

N.M. Oil Cons. DIV-Dist. 2

1301 W. Grand Avenue

Alamogordo, NM 88212

160-3
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTMonth - Year
APR 16 2007
OCD - ARTESIA, NMFORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM NM 112249
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Parallel Petroleum Corporation #230387		7. If Unit or CA Agreement, Name and No.
3a. Address 1004 North Big Spring, Suite 400 Midland, Texas	3b. Phone No. (include area code) 432/684-3727	8. Lease Name and Well No. All Along 1525-17 Fed Com #1/H #36458
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface SHL 1880' FSL AND 190' FWL Sec 16, T-15S-R25E At proposed prod. zone BHL 1880' FSL AND 660' FWL Sec 17, T-15S-R25E		9. API Well No. 30-005-63925
14. Distance in miles and direction from nearest town or post office* 5 miles North of Artesia, New Mexico		10. Field and Pool, or Exploratory wildcat Wolfcamp #97489
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 190'		11. Sec., T. R. M. or Blk. and Survey or Area 17 T15S, R25E
16. No. of acres in lease 2435.41	17. Spacing Unit dedicated to this well 320 total w/ 160 acres being federal minerals	12. County or Parish Chaves
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 2500'	19. Proposed Depth 5500'	13. State NM
20. BLM/BIA Bond No. on file NMB000265	21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL 3500'	22. Approximate date work will start* 04/15/2007
23. Estimated duration 30 days		24. Attachments ROSWELL CONTROLLED WATER BASIN

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature Deane Durham Name (Printed/Typed) Deane Durham Date 3-8-07

Title Engineer, Parallel Petroleum Corporation

Approved by (Signature) LARRY D. BRAY Name (Printed/Typed) /S/LARRY D. BRAY Date APR 12 2007

Title Assistant Field Manager, Lands And Minerals Office ROSWELL 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.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on page 2)

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

DECLARED WATER BASIN

CEMENT BEHIND THE 85'
CASING MUST BE CIRCULATED

WITNESS

**APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS ATTACHED**

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 97489	Pool Name Wildcat, Wolfcamp
Property Code	Property Name ALL ALONG 1525-17 FED COM	Well Number 1
OGRID No.	Operator Name PARALLEL PETROLEUM CORPORATION	Elevation 3501'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	16	15 S	25 E		1880'	SOUTH	190'	WEST	CHAVES

Bottom Hole Location If Different From Surface

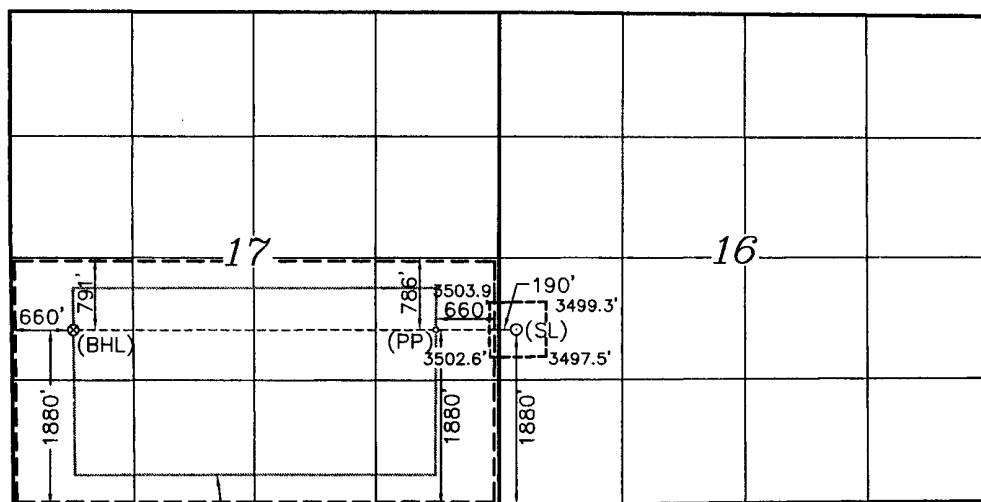
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	17	15 S	25 E		1880'	SOUTH	660	WEST	CHAVES

Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.
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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:

- 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.



Project Area
Producing Area

Coordinate Table	
Description	Plane Coordinate
All Along 1525-17 Fed Com #1	X = 462,561.6
Surface Location	Y = 732,270.7
All Along 1525-17 Fed Com #1	X = 461,711.8
Penetration Point	Y = 732,266.4
All Along 1525-17 Fed Com #1	X = 457,814.0
Bottom Hole Location	Y = 732,255.7

OPERATOR CERTIFICATION

I hereby certify 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 undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Deane Durham 3-8-07

Signature Date

Deane Durham
Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief.

October 12, 2006

Date of Survey

KMT

Signature & Seal of Professional Surveyor

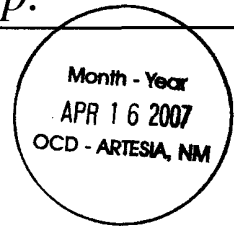
W.O. Num. 2006-1001

Certificate No. MACON McDONALD 12185



Highlander Environmental Corp.

Midland, Texas
April 13, 2007



Attn. Brian Arrant
State Of New Mexico,
Oil Conservation Division
1301 W. Grand Ave.
Artesia, New Mexico 88210

Re: C-144 and C-102, Parallel Petroleum Company
All Along 1525-17 Fed Com #1
Chaves Counties, New Mexico

Parallel Petroleum Company (Parallel), in an effort for get started drilling on the above referenced well as soon as possible has asked me to review this issue with your office and see what if anything could be done to speed up or help with the permit process along. This well is federal and will share a dual location with the Parallel, Swale 1525-16 State #1 that has recently been drilled, but not yet completed. The Federal APD package is currently in review at the Roswell BLM office and according to Mr. Richard Hill, should be approved and forwarded to your office on April 15, 2007.

Last week I spoke with Mr. Tim Gum of your office and asked him there was anything I could do to help this process along in your office as we did not want to move the rig if we did not have to. Mr. Gum stated that I should forward these forms to you. As it has turned out we still had to move the rig, but would like to move back on ASAP. The attached are C-144 and C-102 are for the All Along 1525-17 Fed Com #1 well for your review.

I have also included in this package the APD packages for two additional wells that will also share a common pad and reserve pit as well as the APD package for a third single well location.

Should you need additional information regarding this issue, please contact me at 432-682-4559 or my email address at [gmiller@hec-enviro.com](mailto:gmillar@hec-enviro.com).

Sincerely,

Gary Miller, Agent
Highlander Environmental Corp.

ATTACHMENT TO FORM 3160-3
ALL ALONG 1525-17 FED COM #1
Surface Hole Location
1880 FSL AND 190 FWL, SEC 16, 15S, 25E
Bottom Hole Location
1880 FSL AND 660 FWL, SEC 17, 15S, 25E
CHAVES COUNTY, NEW MEXICO

DRILLING PROGRAM

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

1. GEOLOGIC NAME OF SURFACE FORMATION

San Andres

2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

Glorieta 2565'(+936')
Tubb 3575'(-74')
Abo Shale 4325' (-824')
Wolfcamp 5250' (-1749')
Wolfcamp Shale 5425'(-1924')

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

Fresh water 65'
Oil and Gas Wolfcamp 5250' (-1749')
No H₂S gas should be encountered

4. CASING AND CEMENTING PROGRAM

<u>Casing Size</u>	<u>From</u>	<u>To</u>	<u>Weight</u>	<u>Grade</u>	<u>Joint</u>
16" conductor	0'	120'			
8 5/8"	0'	1400'	24#	J-55	STC
5 1/2"	0'	TOTAL DEPTH	17#	N-80	LTC

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

ALL ALONG 1525-17 FED COM #1

Page 2

8-5/8" slurry: Lead: 225 sacks (50:50) Poz (Fly Ash): Class C + 5% bwow Sodium Chloride + 10% bwoc Bentonite + 151.7% fresh water. Tail: 235 sacks Class C + 1% bwoc Calcium Chloride + 56.3% fresh water

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

Note: 5-1/2" Acid-soluble cement per completion procedure.

Drilling Procedure

- a. Set 16" conductor pipe as deep as possible up to 120' with a rathole unit.
- b. Drill 11" surface hole to an approximate depth of 1400', 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 kick off point at approximately 4,400'.
- e. Build angle at 6 degrees per 100' to 90 degrees and hold.
- f. Drill 7 7/8" horizontal drain hole to a terminus of 660' FWL approximately 9,690'.
- g. Run 5 1/2" 17# N-80 CSG to TD. Cement with 750 sx Class C Acid Soluble
- h. Circulate to surface or run temperature survey to verify tie in to surface casing.
- i. 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 1,400' with 8.3 ppg Fresh Water system and viscous sweeps for hole cleaning.
- c. The production section from 1,500' to 4,300' will utilize a cut brine mud system from 8.8 to 9.2 ppg.
- d. The remaining production section from 4,300' to TD will be a polymer mud system with mud weight (8.8 – 9.6) sufficient to control formation pressure anticipated to be approximately 1,900 psi.

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT

None required.

8. LOGGING, TESTING, AND CORING PROGRAM

Mud logs are planned. This is the second well on a dual pad, so no open-hole logs are planned, however, additional open-hole logs, drill stem tests, cores and sidewall cores are possible.

9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES & POTENTIAL HAZARDS

None anticipated.

BHP expected to be 1,900 psi.

10. ANTICIPATED STARTING DATE:

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

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

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

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

Lease No: NM NM 112249


Legal Description of Land: All Along 1525-17 Fed Com #1
SHL: 1880' FSL and 190' FWL, Sec. 16, T15S, R25E
BHL: 1880' FSL and 660' FWL, Sec. 17, T14S, R26E
Chaves County, New Mexico

Formation(s) (if applicable: Wolfcamp

Bond Coverage: \$25,000 statewide bond of Parallel Petroleum Corporation

BLM Bond File No: NMB000265

3-8-07
Date


Name: Deane Durham
Title: Engineer

**SURFACE AND OPERATIONS PLAN FOR
DRILLING, COMPLETION, AND PRODUCING**

**PARALLEL PETROLEUM CORPORATION
ALL ALONG 1525-17 FED. COM. #1
SHL: 1880' FSL AND 190' FWL, SEC 16, T15S, R25E
CHAVES COUNTY, NEW MEXICO**

LOCATED:

5 miles north of Artesia, New Mexico

OIL & GAS LEASE:

NM NM 112249

RECORD LESSEE:

J Bar Cane Inc.
P.O. Box 16
Stanley, NM 87056

BOND COVERAGE:

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

ACRES IN LEASE:

2435.41

STATE OF NEW MEXICO SURFACE OWNER:

Surface Tenant:

Coleman Jackson
72 W. Jackson Rd.
Lake Arthur, NM 88253 505-627-2342

POOL:

Wolfcamp (Gas)

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
- I. Blow Out Preventer (BOP) Schematic
- J. Choke Manifold Schematic
- K. Estimated Horizontal Survey Calculation Program
- L. Estimated Wellbore Plot

1. EXISTING ROADS

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

2. ACCESS ROADS

A. Length and Width

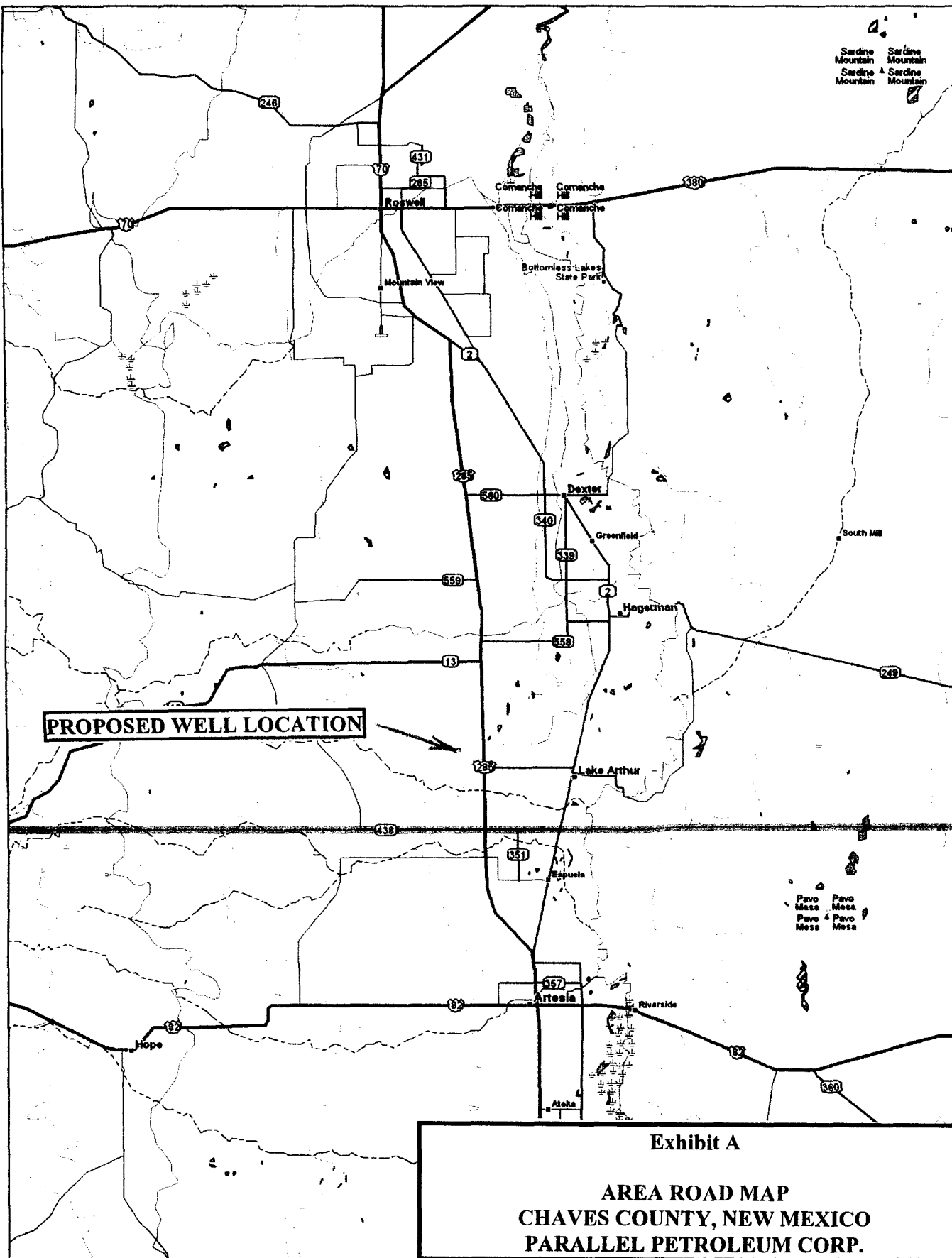
Access to this location will be from State Highway 285. A cattle guard has been placed in the fence and an access road constructed to the Forgo State #1 and the Swale 1525-16 State #1. The road was be surfaced with 4 to 6 inches of caliche and is 16' wide with a total length of approximately 6,031'.

B. Surface Material

Caliche from a commercial source.

C. Maximum Grade

Less than five percent.



DOUBLE HORSESHOE RESERVE PIT

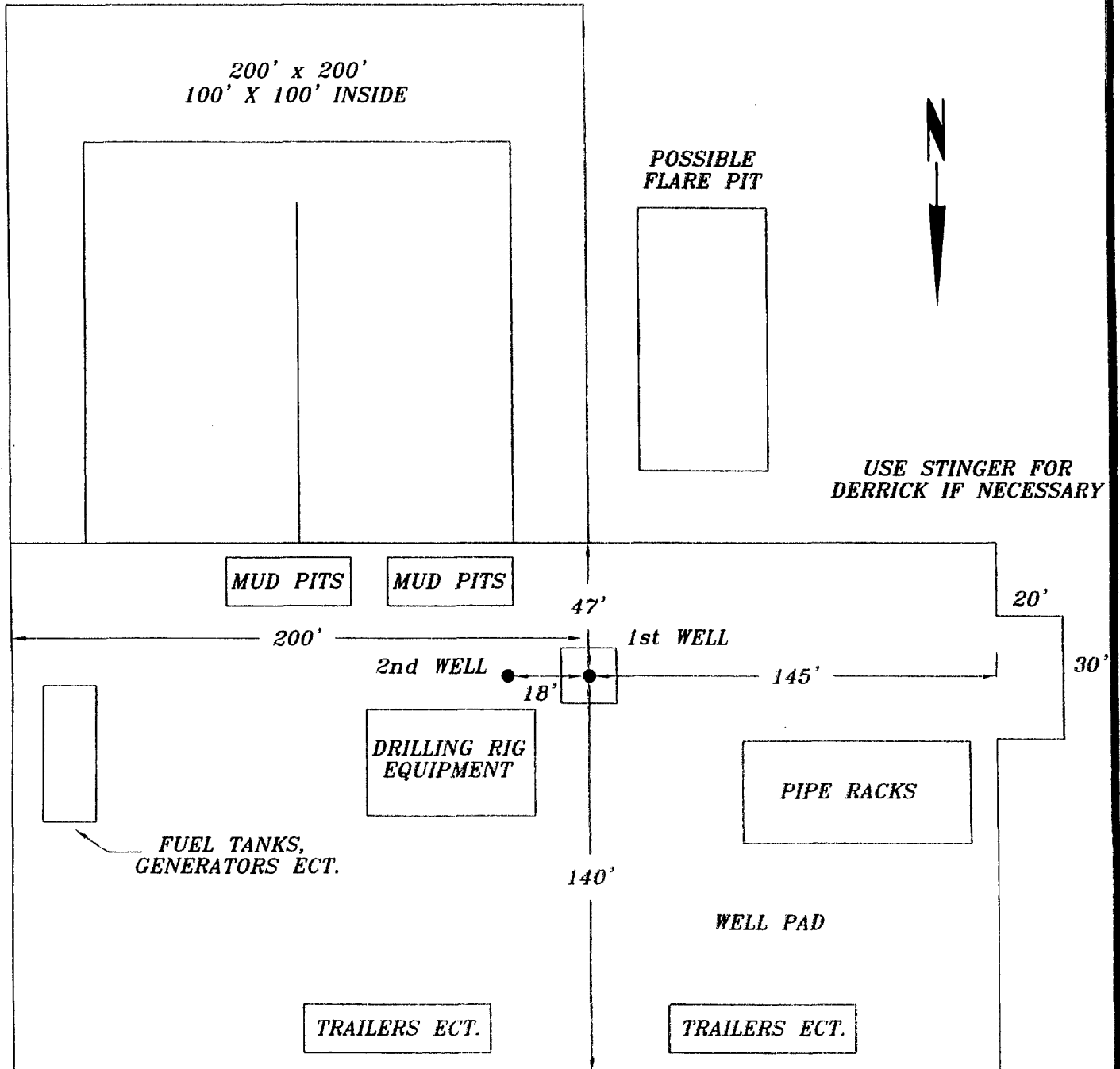


EXHIBIT B

PARALLEL PETROLEUM
DRILLING RIG LAYOUT
DUAL WELL LOCATIONS

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

DATE:
4/28/06
OWN. BY:
JJ
FILE:
C:\PM\1161\2429\
DRILLING RIG LAYOUT-3

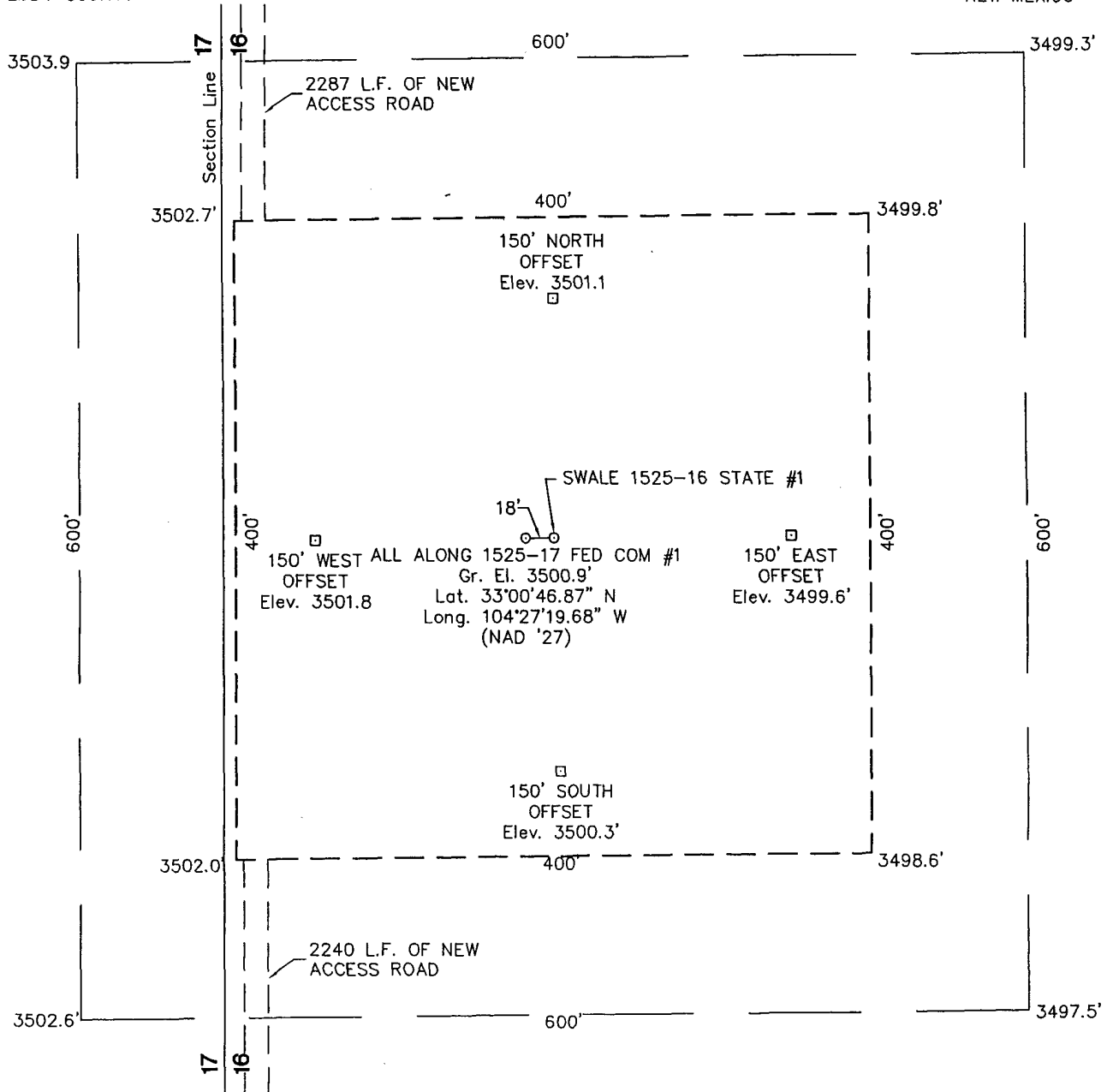
NOT TO SCALE

SECTION 16, TOWNSHIP 15 SOUTH, RANGE 25 EAST, N.M.P.M.

EDDY COUNTY

NEW MEXICO

L-2006-1000-A



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 SOUTH 242 FEET TO A NEW ACCESS ROAD ON RIGHT SIDE, WEST OF ROAD, THEN GO WEST AND SOUTHWEST ON SAID ACCESS ROAD 3745 FEET. THEN GO SOUTH ON SAID ACCESS ROAD 2287 FEET TO PROPOSED LOCATION.

PARALLEL PETROLEUM CORPORATION

ALL ALONG 1525-17 FED COM #1

Located 1880' FSL & 190' FWL, Section 16
Township 15 South, Range 25 East, N.M.P.M.
Chaves County, New Mexico

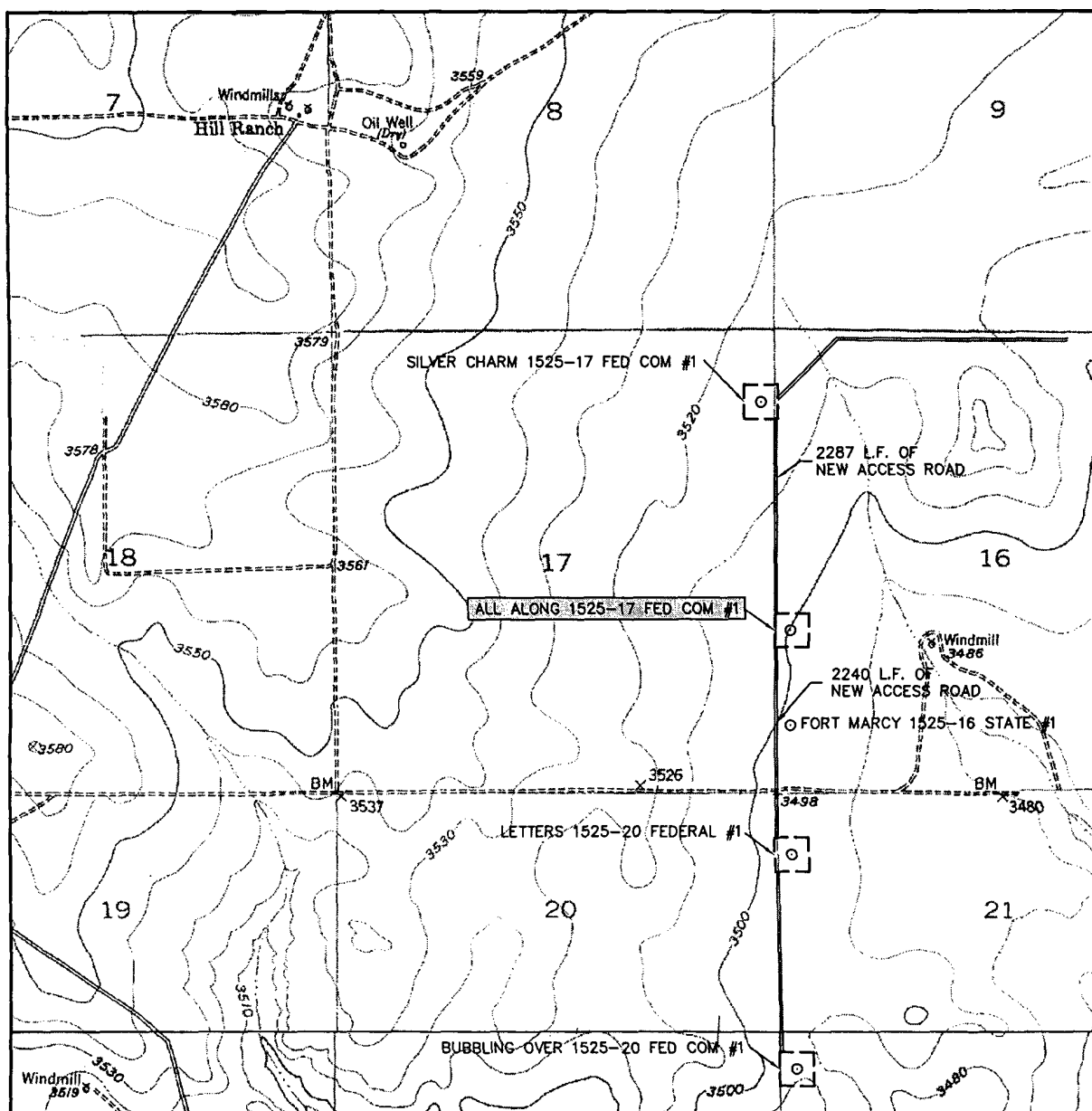
**WEST
COMPANY**
of Midland, Inc.

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

Drawn By: KMT	Date: October 31, 2006
Scale: 1"=100'	Field Book: 272 / 59-61
Revision Date: 11-16-2006	Quadrangle: Hagerman SW
W.O. No: 2006-1001	Dwg. No.: L-2006-1001-A

EXHIBIT C

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
HAGERMAN SW - 10'

SEC. 16 TWP. 15-S RGE. 25-E

SURVEY N.M.P.M.

COUNTY CHAVES

DESCRIPTION 1880' FSL & 190' FWL

ELEVATION 3501'

OPERATOR PARALLEL PETROLEUM CORPORATION

LEASE ALL ALONG 1525-17 FED COM

U.S.G.S. TOPOGRAPHIC MAP
HAGERMAN SW

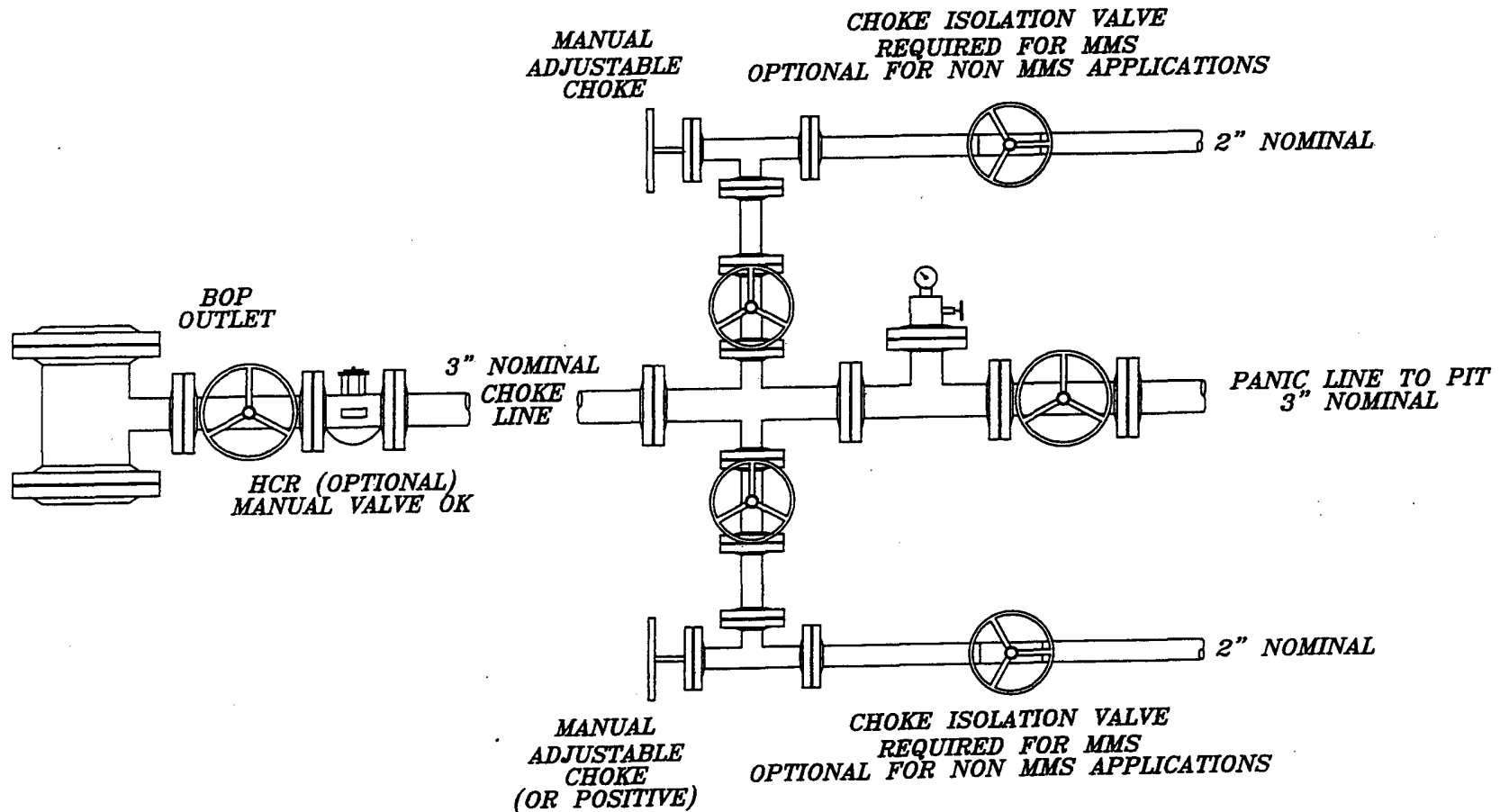


**WEST
COMPANY**
of Midland, Inc.

EXHIBIT F

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

CHOKE MANIFOLD **5M SERVICE**



NOT TO SCALE

DATE:
8/17/05
DWN. BY:
JJ
FILE:
C:\VARIABLES\5M\1
CHOKE MANIFOLD

EXHIBIT J

PARALLEL PETROLEUM
CHOKE MANIFOLD

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

PARALLEL SURVEY CALCULATION PROGRAM PETROLEUM CORPORATION

OPERATOR:	Parallel Petroleum Corporation		Supervisors:	
WELL:	All Along 1525-17 FED COM #1			
LOCATION:	S/2 Sec. 17 T-15-S R-25-E			
API NUMBER:				
COMMENTS:				
			MAG DEC. (-/+)	
			GRID CORR. (-/+)	
			TOTAL CORR. (-/+)	0.0
DATE: 03/06/07		TIME: 8:14 AM	TRUE TO GRID <input type="checkbox"/>	

MINIMUM CURVATURE CALCULATIONS(SPE-3362)									PROPOSED DIRECTION 270.0		TARGET TRACKING TO CENTER	
SVY	MD	INC	GRID	TVD	VERT	N-S	E-W	DLS/	100		ABOVE(+)	RIGHT(+)
NUM			AZM		SECT						BELOW(-)	LEFT(-)
TIE	0	0.0	0.0	0.0	0.0	0.0	0.0					
1	4400	0.0	0.0	4400.0	0.0	0.0	0.0	0.0			850.0	0.0
2	4410	0.7	270.0	4410.0	0.1	0.0	-0.1	6.7			840.0	0.0
3	4420	1.3	270.0	4420.0	0.2	0.0	-0.2	6.7			830.0	0.0
4	5736	90.0	270.0	5250.6	850.5	0.0	-850.5	6.7			-0.6	0.0
5	9690	90.0	270.0	5250.6	4804.5	0.0	-4804.5	0.0			-0.6	0.0

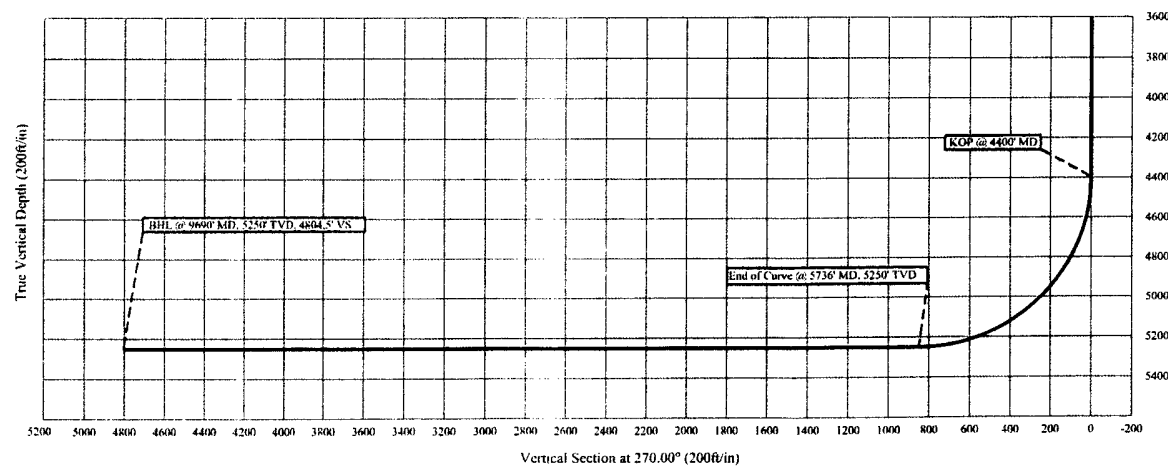
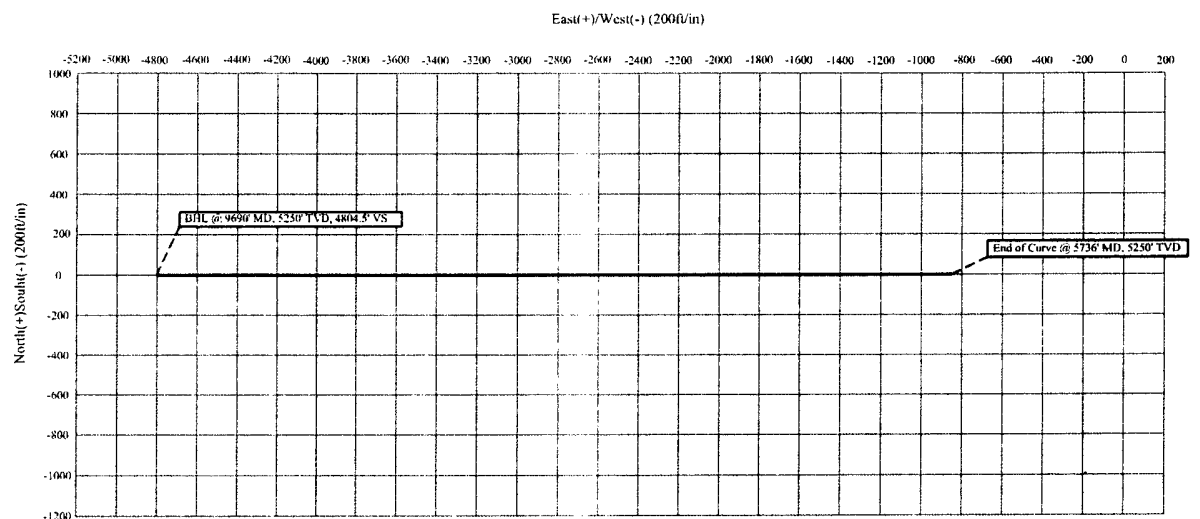
KOP @ 4400' MD
 BUR = 6.7 DEG per 100 FT
 End Curve @ 5736' MD, 5250' TVD
 BHL @ 9690' MD, 5250' TVD, 4804.5' VS

Parallel Petroleum Corp.

All Along 1525-17 Fed. Com #1
S/2 Sec. 17, T-15-S, R-25-E
Chaves County, New Mexico

COMPANY DETAILS

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





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



Legals:

Swale 1525-16 #1 and All Along 1525-17 Fed Com #1

Common Location

1880' FSL & 190' FWL

Section 16

Township 16 South, Range 25 East, N.M.Y.M. Survey

Chaves County, New Mexico

H2S

“Contingency Plan”

CALLAWAY SAFETY EQUIPMENT CO. INC.
1020 W. Hwy. 80 East 3229 Industrial Drive
Odessa, Texas 79765 Hobbs, New Mexico 88240
(432) 561-5049 (877) 422-6345 (505) 392-2973

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H₂S CONTINGENCY PLAN SECTION

Scope:

This contingency plan provides an organized plan of action for alerting and protecting the public within an area of exposure prior to an intentional release, or following the accidental release of a potentially hazardous volume of hydrogen sulfide. The plan establishes guidelines for all personnel whose work activity may involve exposure to Hydrogen Sulfide Gas (H₂S).

Objective:

Prevent any and all accidents, and prevent the uncontrolled release of H₂S into the atmosphere.

Provide proper evacuation procedures to cope with emergencies.

Provide immediate and adequate medical attention should an injury occur.

Discussion of Plan:

Suspected Problem Zones:

Implementation: This plan, with all details, is to be fully implemented 1000' before drilling into the first sour zone.

Emergency Response Procedure: This section outlines the conditions and denotes steps to be taken in the event of an emergency.

Emergency Equipment and Procedure: This section outlines the safety and emergency equipment that will be required for the drilling of this well.

Training Provisions: This section outlines the training provisions that must be adhered to 1000' before drilling into the first sour zone.

Emergency call lists: Included are the telephone numbers of all persons that would need to be contacted, should an H₂S emergency occur.

Briefing: This section deals with the briefing of all persons involved with the drilling of this well.

Public Safety: Public Safety Personnel will be made aware of the drilling of this well.

Check Lists: Status check lists and procedural check lists have been included to ensure adherence to the plan.

General Information: A general information section has been included to supply support information.

EMERGENCY PROCEDURES SECTION

- I. In the event of any evidence of H₂S level above 10 ppm, take the following steps immediately:
 - A. Secure breathing apparatus.
 - B. Order non-essential personnel out of the danger zone.
 - C. Take steps to determine if the H₂S level can be corrected or suppressed, and if so, proceed with normal operations.
- II. If uncontrollable conditions occur, proceed with the following:
 - A. Take steps to protect and/or remove any public downwind of the rig, including partial evacuation or isolation. Notify necessary public safety personnel and the New Mexico Oil Conservation Division.
 - B. Remove all personnel to the Safe Briefing Area.
 - C. Notify public safety personnel for help with maintaining roadblocks and implementing evacuation.
 - D. Determine and proceed with the best possible plan to regain control of the well. Maintain tight security and safety measures.
- III. Responsibility:
 - A. The Company Approved Supervisor shall be responsible for the total implementation of the plan.
 - B. The Company Approved Supervisor shall be in complete command during any emergency.
 - C. The Company Approved Supervisor shall designate a back up Supervisor in the event that he/she is not available.

EMERGENCY PROCEDURE IMPLEMENTATION

I. Drilling or Tripping

A. All Personnel

1. When alarm sounds, don escape unit and report to upwind Safe Briefing Area.
2. Check status of other personnel (buddy system).
3. Secure breathing apparatus.
4. Wait for orders from supervisor.

B. Drilling Foreman

1. Report to the upwind Safe Briefing Area.
2. Don Breathing Apparatus and return to the point of release with the Tool Pusher or Driller (buddy system).
3. Determine the concentration of H₂S.
4. Assess the situation and take appropriate control measures.

C. Tool Pusher

1. Report to the upwind Safe Briefing Area.
2. Don breathing apparatus and return to the point of release with the Drilling Foreman or the Driller (buddy system).
3. Determine the concentration.
4. Assess the situation and take appropriate control measures.

D. Driller

1. Check the status of other personnel (in a rescue attempt, always use the buddy system).
2. Assign the least essential person to notify the Drilling Foreman and Tool Pusher, in the event of their absence.

3. Assume the responsibility of the Drilling Foreman and the Tool Pusher until they arrive, in the event of their absence.

E. Derrick Man and Floor Hands

1. Remain in the upwind Safe Briefing Area until otherwise instructed by a supervisor.

F. Mud Engineer

1. Report to the upwind Safe Briefing Area.
2. When instructed, begin check of mud for pH level and H₂S level.

G. Safety Personnel

1. Don Breathing Apparatus.
2. Check status of all personnel.
3. Wait for instructions from Drilling Foreman or Tool Pusher.

II. Taking a Kick

- A. All personnel report to the upwind Safe Briefing Area.
- B. Follow standard BOP procedures.

III. Open Hole Logging

- A. All unnecessary personnel should leave the rig floor.
- B. Drilling Foreman and Safety Personnel should monitor the conditions and make necessary safety equipment recommendations.

IV. Running Casing or Plugging

- A. Follow "Drilling or Tripping" procedures.
- B. Assure that all personnel have access to protective equipment.

SIMULATED BLOWOUT CONTROL DRILLS

All drills will be initiated by activating alarm devices (air horn). One long blast, on the air horn, for ACTUAL and SIMULATED Blowout Control Drills. This operation will be performed by the Drilling Foreman or Tool Pusher at least one time per week for each of the following conditions, with each crew:

Drill # 1 Bottom Drilling

Drill # 2 Tripping Drill Pipe

In each of these drills, the initial reaction time to shutting in the well shall be timed as well as the total time for the crew to complete its entire pit drill assignment. The times must be recorded on the IADC Driller's Log as "Blowout Control Drill".

Drill No.:

Reaction Time to Shut-In: minutes, seconds.

Total Time to Complete Assignment: minutes, seconds.

I. Drill Overviews

A. Drill No. 1- Bottom Drilling

1. Sound the alarm immediately.
2. Stop the rotary and hoist kelly joint above the rotary table.
3. Stop the circulatory pump.
4. Close the drill pipe rams.
5. Record casing and drill pipe shut-in pressures and pit volume increases.

B. Drill No. 2 – Tripping Drill Pipe

1. Sound the alarm immediately.
2. Position the upper tool joint just above the rotary table and set the slips.

3. Install a full opening valve or inside blowout preventor tool in order to close the drill pipe.
4. Close the drill pipe rams.
5. Record the shut-in annular pressure.

II. Crew Assignments

A. Drill No. 1 – Bottom Drilling

1. Driller
 - a) Stop the rotary and hoist kelly joint above the rotary table.
 - b) Stop the circulatory pump.
 - c) Check flow.
 - d) If flowing, sound the alarm immediately.
 - e) Record the shut-in drill pipe pressure.
 - f) Determine the mud weight increase needed or other courses of action.
2. Derrickman
 - a) Open choke line valve at BOP.
 - b) Signal Floor Man # 1 at accumulator that choke line is open.
 - c) Close choke and upstream valve after pipe rams have been closed.
 - d) Read the shut-in annular pressure and report readings to Driller.
3. Floor Man # 1
 - a) Close the pipe rams after receiving the signal from the Derrickman.
 - b) Report to Driller for further instructions.
4. Floor Man # 2

- a) Notify the Tool Pusher and Operator Representative of the H₂S alarms.
- b) Check for open fires and, if safe to do so, extinguish them.
- c) Stop all welding operations.
- d) Turn-off all non-explosion proof lights and instruments.
- e) Report to Driller for further instructions.

5. Tool Pusher

- a) Report to the rig floor.
- b) Have a meeting with all crews.
- c) Compile and summarize all information.
- d) Calculate the proper kill weight.
- e) Ensure that proper well procedures are put into action.

6. Operator Representative

- a) Notify the Drilling Superintendent.
- b) Determine if an emergency exists and if so, activate the contingency plan.

B. Drill No. 2 – Tripping Pipe

1. Driller

- a) Sound the alarm immediately when mud volume increase has been detected.
- b) Position the upper tool joint just above the rotary table and set slips.
- c) Install a full opening valve or inside blowout preventor tool to close the drill pipe.
- d) Check flow.
- e) Record all data reported by the crew.

- f) Determine the course of action.

2. Derrickman

- a) Come down out of derrick.
- b) Notify Tool Pusher and Operator Representative.
- c) Check for open fires and, if safe to do so, extinguish them.
- d) Stop all welding operations.
- e) Report to Driller for further instructions.

3. Floor Man # 1

- a) Pick up full opening valve or inside blowout preventor tool and stab into tool joint above rotary table (with Floor Man # 2).
- b) Tighten valve with back-up tongs.
- c) Close pipe rams after signal from Floor Man # 2.
- d) Read accumulator pressure and check for possible high pressure fluid leaks in valves or piping.
- e) Report to Driller for further instructions.

4. Floor Man # 2

- a) Pick-up full opening valve or inside blowout preventor tool and stab into tool joint above rotary table (with Floor Man # 1).
- b) Position back-up tongs on drill pipe.
- c) Open choke line valve at BOP.
- d) Signal Floor Man # 1 at accumulator that choke line is open.
- e) Close choke and upstream valve after pipe rams have been closed.
- f) Check for leaks on BOP stack and choke manifold.
- g) Read annular pressure.

h) Report readings to the Driller.

5. Tool Pusher

- a) Report to the rig floor.
- b) Have a meeting with all of the crews.
- c) Compile and summarize all information.
- d) See that proper well kill procedures are put into action.

6. Operator Representative

- a) Notify Drilling Superintendent
- b) Determine if an emergency exists, and if so, activate the contingency plan.

IGNITION PROCEDURES

Responsibility:

The decision to ignite the well is the responsibility of the DRILLING FOREMAN in concurrence with the STATE POLICE. In the event the Drilling Foreman is incapacitated, it becomes the responsibility of the RIG TOOL PUSHER. This decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.
2. There is no hope of controlling the blowout under the prevailing conditions.

If time permits, notify the main office, but do not delay if human life is in danger. Initiate the first phase of the evacuation plan.

Instructions for Igniting the Well:

1. Two people are required for the actual igniting operation. Both men must wear self-contained breathing apparatus and must use a full body harness and attach a retrievable safety line to the D-Ring in the back. One man must monitor the atmosphere for explosive gases with the LEL monitor, while the Drilling Foreman is responsible for igniting the well.
2. The primary method to ignite is a 25mm flare gun with a range of approximately 500 feet.
3. Ignite from upwind and do not approach any closer than is warranted.
4. Select the ignition site best suited for protection and which offers an easy escape route.
5. Before igniting, check for the presence of combustible gases.
6. After igniting, continue emergency actions and procedures as before.
7. All unassigned personnel will limit their actions to those directed by the Drilling Foreman.

NOTE: After the well is ignited, burning Hydrogen Sulfide will convert to Sulfur Dioxide, which is also highly toxic. Do not assume the area is safe after the well is ignited.

TRAINING PROGRAM

When working in an area where Hydrogen Sulfide (H_2S) might be encountered, definite training requirements must be carried out. The Company Supervisor will ensure that all personnel, at the well site, have had adequate training in the following:

1. Hazards and Characteristics of Hydrogen Sulfide.
2. Physicals effects of Hydrogen Sulfide on the human body.
3. Toxicity of Hydrogen Sulfide and Sulfur Dioxide.
4. H_2S detection, emergency alarm and sensor location.
5. Emergency rescue.
6. Resuscitators.
7. First aid and artificial resuscitation.
8. The effects of Hydrogen Sulfide on metals.
9. Location safety.

Service company personnel and visiting personnel must be notified if the zone contains H_2S , and each service company must provide adequate training and equipment for their employees before they arrive at the well site.

EMERGENCY EQUIPMENT REQUIREMENTS

Lease Entrance Sign:

Should be located at the lease entrance with the following information:

CAUTION-POTENTIAL POISON GAS
HYDROGEN SULFIDE
NO ADMITTANCE WITHOUT AUTHORIZATION

Respiratory Equipment:

- Fresh air breathing equipment should be placed at the safe briefing areas and should include the following:
- Two SCBA's at each briefing area.
- Enough air line units to operate safely, anytime the H₂S concentration reaches the IDLH level (100 PPM).
- Cascade system with enough breathing air hose and manifolds to reach the rig floor, the derrickman and the other operation areas.

Windsocks or Wind Streamers:

- A minimum of two 10" windsocks located at strategic locations so that they may be seen from any point on location.
- Wind streamers (if preferred) should be placed at various locations on the well site to ensure wind consciousness at all times. (Corners of location).

Hydrogen Sulfide Detector and Alarms:

- 1-Four channel H₂S monitor with alarms.
- Four (4) sensors located as follows: # 1 – Rig Floor, # 2 – Bell Nipple, # 3 – Shale Shaker, # 4 – Mud Pits.
- Gastec or Draeger pump with tubes.
- Sensor test gas.

Well Condition Sign and Flags:

The Well Condition Sign w/flags should be placed a minimum of 150' before you enter the location. It should have three (3) color coded flags (green, yellow and red) that will be used to denote the following location conditions:

GREEN – Normal Operating Conditions
YELLOW – Potential Danger
RED – Danger, H₂S Gas Present

Auxiliary Rescue Equipment:

- Stretcher
- 2 – 100' Rescue lines
- First Aid Kit properly stocked.

Mud Inspection Equipment:

Garret Gas Train or Hach Tester for inspection of Hydrogen Sulfide in the drilling mud system.

Fire Extinguishers:

Adequate fire extinguishers shall be located at strategic locations.

Blowout Preventor:

- The well shall have hydraulic BOP equipment for the anticipated BHP.
- The BOP should be tested upon installation.
- BOP, Choke Line and Kill Line will be tested as specified by Operator.

Confined Space Monitor:

There should be a portable multi-gas monitor with at least 3 sensors (O₂, LEL & H₂S). This instrument should be used to test the atmosphere of any confined space before entering. It should also be used for atmospheric testing for LEL gas before beginning any type of Hot Work. Proper calibration documentation will need to be provided.

Communication Equipment:

- Proper communication equipment such as cell phones or 2 – way radios should be available at the rig.

- Radio communication shall be available for communication between the company man's trailer, rig floor and the tool pusher's trailer.
- Communication equipment shall be available on the vehicles.

Special Control Equipment:

- Hydraulic BOP equipment with remote control on the ground.
- Rotating head at the surface casing point.

Evacuation Plan:

- Evacuation routes should be established prior to spudding the well.
- Should be discussed with all rig personnel.

Designated Areas:

Parking and Visitor area:

- All vehicles are to be parked at a pre-determined safe distance from the wellhead.
- Designated smoking area.

Safe Briefing Areas:

- Two Safe Briefing Areas shall be designated on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds or they are at a 180 degree angle if wind directions tend to shift in the area.
- Personal protective equipment should be stored at both briefing areas or if a moveable cascade trailer is used, it should be kept upwind of existing winds. When wind is from the prevailing direction, both briefing areas should be accessible.

NOTE:

- Additional equipment will be available at the nearest Callaway Safety Office.
- Additional personal H₂S monitors are available for all employees on location.

- Automatic Flare Igniters are recommended for installation on the rig.

CHECK LISTS

Status Check List

Note: Date each item as they are implemented.

1. Sign at location entrance. _____
2. Two (2) wind socks (in required locations). _____
3. Wind Streamers (if required). _____
4. SCBA's on location for all rig personnel and mud loggers. _____
5. Air packs, inspected and ready for use. _____
6. Spare bottles for each air pack (if required). _____
7. Cascade system for refilling air bottles. _____
8. Cascade system and hose line hook up. _____
9. Choke manifold hooked-up and tested.
(Before drilling out surface casing.) _____
10. Remote Hydraulic BOP control (hooked-up and
tested before drilling out surface casing). _____
11. BOP tested (before drilling out surface casing). _____
12. Mud engineer on location with equipment to test
mud for H₂S. _____
13. Safe Briefing Areas set-up. _____
14. Well Condition sign and flags on location and ready. _____
15. Hydrogen Sulfide detection system hooked-up & tested. _____
16. Hydrogen Sulfide alarm system hooked-up & tested. _____
17. Stretcher on location at Safe Briefing Area. _____
18. 2-100' Life Lines on location. _____

- 19. 1-20# Fire Extinguisher in safety trailer. _____
- 20. Confined Space Monitor on location and tested. _____
- 21. All rig crews and supervisor trained (as required). _____
- 22. Access restricted for unauthorized personnel. _____
- 23. Drills on H₂S and well control procedures. _____
- 24. All outside service contractors advised of potential H₂S on the well. _____
- 25. NO SMOKING sign posted. _____
- 26. H₂S Detector Pump w/tubes on location. _____
- 27. 25mm Flare Gun on location w/flares. _____
- 28. Automatic Flare Ignitor installed on rig. _____

Procedural Check List

Perform the following on each tour:

1. Check fire extinguishers to see that they have the proper charge.
2. Check Breathing equipment to insure that they have not been tampered with.
3. Check pressure on the supply air bottles to make sure they are capable of recharging.
4. Make sure all of the Hydrogen Sulfide detection systems are operative.

Perform the following each week:

1. Check each piece of breathing equipment to make sure that they are fully charged and operational. This requires that the air cylinder be opened and the mask assembly be put on and tested to make sure that the regulators and masks are properly working. Negative and Positive pressure should be conducted on all masks.
2. BOP skills.
3. Check supply pressure on BOP accumulator stand-by source.
4. Check all breathing air mask assemblies to see that straps are loosened and turned back, ready to use.
5. Check pressure on cascade air cylinders to make sure they are fully charged and ready to use for refill purposes if necessary.
6. Check all cascade system regulators to make sure they work properly.
7. Perform breathing drills with on-site personnel.
8. Check the following supplies for availability:
 - Stretcher
 - Safety Belts and ropes.
 - Spare air bottles.
 - Spare oxygen bottles (if resuscitator required).
 - Gas Detector Pump and tubes.
 - Emergency telephone lists.

9. Test the Confined Space Monitor to verify the batteries are good.

BRIEFING PROCEDURES

The following scheduled briefings will be held to ensure the effective drilling and operation of this project:

Pre-Spud Meeting

Date: Prior to spudding the well.

Attendance: Drilling Supervisor
Drilling Engineer
Drilling Foreman
Rig Tool Pushers
Rig Drillers
Mud Engineer
All Safety Personnel
Key Service Company Personnel

Purpose: Review and discuss the well program, step-by-step, to insure complete understanding of assignments and responsibilities.

EVACUATION PLAN

General Plan

The direct lines of action prepared by CALLAWAY SAFETY EQUIPMENT CO., INC., to protect the public from hazardous gas situations are as follows:

1. When the company approved supervisor (Drilling Foremen, Tool Pusher or Driller) determine that Hydrogen Sulfide gas cannot be limited to the well location, and the public will be involved, he will activate the evacuation plan. Escape routes are noted on the Area Map.
2. Company safety personnel or designee will notify the appropriate local government agency that a hazardous condition exists and evacuation need to be implemented.
3. Company approved safety personnel that have been trained in the use of the proper emergency equipment will be utilized.
4. Law enforcement personnel (State Police, Local Police Department, Fire Department, and the Sheriff's Department) will be called to aid in setting up and maintaining road blocks. Also, they will aid in evacuation of the public if necessary.

NOTE: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

5. After the discharge of gas has been controlled, "Company" safety personnel will determine when the area is safe for re-entry.

See Emergency Action Plan

Emergency Assistance Telephone List

PUBLIC SAFETY:

911 or

Chavez Co. Sheriff
Fire Department
Hospital/Roswell, N.M.

(505) 624-6770
(505) 624-6800
(505) 622-8170

Life Flight:

Southwest Air-Med E Vac.

(800) 242-6199

Lat: 33°01'17.73"N.

Long: 104°26'42.18" W.

New Mexico D.O.T.

(505) 827-5100

Bureau of Land Management

(505) 393-3612

U. S. Dept. of Labor

(505) 248-5302

New Mexico OCD

(505) 393-6161

New Mexico/After Hours

(505) 370-7106

Parallel Petroleum Corporation

Parallel Petroleum Corporation/Midland, TX

Office (432) 684-3727

Superintendent:

Donnie Hill

Office (432) 684-3727

Cell (432) 934-7164

Drilling Engineer:

Deane Durham

Office (432) 684-3727

Cell (432) 413-9701

Callaway Safety Equipment

Odessa

Office (432) 561-5049

Hobbs

Office (877) 422-6345

Affected Notification List

(within a _____' radius of exposure @100ppm)

The geologic zones that will be encountered during drilling are not known to contain hazardous quantities of H_2S . The accompanying map illustrates the affected areas of the community. The residents within this radius will be notified via a hand delivered written notice describing the activities, potential hazards, conditions of evacuation, evacuation drill siren alarms and other precautionary measures.

Evacuee Description:

Residents: **THERE ARE NO RESIDENTS WITHIN 3000' ROE.**

Notification Process:

A continuous siren audible to all residence will be activated, signaling evacuation of previously notified and informed residents.

Evacuation Plan:

All evacuees will migrate lateral to the wind direction.

The Oil Company will identify all home bound or highly susceptible individuals and make special evacuation preparations, interfacing with the local and emergency medical service as necessary.

MAPS AND PLATS
(Maps & Plats Attached)

GENERAL INFORMATION

Toxic Effects of H₂S Poisoning

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 PPM, which is .001% by volume. Hydrogen Sulfide is heavier than air (specific gravity-1.192) and is colorless and transparent. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is 5-6 times more toxic than Carbon Monoxide. Occupational exposure limits for Hydrogen sulfide and other gasses are compared below in Table I. Toxicity table for H₂S and physical effects are shown in Table II.

Table 1
Permissible Exposure Limits of Various Gasses

Common Name	Symbol	Sp. Gravity	TLV	STEL	IDLH
Hydrogen Cyanide	HCN	.94	4.7 ppm	C	
Hydrogen Sulfide	H ₂ S	1.192	10 ppm	15 ppm	100 ppm
Sulfur Dioxide	SO ₂	2.21	2 ppm	5 ppm	
Chlorine	CL	2.45	.5 ppm	1 ppm	
Carbon Monoxide	CO	0.97	25 ppm	200 ppm	
Carbon Dioxide	CO ₂	1.52	5000 ppm	30,000 ppm	
Methane	CH ₄	0.55	4.7% LEL	14% UEL	

Definitions

- A. TLV – Threshold Limit Value is the concentration employees may be exposed to based on a TWA (time weighted average) for eight (8) hours in one day for 40 hours in one (1) week. This is set by ACGIH (American Conference of Governmental Hygienists and regulated by OSHA.
- B. STEL – Short Term Exposure Limit is the 15 minute average concentration an employee may be exposed to providing that the highest exposure never exceeds the OEL (Occupational Exposure Limit). The OEL for H₂S is 19 PPM.
- C. IDLH – Immediately Dangerous to Life and Health is the concentration that has been determined by the ACGIH to cause serious health problems or death if exposed to this level. The IDLH for H₂S is 100 PPM.

- D. TWA – Time Weighted Average is the average concentration of any chemical or gas for an eight (8) hour period. This is the concentration that any employee may be exposed to based on an TWA.

TABLE II
Toxicity Table of H₂S

Percent %	PPM	Physical Effects
.0001	1	Can smell less than 1 ppm.
.001	10	TLV for 8 hours of exposure
.0015	15	STEL for 15 minutes of exposure
.01	100	Immediately Dangerous to Life & Health. Kills sense of smell in 3 to 5 minutes.
.02	200	Kills sense of smell quickly, may burn eyes and throat.
.05	500	Dizziness, cessation of breathing begins in a few minutes.
.07	700	Unconscious quickly, death will result if not rescued promptly.
.10	1000	Death will result unless rescued promptly. Artificial resuscitation may be necessary.

PHYSICAL PROPERTIES OF H₂S

The properties of all gasses are usually described in the context of seven major categories:

COLOR
ODOR
VAPOR DENSITY
EXPLOSIVE LIMITS
FLAMMABILITY
SOLUBILITY (IN WATER)
BOILING POINT

Hydrogen Sulfide is no exception. Information from these categories should be considered in order to provide a fairly complete picture of the properties of the gas.

COLOR – TRANSPARENT

Hydrogen Sulfide is colorless so it is invisible. This fact simply means that you can't rely on your eyes to detect its presence. a fact that makes the gas extremely dangerous to be around.

ODOR – ROTTEN EGGS

Hydrogen Sulfide has a distinctive offensive smell, similar to "rotten eggs". For this reason it earned its common name "sour gas". However, H₂S, even in low concentrations, is so toxic that it attacks and quickly impairs a victim's sense of smell, so it could be fatal to rely on your nose as a detection device.

VAPOR DENSITY – SPECIFIC GRAVITY OF 1.192

Hydrogen Sulfide is heavier than air so it tends to settle in low-lying areas like pits, cellars or tanks. If you find yourself in a location where H₂S is known to exist, protect yourself. Whenever possible, work in an area upwind and keep to higher ground.

EXPLOSIVE LIMITS – 4.3% TO 46%

Mixed with the right proportion of air or oxygen, H₂S will ignite and burn or explode, producing another alarming element of danger besides poisoning.

FLAMMABILITY

Hydrogen Sulfide will burn readily with a distinctive clear blue flame, producing Sulfur Dioxide (SO_2), another hazardous gas that irritates the eyes and lungs.

SOLUBILITY – 4 TO 1 RATIO WITH WATER

Hydrogen Sulfide can be dissolved in liquids, which means that it can be present in any container or vessel used to carry or hold well fluids including oil, water, emulsion and sludge. The solubility of H_2S is dependent on temperature and pressure, but if conditions are right, simply agitating a fluid containing H_2S may release the gas into the air.

BOILING POINT – (-76 degrees Fahrenheit)

Liquefied Hydrogen Sulfide boils at a very low temperature, so it is usually found as a gas.

RESPIRATOR USE

The Occupational Safety and Health Administration (OSHA) regulates the use of respiratory protection to protect the health of employees. OSHA's requirements are written in the Code of Federal Regulations, Title 29, Part 1910, Section 134, Respiratory Protection. This regulation requires that all employees who might be required to wear respirators, shall complete a OSHA mandated medical evaluation questionnaire . The employee then should be fit tested prior to wearing any respirator while being exposed to hazardous gasses.

Written procedures shall be prepared covering safe use of respirators in dangerous atmospheric situations, which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.

Respirators shall be inspected prior to and after each use to make sure that the respirator has been properly cleaned, disinfected and that the respirator works properly. The unit should be fully charged prior to being used.

Anyone who may use respirators shall be properly trained in how to properly seal the face piece. They shall wear respirators in normal air and then in a test atmosphere. (Note: Such items as facial hair (beard or sideburns) and eyeglass temple pieces will not allow a proper seal.) Anyone that may be expected to wear respirators should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses. Contact lenses should not be allowed.

Respirators shall be worn during the following conditions:

- A. Any employee who works near the top or on the top of any tank unless tests reveal less than 20 ppm of H₂S.
- B. When breaking out any line where H₂S can reasonably be expected.
- C. When sampling air in areas where H₂S may be present.
- D. When working in areas where the concentration of H₂S exceeds the Threshold Limit Value for H₂S (10 ppm).
- E. At any time where there is a doubt as to the H₂S level in the area to be entered.

EMERGENCY RESCUE PROCEDURES

DO NOT PANIC!!!

Remain Calm - THINK

1. Before attempting any rescue you must first get out of the hazardous area yourself. Go to a safe briefing area.
2. Sound an alarm and activate the 911 system.
3. Put on breathing apparatus. At least two persons should do this, when available use the buddy system.
4. Rescue the victim and return them to a safe briefing area.
5. Perform an initial assessment and begin proper First Aid/CPR procedures.
6. Keep the victim lying down with a blanket or coat, etc..., under the shoulders to keep airway open. Conserve body heat and do not leave unattended.
7. If the eyes are affected by H₂S, wash them thoroughly with potable water. For slight irritation, cold compresses are helpful.
8. In case a person has only minor exposure and does not lose consciousness totally, it's best if he doesn't return to work until the following day.
9. Any personnel overcome by H₂S should always be examined by medical personnel. They should always be transported to a hospital or doctor.

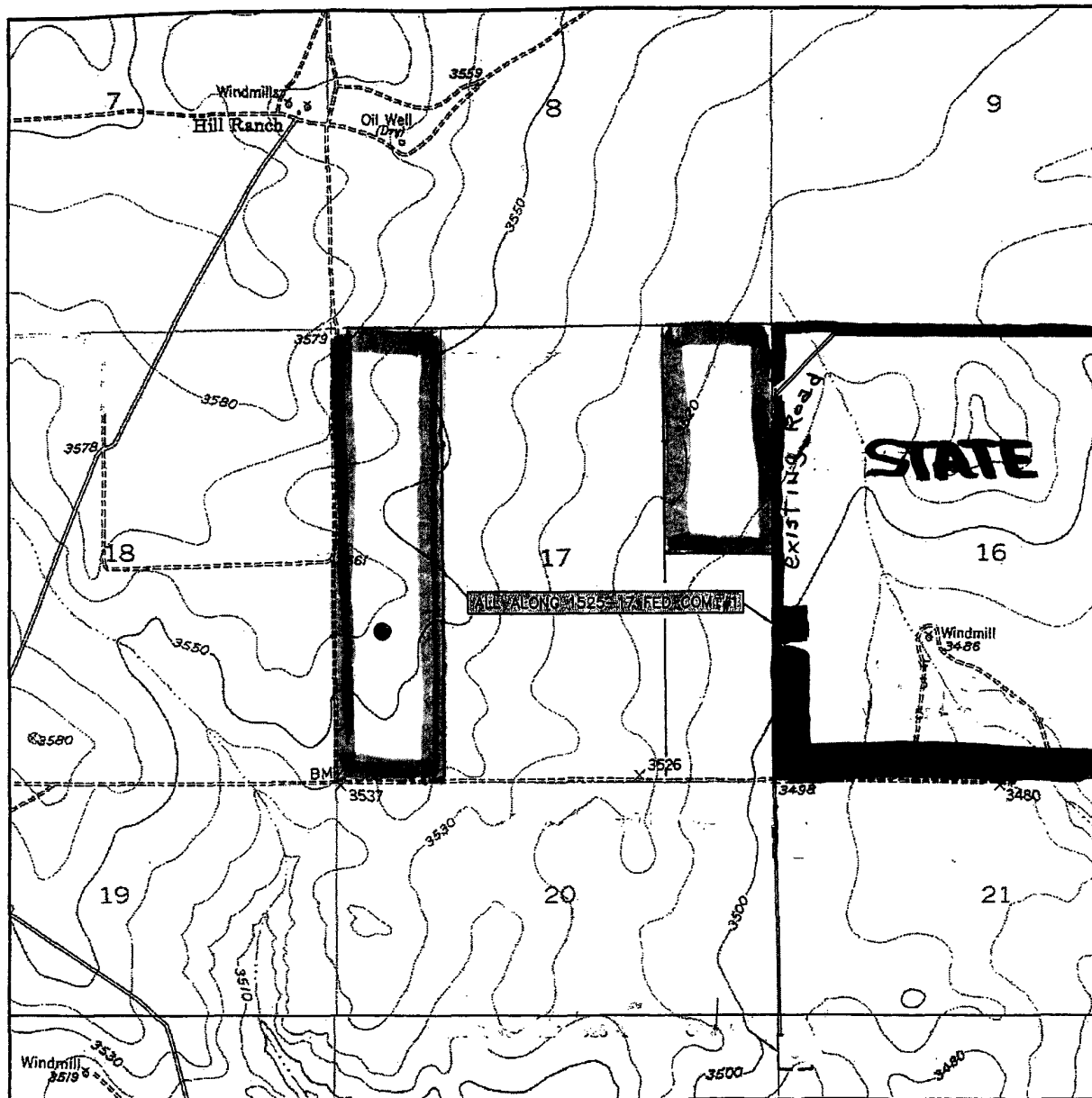
EXHIBIT A

OPERATORS NAME: Parallel Petroleum Corporation LEASE NO.: NM-112249

WELL NAME & NO: All Along 1525-17 Federal Com. #1H

LOCATION; QUARTER/QUARTER & FOOTAGE: SL; Section 16, NW¼SW¼ - 1880' FSL & 190' FWL & BHL; Section 17, NW¼SW¼ - 1880' FSL & 660' FWL, T. 15 S., R. 25 E.

COUNTY: Chaves County, New Mexico, NMPM





United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Roswell Field Office
2909 West Second Street
Roswell, New Mexico 88201

EXHIBIT B

WELL DRILLING REQUIREMENTS

1 of 5 pages

OPERATORS NAME: Parallel Petroleum Corporation LEASE NO.: NM-112249
WELL NAME & NO: All Along 1525-17 Federal Com. #1H
LOCATION; QUARTER/QUARTER & FOOTAGE: SL; Section 16, NW¼SW¼ - 1880' FSL & 190'
FWL & BHL; Section 17, NW¼SW¼ - 1880' FSL & 660' FWL, T. 15 S., R. 25 E.
COUNTY: Chaves County, New Mexico, NMPM

I. GENERAL PROVISIONS:

- A. The operator has the right of administrative review of these requirements pursuant to 43 CFR 3165.1(a).
- B. The operator shall hereafter be identified as the holder in these requirements. The Authorized Officer is the person who approves the Well Drilling Requirements.

II. WELL PAD CONSTRUCTION REQUIREMENTS:

- A. The BLM shall administer compliance and monitor construction of the access road and well pad. Notify Richard G. Hill at least 3 working days (72 Hours) prior to commencing construction of the access road and/or well pad. Roswell Field Office number (505) 627-0247.
- B. Prior to commencing construction of the access road, well pad, or other associated developments, the holder shall provide the dirt contractor with a copy of the approved APD signature page, a copy of the location map (EXHIBIT A), a copy of pages 1 & 2 from the Well Drilling Requirements (EXHIBIT B), and a copy of the Permanent Resource Road Requirements (EXHIBIT D).
- C. The holder constructed the well pad on state lands without stockpiling the topsoil from the surface of the well pad prior to applying for a federal permit. Therefore no topsoil stockpile is required.
- D. Reserve Pit Requirements: **The reserve pit is already in place and was used to drill a state well.**
 - 1. The reserve pit was constructed 200' X 200' on the South side of the well pad.
 - 2. The reserve pit shall be constructed to a minimum depth of four (4) feet below ground level. The reserve pit shall be constructed, so that the cuttings in the reserve pit can be buried a minimum depth of three (3) feet below ground level. See Exhibit E – Surface Reclamation/Restoration Requirements.
 - 3. A synthetic or fabricated liner 12 mil in thickness shall be used to line the reserve pit. The liner shall meet ASTM standards that are designed to be resistant to the reserve pit contents.

WELL DRILLING REQUIREMENTS

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4. The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.
5. The reserve pit shall be constructed so as not to leak, break, or allow discharge of drilling muds. Under no circumstances will the reserve pit be cut to drain drilling muds on the well location.
6. The reserve pit shall not be located in any natural drainage.
7. The reserve pit shall be equipped to deter entry by birds, bats, other wildlife and livestock, if the reserve pit contains any oil and/or toxic fluids.
8. Drilling muds shall be properly disposed of before the reserve pit is reclaimed. Drilling muds can be allowed to evaporate in the reserve pit or be removed and transported to an authorized disposal site. The reserve pit shall be backfilled when dry.
9. Dumping of junk or trash into the reserve pit is not allowed. Junk or trash shall be removed from within the reserve pit before the reserve pit is reclaimed. Junk or trash shall not be buried in the reserve pit.

E. Federal Mineral Materials Pit Requirements:

1. Caliche, gravel, or other related materials from new or existing pits on Federal mineral estate shall not be taken without prior approval from the authorized officer. Contact Jerry Dutchover at (505) 627 -0236.
2. Payment for any Federal mineral materials that will be used to surface the access road and the well pad is required prior to removal of the mineral materials.
3. Mineral Materials extracted during construction of the reserve pit may be used for development of the pad and access road as needed, for the All Along 1525-17 Federal Com. #1H gas well only. Removal of any additional material on location must be purchased from BLM prior to removal of any material.
 - a. An optional mineral material pit may be constructed within the archaeologically cleared area. The mineral material removed in the process can be used for pad and access road construction. However, a mineral material sales contract must be purchased from the BLM prior to removal of any material.

F. Well Pad Surfacing Requirement: **Well Pad is already constructed and surfaced.**

The well pad shall be surfaced with 6 inches of compacted caliche, gravel, or other approved surfacing material. The well pad shall be surfaced prior to drilling operations. See Permanent Resource Road Requirements - EXHIBIT D - requirement #4, for road surfacing.

G. Cave Requirements:

1. If, during any construction activities any sinkholes or cave openings are discovered, all construction activities shall immediately cease. Contact Bill Murry at (505) 627-0220.
2. The BLM Authorized Officer will, within 24 hours of notification in "A" above, conduct an on-the-ground field inspection for karst. At the field inspection the authorized field inspector will authorize or suggest mitigating measures to lessen the damage to the karst environment. A verbal order to proceed or stop the operation will be issued at that time.

III. WELL SUBSURFACE REQUIREMENTS:

A. GENERAL DRILLING REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at (505) 627-0272 in sufficient time for a representative to witness: a. Spudding b. Cementing casing: 8-5/8 inch 5-1/2 inch
2. 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.
3. Include the API No. assigned to well by NMOCD on the subsequent report of setting the first casing string.
4. 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.

B. CASING:

1. 8-5/8 inch surface casing should be set at approximately 1400 feet, below usable water and circulate cement to the surface. If cement does not circulate to the surface, the Roswell Field Office shall be notified at (505) 627-0275 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. Minimum required fill of cement behind the 5-1/2 inch production casing is sufficient to tie back 500 feet above the uppermost perforation in the pay zone.

C. PRESSURE CONTROL:

1. Before drilling below the 8-5/8 inch surface casing, 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. 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 8-5/8 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 results of the test will be reported to the BLM Roswell Field Office at 2909 West Second Street, Roswell, New Mexico 88201.
 - b. 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.
 - c. Testing must be done in a safe workman like manner. Hard line connections shall be required. mud returns from the well.