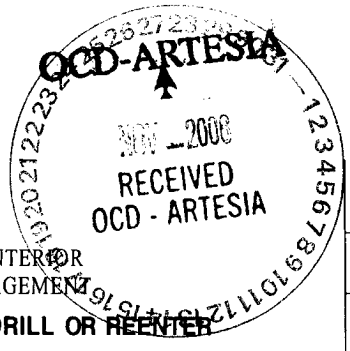
ATS-07-25



Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. **NM 108921**

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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. **Duke 4 Federal #2** 303087

2. Name of Operator **Parallel Petroleum Corporation** 230387

9. API Well No. 30-015-35246

3a. Address **1004 North Big Spring, Suite 400 Midland, Texas**

3b. Phone No. *(include area code)* **432/684-3727** Wildcat

10. Field and Pool, or Exploratory **Wolfcamp**

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface **818' FSL and 459' FEL** ROSWELL CONTROLLED WATER BASIN

At proposed prod. zone **818' FSL and 660' FWL**

11. Sec., T. R. M. or Blk. and Survey or Area **4-19S-21E**

14. Distance in miles and direction from nearest town or post office* **9 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) **459'**	16. No. of acres in lease **1960**	17. Spacing Unit dedicated to this well **320**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. **None**	19. Proposed Depth **4,800'**	20. BLM/BIA Bond No. on file **NMB000265**
21. Elevations (Show whether DF, KDB, RT, GL, etc.) **GL 4356'**	22. Approximate date work will start* **11/20/2006**	23. Estimated duration **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 Gary Miller, Agent for 7111	Name *(Printed/Typed)* **Deane Durham**	Date 10-10-06
Title **Drilling Engineer, Parallel Petroleum Corporation**		
Approved by *(Signature)* /s/ Marqath	Name *(Printed/Typed)*	Date NOV 22 2006
Title FOR **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.

**(Instructions on page 2)*

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

SEE ATTACHED FOR CONDITIONS OF APPROVAL

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

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
303087	DUKE 4 FEDERAL	2

OGRID No.	Operator Name	Elevation
230387	PARALLEL PETROLEUM CORPORATION	4356'

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	4	19 S	21 E		818	SOUTH	459	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
M	4	19 S	21 E		818	SOUTH	660	WEST	EDDY

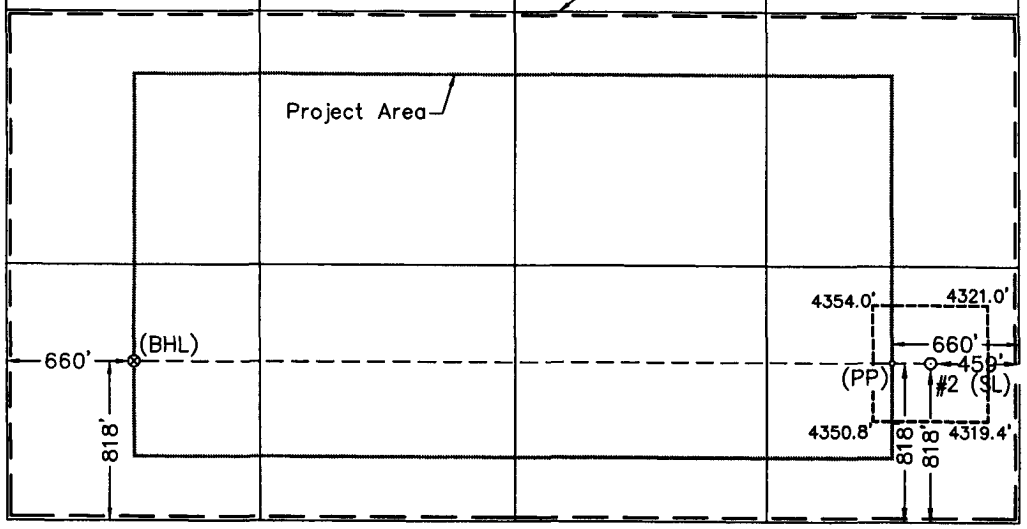
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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
Duke 4 Federal #2 Surface Location	X = 358,990.5 Y = 612,976.9
Duke 4 Federal #2 Penetration Point	X = 358,790.0 Y = 612,977.7
Duke 4 Federal #2 Bottom Hole Location	X = 354,830.9 Y = 612,994.5



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.

Gary Mills 10-10-06
Signature Date

Gary Mills
Printed Name

Agent, PLLC

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.

September 27, 2006
Date of Survey

Signature & Seal of Professional Surveyor

LVA

W.O. Num. 2006-0988

Certificate No. MACON McDONALD 12185

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 108921
Legal Description of Land:	Duke 4 Federal #2 SHL: 818' FSL AND 459' FEL, SEC 4, T19S, R21E BHL: 818' FSL AND 660' FWL, SEC 4, T19S, R21E Eddy County, New Mexico
Formation(s) (if applicable:	Morrow with alternate in the Wolfcamp
Bond Coverage:	$25,000 statewide bond of Parallel Petroleum Corporation
BLM Bond File No:	**NMB000265**

10-10-06
Date

Gary Miller Agent, PLLC
Name: Deane Durham
Title: Engineer

ATTACHMENT TO FORM 3160-3
DUKE 4 FEDERAL #2
Surface Hole Location
818 FSL AND 459 FEL, SEC 4, 19S, 21E
Bottom Hole Location
818 FSL AND 660 FWL, SEC 4, 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, 4356' Ground Level Elevation

2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

Glorieta 1270'(+3086')
Yeso 1330' (+3026')
Tubb 2730'(+1626')
Lower Yeso 2830' (+1526')
Abo Shale 3310' (+1046')
Abo Carbonate 3460' (+896')
Wolfcamp 4140' (+216')
Wolfcamp Shale 4280'(+76')
TD 4800' TVD (Pilot Hole)

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

Fresh water 790'
Oil and Gas Wolfcamp 4140' (+216')
No H_2S gas should be encountered

4. CASING AND CEMENTING PROGRAM

Casing Size	From To	Weight	Grade	Joint
20" conductor	0'-120'			
8 5/8"	0' – 1500'	24#	J-55	STC
5 1/2"	0' – 8,120'	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 per completion procedure. Acid soluble tail cement with enough volume plus excess to tie into surface casing.

Drilling Procedure

a. Set 20" conductor pipe at 120' with a rathole unit.
b. Drill 12 ¼" 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 4800', using cut brine to an approximate depth of 3200' and a starch mud system to TD.
e. Run open-hole logs
f. Plug lower portion of the hole with 15.6 ppg kick-off plug cement.
g. Dress CMT to kick off point at approximately 3718', oriented at 270 degree (grid) azimuth.
h. Build angle at 13.6 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 500 sx Class C Acid soluble
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 3,200' will utilize a cut brine mud system.
d. The remaining production section from 3,200' to TD will be a starch 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.

9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES & POTENTIAL HAZARDS

None anticipated.

BHP expected to be ~~1,100~~ 2100 psi.

10. ANTICIPATED STARTING DATE:

It is planned that operations will commence around fourth quarter of 2006 with drilling and completion operation lasting about 35 days.

SURFACE AND OPERATIONS PLAN FOR
DRILLING, COMPLETION, AND PRODUCING

PARALLEL PETROLEUM CORPORATION
DUKE 4 FEDERAL #2
SHL: 818' FSL AND 459' FEL, SEC 4, T19S, R21E
EDDY COUNTY, NEW MEXICO

LOCATED:

9 miles South of Hope, New Mexico

OIL & GAS LEASE:

NM 108921

RECORD LESSEE:

The Allar Co.
P.O. Box 1567
Graham, Texas 76450

BOND COVERAGE:

$25,000 statewide bond # NMB000265 of Parallel Petroleum Corporation

ACRES IN LEASE:

1960

SURFACE OWNER:

Federal

SURFACE TENANT:

Phyllis Crockett
P.O. Box C
Hope, NM 88250
505-484-3687

POOL:

Wolfcamp

E. Drainage Design
One low water crossing will be constructed on this section of the access road.

F. Culverts
It is not anticipated that any culverts will be needed on the access road at this time.

G. Gates and Cattle Guards
A cattle guard and gate will be installed on the fence line in section 9.

3. LOCATION OF EXISTING WELLS

Existing wells in the immediate area are shown in Exhibit "E".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

Necessary production facilities for this well will be located on the well pad.

5. LOCATION AND TYPE OF WATER SUPPLY

A water well may be drilled on this location for water supply for both drilling and completion. Upon completion of operations on this site the well may be used for drilling of additional wells on this lease. The well will be made available for the surface tenant upon completion of drilling in this area for use as stock water. A permit will be secured from the New Mexico Office of the State Engineer for this water well. Or water will be secured and trucked or transported by poly line to the location from a commercial source.

6. METHODS OF HANDLING WASTE DISPOSAL

A. Drilling fluids will be allowed to dry in the drilling pits until the pits are closed.

B. Water produced during tests will be disposed of in the drilling pits.

C. Oil produced during tests will be stored in test tanks.

D. Trash will be contained in a trash trailer and removed from well site.

E. All trash and debris will be removed from the well site within 30 days after finishing drilling and/or completion operations.

F. The reserve pit will be closed as per BLM and NMOCD regulations and guidelines. This will include leaving the drill cuttings in place in the pit, allowing them to dry, and covering the pit with at least 3' of backfill while not disturbing the pit liner. The cuttings may also be placed in a lined trench along side the drilling pit for disposal. If this disposal method is used the cuttings will be covered with a plastic liner and then covered with a minimum of 3' of backfill.

7. ANCILLARY FACILITIES

None required.

8. WELL SITE LAYOUT

Exhibit B shows the relative location and dimensions of the well pad, mud pits, reserve pit, and the location of major rig components. Drill site orientation is shown on Exhibit C.

9. PLANS FOR RESTORATION OF THE SURFACE

A. After completion of drilling and/or completion operations, all equipment and other material that will not be used lease for operations will be removed from the site.

B. After abandonment, all equipment, trash, and debris will be removed and the site will be reclaimed as per BLM permit stipulations.

10. OTHER INFORMATION

A. Topography
The project is located on open, rolling ridge slopes, with Southeast exposure. The regional drainage of the site being to the south and east toward Catclaw Draw.

B. Soil
Soils are very thin and shallow, tan/pink/grey loamy sandy silts, overlying limestone bedrock.

C. Flora and Fauna
The location is located on a ridge and the vegetation consist of broom snakeweed, grasses, creosote, cholla, yucca catclaw, prickly pear, beargrass and various species of cacti.

D. Ponds and Streams
Catclaw Draw, an intermittent stream which flows west to east, is located 1/2 mile south of the site. There are no other rivers, lakes, ponds, or streams in the area.

E. Residences and Other Structures
The Phyllis Crockett Ranch house is located 2 miles north west of the site.

F. Archaeological, Historical, and Cultural Sites
See archaeological report to be submitted by:
Southern New Mexico Archaeological Services, Inc.,
P.O. Box 1
Bent, New Mexico 88314 Phone 505-671-4797

G. Land Use
Grazing

H. Surface Ownership
Federal

11. OPERATOR'S REPRESENTATIVE

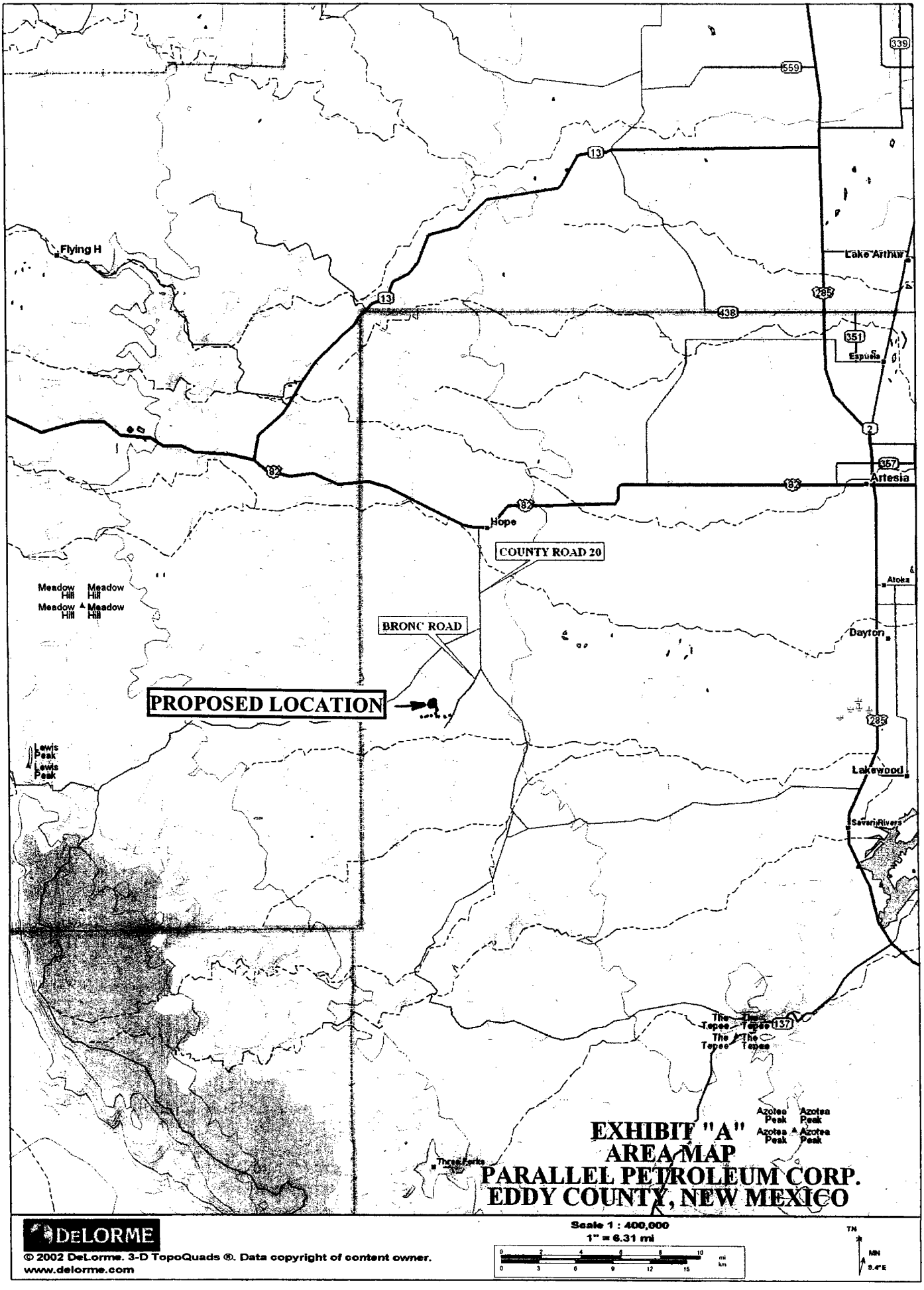
Deane Durham, Engineer
Parallel Petroleum Corporation
1004 North Big Spring Street, Suite 400
Midland, Texas 79701
Office: (432) 684-3727

12. CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Parallel Petroleum Corporation and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

10-10-06
Date

Gary Miller, Agent for PCC
Name: Deane Durham
Title: Engineer



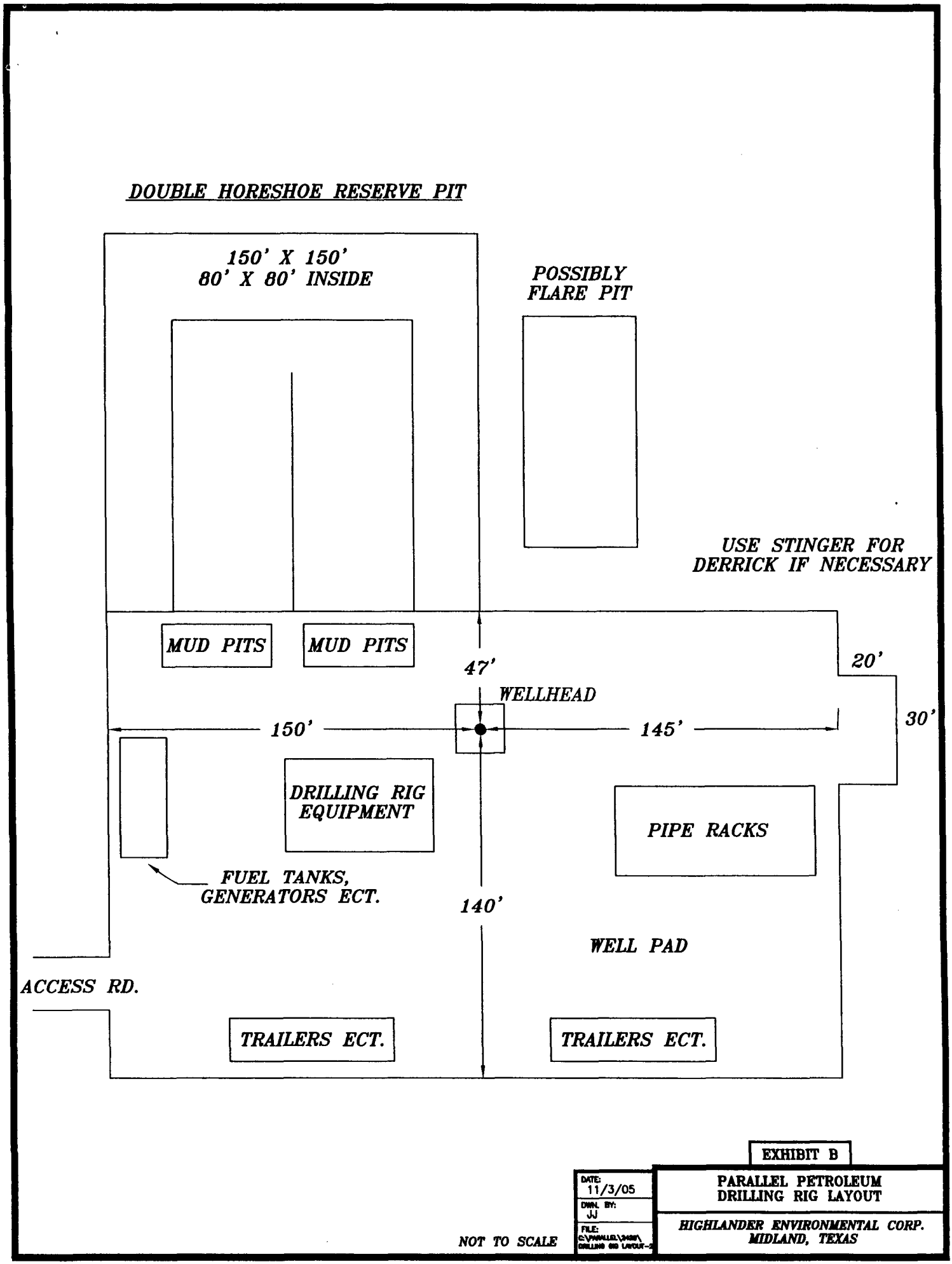


EXHIBIT B

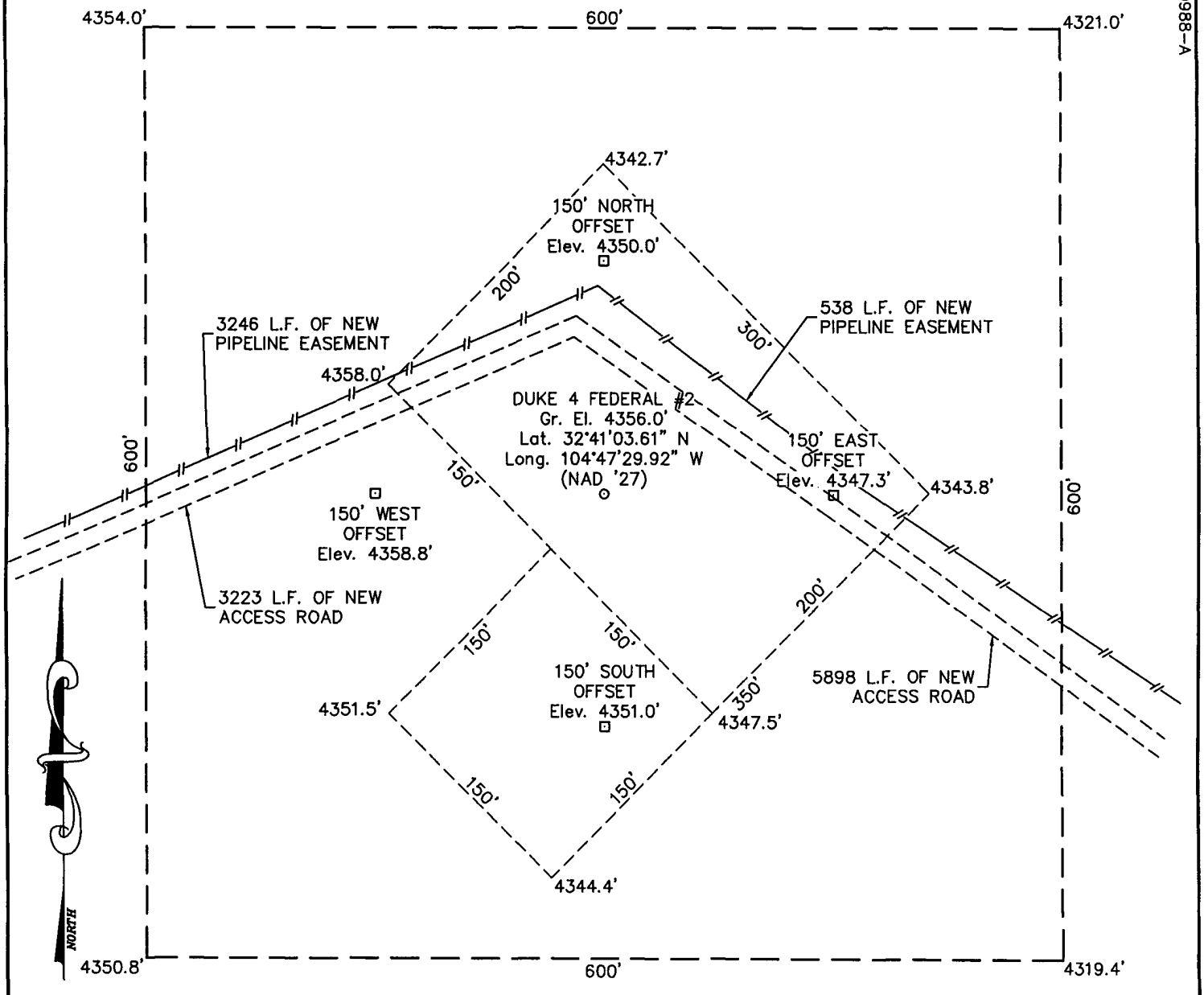
DATE: 11/3/05	PARALLEL PETROLEUM DRILLING RIG LAYOUT
DWN. BY: JJ	HIGHLANDER ENVIRONMENTAL CORP. MIDLAND, TEXAS
FILE: C:\PARALLEL\3408\DRILLING RIG LAYOUT-2	

NOT TO SCALE

SECTION 4, TOWNSHIP 19 SOUTH, RANGE 21 EAST, N.M.P.M.

EDDY COUNTY NEW MEXICO

L-2006-0988-A



100 0 100 200

Graphic Scale in Feet

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 3.5 MILES TO ANOTHER LEASE ROAD ON WEST (RIGHT) SIDE OF ROAD, THEN GO WEST ALONG SAID LEASE ROAD 1.2 MILES TO A POINT WHERE A NEW ACCESS ROAD BEGINS TO THE NORTH (RIGHT) SIDE OF SAID LEASE ROAD, THEN GO NORTH ALONG SAID ACCESS ROAD 1.1 MILES TO THE PROPOSED LOCATION.

PARALLEL PETROLEUM CORPORATION

DUKE 4 FEDERAL #2

Located 818' FSL & 459' FEL, Section 4
Township 19 South, Range 21 East, N.M.P.M.
Eddy County, New Mexico

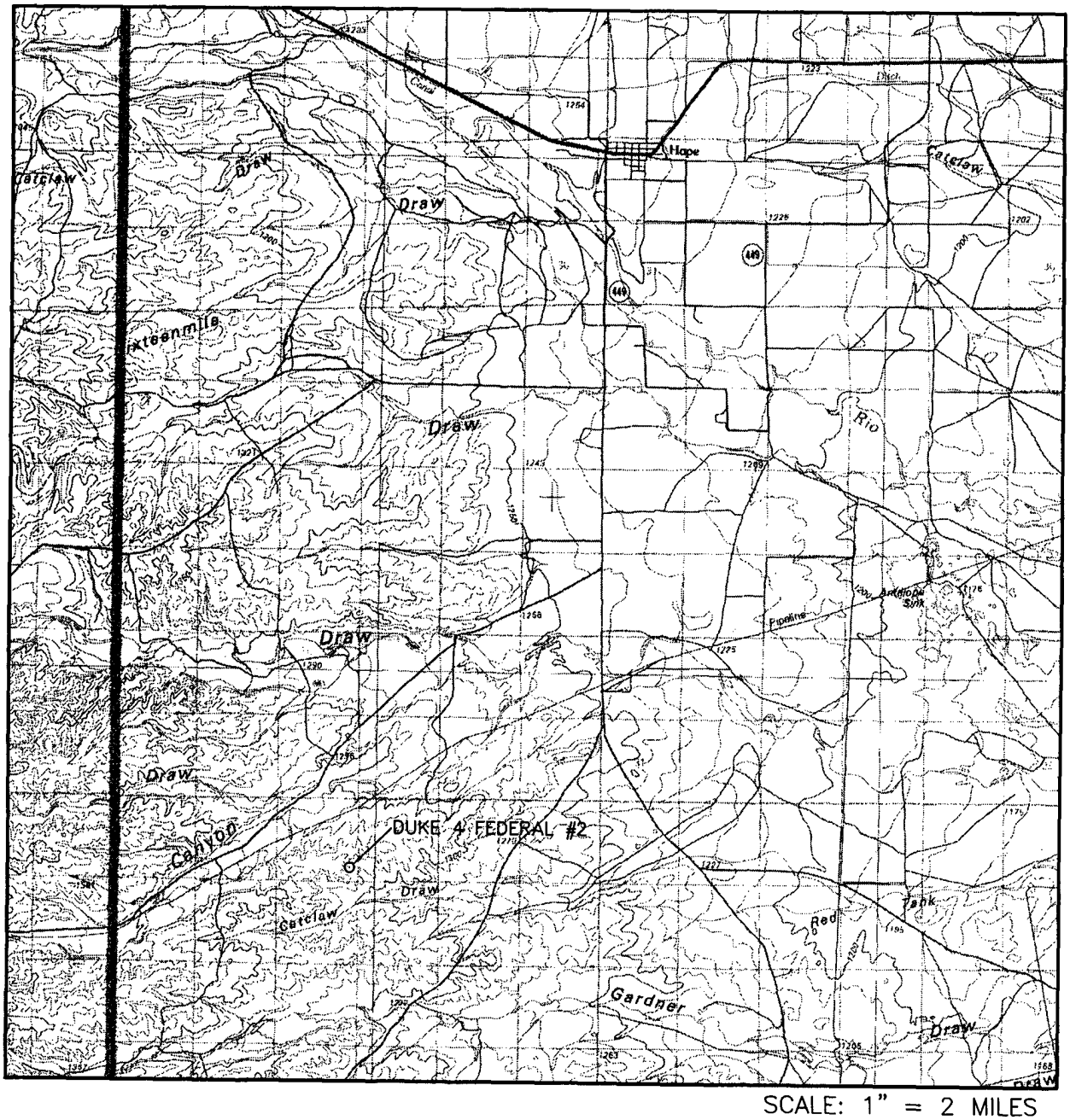
Drawn By: LVA	Date: October 4, 2006
Scale: 1"=100'	Field Book: 352 / 1-9
Revision Date:	Quadrangle: Holt Tank
W.O. No: 2006-0988	Dwg. No.: L-2006-0988-A

WEST COMPANY of Midland, Inc.

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

Exhibit C

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 4 TWP. 19-S RGE. 21-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 818' FSL & 459' FEL

ELEVATION 4356'

OPERATOR PARALLEL PETROLEUM CORPORATION

LEASE DUKE 4 FEDERAL

NORTH

Exhibit D

WEST COMPANY of Midland, Inc.

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

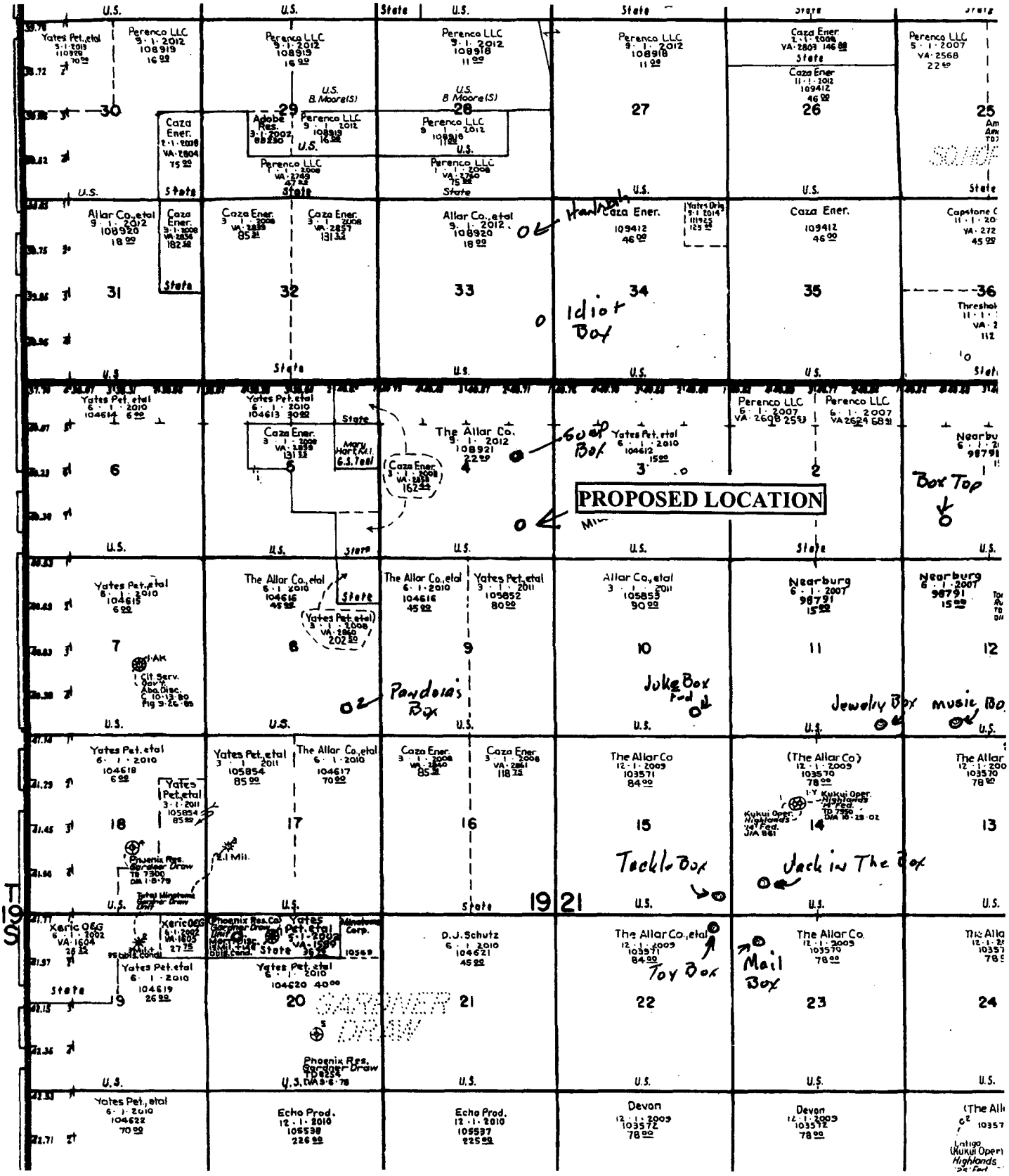
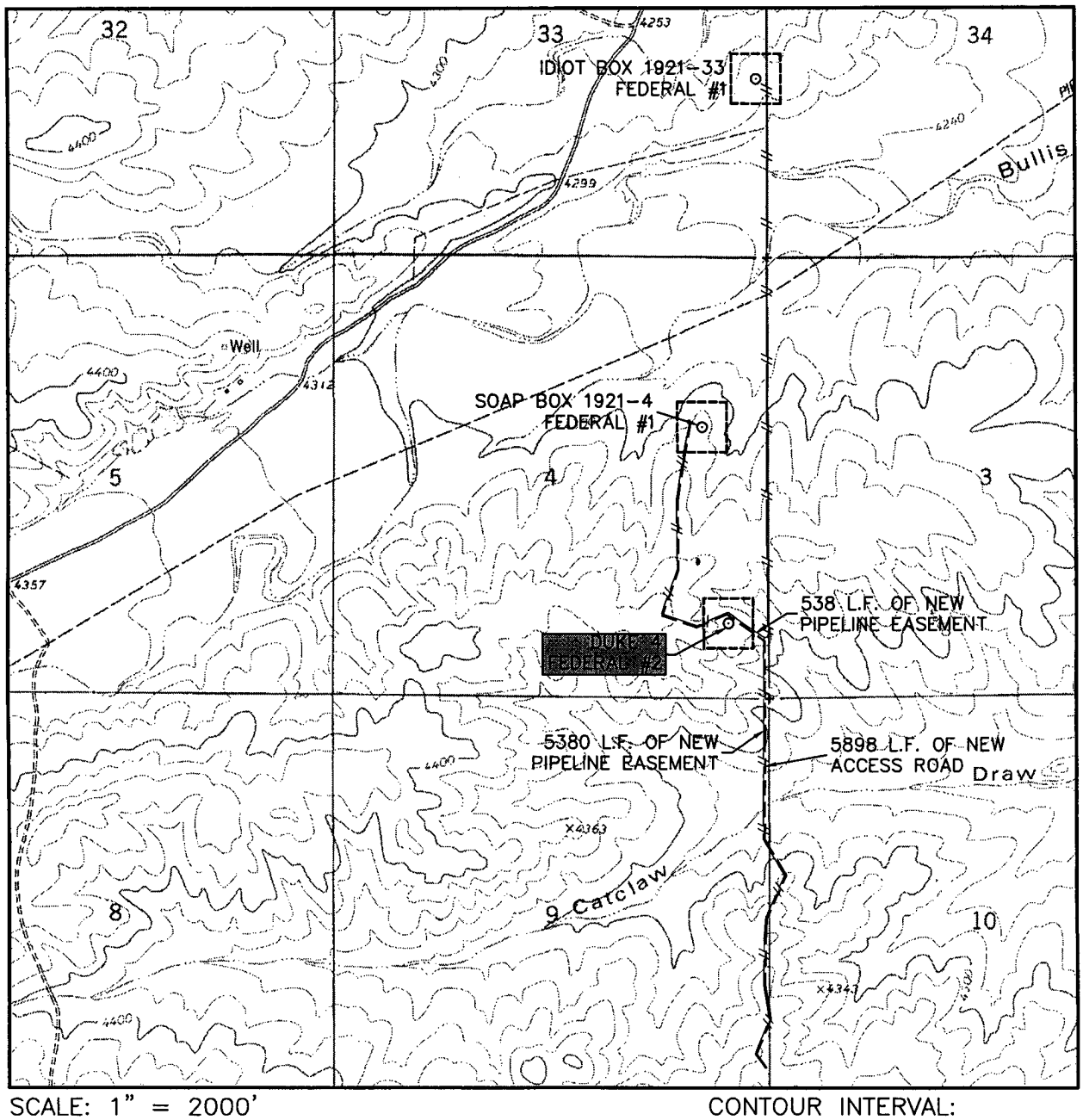


Exhibit "E"
AREA PRODUCTION MAP
PARALLEL PETROLEUM CORPORATION
DUKE 4 FEDERAL #2
SHL: 818' FSL AND 459' FEL, SEC 4, T19S, R21E
EDDY COUNTY, NEW MEXICO

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
HOLT TANK – 20'

SEC. 4 TWP. 19-S RGE. 21-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 818' FSL & 459' FEL

ELEVATION 4356'

OPERATOR PARALLEL PETROLEUM CORPORATION

LEASE DUKE 4 FEDERAL

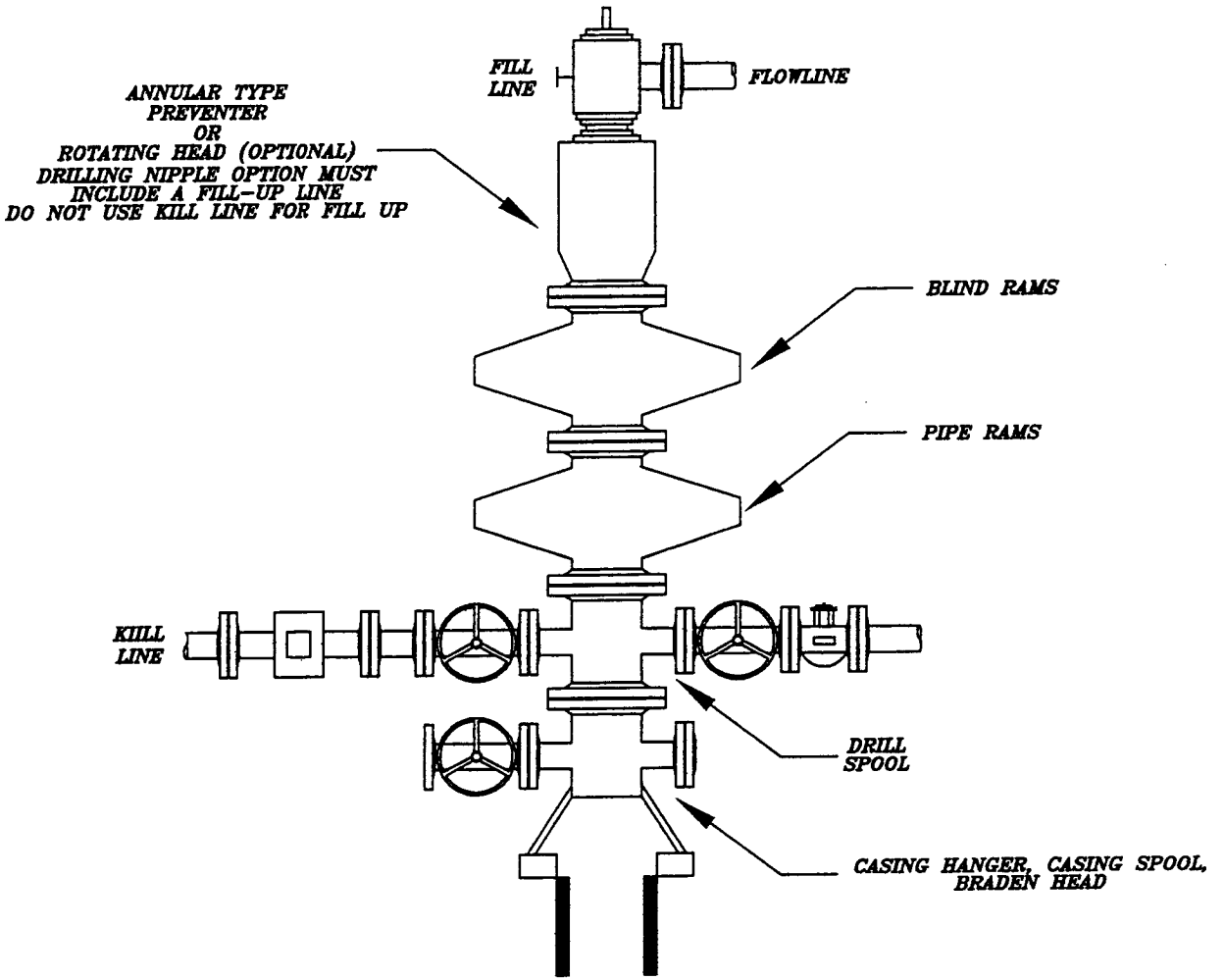
U.S.G.S. TOPOGRAPHIC MAP
HOLT TANK, N.M.

Exhibit F

WEST COMPANY of Midland, Inc.

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

MINIMUM BOP SCHEMATIC

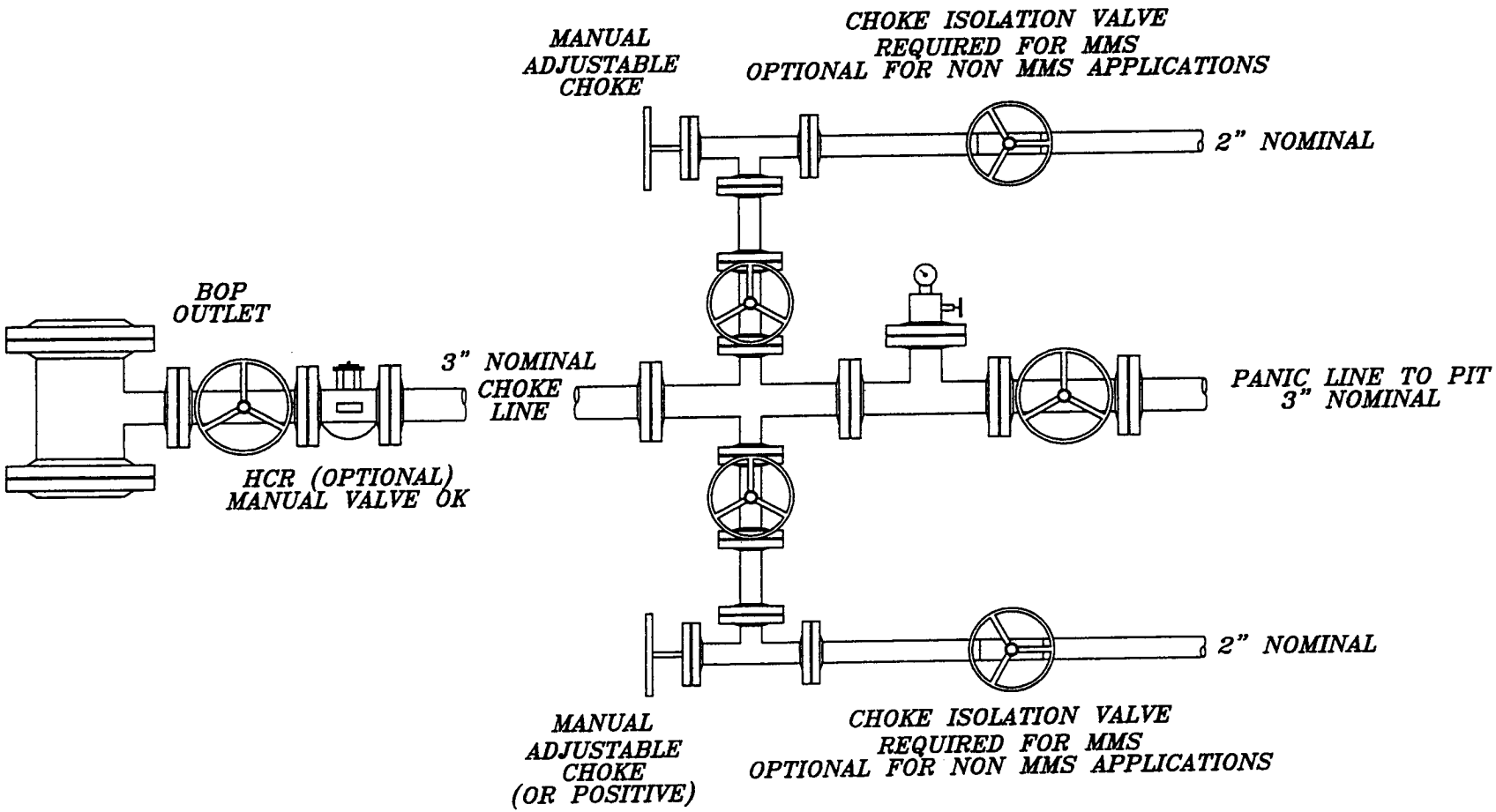


NOT TO SCALE

EXHIBIT I

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

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\3423\CHOKE MANIFOLD	

PARALLEL PETROLEUM CORPORATION

SURVEY CALCULATION PROGRAM

OPERATOR:	Parallel Petroleum Corporation	Supervisors:	
WELL:	Duke 4 Federal #2		
LOCATION:	Sec. 4 T-19-S R-21-E		
API NUMBER:			
COMMENTS:			
		MAG DEC.(-/+)	
		GRID CORR.(-/+)	
		TOTAL CORR.(-/+)	0.0
DATE: 10/05/06	TIME: 2:19 PM	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	3718	0.0	0.0	3718.0	0.0	0.0	0.0	0.0	422.0	0.0
2	3728	1.4	270.0	3728.0	0.1	0.0	-0.1	13.5	412.0	0.0
3	3738	2.7	270.0	3738.0	0.5	0.0	-0.5	13.5	402.0	0.0
4	4381	90.0	270.0	4140.1	422.0	0.0	-422.0	13.6	-0.1	0.0
5	8120	90.0	270.0	4140.1	4161.0	0.0	-4161.0	0.0	-0.1	0.0

KOP @ 3718' MD
BUR = 13.6 DEG per 100 FT
End Curve @ 4381' MD, 4140' TVD
BHL @ 8120' MD, 4140' TVD, 4161' VS

Exhibit K

Parallel Petroleum Corp.

Duke 4 Federal #2
Sec. 4, T-19-S, R-21-E
Eddy County, New Mexico

COMPANY DETAILS

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

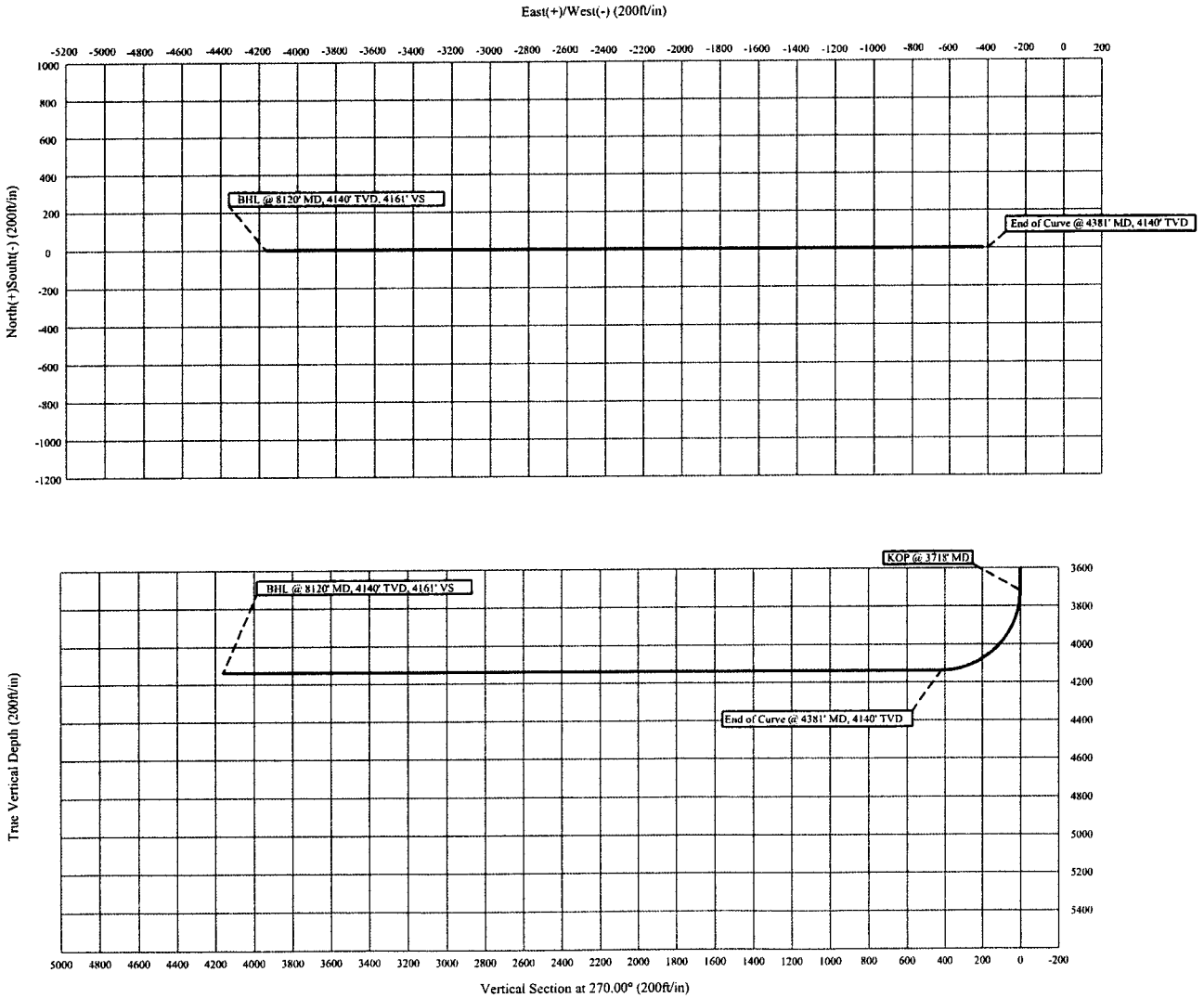


Exhibit L

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

SPECIAL DRILLING STIPULATIONS

THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's Name: Parallel Petroleum Corporation Well Name & #: Duke 4 Federal # 2
Location Surface Hole: 818' F S L & 459' F W L; Sec. 04, T. 19 S., R. 21 E.
Bottom Hole: 818' F S L & 660' F W L; Sec. 04, T. 19 S., R. 21 E.

Lease #: NM-108921 County: Eddy State: New Mexico

The Special stipulations check marked below are applicable to the above described well and approval of this application to drill is conditioned upon compliance with such stipulations in addition to the General Requirements. The permittee should be familiar with the General Requirements, a copy of which is available from a Bureau of Land Management office. EACH PERMITTEE HAS THE RIGHT OF ADMINISTRATIVE APPEAL TO THESE STIPULATIONS PURSUANT TO TITLE 43 CRF 3165.3 AND 3165.4.

This permit is valid for a period of one year from the date of approval or until lease expiration or termination whichever is shorter.

I. SPECIAL ENVIRONMENT REQUIREMENTS

( ) Lesser Prairie Chicken (stips attached)
( ) San Simon Swale (stips attached)
( ) Flood plain (stips attached)
(X) Other **Aplomado Falcon Stips Attached**

II. ON LEASE - SURFACE REQUIREMENTS PRIOR TO DRILLING

(X) The BLM will monitor construction of this drill site. Notify the (X) Carlsbad Field Office at (505) 234-5972 ( ) Hobbs Office (505) 393-3612, at least 3 working days prior to commencing construction.

(X) Roads and the drill pad for this well must be surfaced with 6 inches of compacted caliche upon completion of well and it is determined to be a producer.

( ) All topsoil and vegetation encountered during the construction of the drill site area will be stockpiled and made available for resurfacing of the disturbed area after completion of the drilling operation. Topsoil on the subject location is approximately _____inches in depth. Approximately _____cubic yards of topsoil material will be stockpiled for reclamation.

(X) Other. **Pits West V-Door North**

III. WELL COMPLETION REQUIREMENTS

( ) A Communlitization Agreement covering the acreage dedicated to the well must be filed for approval with the BLM. The effective date of the agreement must be prior to any sales.

(x) Surface Restoration: If the well is a producer, the reserve pit(s) will be backfilled when dry, and cut-and-fill slopes will be reduced to a slope of 3:1 or less. All areas of the pad not necessary for production must be re-contoured to resemble the original contours of the surrounding terrain, and topsoil must be re-distributed and re-seeded with a drill equipped with a depth indicator (set at depth of ½ inch) with the following seed mixture, in pounds of Pure Live Seed (PLS), per acre.

( ) A. Seed Mixture 1 (Loamy Sites)
Side Oats Grama (*Bouteloua curtipendula*) 5.0
Sand Dropseed (*Sporobolus cryptandrus*) 1.0

( ) B. Seed Mixture 2 (Sandy Sites)
Sand Dropseed (*Sporobolus crptandrus)* 1.0
Sand Lovegrass (*Eragostis trichodes*) 1.0
Plains Bristlegrass (*Setaria magrostachya*) 2.0

(X) C. Seed Mixture 3 (Shallow Sites)
Side oats Grama (*Boute curtipendula*) 1.0

( ) D. Seed Mixture 4 (Gypsum Sites)
Alkali Sacaton (*Sporobollud airoides*) 1.0
Four-Wing Saltbush (*Atriplex canescens*) 5.0

( ) OTHER SEE ATTACHED SEED MIXTURE

Seeding should be done either late in the fall (September 15 - November 15, before freeze up, or early as possible the following spring to take advantage of available ground moisture.

( ) Other

RESERVE PIT CONSTRUCTION STANDARDS

The reserve pit shall be constructed entirely in cut material and lined with 6-mil plastic. Mineral material extracted from within the boundary of the APD during construction of the well pad and reserve pits and be used for the construction of this well pad and its immediate access road only, as long as that portion of the access road it is use on remains on-lease. Removal of any additional material from this location for construction or improvement of other well pads and other access or lease roads must first be purchased from BLM.

Reclamation: Reclamation of this type of deep pit will consist of pushing the pit walls into the pit when sufficiently dry to support track equipment. The pit liner is NOT TO BE RUPTURED to facilitate drying; a ten month period after completion of the well is allowed for drying of the pit contents.
The pit area must be contoured to the natural terrain with all contaminated drilling mud buried with at least 3 feet of clean soil. The reclaimed area will then be seeded as specified in this permit.

OPTIONAL PIT CONSTRUCTION STANDARDS

The reserve pit may be constructed in predominantly fill material if:

(1) Lined as specified above and

(2) A temporary or emergency pit may be constructed immediately adjacent to the reserve pit as long as the pit remains within the APD boundary. Mineral material removed from this pit may be used for the construction of this well pad only and its immediate access road, as long as that portion of the access road the material is used on remains on-lease. Removal of any material from the APD boundary for use on other well locations or roads must first be purchased from BLM.

Reclamation of the reserve pit consists of bulldozing all reserve pit contents and contaminants into the borrow pit and covering with a minimum of 3 feet of clean soil material. The entire area must be re-contoured, all trash removed, and reseeded as specified in this permit.

CULTURAL

Whether or not an archaeological survey has been completed and notwithstanding that operations are being conducted as approved, the lessee/operator/grantee shall notify the BLM immediately if previously unidentified cultural resources are observed during surface disturbing operations. From the time of the observation, the lessee/operator/grantee shall avoid operations that will result in disturbance to these cultural resources until directed to process by BLM.

TRASH PIT STIPS

All trash, junk, and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.

Aplomado Falcon Stipulations: All **active** Raptor nests will be avoided by a minimum of 400 meters by all activities or curtail activities until fledging is complete.

All **inactive** raptor nests will be avoided by a minimum of 25 meters by all activities.

No yuccas over 5 feet in height will be damaged by vehicular use or any other activity associated with this project.

Reclamation will consist of disking, mulching and drilling seed with the following seed mixture, and application of water to encourage seed germination:

Buffalograss (Buchloe dactyloides)---------- 4 lbs/acre
Blue grama (Bouteloua gracilis)---------- 1 lb/acre
Cane bluestem (Bothriochloa barbinodis)---------- 5 lbs/acre
Sideoats grama (Bouteloua curtipendula) ---------- 5 lbs/acre
Plains bristlegrass (Setaria macrostachya) --------- 6 lbs/acre

A sign stating "This Pipeline Corridor is Closed to Vehicular Traffic Due to Reclamation Efforts in Progress" will be placed where the pipeline crosses any road (both sides of the road), and at the beginning and end of the pipeline route on BLM administered lands.

Stipulations for Drilling in Aplomado Falcon Habitat

The following well pad construction and reclamation measures will be implemented to provide for minimal long-term disturbance:

No Yuccas over 5 feet in height will be damaged by vehicular use or any other activity associated with this project.

Remove all caliche from well pads and roads that are plugged and abandoned. Reclamation will consist of disking, mulching, seeding with a drill (See seed mixture below), and application of water to encourage seed germination.

Well pad size will not exceed 300 ft. x 390 ft. (unless multiple wells are drilled from the same well pad). All unused portions of the well pad associated with producing wells will be reclaimed using the seed mixture below:

Buffalograss (Buchloe dactyloides)	4 lbs/acre
Blue grama (Bouteloua gracilis)	1 lbs/acre
Cane bluestem (Bothriochloa barbinodis)	5 lbs/acre
Sideoats grama (Boutelou curtipendula)	5 lbs/acre
Plains bristlegrass (Setaria macrostachya)	6 lbs/acre

Reserve pits for drilling and disposal are not allowed unless the pit can be effectively netted to the satisfaction of the BLM. Steel tank circulation system must be used if the reserve pit is not netted.

All active raptor nests will be avoided by a minimum of 400 meters by all activities or curtail activities until fledging is complete.

All inactive raptor nests will be avoided by a minimum of 200 meters by all activities.

All roads associated with well development will not exceed 30 ft in width

Aplomado Falcon Habitat Seed Mixture

Buffalograss (Buchloe dactyloides)) ---------- 4 lbs/acre
Blue grama (Bouteloua gracilis) ---------- 1 lb/acre
Cane bluestem (Bothriochloa barbinodis) ---------- 5 lbs/acre
Sideoats grama (Bouteloua curtipendula) ---------- 5 lbs/acre
Plains bristlegrass (Setaria macrostachya) ---------- 6 lbs/acre

CONDITIONS OF APPROVAL - DRILLING

Well Name & No. Duke 4 Federal # 2
Operator's Name: Parallel Petroleum Corp.
Location: SHL 818 FSL, 459 FEL, Sec 4, T. 19S., R. 21E., Eddy County, NM
Location: BHL 818 FSL, 660 FWL, Sec 4, T. 19S., R. 21E., Eddy Count, NM
Lease: NM-108921

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: **20** inch **8 5/8** inch 5 1/2 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 5/8** 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 be brought up to at least 200 feet above the shoe of the 8 5/8 inch casing.**

3. **Any variation in the weight or grade of the casing to be used must be approved as a variance.**

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 5/8 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.

IV. MUD

1. **Minimum mud weight for all formations in this well is 8.3 ppg.**

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

F Wright 10/24/06

BLM Serial #: NM-108921
Company Reference: Parallel Petroleum Corporation
Well # & Name: Duke 4 Federal # 2

STANDARD STIPULATIONS FOR PERMANENT RESOURCE ROADS
CARLSBAD FIELD OFFICE

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

The holder/grantee/permittee shall hereafter be identified as the holder in these stipulations. The Authorized Officer is the person who approves the Application for Permit to Drill (APD) and/or Right-of-Way (ROW).

GENERAL REQUIREMENTS

A. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

B. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, *et. seq.*) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

C. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, *et. seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et. seq.*) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

D. If, during any phase of the construction, operation, maintenance, or termination of the road, any oil or other pollutant should be discharged, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil of other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all

damages to Federal lands resulting there from the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

E. The holder shall minimize disturbance to existing fences and other improvements on public domain surface. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times.

The holder will make a documented good-faith effort to contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence.

F. The Holder shall ensure that the entire right-of-way, including the driving surface, ditching and drainage control structures, road verges and any construction sites or zones, will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle and salt cedar. The Holder agrees to comply with the following stipulations:

1. ROAD WIDTH AND GRADE

The road will have a driving surface of 14 feet (all roads shall have a minimum driving surface of 12 feet, unless local conditions dictate a different width). The maximum grade is 10 percent unless the box below is checked. Maximum width of surface disturbance from construction will be 30 feet.

☒ Those segments of road where grade is in excess of 10% for more than 300 feet shall be designed by a professional engineer.

2. CROWNING AND DITCHING

Crowning with materials on site and ditching on one side of the road on the uphill side will be required. The road cross-section will conform to the cross section diagrams in Figure 1. If conditions dictate, ditching may be required for both sides of the road; if local conditions permit, a flat-bladed road may be considered (if these conditions exist, check the appropriate box below). The crown shall have a grade of approximately 2% (i.e., 1" crown on a 12' wide road).

☒ Ditching will be required on both sides of the roadway as shown on the attached map or as staked in the field.

☐ Flat-blading is authorized on segment(s) delineated on the attached map.

3. DRAINAGE

Drainage control shall be ensured over the entire road through the use of borrow ditches, out-sloping, in-sloping, natural rolling topography, lead-off (turnout) ditches, culverts, and/or drainage dips.

A. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval for lead-off ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in %):

SPACING INTERVAL FOR TURNOUT DITCHES

Percent slope	Spacing interval
0% - 4%	400' - 150'
4% - 6%	250' - 125'
6% - 8%	200' - 100'
8% - 10%	150' - 75'

A typical lead-off ditch has a minimum depth of 1 foot below and a berm 6 inches above natural ground level. The berm will be on the down-slope side of the lead-off ditch. The ditch end will tie into vegetation whenever possible.

For this road the spacing interval for lead-off ditches shall be at

☒ 400 foot intervals.

☐ ____ foot intervals.

☐ locations staked in the field as per spacing intervals above.

☐ locations delineated on the attached map.

B. Culvert pipes shall be used for cross drains where drainage dips or low water crossings are not feasible. The minimum culvert diameter must be 18 inches. Any culvert pipe installed shall be of sufficient diameter to pass the anticipated flow of water. Culvert location and required diameter are shown on the attached map (Further details can be obtained from the Roswell District Office or the appropriate Resource Area Office).

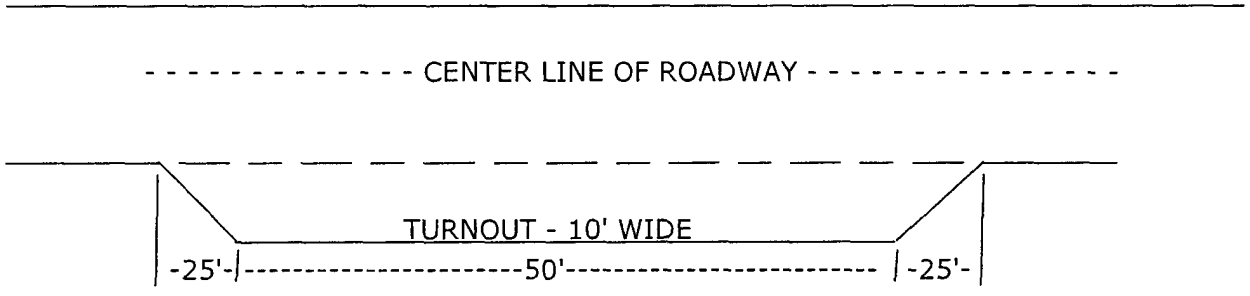
C. On road slopes exceeding 2%, drainage dips shall drain water into an adjacent lead-off ditch. Drainage dip location and spacing shall be determined by the formula:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Example: 4% slope: spacing interval = $\frac{400}{4} + 100 = 200$ feet

4. TURNOUTS

Unless otherwise approved by the Authorized Officer, vehicle turnouts will be required. Turnouts will be located at 2000-foot intervals, or the turnouts will be intervisible, whichever is less. Turnouts will conform to the following diagram:



STANDARD TURNOUT - PLAN VIEW

5. SURFACING

Surfacing of the road or those portions identified on the attached map may, at the direction of the Authorized Officer, be required, if necessary, to maintain traffic within the right-of-way with caliche, gravel, or other surfacing material which shall be approved by the Authorized Officer. When surfacing is required, surfacing materials will be compacted to a minimum thickness of six inches with caliche material. The width of surfacing shall be no less than the driving surface. Prior to using any mineral materials from an existing or proposed Federal source, authorization must be obtained from the Authorized Officer.

A sales contract for the removal of mineral materials (caliche, sand, gravel, fill dirt, etc.) from an authorized pit, site, or on location must be obtained from the BLM prior to using any such mineral material from public lands. Contact the BLM solid minerals staff for the various options to purchase mineral material.

6. CATTLEGUARDS

Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads (exceeding H-20 loading), are anticipated (See BLM standard drawings for cattleguards). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

7. MAINTENANCE

The holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation, culvert cleaning, drainage installation, cattleguard maintenance, and surfacing.

8. PUBLIC ACCESS

Public access along this road will not be restricted by the holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public lands will not be locked or closed to public use unless closure is specifically determined to be necessary and is authorized in writing by the Authorized Officer.

9. CULTURAL RESOURCES

Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the authorized officer. The holder 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 will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the authorized officer after consulting with the holder.

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 and F-1 is a topographic map of the location showing existing roads and the proposed new access road.

2. ACCESS ROADS

A. Length and Width
The access road will be built as shown on Exhibit F and F-1. The existing access road will come off County Road 20 (Bronc Road) and go west 1.2 mile to the new access road going north. Go north .75 mile to a cattle guard and then continue thru the cattle guard and continue .35 mile to the location. The new access road will be surfaced with caliche and will be 16' to 24' wide with a total length of 1.1 mile.

B. Surface Material
Caliche from a commercial source.

C. Maximum Grade
Less than five percent.

D. Turnouts
One turnout may be constructed on the new section of the access road.