

Submit To Appropriate District Office
State Lease - 6 copies
Fee Lease - 5 copies

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 and Natural Resources

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

Form C-105
Revised March 25, 1999

WELL API NO. 30-015-33567

5. Indicate Type of Lease
STATE ☒ FEE ☐

State Oil & Gas Lease No. 34222

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well:
OIL WELL ☒ GAS WELL ☐ DRY ☐ OTHER ☐

b. Type of Completion:
NEW ☐ WORK ☐ DEEPEN ☐ PLUG ☐ DIFF.
WELL ☒ OVER BACK RESVR. ☐ OTHER ☐

2. Name of Operator

Perenco LLC

3. Address of Operator

6 Desta Drive, Suite 6800, Midland, TX, 79705

7. Lease Name or Unit Agreement Name

State 1625

8. Well No.

291

9. Pool name or Wildcat

Cottonwood Creek Abo East Gas

4. Well Location

Unit Letter A : 700 Feet From The North Line and 660 Feet From The East Line

Section 29 Township 16 Range 25 NMPM Eddy County

10. Date Spudded 09/09/04	11. Date T.D. Reached 10/03/04	12. Date Compl. (Ready to Prod.) 10/28/04	13. Elevations (DF& RKB, RT, GR, etc.) 3544 GL	14. Elev. Casinghead
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15. Total Depth 4907'	16. Plug Back T.D.	17. If Multiple Compl. How Many Zones?	18. Intervals Drilled By R	Rotary Tools	Cable Tools
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19. Producing Interval(s), of this completion - Top, Bottom, Name

Abo: 4896' - 4945' MD

20. Was Directional Survey Made

Yes

21. Type Electric and Other Logs Run

Platform Express Litho-Den CN, GR, Micro-CFL

22. Was Well Cored

Yes

23. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	48#	375'	17-1/2"	returns to surf	105 scks
9-5/8"	36#	1123'	12-1/4"	temp survey	10 scks
7"	26#	5156'	8-3/4"	volume calcs	0

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN
2-3/8"	4329' MD	6795' MD	uncement	

25. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2-3/8"	4978'	4279'

26. Perforation record (interval, size, and number)

Pre-perforated

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
5100'-6795'	1555 bbls 15% HCl

28. PRODUCTION

Date First Production 10/20/04		Production Method (Flowing, gas lift, pumping - Size and type pump) Flowing			Well Status (Prod. or Shut-in) SI WO Pipeline Connection		
Date of Test 11/01/04	Hours Tested 4	Choke Size	Prod'n For Test Period	Oil - Bbl 0	Gas - MCF 66	Water - Bbl. 4	Gas - Oil Ratio na
Flow Tubing Press. 1150	Casing Pressure n/a	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF 398	Water - Bbl. 16	Oil Gravity - API - (Corr.)	

29. Disposition of Gas (Sold, used for fuel, vented, etc.)

vented

Test Witnessed By

30. List Attachments

Logs and Core report

31. I hereby certify that the information shown on both sides of this form as true and complete to the best of my knowledge and belief

Signature

Printed
Name

Stephen J Howe

Title

Petroleum Engineer

Date 11/22/04

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico

Northwestern New Mexico

T. Anhy	T. Canyon
T. Salt	T. Strawn
B. Salt	T. Atoka
T. Yates	T. Miss
T. 7 Rivers	T. Devonian
T. Queen	T. Silurian
T. Grayburg	T. Montoya
T. San Andres 620'	T. Simpson
T. Glorieta 1700'	T. McKee
T. Paddock	T. Ellenburger
T. Blinebry	T. Gr. Wash
T. Tubb 3210'	T. Delaware Sand
T. Drinkard	T. Bone Springs
T. Abo 3880'	T.
T. Wolfcamp 5020'	T.
T. Penn	T.
T. Cisco (Bough C)	T.

T. Ojo Alamo	T. Penn. "B"
T. Kirtland-Fruitland	T. Penn. "C"
T. Pictured Cliffs	T. Penn. "D"
T. Cliff House	T. Leadville
T. Menefee	T. Madison
T. Point Lookout	T. Elbert
T. Mancos	T. McCracken
T. Gallup	T. Ignacio Otztze
Base Greenhorn	T. Granite
T. Dakota	T.
T. Morrison	T.
T. Todilto	T.
T. Entrada	T.
T. Wingate	T.
T. Chinle	T.
T. Permian	T.
T. Penn. "A"	T.

OIL OR GAS SANDS
OR ZONES

No. 1, from 4900 to 4960
No. 2, from to

No. 3, from.....to.....
No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....
 No. 2, from.....to.....feet.....
 No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology
See attachment			

From	To	Thickness In Feet	Lithology

Clear

State 1625 #291 Lithology Record

From	To	Thkns	Lithology
1200	1470	270	Anhydrite/Dolomite
1470	1800	330	Dolomite/Limestone
1800	1840	40	Dolomite/Limestone/Sand
1840	2120	280	Anhydrite/Dolomite
2120	2140	20	Dolomite
2140	2210	70	Anhydrite/Dolomite
2120	2140	20	Dolomite
2140	2210	70	Anhydrite/Dolomite
2210	2280	70	Anhydrite/Dolomite/Limestone
2280	2420	160	Dolomite/Sand/Limestone
2420	2680	240	Dolomite/Anhydrite/Sand/Limestone
2680	2830	150	Dolomite/Sand/Shale/Silt
2380	2880	500	Anhydrite/Dolomite/Limestone
2880	3000	120	Anhydrite/Dolomite
3000	3160	160	Dolomite/Limestone/Shale
3160	3440	320	Anhydrite/Dolomite/Limestone/Sand/Shale
3440	3920	480	Anhydrite/Dolomite/Shale/Limestone
3920	4070	150	Dolomite/Shale
4070	4780	710	Anhydrite/Dolomite/Shale
4780	4800	20	Anhydrite/Dolomite/Limestone/Shale
4800	4930	130	Dolomite/Shale
4900	5145	245	Dolomite/Limestone/Shale

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

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
RECEIVED Revised August 15, 2000
Submit to Appropriate District Office
DEC 3 2004 State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

OCD-ARTESIA

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name STATE 1625	Well Number 291
OGRID No.	Operator Name PERENCO, LLC	Elevation 3544'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	29	16 S	25 E		700	NORTH	660	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	29	16 S	25 E		686	NORTH	2525	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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

Plane Coordinate X = 489,869.9 Y = 690,914.9 Plane Coordinate X = 487,745.2 Y = 690,940.0 BHL (As-Drilled) SL (As-Drilled) 2525' 3545.8' 3542.8' 3546.0' 400' 400' 660' 700'	OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. Signature _____ Printed Name _____ Title _____ Date _____ 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 upervison and that the same is true and orrect to the best of my belief. Date Surveyed November 20, 2004 Signature & Seal of Professional Surveyor LVA W.O. Num. 2004-0862 Certificate No. MACON McDONALD 12185
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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 1983. Distances shown hereon are mean horizontal surface values.

A Gyrodata Directional Survey

for

PERENCO LLC

Lease: State Lease 16-25 Well: No. 291, 3-1/2" Drillpipe
Location: Patterson #503, Eddy County, New Mexico

Job Number: MD0904GW222

Run Date: 23 Sep 2004

Surveyor: Perenco

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 32.899250 deg. N Longitude: 104.500580 deg. W

Azimuth Correction:

Gyro: 0.09000 deg East to Grid North

Proposed Well Direction: 270.310 deg

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

RECEIVED
DEC 3 2004
OCD-ARTESIA

A Gyrodata Directional Survey

Perenco LLC
 Lease: State Lease16-25 Well: No. 291, 3-1/2" Drillpipe
 Location: Patterson #503, Eddy County, New Mexico
 Job Number: MD0904GW222

MEASURED DEPTH feet	INCL deg.	CL 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	0.00	0.0	0.00	0.00	0.0	0.0	0.00 N 0.00 E
0 TO 4531. FT. RATE GYROSCOPIC MULTISHOT RUN INSIDE 3-1/2" DRILLPIPE									
ALL MEASURED DEPTHS AND COORDINATES ARE REFERENCED TO PATTERSON #503 R.K.B									
200.00	0.28		171.46	-0.1	0.14	200.00	0.5	171.5	0.49 S 0.07 E
400.00	1.38		125.64	-2.1	0.60	399.98	3.2	138.5	2.38 S 2.11 E
600.00	1.27		118.21	-6.0	0.10	599.92	7.7	128.8	4.83 S 6.02 E
800.00	1.14		133.91	-9.4	0.18	799.88	11.9	127.7	7.25 S 9.39 E
1000.00	1.19		131.02	-12.4	0.04	999.84	15.9	128.9	9.99 S 12.39 E
1200.00	1.14		134.51	-15.4	0.04	1199.80	20.0	129.7	12.74 S 15.37 E
1400.00	1.09		130.66	-18.3	0.05	1399.76	23.8	130.1	15.37 S 18.22 E
1600.00	1.27		136.29	-21.3	0.11	1599.72	27.9	130.7	18.20 S 21.19 E
1800.00	1.21		144.24	-24.1	0.09	1799.67	32.2	131.9	21.51 S 23.95 E
2000.00	0.97		137.74	-26.4	0.13	1999.63	35.9	132.9	24.47 S 26.31 E
2200.00	0.90		136.60	-28.7	0.03	2199.61	39.2	133.3	26.87 S 28.54 E
2400.00	0.53		138.36	-30.4	0.19	2399.59	41.7	133.5	28.70 S 30.23 E
2600.00	0.42		142.48	-31.4	0.06	2599.59	43.3	133.8	29.96 S 31.28 E
2800.00	0.23		133.57	-32.2	0.10	2799.58	44.4	133.9	30.81 S 32.01 E
3000.00	0.12		161.82	-32.5	0.07	2999.58	45.0	134.0	31.29 S 32.37 E
3200.00	0.05		149.05	-32.6	0.03	3199.58	45.3	134.2	31.56 S 32.48 E
3400.00	0.25		236.38	-32.3	0.13	3399.58	45.3	134.8	31.88 S 32.16 E
3600.00	0.39		250.33	-31.3	0.08	3599.58	44.9	136.1	32.36 S 31.15 E
3800.00	0.37		242.50	-30.1	0.03	3799.57	44.5	137.7	32.88 S 29.94 E
4000.00	0.32		219.97	-29.2	0.07	3999.57	44.4	139.2	33.61 S 29.01 E

A Gyrodata Directional Survey

Perenco LLC

Lease: State Lease 16-25 Well: No. 291, 3-1/2" Drillpipe

Location: Patterson #503, Eddy County, New Mexico

Job Number: MDD0904GW222

MEASURED DEPTH feet	INCL deg.	AZIMUTH deg.	VERTICAL SECTION feet	DOGLEG SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
4200.00	0.28	193.72	-28.7	0.07	4199.57	44.8 140.4	34.51 S 28.54 E
4400.00	0.46	143.88	-29.1	0.18	4399.56	45.9 141.0	35.65 S 28.90 E
4531.00	0.50	118.33	-29.9	0.17	4530.56	46.9 140.7	36.35 S 29.71 E

Final Station Closure: Distance: 46.95 ft Az: 140.73 deg.



October 27 2004

Perenco, LLC
6 Desta Drive, Suite 6800
Midland, Texas 79705

Attention: Regulatory Compliance Dept.

Re: Perenco, LLC
State Lease 1625 #291, S/T #1
Eddy County, New Mexico
Patterson Drilling 503

Dear Sir or Madam:

Please find attached (2) copies of MWD Survey Report for well referenced above for your records.

Regards,

A handwritten signature in black ink, appearing to read 'Clyde J. Cormier', written in a cursive style.

Clyde J. Cormier
President

CJC:cb

Enclosure



MWD SURVEY REPORT

MWD Services, Inc.

Report Date : OCTOBER 06, 2004	Target +N / -S = 21.6'
Job Number : 04119B	Target +E / -W = 3988.2'
Operator : PARENCO, LLC	Target TVD = 4932.0'
Lease / Well : STATE LEASE 1625 #291 S/T 1	Magnetic Declination +E / -W = 8.99°
Location : EDDY COUNTY, NEW MEXICO	Grid Convergence +E / -W = -0.02°
Field : ABO	Total Correction +E / -W = 9.01°
Contractor / Rig : PATTERSON DRILLING 503	North Reference = Grid
Directional Company : THE DIRECTIONAL DRILLING COMPANY	RKB Height =
MWD Field Rep. : BRAD ROBERTS / RICHARD GODWIN	Ground Level Elevation =
Tie In Survey Reference : MWD SERVICES, INC. TRRC# 519015 FILE 04119	Vertical Section Azimuth = 270.31°
Calculation Method : MINIMUM CURVATURE	

Comments :

SURVEY #0 = TIE IN SURVEY

SURVEY #59 = STRAIGHT LINE PROJECTED SURVEY TO BIT DEPTH

Srv. No.	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (deg/100')
							+N / -S (ft)	+E / -W (ft)	Distance (ft)	Azimuth (deg)	
0	4977.00'	73.70°	267.70°		4876.67'	195.45'	-1.70'	-195.46'	195.47'	269.50°	
1	5009.00'	76.30°	270.00°	32'	4884.95'	226.34'	-2.32'	-226.36'	226.37'	269.41°	10.69°
2	5041.00'	80.60°	269.60°	32'	4891.36'	257.69'	-2.43'	-257.70'	257.71'	269.46°	13.49°
3	5073.00'	84.60°	269.30°	32'	4895.48'	289.41'	-2.73'	-289.43'	289.44'	269.46°	12.53°
4	5105.00'	86.80°	268.50°	32'	4897.88'	321.31'	-3.34'	-321.33'	321.35'	269.40°	7.31°
5	5137.00'	89.20°	268.50°	32'	4898.99'	353.27'	-4.18'	-353.30'	353.32'	269.32°	7.50°
6	5169.00'	89.40°	268.50°	32'	4899.39'	385.25'	-5.02'	-385.28'	385.32'	269.25°	0.63°
7	5201.00'	89.90°	268.30°	32'	4899.58'	417.23'	-5.91'	-417.27'	417.31'	269.19°	1.68°
8	5233.00'	91.80°	268.90°	32'	4899.11'	449.21'	-6.69'	-449.26'	449.31'	269.15°	6.23°
9	5266.00'	92.50°	269.70°	33'	4897.87'	482.18'	-7.10'	-482.23'	482.28'	269.16°	3.22°
10	5297.00'	92.70°	270.70°	31'	4896.46'	513.15'	-6.99'	-513.20'	513.25'	269.22°	3.29°
11	5330.00'	92.10°	271.80°	33'	4895.08'	546.12'	-6.27'	-546.16'	546.20'	269.34°	3.79°
12	5362.00'	92.40°	272.50°	32'	4893.82'	578.08'	-5.07'	-578.11'	578.13'	269.50°	2.38°
13	5394.00'	91.40°	273.10°	32'	4892.76'	610.03'	-3.51'	-610.06'	610.07'	269.67°	3.64°
14	5425.00'	91.10°	273.20°	31'	4892.09'	640.98'	-1.81'	-641.00'	641.00'	269.84°	1.02°
15	5457.00'	87.40°	273.70°	32'	4892.51'	672.93'	0.12'	-672.94'	672.94'	270.01°	11.67°
16	5489.00'	86.30°	273.80°	32'	4894.26'	704.82'	2.21'	-704.82'	704.82'	270.18°	3.45°
17	5521.00'	86.40°	273.60°	32'	4896.30'	736.70'	4.27'	-736.69'	736.70'	270.33°	0.70°
18	5553.00'	86.20°	273.20°	32'	4898.37'	768.59'	6.16'	-768.56'	768.59'	270.46°	1.40°
19	5584.00'	85.90°	273.00°	31'	4900.50'	799.48'	7.84'	-799.44'	799.48'	270.56°	1.16°
20	5616.00'	85.60°	272.80°	32'	4902.87'	831.36'	9.45'	-831.32'	831.37'	270.65°	1.13°
21	5648.00'	85.40°	272.70°	32'	4905.38'	863.23'	10.98'	-863.18'	863.25'	270.73°	0.70°
22	5680.00'	85.10°	271.40°	32'	4908.03'	895.10'	12.12'	-895.05'	895.13'	270.78°	4.16°
23	5712.00'	85.20°	271.10°	32'	4910.74'	926.98'	12.82'	-926.93'	927.02'	270.79°	0.99°
24	5744.00'	87.60°	270.70°	32'	4912.75'	958.92'	13.32'	-958.86'	958.95'	270.80°	7.60°
25	5776.00'	88.40°	270.50°	32'	4913.87'	990.90'	13.65'	-990.84'	990.93'	270.79°	2.58°
26	5808.00'	87.50°	270.80°	32'	4915.01'	1022.87'	14.02'	-1022.81'	1022.91'	270.79°	2.96°
27	5841.00'	87.10°	270.80°	33'	4916.56'	1055.84'	14.48'	-1055.77'	1055.87'	270.79°	1.21°
28	5873.00'	87.00°	270.80°	32'	4918.21'	1087.79'	14.92'	-1087.73'	1087.83'	270.79°	0.31°

Srv. No.	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (deg/100 ')
							+N / -S (ft)	+E / -W (ft)	Distance (ft)	Azimuth (deg)	
29	5905.00'	86.90°	270.60°	32'	4919.91'	1119.75'	15.31'	-1119.68'	1119.79'	270.78°	0.70°
30	5937.00'	86.60°	270.10°	32'	4921.73'	1151.70'	15.51'	-1151.63'	1151.73'	270.77°	1.82°
31	5969.00'	86.50°	270.00°	32'	4923.65'	1183.64'	15.54'	-1183.57'	1183.67'	270.75°	0.44°
32	6000.00'	88.10°	269.80°	31'	4925.11'	1214.60'	15.48'	-1214.53'	1214.63'	270.73°	5.20°
33	6033.00'	88.60°	269.50°	33'	4926.06'	1247.58'	15.28'	-1247.52'	1247.61'	270.70°	1.77°
34	6065.00'	88.60°	269.20°	32'	4926.85'	1279.57'	14.92'	-1279.51'	1279.60'	270.67°	0.94°
35	6097.00'	88.80°	269.00°	32'	4927.57'	1311.56'	14.42'	-1311.50'	1311.58'	270.63°	0.88°
36	6128.00'	90.20°	269.40°	31'	4927.84'	1342.55'	13.98'	-1342.49'	1342.56'	270.60°	4.70°
37	6160.00'	89.90°	269.10°	32'	4927.81'	1374.54'	13.56'	-1374.49'	1374.56'	270.57°	1.33°
38	6192.00'	91.70°	269.50°	32'	4927.37'	1406.53'	13.17'	-1406.48'	1406.54'	270.54°	5.76°
39	6224.00'	92.00°	269.40°	32'	4926.33'	1438.51'	12.87'	-1438.46'	1438.52'	270.51°	0.99°
40	6256.00'	92.00°	269.00°	32'	4925.22'	1470.49'	12.42'	-1470.44'	1470.49'	270.48°	1.25°
41	6288.00'	92.30°	269.40°	32'	4924.02'	1502.46'	11.97'	-1502.41'	1502.46'	270.46°	1.56°
42	6320.00'	91.90°	269.10°	32'	4922.84'	1534.43'	11.56'	-1534.39'	1534.43'	270.43°	1.56°
43	6352.00'	91.10°	269.10°	32'	4922.01'	1566.41'	11.05'	-1566.38'	1566.41'	270.40°	2.50°
44	6384.00'	93.10°	269.50°	32'	4920.83'	1598.38'	10.66'	-1598.35'	1598.39'	270.38°	6.37°
45	6416.00'	93.40°	270.00°	32'	4919.02'	1630.33'	10.52'	-1630.30'	1630.33'	270.37°	1.82°
46	6448.00'	94.00°	270.60°	32'	4916.96'	1662.26'	10.69'	-1662.23'	1662.26'	270.37°	2.65°
47	6480.00'	93.30°	269.90°	32'	4914.92'	1694.20'	10.83'	-1694.16'	1694.20'	270.37°	3.09°
48	6512.00'	93.90°	271.30°	32'	4912.91'	1726.13'	11.16'	-1726.10'	1726.14'	270.37°	4.75°
49	6544.00'	94.20°	271.50°	32'	4910.65'	1758.05'	11.94'	-1758.01'	1758.05'	270.39°	1.13°
50	6576.00'	93.80°	271.60°	32'	4908.42'	1789.96'	12.81'	-1789.92'	1789.97'	270.41°	1.29°
51	6608.00'	94.20°	271.90°	32'	4906.18'	1821.87'	13.78'	-1821.83'	1821.88'	270.43°	1.56°
52	6640.00'	93.90°	272.10°	32'	4903.92'	1853.78'	14.90'	-1853.73'	1853.79'	270.46°	1.13°
53	6672.00'	94.20°	272.80°	32'	4901.66'	1885.68'	16.26'	-1885.62'	1885.69'	270.49°	2.37°
54	6704.00'	91.90°	272.10°	32'	4899.96'	1917.61'	17.63'	-1917.54'	1917.62'	270.53°	7.51°
55	6736.00'	90.50°	271.70°	32'	4899.29'	1949.59'	18.69'	-1949.52'	1949.61'	270.55°	4.55°
56	6768.00'	90.60°	272.00°	32'	4898.98'	1981.58'	19.72'	-1981.50'	1981.60'	270.57°	0.99°
57	6799.00'	92.50°	272.50°	31'	4898.15'	2012.54'	20.94'	-2012.46'	2012.57'	270.60°	6.34°
58	6831.00'	92.80°	272.10°	32'	4896.67'	2044.49'	22.22'	-2044.40'	2044.52'	270.62°	1.56°
59	6912.00'	93.00°	272.00°	81'	4892.57'	2125.35'	25.11'	-2125.25'	2125.39'	270.68°	0.28°



MWD SURVEY REPORT

MWD Services, Inc.

Report Date :	OCTOBER 06, 2004	Target +N / -S =	21.6'
Job Number :	04119B	Target +E / -W =	3988.2'
Operator :	PARENCO, LLC	Target TVD =	4932.0'
Lease / Well :	STATE LEASE 1625 #291 S/T 1	Magnetic Declination +E / -W =	8.99°
Location :	EDDY COUNTY, NEW MEXICO	Grid Convergence +E / -W =	-0.02°
Field :	ABO	Total Correction +E / -W =	9.01°
Contractor / Rig :	PATTERSON DRILLING 503	North Reference =	Grid
Directional Company :	THE DIRECTIONAL DRILLING COMPANY	RKB Height =	
MWD Field Rep. :	BRAD ROBERTS / RICHARD GODWIN	Ground Level Elevation =	
Tie In Survey Reference :	MWD SERVICES, INC. TRRC# 519015 FILE 04119	Vertical Section Azimuth =	270.31°
Calculation Method :	MINIMUM CURVATURE		

Comments :

SURVEY #0 = TIE IN SURVEY

SURVEY #59 = STRAIGHT LINE PROJECTED SURVEY TO BIT DEPTH

Srv. No.	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (deg/100')
							+N / -S (ft)	+E / -W (ft)	Distance (ft)	Azimuth (deg)	
0	4977.00'	73.70°	267.70°		4876.67'	195.45'	-1.70'	-195.46'	195.47'	269.50°	
1	5009.00'	76.30°	270.00°	32'	4884.95'	226.34'	-2.32'	-226.36'	226.37'	269.41°	10.69°
2	5041.00'	80.60°	269.60°	32'	4891.36'	257.69'	-2.43'	-257.70'	257.71'	269.46°	13.49°
3	5073.00'	84.60°	269.30°	32'	4895.48'	289.41'	-2.73'	-289.43'	289.44'	269.46°	12.53°
4	5105.00'	86.80°	268.50°	32'	4897.88'	321.31'	-3.34'	-321.33'	321.35'	269.40°	7.31°
5	5137.00'	89.20°	268.50°	32'	4898.99'	353.27'	-4.18'	-353.30'	353.32'	269.32°	7.50°
6	5169.00'	89.40°	268.50°	32'	4899.39'	385.25'	-5.02'	-385.28'	385.32'	269.25°	0.63°
7	5201.00'	89.90°	268.30°	32'	4899.58'	417.23'	-5.91'	-417.27'	417.31'	269.19°	1.68°
8	5233.00'	91.80°	268.90°	32'	4899.11'	449.21'	-6.69'	-449.26'	449.31'	269.15°	6.23°
9	5266.00'	92.50°	269.70°	33'	4897.87'	482.18'	-7.10'	-482.23'	482.28'	269.16°	3.22°
10	5297.00'	92.70°	270.70°	31'	4896.46'	513.15'	-6.99'	-513.20'	513.25'	269.22°	3.29°
11	5330.00'	92.10°	271.80°	33'	4895.08'	546.12'	-6.27'	-546.16'	546.20'	269.34°	3.79°
12	5362.00'	92.40°	272.50°	32'	4893.82'	578.08'	-5.07'	-578.11'	578.13'	269.50°	2.38°
13	5394.00'	91.40°	273.10°	32'	4892.76'	610.03'	-3.51'	-610.06'	610.07'	269.67°	3.64°
14	5425.00'	91.10°	273.20°	31'	4892.09'	640.98'	-1.81'	-641.00'	641.00'	269.84°	1.02°
15	5457.00'	87.40°	273.70°	32'	4892.51'	672.93'	0.12'	-672.94'	672.94'	270.01°	11.67°
16	5489.00'	86.30°	273.80°	32'	4894.26'	704.82'	2.21'	-704.82'	704.82'	270.18°	3.45°
17	5521.00'	86.40°	273.60°	32'	4896.30'	736.70'	4.27'	-736.69'	736.70'	270.33°	0.70°
18	5553.00'	86.20°	273.20°	32'	4898.37'	768.59'	6.16'	-768.56'	768.59'	270.46°	1.40°
19	5584.00'	85.90°	273.00°	31'	4900.50'	799.48'	7.84'	-799.44'	799.48'	270.56°	1.16°
20	5616.00'	85.60°	272.80°	32'	4902.87'	831.36'	9.45'	-831.32'	831.37'	270.65°	1.13°
21	5648.00'	85.40°	272.70°	32'	4905.38'	863.23'	10.98'	-863.18'	863.25'	270.73°	0.70°
22	5680.00'	85.10°	271.40°	32'	4908.03'	895.10'	12.12'	-895.05'	895.13'	270.78°	4.16°
23	5712.00'	85.20°	271.10°	32'	4910.74'	926.98'	12.82'	-926.93'	927.02'	270.79°	0.99°
24	5744.00'	87.60°	270.70°	32'	4912.75'	958.92'	13.32'	-958.86'	958.95'	270.80°	7.60°
25	5776.00'	88.40°	270.50°	32'	4913.87'	990.90'	13.65'	-990.84'	990.93'	270.79°	2.58°
26	5808.00'	87.50°	270.80°	32'	4915.01'	1022.87'	14.02'	-1022.81'	1022.91'	270.79°	2.96°
27	5841.00'	87.10°	270.80°	33'	4916.56'	1055.84'	14.48'	-1055.77'	1055.87'	270.79°	1.21°
28	5873.00'	87.00°	270.80°	32'	4918.21'	1087.79'	14.92'	-1087.73'	1087.83'	270.79°	0.31°

Srv. No.	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates +N / -S +E / -W (ft) (ft)		Closure Distance Azimuth (ft) (deg)		Dogleg Severity (deg/100 ')
29	5905.00'	86.90°	270.60°	32'	4919.91'	1119.75'	15.31'	-1119.68'	1119.79'	270.78°	0.70°
30	5937.00'	86.60°	270.10°	32'	4921.73'	1151.70'	15.51'	-1151.63'	1151.73'	270.77°	1.82°
31	5969.00'	86.50°	270.00°	32'	4923.65'	1183.64'	15.54'	-1183.57'	1183.67'	270.75°	0.44°
32	6000.00'	88.10°	269.80°	31'	4925.11'	1214.60'	15.48'	-1214.53'	1214.63'	270.73°	5.20°
33	6033.00'	88.60°	269.50°	33'	4926.06'	1247.58'	15.28'	-1247.52'	1247.61'	270.70°	1.77°
34	6065.00'	88.60°	269.20°	32'	4926.85'	1279.57'	14.92'	-1279.51'	1279.60'	270.67°	0.94°
35	6097.00'	88.80°	269.00°	32'	4927.57'	1311.56'	14.42'	-1311.50'	1311.58'	270.63°	0.88°
36	6128.00'	90.20°	269.40°	31'	4927.84'	1342.55'	13.98'	-1342.49'	1342.56'	270.60°	4.70°
37	6160.00'	89.90°	269.10°	32'	4927.81'	1374.54'	13.56'	-1374.49'	1374.56'	270.57°	1.33°
38	6192.00'	91.70°	269.50°	32'	4927.37'	1406.53'	13.17'	-1406.48'	1406.54'	270.54°	5.76°
39	6224.00'	92.00°	269.40°	32'	4926.33'	1438.51'	12.87'	-1438.46'	1438.52'	270.51°	0.99°
40	6256.00'	92.00°	269.00°	32'	4925.22'	1470.49'	12.42'	-1470.44'	1470.49'	270.48°	1.25°
41	6288.00'	92.30°	269.40°	32'	4924.02'	1502.46'	11.97'	-1502.41'	1502.46'	270.46°	1.56°
42	6320.00'	91.90°	269.10°	32'	4922.84'	1534.43'	11.56'	-1534.39'	1534.43'	270.43°	1.56°
43	6352.00'	91.10°	269.10°	32'	4922.01'	1566.41'	11.05'	-1566.38'	1566.41'	270.40°	2.50°
44	6384.00'	93.10°	269.50°	32'	4920.83'	1598.38'	10.66'	-1598.35'	1598.39'	270.38°	6.37°
45	6416.00'	93.40°	270.00°	32'	4919.02'	1630.33'	10.52'	-1630.30'	1630.33'	270.37°	1.82°
46	6448.00'	94.00°	270.60°	32'	4916.96'	1662.26'	10.69'	-1662.23'	1662.26'	270.37°	2.65°
47	6480.00'	93.30°	269.90°	32'	4914.92'	1694.20'	10.83'	-1694.16'	1694.20'	270.37°	3.09°
48	6512.00'	93.90°	271.30°	32'	4912.91'	1726.13'	11.16'	-1726.10'	1726.14'	270.37°	4.75°
49	6544.00'	94.20°	271.50°	32'	4910.65'	1758.05'	11.94'	-1758.01'	1758.05'	270.39°	1.13°
50	6576.00'	93.80°	271.60°	32'	4908.42'	1789.96'	12.81'	-1789.92'	1789.97'	270.41°	1.29°
51	6608.00'	94.20°	271.90°	32'	4906.18'	1821.87'	13.78'	-1821.83'	1821.88'	270.43°	1.56°
52	6640.00'	93.90°	272.10°	32'	4903.92'	1853.78'	14.90'	-1853.73'	1853.79'	270.46°	1.13°
53	6672.00'	94.20°	272.80°	32'	4901.66'	1885.68'	16.26'	-1885.62'	1885.69'	270.49°	2.37°
54	6704.00'	91.90°	272.10°	32'	4899.96'	1917.61'	17.63'	-1917.54'	1917.62'	270.53°	7.51°
55	6736.00'	90.50°	271.70°	32'	4899.29'	1949.59'	18.69'	-1949.52'	1949.61'	270.55°	4.55°
56	6768.00'	90.60°	272.00°	32'	4898.98'	1981.58'	19.72'	-1981.50'	1981.60'	270.57°	0.99°
57	6799.00'	92.50°	272.50°	31'	4898.15'	2012.54'	20.94'	-2012.46'	2012.57'	270.60°	6.34°
58	6831.00'	92.80°	272.10°	32'	4896.67'	2044.49'	22.22'	-2044.40'	2044.52'	270.62°	1.56°
59	6912.00'	93.00°	272.00°	81'	4892.57'	2125.35'	25.11'	-2125.25'	2125.39'	270.68°	0.28°