/2 Sec. 21, T-15-S, R-25-E Chaves County, New Mexico

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







# **DRILLING PROGRAM**

# 1. Geologic Name of Surface Formation

San Andres

# 2. Estimated Tops of Important Geologic Markers:

Glorieta	2565'
Tubb	3575'
Abo Shale	3925'
Wolfcamp	4750'
Wolfcamp Shale	4925'

# 3. Estimated Depths of Anticipated Fresh Water, Oil and Gas

Water Sand 95' Fresh Water Wolfcamp 4750' Oil/Gas

No other formations are expected to yield oil, gas or fresh water in measurable quantities. Setting 8-5/8" casing to 1400' and circulating cement to surface will protect the fresh water sand. There is no salt section in the area. The 5-1/2" casing production string will be planned to circulate back to surface and at a minimum, tie back to the surface casing.

# 4. Casing Program

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	Jt.	burst/collapse/tension
11"	0-1400'	8 5/8"	24#	J-55	New	ST&C	1.5/1.85/6.8
7 7/8"	1400'-TD	5 1/2"	17#	N-80	New	LT&C	1.4/2.6/2.27

# 5. Cement Program

8 5/8" Surface Casing: 600 sx "C", yield 1.32, circulate

5 1/2" Production Casing: 1200 sx "C" Acid-Soluble, yield 2.62,

circulate or tie back to surface casing



# 6. Minimum Specifications for Pressure Control

The blowout preventer equipment (BOP) shown in Exhibit #7 will consist of a double ram-type (3000 psi WP) preventer. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 4 1/2" drill pipe rams on the bottom. The BOP will be nippled up on the 8 5/8" surface casing and tested to 3000 psi by a third party and used continuously until total depth is reached. All BOP's and accessory equipment will be tested to 3000 psi before drilling out of the surface casing. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment (Exhibit #10) will include a Kelly cock and floor safety valve, choke lines and a choke manifold (Exhibit #11) with a 2000 psi WP rating.

# 7. Types and Characteristics of the Proposed Mud System

The well will be drilled to TD with a combination of cut brine and polymer muds using a closed-loop system. The applicable depths and properties of this system are as follows:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-300'	Fresh Water	8.5	28	N.C.
300-1400'	Fresh Water	8.5	34-36	N.C.
1400'-TD	Cut Brine	9.2	30-34	10-20

Sufficient mud materials will be kept at the well site to maintain mud properties and meet minimum lost circulation and weight increase requirements at all times.

# 8. Auxiliary Well Control and Monitoring Equipment

- A. Kelly cock will be kept in the drill string at all times.
- B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

# 9. Logging, Testing and Coring Program

A. The electric logging program will consist of CNL, Spectral Density – Litho Density – Spectral GR and will be run from TD to 8 5/8" casing shoe. Optional logs include a Combinable Magnetic Resonance Log over select intervals. No MWD GR log will be run.

Drilling Program, Page 2



- B. Drill Stem test is not anticipated.
- C. No conventional coring is anticipated. Rotary sidewall cores may be taken if logging is inconclusive.
- D. Further testing procedures will be determined after the 5 ½" production casing has been cemented at TD, based on drill shows and log evaluation.

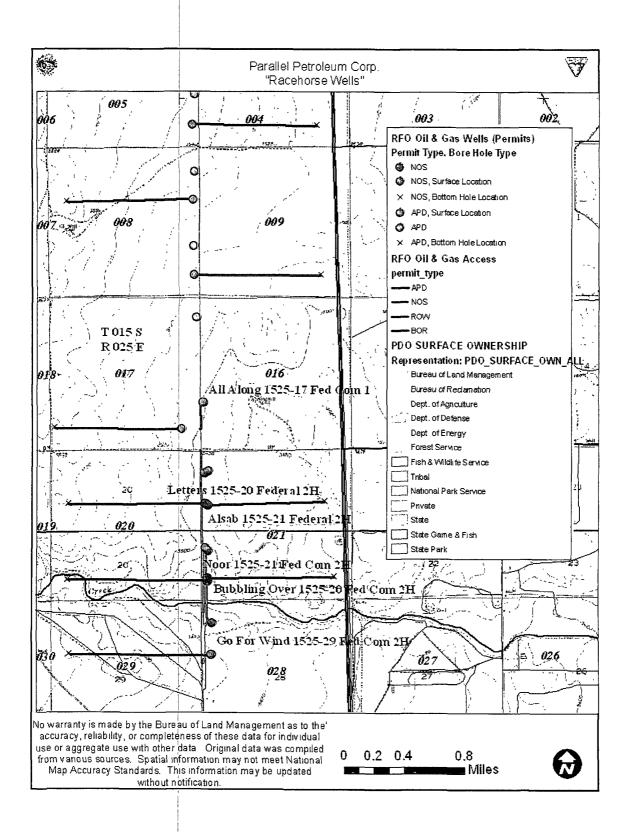
# 10. Abnormal Conditions, Pressure, Temperatures and Potential Hazards

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 110 degrees and the estimated maximum bottom hold pressure is 1900 psig. No  $H_2S$  is anticipated to be present during drilling operations. A Hydrogen Sulfide Drilling Operation Plan is attached to this program. Loss of circulation zones are anticipated in the surface hole section in this well.

# 11. Anticipated Starting Date and Duration of Operations

Road and location work will not begin until approval has been received from the BLM. Please refer to the Form 3160-3 for the anticipated start date. Once commenced, drilling operations should be finished in approximately 12-16 days. If the well is productive, an additional 7-14 days will be required for completion and testing before a decision is made to install permanent facilities.

Drilling Program, Page 3



# EXHIBIT B PECOS DISTRICT - RFO CONDITIONS OF APPROVAL

October 14, 2008

Noor 1525-21 Fed Com #2H
SHL: 828' FSL & 175' FEL, Sec. 20 T15S-R25E
BHL: 828' FSL & 660' FEL, Sec. 21, T15S-R25E
Chaves County, New Mexico NMPM
Lease/Serial/Case File No.: NM-112251
Parallel Petroleum Corporation

# 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.

# I. 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).

# II. 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.

# III. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations (access road and/or well pad). 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.

# IV. CONSTRUCTION

#### A. NOTIFICATION:

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Roswell Field Office at (505) 627-0247 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 Application for Permit to Drill and Conditions of Approval on the well site and they shall be made available upon request by the Authorized Officer.

# B. TOPSOIL:

The topsoil will be stripped to approximately 6 inches in depth within the area designated for construction of the well pad. The operator shall stockpile the stripped topsoil on the side of the well pad. The topsoil will be used for interim and final reclamation of the surface disturbance created by the construction of the well pad.

# C. CLOSED SYSTEMS OR STEEL TANKS: No reserve pit will be used.

Steel tanks are required for drilling operations: No Pits Allowed.

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

# D. FEDERAL MINERAL MATERIALS PIT:

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Roswell Field Office at (505) 627-0236.

# E. 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 need.

# F. ON LEASE ACCESS ROADS:

# Road Egress and Ingress

The access road shall be constructed to access the corner of the well pad.

# 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.

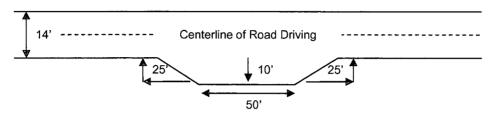
# Crowning

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.

# **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:

# Standard Turnout - Plan View

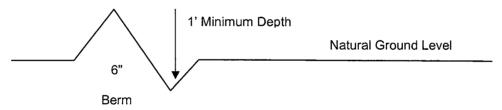


# **Drainage**

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 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: 400' + 100' = 200' lead-off ditch interval

# 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

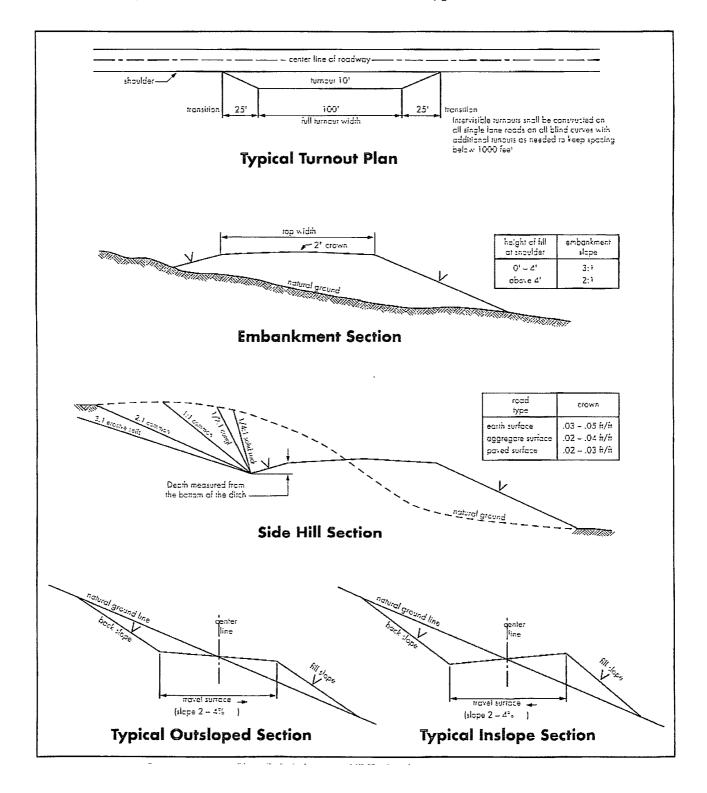
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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.

Figure 1 – Cross Sections and Plans For Typical Road Sections



# V. DRILLING

# A. DRILLING OPERATIONS REQUIREMENTS

- 1 Call the Roswell Field Office, 2909 West Second St., Roswell, NM 88201. During office hours call (575) 627-0205 or after office hours call (575) 910-6024. Engineer on call during office hours call (575) 627-0275 or after office hours call (575) 626-5749.
- 2. The BLM is to be notified a minimum of 24 hours in advance for a representative to witness:
  - a. Spudding well
  - b. Setting and/or Cementing of all casing strings

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

**BOPE Tests** 

- 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. Include the API Number assigned to well by NMOCD on the subsequent report of setting the first casing string.
- 5. The operator will accurately measure the drilling rate in ft/min to set the base of the usable water protection casing string(s) opposite competent rock. The record of the drilling rate along with the caliper-gamma ray-neutron well log run to surface will be submitted to this office as well as all other logs run on the borehole 30 days from completion
- 6. Air, air-mist or fresh water and non toxic drilling mud shall be used to drill to the base of the usable water protection casing string(s). Any polymers used will be water based and non-toxic.

# B. CASING

1. The 8 5/8 inch usable water protection casing string(s) shall be set at approximately 1400 feet in competent bedrock.

If not the operator is required to set usable water protecting casing in the next thick competent bedding (i.e. 15 to 25 ft or greater) encountered and cemented to the surface.

- a. If cement does not circulate to the surface, the Roswell Field 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.
- b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin or 500 pounds compression strength, whichever is greater. (This is to include the lead cement).
- 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 compression strength, whichever is greater.
- d. If cement falls back, remedial action will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the <u>5-1/2</u> inch production casing is <u>sufficient to</u> tie back 500 feet above the uppermost perforation in the pay zone. If cement does not circulate, 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.
- 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. Before drilling below the <u>8-5/8</u> inch surface casing shoe, the blowout preventer assembly shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve.
- 2. Before drilling below the <u>8-5/8</u> inch surface casing shoe, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2000 psi.
- 3. The BOPE shall be installed before drilling below the <u>8-5/8</u> inch surface casing and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.
- a. The BLM Roswell Field office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- b. The tests shall be done by an independent service company.
- c. 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. 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 BLM Roswell Field Office at 2909 West Second Street, Roswell, New Mexico 88201.

# 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.

A containment structure or earthen dike shall be constructed and maintained around all sides of the outside boundary of the well pad. The containment structure or earthen dike shall be constructed two (2) feet high (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum). The containment structure or earthen dike is required so that if oilfield waste contaminant or product contaminant were leaked, spilled, and or released upon the well pad the oilfield waste contaminant or product contaminant shall be contained on the well pad. If the well pad is constructed into a cut on a slope then the uphill side of the well pad will not require the construction of the containment structure or earthen dike, but the construction of the containment structure or dike will be required on the remaining three sides of the well pad which will extend into the uphill portion of the well pad.

# 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, <u>Juniper Green</u> (Standard Environmental Color Chart June 2008).

# VRM Facility Requirement

Low-profile tanks not greater than eight-feet-high shall be used.

# VII. INTERIM RECLAMATION

# A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

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.

The following seed mix may represent these ecological sites:

Common Name		Pounds of Pure				
and Preferred Variety	Scientific Name	Live Seed Per Acre				
Blue grama, var. Lovington	(Bouteloua gracilis)	4.00 lbs.				
Sideoats grama,	(Bouteloua curtipendula)	1.00 lb.				
var. Vaughn or El Reno						
Sand dropseed	(Sporobolus cryptandrus)	0.50 lb.				
Vine mesquite	(Panicum obtusum)	1.00 lb.				
Plains bristlegrass	(Setaria macrostachya)	1.00 lb.				
Indian blanketflower	(Gaillardia aristata)	0.50 lb.				
Desert or Scarlet	(Sphaeralcea ambigua)	1.00 lb.				
Globemallow	or (S. coccinea)					
Annual sunflower	(Helianthus annuus)	0.75 lb.				
TOTAL POUNDS PURE LIVE SEED PER ACRE 9.75 lbs.						

Certified Weed Free Seed.

If one species is not available increase all others proportionately.

Use no less than 4 species, including 1 forb.

No less than 8.5 pounds lbs per acre shall be applied.

# VIII. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

- a. Upon abandonment of the well and/or when the access road is no longer in service, a Notice of Intent for Final Abandonment with the proposed surface restoration procedure must be submitted for approval.
- b. On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the Private Surface Land Owner agreements and a copy of the release is to be submitted upon abandonment.
- c. Upon abandonment of the well, all casing shall be cut-off at the base of the cellar or 3-feet below final restored ground level (whichever is deeper). A 4-inch pipe, 10 feet in length, shall be installed 4 feet above ground and embedded in cement. The following information shall be permanently inscribed on the dry hole marker: Well name and number, the name of the operator, the lease serial number, the surveyed location (the quarter-quarter section, section, township and range or other authorized survey designation acceptable to the authorized officer; such as metes and bounds).

d. Surface Reclamation must be completed within 6 months of well plugging. If the operator proposes to modify the plans for surface reclamation approved on the APD, the operator must attach these modifications to the Subsequent Report of Plug and Abandon using Sundry Notices and Reports on Wells, Form 3160-5.

# VIIII. PIPELINE PROTECTION REQUIREMENT

Precautionary measures shall be taken by the operator during construction of the access road to protect existing pipelines that the access road will cross over. An earthen berm; 2 feet high by 3 feet wide and 14 feet across the access road travelway (2' X 3' X 14'), shall be constructed over existing pipelines. The operator shall be held responsible for any damage to existing pipelines. If the pipeline is ruptured and/or damaged the operator shall immediately cease construction operations and repair the pipeline. The operator shall be held liable for any unsafe construction operations that threaten human life and/or cause the destruction of equipment.