

Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 87240
District II
1301 W. Grand Ave., 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 and Natural Resources

Form C-103
May 27, 2004

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

WELL API NO. 30-005-63948
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other ☐ JUL - 9 2008	7. Lease Name or Unit Agreement Name: THUNDER GULCH 1525-4 FED COM
2. Name of Operator PARALLEL PETROLEUM CORPORATION	8. Well Number 1
3. Address of Operator 1004 N BIG SPRING, SUITE 400, MIDLAND, TX 79701	9. OGRID Number 230387
4. Well Location Unit Letter I : 1880 feet from the SOUTH line and 190 feet from the EAST line Section 5 Township 15S Range 25E NMPM County CHAVES	10. Pool name or Wildcat WALNUT CREEK, WOLF CAMP GAS (97631)
11. Elevation (Show whether DR, RKB, RT, GR, etc.) GR: 3546	
Pit or Below-grade Tank Application ☐ or Closure ☐ Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____ Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____	

12. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPLETION ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐
CASING TEST AND CEMENT JOB ☒

OTHER: MWD SURVEY, GYRO SURVEY, OPEN HOLE LOG ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

06-23-08: TD @ 9182, REACHED AT 2130 HR

06-24-08: RUN 5.5 CSG, 7.875 HOLE, 17# SET @ 9180

QMT: LEAD W/700 SX HILLBURTON INTERFILL-C-SEM+1/4 POLY-E-FLAKE, 11.9 PPG, 2.47 YLD

TAIL W/500 SX HILLBURTON ACID SOLUBLE + 10# SILICALITE + 0.7% HALAD-344D-AIR 3000 + 0.7%

601, 15.02 PPG, 2.62 YLD, 115 CENTRALIZERS

TOC: CIRCULATED 95 SX TO SURFACE

WOC: 8 HOURS, TEST CSG TO 1500 PSI FOR 30 MINUTES

PATHFINDER MWD SURVEY, GYRODATA GYRO SURVEY, OPEN-HOLE LOG ATTACHED

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐ , a general permit ☐ or an (attached) alternative OCD-approved plan ☐

SIGNATURE Kaye McCormick TITLE SR PROD & REG TECH DATE 07-07-2008

Type or print name KAYE MC CORMICK

E-mail address: kmccormick@plll.com

Telephone No. 432-685-6563

For State Use Only

APPROVED BY _____ TITLE _____ DATE _____

Conditions of Approval, if any:

Accepted for record - NMOCD

Parallel Petroleum Corp.

Thunder Gulch 1525-4 Fed Com #1

Thunder Gulch 1525-4 Fed Com #1

Thunder Gulch 1525-4 Fed Com #1

Original Hole

Survey: Survey #2

Pathfinder X & Y Survey Report

24 June, 2008

PATHFINDER
ENERGY SERVICES

Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company:	Parallel Petroleum Corp.	Local Co-ordinate Reference:	Well Thunder Gulch 1525-4 Fed Com #1
Project:	Thunder Gulch 1525-4 Fed Com #1	TVD Reference:	Patriot #1 (RKB=17') @ 3563.00ft (Patriot #1 (RKI
Site:	Thunder Gulch 1525-4 Fed Com #1	MD Reference:	Patriot #1 (RKB=17') @ 3563.00ft (Patriot #1 (RKI
Well:	Thunder Gulch 1525-4 Fed Com #1	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Project	Thunder Gulch 1525-4 Fed Com #1		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Thunder Gulch 1525-4 Fed Com #1		
Site Position:		Northing:	742,895.700 ft
From:	Map	Easting:	462,203.500 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	33° 2' 31.996 N
		Longitude:	104° 27' 24.030 W
		Grid Convergence:	-0.07 °

Well	Thunder Gulch 1525-4 Fed Com #1		
Well Position	+N/-S	0.00 ft	Northing: 742,895.700 ft
	+E/-W	0.00 ft	Easting: 462,203.500 ft
Position Uncertainty		0.00 ft	Wellhead Elevation: ft
			Latitude: 33° 2' 31.996 N
			Longitude: 104° 27' 24.030 W
			Ground Level: 3,546.00 ft

Wellbore	Original Hole		
Magnetics	Model Name	Sample Date	Declination
	IGRF200510	6/3/2008	(°)
			8.40
			Dip Angle
			(°)
			60.87
			Field Strength
			(nT)
			49,333

Design	Original Hole		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			90.32

Pathfinder Energy Services
Pathfinder X & Y Survey Report



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Project:	Thunder Gulch 1525-4 Fed Com #1	TVD Reference:	Patriot #1 (RKB=17') @ 3563.00ft (Patriot #1 (RKB=17') @ 3563.00ft (Patriot #1 (RKB=17')
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Well:	Thunder Gulch 1525-4 Fed Com #1	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Survey Program		Date	6/24/2008		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.28	3,900.28	Survey #1 (Original Hole)	NS-GYRO-MS	North sensing gyrocompassing m	
3,923.00	9,182.00	Survey #2 (Original Hole)	MWD	MWD - Standard	

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
3,900.28	1.08	90.62	3,900.06	337.06	-0.72	-19.47	-19.47	0.00	742,894.98	462,184.03	
3,923.00	1.93	82.93	3,922.77	359.77	-0.68	-18.88	-18.87	3.84	742,895.02	462,184.62	
3,955.00	5.01	93.04	3,954.71	391.71	-0.68	-16.95	-16.94	9.78	742,895.02	462,186.55	
3,987.00	8.35	93.44	3,986.48	423.48	-0.90	-13.23	-13.23	10.44	742,894.80	462,190.27	
4,018.00	11.43	95.79	4,017.02	454.02	-1.34	-7.93	-7.92	10.02	742,894.36	462,195.57	
4,050.00	13.45	97.44	4,048.27	485.27	-2.15	-1.08	-1.07	6.41	742,893.55	462,202.42	
4,082.00	15.30	96.88	4,079.26	516.26	-3.13	6.80	6.82	5.80	742,892.57	462,210.30	
4,114.00	17.59	96.41	4,109.95	546.95	-4.18	15.80	15.82	7.17	742,891.52	462,219.30	
4,146.00	20.14	94.55	4,140.23	577.23	-5.16	26.10	26.13	8.19	742,890.54	462,229.60	
4,178.00	21.81	94.57	4,170.11	607.11	-6.07	37.52	37.55	5.22	742,889.63	462,241.02	
4,209.00	23.21	94.26	4,198.75	635.75	-6.98	49.35	49.39	4.53	742,888.72	462,252.85	
4,241.00	24.45	93.88	4,228.02	665.02	-7.90	62.24	62.29	3.90	742,887.80	462,265.74	
4,273.00	25.68	93.31	4,257.01	694.01	-8.74	75.77	75.82	3.92	742,886.96	462,279.27	
4,305.00	27.17	92.56	4,285.66	722.66	-9.47	90.00	90.05	4.77	742,886.23	462,293.50	
4,337.00	28.58	92.38	4,313.95	750.95	-10.11	104.94	105.00	4.41	742,885.59	462,308.44	
4,369.00	30.34	91.96	4,341.81	778.81	-10.71	120.67	120.73	5.54	742,884.99	462,324.17	
4,401.00	32.80	90.83	4,369.07	806.07	-11.11	137.41	137.47	7.91	742,884.59	462,340.91	
4,432.00	35.26	89.33	4,394.76	831.76	-11.13	154.76	154.82	8.38	742,884.57	462,358.26	
4,464.00	37.46	88.82	4,420.53	857.53	-10.82	173.73	173.79	6.94	742,884.88	462,377.23	
4,496.00	39.22	88.80	4,445.63	882.63	-10.41	193.57	193.63	5.50	742,885.29	462,397.07	

Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company:	Parallel Petroleum Corp.	Local Co-ordinate Reference:	Well: Thunder Gulch 1525-4 Fed Com #1
Project:	Thunder Gulch 1525-4 Fed Com #1	TVD Reference:	Patriot #1 (RKB=17') @ 3563.00ft (Patriot #1 (RKI
Site:	Thunder Gulch 1525-4 Fed Com #1	MD Reference:	Patriot #1 (RKB=17') @ 3563.00ft (Patriot #1 (RKI
Well:	Thunder Gulch 1525-4 Fed Com #1	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16: Single User Db

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
4,503.60	39.59	89.01	4,451.50	888.50	-10.32	198.40	198.45	5.23	742,885.38	462,401.90	
Cross Lease Line @ 4503.6'MD:											
4,528.00	40.80	89.66	4,470.14	907.14	-10.13	214.14	214.20	5.23	742,885.57	462,417.64	
4,560.00	42.21	90.02	4,494.10	931.10	-10.08	235.35	235.40	4.47	742,885.62	462,438.85	
4,591.00	43.26	90.50	4,516.87	953.87	-10.17	256.39	256.44	3.55	742,885.53	462,459.89	
4,623.00	43.97	91.13	4,540.04	977.04	-10.49	278.46	278.51	2.60	742,885.21	462,481.96	
4,655.00	44.67	91.45	4,562.93	999.93	-10.99	300.81	300.87	2.30	742,884.71	462,504.31	
4,687.00	46.25	92.43	4,585.38	1,022.38	-11.76	323.60	323.66	5.40	742,883.94	462,527.10	
4,719.00	47.48	92.21	4,607.26	1,044.26	-12.71	346.93	347.00	3.88	742,882.99	462,550.43	
4,750.00	49.68	91.80	4,627.76	1,064.76	-13.52	370.17	370.24	7.17	742,882.18	462,573.67	
4,782.00	50.03	91.32	4,648.39	1,085.39	-14.19	394.62	394.69	1.58	742,881.51	462,598.12	
4,814.00	51.09	91.26	4,668.72	1,105.72	-14.74	419.32	419.40	3.32	742,880.96	462,622.82	
4,846.00	52.67	91.24	4,688.48	1,125.48	-15.29	444.49	444.57	4.94	742,880.41	462,647.99	
4,878.00	56.01	91.46	4,707.13	1,144.13	-15.91	470.48	470.56	10.45	742,879.79	462,673.98	
4,910.00	58.74	91.71	4,724.38	1,161.38	-16.65	497.42	497.50	8.56	742,879.05	462,700.92	
4,942.00	61.99	92.18	4,740.20	1,177.20	-17.60	525.21	525.30	10.24	742,878.10	462,728.71	
4,973.00	64.37	92.27	4,754.19	1,191.19	-18.67	552.86	552.95	7.68	742,877.03	462,756.36	
5,005.00	67.01	91.57	4,767.36	1,204.36	-19.65	582.00	582.10	8.49	742,876.05	462,785.50	
5,037.00	69.29	90.74	4,779.27	1,216.27	-20.24	611.69	611.80	7.52	742,875.46	462,815.19	
5,069.00	71.40	89.38	4,790.03	1,227.03	-20.27	641.82	641.93	7.71	742,875.43	462,845.32	
5,101.00	73.60	88.79	4,799.65	1,236.65	-19.79	672.34	672.44	7.10	742,875.91	462,875.84	
5,133.00	76.77	88.87	4,807.83	1,244.83	-19.15	703.26	703.36	9.91	742,876.55	462,906.76	
5,164.00	80.02	89.79	4,814.07	1,251.07	-18.80	733.62	733.72	10.88	742,876.90	462,937.12	
5,196.00	83.10	90.70	4,818.77	1,255.77	-18.94	765.27	765.37	10.03	742,876.76	462,968.77	
5,227.00	84.15	90.78	4,822.21	1,259.21	-19.33	796.08	796.17	3.40	742,876.37	462,999.58	
5,258.00	84.94	91.25	4,825.15	1,262.15	-19.88	826.93	827.03	2.96	742,875.82	463,030.43	
5,289.00	89.08	91.90	4,826.77	1,263.77	-20.73	857.87	857.97	13.52	742,874.97	463,061.37	

Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company:	Parallel Petroleum Corp.	Local Co-ordinate Reference:	Well Thunder Gulch 1525-4 Fed Com #1
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Site:	Thunder Gulch 1525-4 Fed Com #1	MD Reference:	Patriot #1 (RKB=17') @ 3563.00ft (Patriot #1 (RKB=17') @ 3563.00ft (Patriot #1 (RKB=17') @ 3563.00ft
Well:	Thunder Gulch 1525-4 Fed Com #1	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
5,290.73	89.25	91.94	4,826.80	1,263.80	-20.79	859.60	859.70	10.23	742,874.91	463,063.10	
Cross 660' Hardline @ 5290.73'MD											
5,320.00	92.15	92.69	4,826.44	1,263.44	-21.97	888.84	888.95	10.23	742,873.73	463,092.34	
5,382.00	90.22	92.47	4,825.16	1,262.16	-24.76	950.76	950.89	3.13	742,870.94	463,154.26	
5,474.00	88.90	92.89	4,825.86	1,262.86	-29.06	1,042.66	1,042.80	1.51	742,866.64	463,246.16	
5,567.00	85.47	91.76	4,830.43	1,267.43	-32.83	1,135.45	1,135.62	3.88	742,862.87	463,338.95	
5,660.00	85.81	91.40	4,837.50	1,274.50	-35.39	1,228.15	1,228.33	0.53	742,860.31	463,431.65	
5,752.00	86.61	90.98	4,843.58	1,280.58	-37.30	1,319.93	1,320.11	0.98	742,858.40	463,523.43	
5,845.00	86.88	90.07	4,848.86	1,285.86	-38.15	1,412.77	1,412.96	1.02	742,857.55	463,616.27	
5,938.00	86.79	88.68	4,854.00	1,291.00	-37.13	1,505.62	1,505.80	1.50	742,858.57	463,709.12	
6,030.00	90.40	88.20	4,856.25	1,293.25	-34.63	1,597.54	1,597.71	3.96	742,861.07	463,801.04	
6,123.00	90.22	87.72	4,855.75	1,292.75	-31.32	1,690.48	1,690.63	0.55	742,864.38	463,893.98	
6,219.00	92.15	88.33	4,853.76	1,290.76	-28.01	1,786.40	1,786.53	2.11	742,867.69	463,989.90	
6,314.00	91.10	88.05	4,851.07	1,288.07	-25.01	1,881.31	1,881.42	1.14	742,870.69	464,084.81	
6,410.00	90.57	87.46	4,849.67	1,286.67	-21.25	1,977.23	1,977.32	0.83	742,874.45	464,180.73	
6,505.00	89.69	87.83	4,849.46	1,286.46	-17.35	2,072.15	2,072.21	1.00	742,878.35	464,275.65	
6,601.00	89.16	86.90	4,850.42	1,287.42	-12.94	2,168.04	2,168.08	1.11	742,882.76	464,371.54	
6,696.00	89.60	89.85	4,851.45	1,288.45	-10.24	2,262.99	2,263.01	3.14	742,885.46	464,466.49	
6,791.00	90.04	91.50	4,851.75	1,288.75	-11.36	2,357.97	2,358.00	1.80	742,884.34	464,561.47	
6,887.00	88.55	91.66	4,852.93	1,289.93	-14.01	2,453.93	2,453.97	1.56	742,881.69	464,657.43	
6,982.00	89.69	92.66	4,854.39	1,291.39	-17.59	2,548.85	2,548.91	1.60	742,878.11	464,752.35	
7,077.00	87.23	91.47	4,856.94	1,293.94	-21.01	2,643.74	2,643.82	2.88	742,874.69	464,847.24	
7,173.00	90.04	92.68	4,859.23	1,296.23	-24.49	2,739.64	2,739.73	3.19	742,871.21	464,943.14	
7,268.00	88.81	93.33	4,860.18	1,297.18	-29.47	2,834.50	2,834.62	1.46	742,866.23	465,038.00	
7,364.00	86.26	92.12	4,864.31	1,301.31	-34.03	2,930.30	2,930.44	2.94	742,861.67	465,133.80	
7,459.00	87.41	92.12	4,869.55	1,306.55	-37.54	3,025.08	3,025.25	1.21	742,858.16	465,228.58	
7,554.00	90.22	92.71	4,871.52	1,308.52	-41.54	3,119.97	3,120.15	3.02	742,854.16	465,323.47	

Pathfinder Energy Services
Pathfinder X & Y Survey Report



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Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Survey										
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
7,649.00	90.57	92.15	4,870.86	1,307.86	-45.57	3,214.88	3,215.09	0.70	742,850.13	465,418.38
7,745.00	90.13	92.11	4,870.28	1,307.28	-49.13	3,310.81	3,311.04	0.46	742,846.57	465,514.31
7,840.00	91.19	92.19	4,869.18	1,306.18	-52.70	3,405.74	3,405.98	1.12	742,843.00	465,609.24
7,935.00	90.92	92.01	4,867.43	1,304.43	-56.18	3,500.66	3,500.92	0.34	742,839.52	465,704.16
8,031.00	89.69	90.58	4,866.92	1,303.92	-58.35	3,596.63	3,596.90	1.96	742,837.35	465,800.13
8,126.00	89.34	89.85	4,867.73	1,304.73	-58.70	3,691.62	3,691.89	0.85	742,837.00	465,895.12
8,222.00	87.14	88.32	4,870.67	1,307.67	-57.17	3,787.56	3,787.82	2.79	742,838.53	465,991.06
8,317.00	87.85	87.61	4,874.83	1,311.83	-53.80	3,882.40	3,882.64	1.06	742,841.90	466,085.90
8,412.00	89.34	88.23	4,877.16	1,314.16	-50.35	3,977.31	3,977.53	1.70	742,845.35	466,180.81
8,507.00	87.76	87.86	4,879.56	1,316.56	-47.12	4,072.22	4,072.42	1.71	742,848.58	466,275.72
8,602.00	89.52	88.42	4,881.81	1,318.81	-44.03	4,167.14	4,167.32	1.94	742,851.67	466,370.64
8,687.00	88.37	87.50	4,883.38	1,320.38	-41.01	4,252.07	4,252.23	1.73	742,854.69	466,455.57
8,782.00	89.16	87.60	4,885.43	1,322.43	-36.95	4,346.96	4,347.10	0.84	742,858.75	466,550.46
8,877.00	89.52	88.18	4,886.52	1,323.52	-33.45	4,441.89	4,442.01	0.72	742,862.25	466,645.39
8,973.00	88.20	87.99	4,888.43	1,325.43	-30.24	4,537.81	4,537.91	1.39	742,865.46	466,741.31
9,068.00	87.85	88.00	4,891.70	1,328.70	-26.92	4,632.70	4,632.78	0.37	742,868.78	466,836.20
9,112.00	87.93	87.69	4,893.32	1,330.32	-25.27	4,676.64	4,676.71	0.73	742,870.43	466,880.14
9,182.00	87.93	87.69	4,895.85	1,332.85	-22.45	4,746.54	4,746.59	0.00	742,873.25	466,950.04

Straight Line Projection to Bit @ 9182' MD

Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company:	Parallel Petroleum Corp.	Local Co-ordinate Reference:	Well Thunder Gulch 1525-4 Fed Com #1
Project:	Thunder Gulch 1525-4 Fed Com #1	TVD Reference:	Patriot #1 (RKB=17') @ 3563.00ft (Patriot #1 (RKI
Site:	Thunder Gulch 1525-4 Fed Com #1	MD Reference:	Patriot #1 (RKB=17') @ 3563.00ft (Patriot #1 (RKI
Well:	Thunder Gulch 1525-4 Fed Com #1	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
PBHL	0.00	360.00	4,826.00	-25.34	4,735.93	742,870.361	466,939.432	33° 2' 31.797 N	104° 26' 28.393 W
- survey misses by 69.46ft at 9168.77ft MD (4895.38 TVD, -22.98 N, 4733.33 E)									
- Point									
PP	0.00	360.00	4,831.00	-3.91	861.10	742,891.790	463,064.600	33° 2' 31.967 N	104° 27' 13.914 W
- survey misses by 17.43ft at 5291.49ft MD (4826.81 TVD, -20.82 N, 860.36 E)									
- Point									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N-S	+E-W	
(ft)	(ft)	(ft)	(ft)	
4,503.60	4,451.50	-10.32	198.40	Cross Lease Line @ 4503.6'MD
5,290.73	4,826.80	-20.79	859.60	Cross 660' Hardline @ 5290.73'MD
9,182.00	4,895.85	-22.45	4,746.54	Straight Line Projection to Bit @ 9182'MD

Checked By: _____ Approved By: _____ Date: _____

A Gyrodata Directional Survey

Field Copy Only, not definitive

for

PARALLEL

Location: PATRIOT #1, CHAVES COUNTY, NEW MEXICO

Lease: THUNDER GULCH 1525-4 FED COM Well: #1, 4-1/2" DRILLPIPE

Job Number: MD0608GW254

Run Date: 6/12/2008 7:15:19 AM

Surveyor: THOMAS BOWDEN
JAMES KING

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 33.042170 deg. N Longitude: 104.456890 deg. W

Azimuth Correction:

Gyro: 0.07000 deg East to Grid North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

A Gyrodata Directional Survey

PARALLEL

Location: PATRIOT #1, CHAVES COUNTY, NEW MEXICO

Lease: THUNDER GULCH 1525-4 FED COM Well: #1, 4-1/2" DRILLPIPE

Job Number: MD0608GW254

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. feet	AZIMUTH deg.	HORIZONTAL COORDINATES feet	
0.00	0.00	0.00	0.0	0.00	0.00	0.0	0.0	0.00 N	0.00 E

0 TO 4582 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4-1/2" DRILLPIPE									
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO PATRIOT #1 R.K.B.									

100.28	0.36	339.30	0.3	0.36	100.28	0.3	339.3	0.29 N	0.11 W
150.28	0.20	31.41	0.5	0.57	150.28	0.5	346.9	0.52 N	0.12 W
200.28	0.26	41.16	0.7	0.14	200.28	0.7	0.1	0.68 N	0.00 E
250.28	0.14	107.39	0.8	0.49	250.28	0.8	10.3	0.75 N	0.14 E
300.28	0.08	164.03	0.7	0.24	300.28	0.7	16.4	0.69 N	0.20 E
350.28	0.07	296.80	0.7	0.29	350.28	0.7	15.4	0.67 N	0.19 E
400.28	0.38	321.43	0.8	0.64	400.28	0.8	3.6	0.82 N	0.05 E
450.28	0.74	320.13	1.2	0.71	450.28	1.2	347.8	1.20 N	0.26 W
500.28	0.83	339.22	1.8	0.55	500.27	1.9	341.6	1.78 N	0.59 W
550.28	0.80	339.01	2.5	0.06	550.27	2.6	340.9	2.45 N	0.85 W
600.28	0.84	351.63	3.1	0.37	600.26	3.3	341.9	3.14 N	1.03 W
650.28	0.36	27.19	3.6	1.17	650.26	3.8	344.5	3.64 N	1.01 W
700.28	0.38	262.13	3.8	1.31	700.26	3.9	343.7	3.76 N	1.10 W
750.28	0.62	267.51	3.7	0.50	750.26	4.0	337.6	3.72 N	1.53 W
800.28	0.31	277.75	3.7	0.65	800.25	4.2	332.6	3.73 N	1.94 W
850.28	0.42	174.14	3.6	1.15	850.25	4.1	330.1	3.57 N	2.05 W
900.28	0.95	227.70	3.1	1.56	900.25	3.9	323.0	3.10 N	2.34 W
950.28	1.20	255.59	2.7	1.15	950.24	4.1	310.5	2.69 N	3.16 W
1000.28	0.96	274.27	2.6	0.85	1000.23	4.8	302.4	2.59 N	4.08 W

A Gyrodata Directional Survey

PARALLEL

Location: PATRIOT #1, CHAVES COUNTY, NEW MEXICO

Lease: THUNDER GULCH 1525-4 FED COM Well: #1, 4-1/2" DRILLPIPE

Job Number: MD0608GW254

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
1050.28	0.59	265.93	2.6	0.77	1050.23	5.4 298.7	2.61 N 4.76 W
1100.28	0.69	235.14	2.4	0.70	1100.22	5.8 294.7	2.42 N 5.26 W
1150.28	1.01	232.54	2.0	0.65	1150.22	6.2 288.7	1.98 N 5.86 W
1200.28	1.32	245.70	1.5	0.82	1200.21	6.9 282.4	1.48 N 6.73 W
1250.28	1.08	257.93	1.1	0.70	1250.20	7.8 278.4	1.14 N 7.71 W
1300.28	0.85	260.94	1.0	0.46	1300.19	8.6 276.6	0.98 N 8.54 W
1350.28	0.68	254.33	0.8	0.40	1350.19	9.2 275.3	0.85 N 9.19 W
1400.28	0.72	228.54	0.6	0.63	1400.18	9.7 273.3	0.56 N 9.71 W
1450.28	1.21	227.41	-0.0	1.00	1450.18	10.3 270.0	0.01 S 10.33 W
1500.28	1.21	252.38	-0.5	1.05	1500.16	11.2 267.3	0.52 S 11.23 W
1550.28	0.67	235.19	-0.8	1.21	1550.16	12.0 265.9	0.85 S 11.97 W
1600.28	1.09	219.39	-1.4	0.96	1600.15	12.6 263.7	1.38 S 12.51 W
1650.28	1.41	237.58	-2.1	1.01	1650.14	13.5 261.1	2.08 S 13.32 W
1700.28	0.87	256.66	-2.5	1.30	1700.13	14.4 260.1	2.49 S 14.21 W
1750.28	0.67	224.07	-2.8	0.94	1750.13	15.0 259.3	2.79 S 14.78 W
1800.28	0.91	209.63	-3.4	0.62	1800.12	15.5 257.6	3.35 S 15.18 W
1850.28	1.04	237.21	-3.9	0.96	1850.11	16.2 256.0	3.94 S 15.76 W
1900.28	0.68	254.49	-4.3	0.88	1900.11	17.0 255.4	4.27 S 16.43 W
1950.28	0.24	304.58	-4.3	1.10	1950.11	17.3 255.7	4.28 S 16.80 W
2000.28	0.30	348.54	-4.1	0.42	2000.11	17.4 256.4	4.10 S 16.91 W
2050.28	0.20	13.86	-3.9	0.29	2050.11	17.4 257.1	3.88 S 16.92 W
2100.28	0.33	282.17	-3.8	0.78	2100.11	17.5 257.5	3.77 S 17.04 W
2150.28	0.60	274.07	-3.7	0.55	2150.10	17.8 258.0	3.72 S 17.44 W

A Gyrodata Directional Survey

PARALLEL

Location: PATRIOT #1, CHAVES COUNTY, NEW MEXICO

Lease: THUNDER GULCH 1525-4 FED COM Well: #1, 4-1/2" DRILLPIPE

Job Number: MD0608GW254

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
2200.28	0.59	316.47	-3.5	0.86	2200.10	18.2 258.9	3.52 S 17.88 W
2250.28	0.16	18.21	-3.3	1.07	2250.10	18.3 259.7	3.26 S 18.03 W
2300.28	0.26	212.95	-3.3	0.84	2300.10	18.4 259.7	3.29 S 18.07 W
2350.28	0.52	269.28	-3.4	0.86	2350.10	18.7 259.6	3.39 S 18.36 W
2400.28	0.52	334.44	-3.2	1.12	2400.10	19.0 260.3	3.18 S 18.68 W
2450.28	0.21	199.58	-3.1	1.37	2450.10	19.1 260.8	3.06 S 18.81 W
2500.28	0.59	270.58	-3.1	1.12	2500.10	19.4 260.6	3.15 S 19.10 W
2550.28	0.52	322.60	-3.0	0.99	2550.09	19.7 261.4	2.96 S 19.50 W
2600.28	0.08	82.81	-2.8	1.14	2600.09	19.8 261.9	2.78 S 19.60 W
2650.28	0.51	239.52	-2.9	1.18	2650.09	20.0 261.7	2.88 S 19.76 W
2700.28	0.57	283.60	-2.9	0.82	2700.09	20.4 261.7	2.94 S 20.19 W
2750.28	0.50	325.30	-2.7	0.77	2750.09	20.7 262.5	2.70 S 20.56 W
2800.28	0.31	30.87	-2.4	0.93	2800.09	20.8 263.3	2.41 S 20.61 W
2850.28	0.13	137.99	-2.3	0.75	2850.09	20.6 263.5	2.33 S 20.50 W
2900.28	0.30	180.49	-2.5	0.44	2900.09	20.6 263.0	2.50 S 20.47 W
2950.28	0.36	246.37	-2.7	0.73	2950.09	20.8 262.6	2.69 S 20.61 W
3000.28	0.44	284.80	-2.7	0.55	3000.09	21.1 262.6	2.71 S 20.95 W
3050.28	0.42	342.12	-2.5	0.83	3050.08	21.3 263.3	2.48 S 21.19 W
3100.28	0.26	61.09	-2.3	0.90	3100.08	21.3 263.9	2.25 S 21.15 W
3150.28	0.20	171.94	-2.3	0.75	3150.08	21.2 263.8	2.28 S 21.03 W
3200.28	0.40	231.35	-2.5	0.70	3200.08	21.3 263.3	2.48 S 21.16 W
3250.28	0.45	276.21	-2.6	0.66	3250.08	21.6 263.2	2.57 S 21.50 W
3300.28	0.42	320.09	-2.4	0.66	3300.08	21.9 263.7	2.41 S 21.81 W

A Gyrodata Directional Survey

PARALLEL

Location: PATRIOT #1, CHAVES COUNTY, NEW MEXICO

Lease: THUNDER GULCH 1525-4 FED COM Well: #1, 4-1/2" DRILLPIPE

Job Number: MD0608GW254

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
3350.28	0.38	7.94	-2.1	0.65	3350.08	22.0 264.5	2.10 S 21.90 W
3400.28	0.17	88.77	-1.9	0.78	3400.08	21.9 264.9	1.94 S 21.81 W
3450.28	0.23	195.88	-2.0	0.65	3450.08	21.9 264.7	2.03 S 21.76 W
3500.28	0.42	265.34	-2.1	0.81	3500.08	22.1 264.4	2.14 S 21.97 W
3550.28	0.43	337.22	-2.0	1.00	3550.08	22.3 264.9	1.99 S 22.22 W
3600.28	0.60	55.47	-1.7	1.32	3600.07	22.1 265.7	1.67 S 22.08 W
3650.28	0.36	103.72	-1.6	0.90	3650.07	21.8 265.9	1.56 S 21.71 W
3700.28	0.19	9.59	-1.5	0.83	3700.07	21.6 266.0	1.51 S 21.55 W
3750.28	0.68	31.27	-1.2	1.01	3750.07	21.4 266.8	1.18 S 21.38 W
3800.28	0.83	74.30	-0.8	1.14	3800.07	20.9 267.7	0.83 S 20.88 W
3850.28	0.68	86.62	-0.7	0.45	3850.06	20.2 268.0	0.71 S 20.23 W
3900.28	1.08	90.62	-0.7	0.80	3900.06	19.5 267.9	0.70 S 19.47 W
3950.28	1.32	85.30	-0.7	0.54	3950.05	18.4 267.9	0.66 S 18.43 W
4000.28	1.35	88.10	-0.6	0.14	4000.03	17.3 268.0	0.59 S 17.26 W
4050.28	1.16	94.54	-0.6	0.47	4050.02	16.2 267.8	0.61 S 16.17 W
4100.28	1.15	93.56	-0.7	0.04	4100.01	15.2 267.4	0.68 S 15.17 W
4150.28	1.18	90.63	-0.7	0.13	4150.00	14.2 267.1	0.72 S 14.15 W
4200.28	1.09	93.53	-0.8	0.22	4199.99	13.2 266.7	0.76 S 13.16 W
4250.28	1.15	88.54	-0.8	0.23	4249.98	12.2 266.4	0.77 S 12.18 W
4300.28	1.07	83.87	-0.7	0.24	4299.97	11.2 266.4	0.71 S 11.21 W
4350.28	1.09	76.53	-0.6	0.28	4349.96	10.3 266.9	0.55 S 10.29 W
4400.28	1.20	68.54	-0.3	0.38	4399.95	9.3 268.5	0.25 S 9.34 W
4450.28	1.12	72.33	0.1	0.22	4449.94	8.4 270.6	0.09 N 8.38 W
4500.28	1.26	64.39	0.5	0.43	4499.93	7.4 273.7	0.48 N 7.42 W

A Gyrodata Directional Survey

PARALLEL

Location: PATRIOT #1, CHAVES COUNTY, NEW MEXICO

Lease: THUNDER GULCH 1525-4 FED COM Well: #1, 4-1/2" DRILLPIPE

Job Number: MD0608GW254

MEASURED DEPTH feet	I N C L deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
4550.28	1.11	75.57	0.8	0.55	4549.92	6.5 277.4	0.84 N 6.46 W
4582.89	1.03	78.98	1.0	0.32	4582.53	5.9 279.4	0.97 N 5.86 W

Final Station Closure: Distance: 5.94 ft Az: 279.41 deg.