District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Month - Year APR 24 2007 OCD - ARTESIA, NM

Form C-101
May 27, 2004

Submit to appropriate District Office

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

[1] Operator Name and Address	[2] OGRID Number
Parallel Petroleum Corp. 1004 N. Big Spring Street, Suite 400, Midland, TX. 79701	230387
	[3] API Number: 30 - 005 - 63929

[5] Property Code	[5] Property Name	[6] Well No.
36493	Old Rosebud 1524-36B State	3

[9] Proposed Pool 1	[10] Proposed Pool 2
Cottonwood Creek; Wolfcamp, West	

[7] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	36	15S	24E		1880'	N	200'	E	Chaves

[8] Proposed 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
E	36	15S	24E		1880'	N	660'	W	Chaves

Additional Well Information

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
N	O & G	R	P	3519'
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
No	8955MD,4750TVD	Wolfcamp	NA	NA

Depth to Groundwater ' | Distance from nearest fresh water well 800' | Distance from nearest surface water 6000'

Pit: Liner: Synthetic ☒ _12__ mils thick Clay ☐ Pit Volume:25,000 bbls

Drilling Method:

Closed-Loop System ☐

Fresh Water ☒ Brine ☐ Diesel/Oil-based ☐ Gas/Air ☐

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
11"	8-5/8"	24#	1050'	325	Surface
7-7/8"	5-1/2"	17#	TVD 4750'	NA	Tie back
			MD 8955'		To surface
					casing

[22] Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Well to be Drilled as a Horizontal Wolfcamp test. The attached drilling plan will be utilized for this test and contains details on the cement and mud programs as well as the directional information. The following is a summary of this plan.

1. **Prepare surface location. Move in and rig up drilling rig, spud well and drill and set conductor. Install and test BOP's.**
2. **Drill 11" surface hole to a minimum depth of 1050'. Set 8 5/8"casing and cement.**
3. **Drill 7-7/8" production hole 5500' TD and evaluate running mud logs as well as DLL/CNL/LDT/CAL/GR to TD.**
4. **Set Kickoff point at 4257' and drill and advance hole to a Wolfcamp penetration point at approximately 1880' FNL and 660' FEL of the section and continue drilling to BHL. (8955' MD & 4750' TVD)**
5. **Set 5 ½" to TD and tie cement back to surface casing. Perforate porosity and stimulate as necessary (specific procedure to be determined).**
6. **Place well on test.**
7. **No H2S is anticipated during the drilling of this well.**

NOTIFY OCD OF SPUD & TIME TO WITNESS CEMENTING OF SURFACE CASING

[23] I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify that the drilling pit will be constructed according to NMOCD guidelines X, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.**

Printed name: Gary E. Miller

Title: Agent

E-mail Address: ddurham@plll.com

Date: Phone: 432-684-3727

O

Approved by: BRYAN G. ARRANT

Title: DISTRICT II GEOLOGIST

Approval Date: APR 2 4 2007 Expiration Date: APR 2 4 2008

Conditions of Approval Attached ☐

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

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

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1000 Rio Brazos Rd., Aztec, NM 87410

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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
	75260	Cottonwood Creek; Wolfcamp, West

Property Code	Property Name	Well Number
	OLD ROSEBUD 1524-36 B STATE	3

OGRID No.	Operator Name	Elevation
	PARALLEL PETROLEUM CORPORATION	3519'

Surface Location

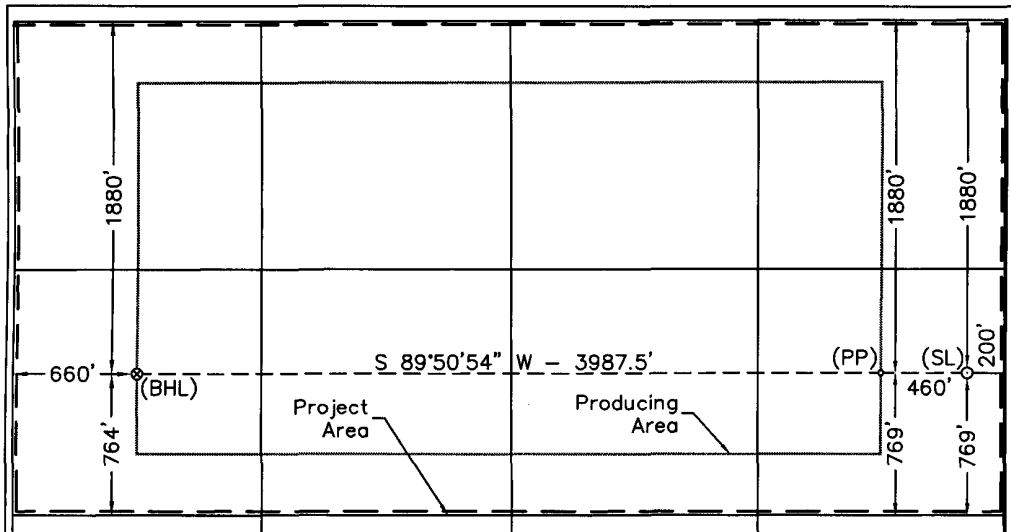
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	36	15 S	24 E		1880	NORTH	200	EAST	CHAVES

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	36	15 S	24 E		1880	NORTH	660	WEST	CHAVES

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



Bottom Hole Location
Plane Coordinate
X = 447,205.0
Y = 717,909.2
Geodetic Coordinate
Lat. 32°58'24.54" N
Long. 104°30'19.75" W
(NAD '27)

Penetration Point
Plane Coordinate
X = 451,191.4
Y = 717,919.7
Geodetic Coordinate
Lat. 32°58'24.71" N
Long. 104°29'32.95" W
(NAD '27)

Surface Location
Plane Coordinate
X = 451,651.3
Y = 717,920.9
Geodetic Coordinate
Lat. 32°58'24.73" N
Long. 104°29'27.56" W
(NAD '27)

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.

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.

Signature — Date: 4-23-07

Printed Name: Gary Miller, Agent
Parallel Petroleum Corp.

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.

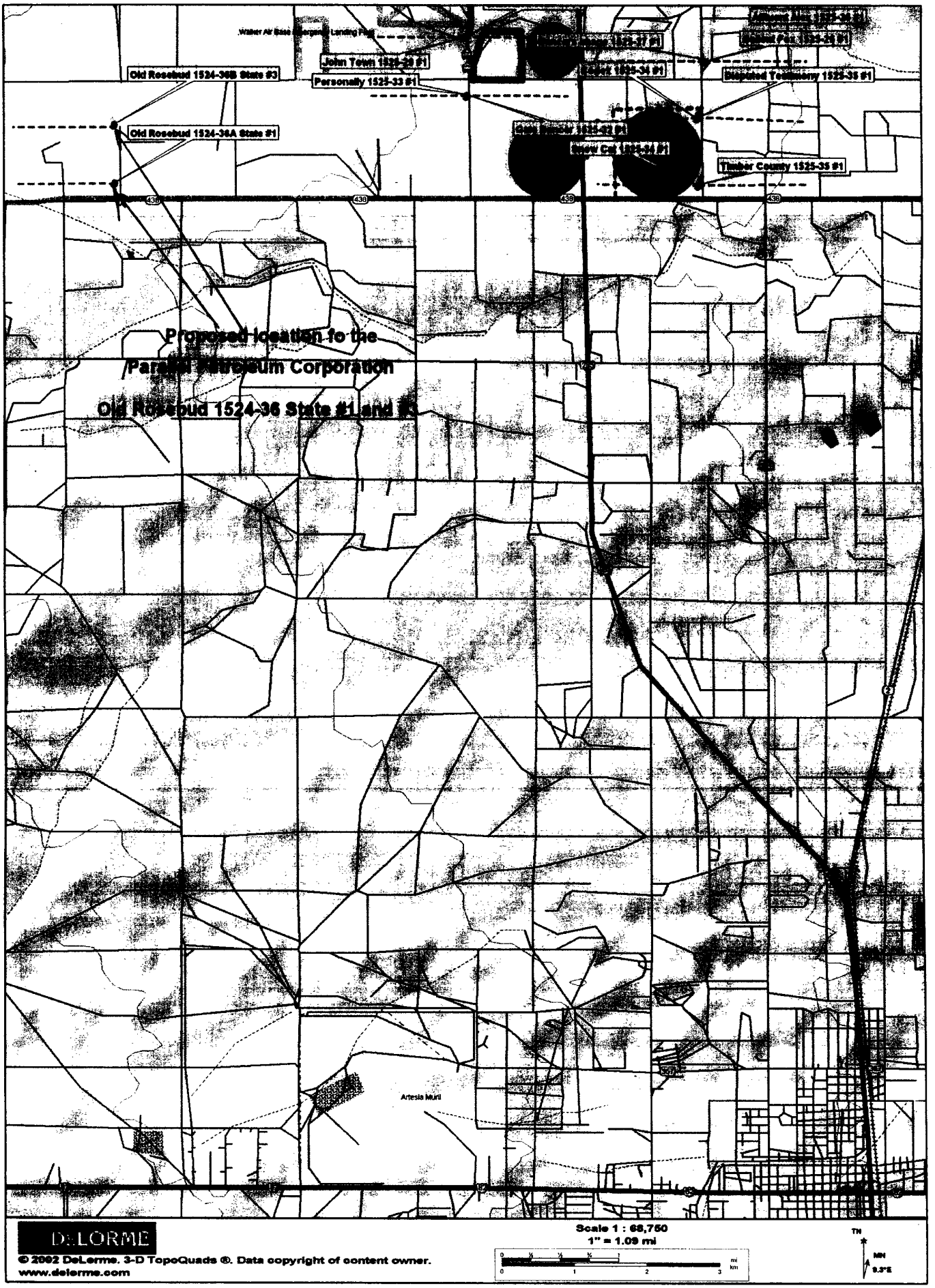
April 20, 2007
Date of Survey

LVA
Signature & Seal of Professional Surveyor

NEW MEXICO (12185)

W.O. Num. 2007-0498

Certificate No. MACON McDONALD 12185


Old Rosebud 1524-36B State #3
John Town 1525-33 #1
Personality 1525-33 #1
Old Rosebud 1524-36A State #1
Stupified Testimony 1525-35 #1
Timber County 1525-35 #1
438
430
438
438
Proposed location to the
Parallel Petroleum Corporation
Old Rosebud 1524-36 State #1 and #3
Artesia Muni
DELORME
© 2002 DeLorme. 3-D TopoQuads ®. Data copyright of content owner.
www.delorme.com
Scale 1 : 68,750
1" = 1.09 mi
TN
MN
9.5°E

PARALLEL PETROLEUM CORPORATION
OLD ROSEBUD 1524-36B STATE #3
SL: 200' FEL AND 1880' FNL, BHL: 660' FWL AND 1880' FNL
SEC 36, T15S, R24E SEC 36, T15S, R24E
CHAVES COUNTY, NEW MEXICO

Objective

Drill a vertical well through the Wolfcamp pay. Log and evaluate for a sidetrack to horizontal in the Wolfcamp.

Expected Geologic Tops

Est GL from topo: 3476', KB 3492'.
Glorieta 2050'
Tubb 3050'
Abo Shale 3800'
Wolfcamp 4750'
Wolfcamp Shale 4925'

Well Geometry

- 8 5/8" casing at 1050'
- Set kick-off plug for horizontal through the zone of interest
- 5 1/2" casing through the horizontal Wolfcamp; Cement per completion.

Casing Program

Hole	MD (ft)	Casing	Weight	Grade	Coupling	COMMENT
11"	0 – 1050	8-5/8"	24	J55	ST&C	
7-7/8"	0 – TD'	5-1/2"	17	N80	LT&C	Run through the horizontal lateral.

Casing Cementing Program

8-5/8" slurry: Lead: 125 sacks (50:50) Poz (Fly Ash): Class C + 5% bwow Sodium Chloride + 10% bwoc Bentonite + 151.7% fresh water. Tail: 200 sacks Class C + 1% bwoc Calcium Chloride + 56.3% fresh water

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

Note: 5-1/2" Cement per completion procedure. Top of Cement should tie into surface casing.

Mud Program

Depth	Hole	MW	Visc.	WL	Synopsis
0 - 1050	11"	8.4 – 8.6	28 - 29	No control	FRESH WATER mud only to 1050 ft. Severe loss potential. Circulate inner reserve. LCM: paper, fiber, cotton seed hulls.
1050 – 3700	7-7/8"	8.6 – 9.2	28 -29	No control	Cut brine. Start w/existing & add brine t/60K-100K chlorides
3700 – TD	7-7/8"	8.9 – 9.5	38 - 45	10-15	XCD/polymer as req'd for hole cleaning. Lubricants.
KOP – TD Horizontal	7-7/8"	8.9 – 9.5	38 - 45	15-20	XCD/polymer as req'd for hole cleaning. Lubricants.

PARALLEL PETROLEUM CORPORATION

SURVEY CALCULATION PROGRAM

OPERATOR:	Parallel Petroleum Corporation	Supervisors:	
WELL:	Old Rosebud 1524-36B State #3		
LOCATION:	N/2 Sec. 36 T-15-S R-24-E		
API NUMBER:			
COMMENTS:			
		MAG DEC (-/+)	
		GRID CORR (-/+)	
		TOTAL CORR (-/+)	0.0
DATE: 04/18/07	TIME: 4:56 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	4257	0.0	0.0	4257.0	0.0	0.0	0.0	0.0	493.0	0.0
2	4267	1.2	270.0	4267.0	0.1	0.0	-0.1	11.6	483.0	0.0
3	4277	2.3	270.0	4277.0	0.4	0.0	-0.4	11.6	473.0	0.0
4	5031	90.0	270.0	4750.0	493.0	0.0	-493.0	11.6	0.0	0.0
5	5150	90.0	270.0	4750.0	611.6	0.0	-611.6	0.0	0.0	0.0
6	8955	90.0	270.0	4750.0	4416.6	0.0	-4416.6	0.0	0.0	0.0

KOP @ 4257' MD

BUR = 11.6 DEG per 100 FT

End Curve @ 5031' MD,4750' TVD

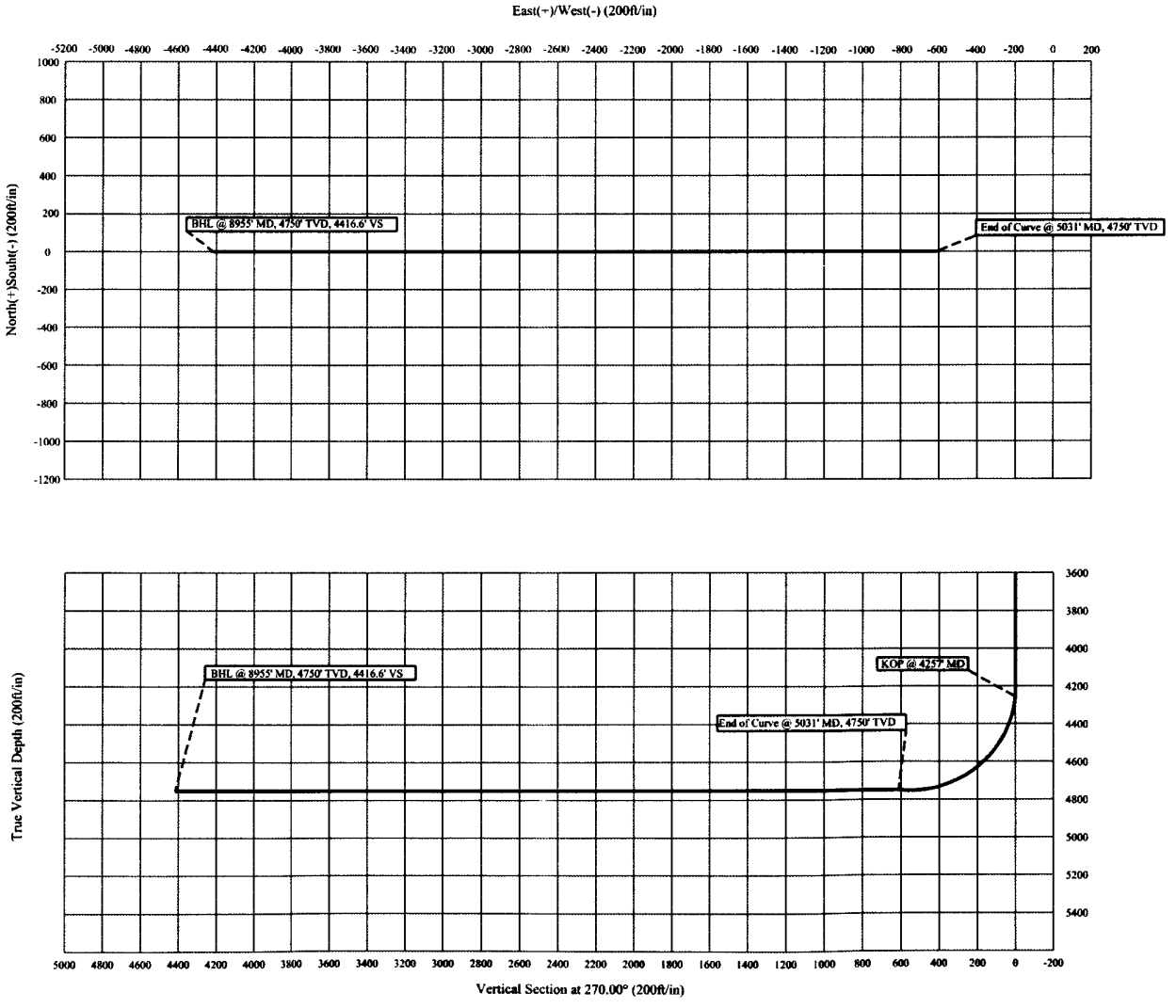
BHL @ 8955' MD, 4750' TVD, 4416.6' VS

Parallel Petroleum Corp.

Old Rosebud 1524-36B State #3
N/2 Sec. 36, T-15-S, R-24-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

August 24, 2006

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

Re: Hydrogen Sulfide Potential
Hagerman Area Wolfcamp Program
Chavez County, New Mexico

Gentlemen:

Parallel Petroleum Corporation operates the Seabiscuit #1 and the Seabiscuit #2 wells located in Section 33, T-14-S, R-26-E and the Dash for Cash #1 in Section 4, T-15-S, R-26-E. These wells were tested in the Wolfcamp formation and did not have any indications of hydrogen sulfide from this formation. Please see the gas analysis attached to this letter. We believe the potential for H2S on locations in this area are negligible.

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

Sincerely,

Deane Durham
Drilling Engineer

Wildcat Measurement Service
P.O. Box 1836
Artesia, New Mexico 88211-1836
TollFree #888-421-9453
Office #505-746-3481
"Quality and Service is our First Concern"

PDS 06/25/00

Run No. 260728-01
Date Run 07/28/2006
Date Sampled 07/27/2006

Analysis for: PARALLEL PETROLEUM CORPORATION
Well Name: DASH FOR CASH #1
Field:
Sta. Number:
Purpose: SPOT
Sampling Temp: 60 DEG F
Volume/day:
Pressure on Cylinder: 733 PSIG

GPANGL.L62

Producer: PARALLEL PETROLEUM CORP.
County: CHAVES State: NM
Sampled By: DON NORMAN
Atmos Temp: 91 DEG F
Formation:
Line Pressure: 746.2 PSIA

GAS COMPONENT ANALYSIS

		Mol %	GPM
Carbon Dioxide	CO2	5.6514	
Nitrogen	N2	1.8667	
Hydrogen Sulfide	H2S	0.0000	
Methane	C1	80.6277	
Ethane	C2	6.7430	1.8023
Propane	C3	3.0262	0.8332
Iso-Butane	IC4	0.4434	0.1450
Nor-Butane	NC4	0.8870	0.2796
Iso-Pentane	IC5	0.2361	0.0864
Nor-Pentane	NC5	0.2341	0.0848
Hexanes Plus	C6+	0.2844	0.1241
TOTAL		100.0000	3.3555

Pressure Base: 14.7300

Real BTU Dry: 1092.27
Real BTU Wet: 1073.26
Real Calc. Specific Gravity: 0.7159
Field Specific Gravity: 0.0000

Standard Pressure: 14.6960
BTU Dry: 1086.59
BTU Wet: 1067.68

Z Factor: 0.9971
N Value: 1.2913
Avg Mol Weight: 20.6848
Avg CuFt/Gal: 56.8397
26 Lb Product: 0.4422
Methane+ GPM: 17.0215
Ethane+ GPM: 3.3555
Propane+ GPM: 1.5531
Butane+ GPM: 0.7199
Pentane+ GPM: 0.2953

REMARKS:
H2S IN GAS STREAM: NONE DETECTED

Approved by: DON NORMAN

Fri Jul 28 15:04:04 2006

Wildcat Measurement Service
P.O. Box 1836
Artesia, New Mexico 88211-1836
TollFree #888-421-9453
Office #505-746-3481
"Quality and Service is our First Concern"

PDS 06/25/00

Run No. 260728-02
Date Run 07/28/2006
Date Sampled 07/27/2006

Analysis for: PARALLEL PETROLEUM CORPORATION
Well Name: SEABISCUIT #2
Field:
Sta. Number:
Purpose: SPOT
Sampling Temp: 60 DEG F
Volume/day:
Pressure on Cylinder: 576 PSIG

GPANGL.L62

Producer: PARALLEL PETROLEUM CORP.
County: CHAVES State: NM
Sampled By: DON NORMAN
Atmos Temp: 90 DEG F
Formation:
Line Pressure: 589.2 PSIA

GAS COMPONENT ANALYSIS

		Mol %	GPM
Carbon Dioxide	CO2	3.8765	
Nitrogen	N2	1.1954	
Hydrogen Sulfide	H2S	0.0000	
Methane	C1	84.4558	
Ethane	C2	6.1856	1.6534
Propane	C3	2.4877	0.6850
Iso-Butane	IC4	0.3548	0.1161
Nor-Butane	NC4	0.7054	0.2224
Iso-Pentane	IC5	0.1941	0.0710
Nor-Pentane	NC5	0.1929	0.0699
Hexanes Plus	C6+	0.3518	0.1535
TOTAL		100.0000	2.9711

Pressure Base: 14.7300

Real BTU Dry: 1098.66
Real BTU Wet: 1079.53
Real Calc. Specific Gravity: 0.6842
Field Specific Gravity: 0.0000

Standard Pressure: 14.6960
BTU Dry: 1093.16
BTU Wet: 1074.14

Z Factor: 0.9973
N Value: 1.2930
Avg Mol Weight: 19.7705
Avg CuFt/Gal: 56.9423
26 Lb Product: 0.4521
Methane+ GPM: 17.2860
Ethane+ GPM: 2.9711
Propane+ GPM: 1.3178
Butane+ GPM: 0.6328
Pentane+ GPM: 0.2944

REMARKS:
H2S IN GAS STREAM: NONE DETECTED

Approved by: DON NORMAN

Fri Jul 28 15:04:04 2006

PARALLEL
PETROLEUM CORPORATION

Legals:

Old Rosebud 1424-36A State #1

760' FSL and 200' FEL

And

Old Rosebud 1524-36B State #3

1880' FNL & 200' FEL

Section 36

Township 15 South, Range 24 East, N.MY.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

TABLE OF CONTENTS

C. H2s Permissible Limits
D. Toxicity Table
E. Physical Properties
F. Respirator Use
G. Emergency Rescue

H_2S 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 (H_2S).

Objective:

Prevent any and all accidents, and prevent the uncontrolled release of H_2S 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.

EMERGECY PROCEDURES SECTION

I. In the event of any evidence of H_2S 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 H_2S 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 H_2S.

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 H_2S 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 H_2S 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 H_2S 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 H_2S 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: