N.M. Oil Cons. DIV-Dist. 2
1301 W. Grand Avenue
ARTESIA NM 88210

Form 3160-4
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No. **NM 90947**

1a. Type of Well ☐ Oil Well ☑ Gas Well ☐ Dry ☐ Other
b. Type of Completion: ☑ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr, .
Other

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

2. Name of Operator **Perenco LLC**

8. Lease Name and Well No. **1625 Fed-Com #321**

3. Address **6 Desta Drive, Suite 6800, Midland, TX, 79705**

3a. Phone No. *(include area code)* **432 682 8553**

9. AFI Well No. **30-015-33614**

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

At surface **800 FNL 959 FWL Unit D Section 32 T 16S R 25E**

At top prod. interval reported below

At total depth **805 FNL 808 FEL Unit A Section 32 T 16S R25E**

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10. Field and Pool, or Exploratory **~~Wildcat~~ Cottonwd Crk Abo**

11. Sec., T., R., M., on Block and Survey or Area

12. County or Parish **Eddy Co**

13. State **NM**

14. Date Spudded **09/24/2004**

15. Date T.D. Reached **11/12/2004**

16. Date Completed **12/02/2004** ☐ D & A ☑ Ready to Prod.

17. Elevations (DF, RKB, RT, GL)* **3606' GL**

18. Total Depth: MD **8285'** TVD **5012'**

19. Plug Back T.D.: MD TVD

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)

SLB Platform Express LD CN/GR/ Microlog

22. Was well cored? ☑ No ☐ Yes (Submit analysis)
Was DST run? ☑ No ☐ Yes (Submit report)
Directional Survey? ☐ No ☑ Yes (Submit copy)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17-1/2"	13-3/8"	48#	Surface	374'		450 Class C		Surface	130 Sks
12-1/4"	9-5/8"	36#	Surface	1215'		700 Class C		Surface	96 Sks
8-3/4"	7"	26#	Surface	5078'		510 Class C		Surface	24 Sks
6-1/8"	4-1/2"	11.6#	4287	8000'		uncemented			

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2-3/8	4903'	4203'						

25. Producing Intervals

Formation	Top	Bottom
A) Abo	4925'	5019'
B)		
C)		
D)		

26. Perforation Record

Perforated Interval	Size	No. Holes	Perf. Status
4292-8000' MD	11/32"	62	Pre-Perforated Liner

27. Acid, Fracture, Treatment, Cement Squeeze, etc.

Depth Interval	Amount and Type of Material
4292-8000' MD	1820 bbls 15% NEFE HCL

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
12/02/2004	12/04/2004	4	→	0	310	4			4 pt test - flared to atmosphere

Choke Size	Tbg. Press. Flwg. SI 1704	Csg. Press. NA	24 Hr. Rate →	Oil BBL	Gas MCF ~1800	Water BBL	Gas/Oil Ratio	Well Status
								SI Waiting for Pipeline Connection

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status

ACCEPTED FOR RECORD
DEC 21 2004
LES BABYAK
PETROLEUM ENGINEER

(See instructions and spaces for additional data on page 2)

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	**Tbg. Press. Flwg. SI**	**Csg. Press.**	**24 Hr. Rate →**	**Oil BBL**	**Gas MCF**	**Water BBL**	**Gas/Oil Ratio**	**Well Status**	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	**Tbg. Press. Flwg. SI**	**Csg. Press.**	**24 Hr. Rate →**	**Oil BBL**	**Gas MCF**	**Water BBL**	**Gas/Oil Ratio**	**Well Status**	

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

will be sold upon pipeline connection

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
San Andres	**590'**				
Glorietta	**1800'**				
Tubb	**3230'**				
Abo	**3870'**		**Productive Zone**		
Wolfcamp	**5010'**				

32. Additional remarks (include plugging procedure):

33. Indicate which itmes have been attached by placing a check in the appropriate boxes:

☑ Electrical/Mechanical Logs (1 full set req'd.) ☐ Geologic Report ☐ DST Report ☑ Directional Survey

☐ Sundry Notice for plugging and cement verification ☐ Core Analysis ☐ Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name *(please print)* **Stephen J. Howe** Title **Petroleum Engineer**

Signature S J Howe Date **12/16/2004**

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

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

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

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised August 15, 2000
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

Property Code	Property Name	Well Number
	FED-COM 1625	321
OGRID No.	**Operator Name**	**Elevation**
	PERENCO, LLC	3604'

Surface Location

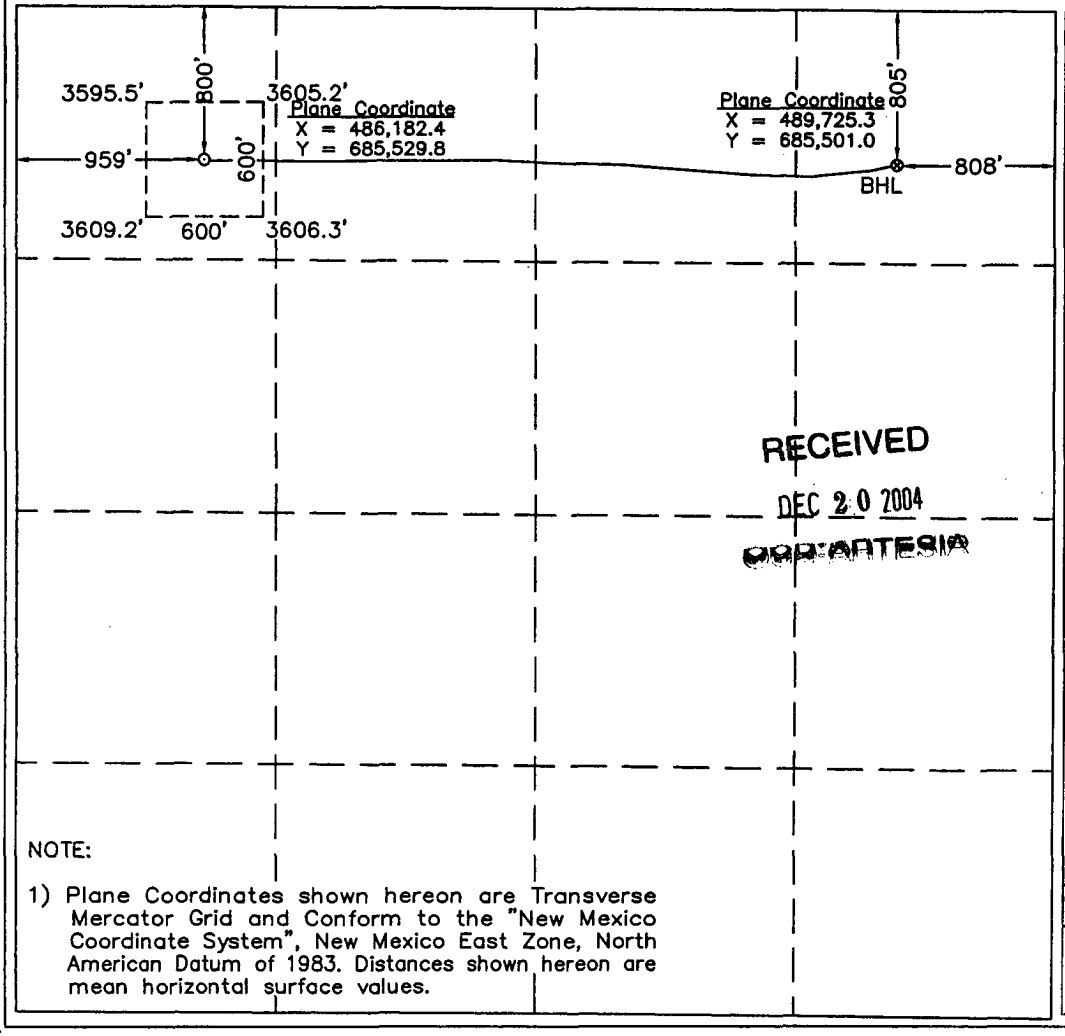
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	32	16 S	25 E		800	NORTH	959	WEST	EDDY

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
A	32	16 S	25 E		805	NORTH	808	EAST	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



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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.

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.

November 20, 2004

Date Surveyed LVA

Signature & Seal of Professional Surveyor

W.O. Num. 2004-0863

Certificate No. MACON McDONALD 12185

OPERATOR: PERENCO 503-0254
WELL/LEASE: 1625 FED COM #321
COUNTY: EDDY, NM

STATE OF NEW MEXICO
DEVIATION REPORT

228	1/4
348	1/2
615	3/4
900	1/4
1,174	1/2
1,434	3/4
1,905	1/4
2,412	1/2
2,918	1/4
3,422	1/2
3,928	3/4
4,432	3/4
4,904	1
5,130	3/4

By: Steve Moore

STATE OF TEXAS
COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on November 18th, 2004, by Steve Moore on behalf of Patterson-UTI Drilling Company LP, LLLP.

J Robertson
Notary Public for Midland County, Texas

My Commission Expires: 8/23/2007

J ROBERTSON
Notary Public, State of Texas
My Commission Expires:
August 23, 2007

Scientific Drilling

PERENCO LLC

Field: Wildcat
Site: Eddy County, NM
Well: Fed Com 1625 #321
Wellpath: VH - Job #32K1004668
Survey: 10/29/04

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This survey is correct to the best of my knowledge
and is supported by actual field data.

Company Representative

Notorized this date _____ of _____, 2004.

_____
Notary Signature
County of Midland
State of Texas

Scientific Drilling

Scientific Drilling International
Survey Report

Company:	PERENCO LLC	**Date:** 12/7/2004	**Time:** 11:31:13	**Page:**	1
Field:	Wildcat	**Co-ordinate(NE) Reference:**	Site: Eddy County, NM, Grid North		
Site:	Eddy County, NM	**Vertical (TVD) Reference:**	SITE 0.0		
Well:	Fed Com 1625 #321	**Section (VS) Reference:**	Well (0.00N,0.00E,90.37Azi)		
Wellpath:	VH - Job #32K1004668	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey:	10/29/04 KSRG 0'-4545'	**Start Date:**	10/29/2004
Company:	Scientific Drilling Internatio	**Engineer:**	Gonzales/Ledbetter/Warren
Tool:	Keeper;Keeper Gyro	**Tied-to:**	From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.0	0.00	0.10	0.0	0.0	0.0	0.0	0.00	0.0	0.00
100.0	0.32	187.44	100.0	0.0	-0.3	0.0	0.32	0.3	187.44
200.0	0.46	178.89	200.0	-0.1	-1.0	-0.1	0.15	1.0	183.87
300.0	0.44	186.72	300.0	-0.1	-1.7	-0.1	0.06	1.7	183.35
400.0	0.07	203.87	400.0	-0.2	-2.2	-0.2	0.37	2.2	184.50
500.0	0.12	280.54	500.0	-0.3	-2.2	-0.3	0.12	2.2	187.70
600.0	0.08	241.16	600.0	-0.4	-2.2	-0.5	0.08	2.3	191.75
700.0	0.05	97.76	700.0	-0.5	-2.3	-0.5	0.12	2.3	191.99
800.0	0.16	19.06	800.0	-0.4	-2.1	-0.4	0.16	2.2	190.39
900.0	0.24	36.49	900.0	-0.2	-1.8	-0.2	0.10	1.9	186.88
1000.0	0.29	27.79	1000.0	0.0	-1.4	0.0	0.06	1.4	179.19
1100.0	0.18	44.79	1100.0	0.3	-1.1	0.2	0.13	1.1	167.37
1200.0	0.32	93.96	1200.0	0.6	-1.0	0.6	0.24	1.2	147.95
1300.0	0.36	101.48	1300.0	1.2	-1.1	1.2	0.06	1.6	131.96
1400.0	0.43	99.93	1400.0	1.9	-1.2	1.9	0.07	2.3	122.86
1500.0	0.31	86.44	1500.0	2.6	-1.3	2.5	0.15	2.8	116.66
1600.0	0.21	98.57	1600.0	3.0	-1.3	3.0	0.11	3.3	113.27
1700.0	0.31	115.93	1700.0	3.4	-1.4	3.4	0.13	3.7	112.74
1800.0	0.34	110.53	1800.0	3.9	-1.7	3.9	0.04	4.3	112.79
1900.0	0.30	84.86	1900.0	4.5	-1.7	4.5	0.15	4.8	111.19
2000.0	0.11	68.89	2000.0	4.8	-1.7	4.8	0.20	5.1	109.16
2100.0	0.06	168.85	2100.0	4.9	-1.7	4.9	0.13	5.2	108.98
2200.0	0.11	228.17	2200.0	4.9	-1.8	4.9	0.09	5.2	110.40
2300.0	0.15	286.49	2300.0	4.7	-1.8	4.7	0.13	5.0	111.47
2400.0	0.19	277.18	2400.0	4.4	-1.8	4.4	0.05	4.7	112.11
2500.0	0.22	304.39	2500.0	4.1	-1.6	4.1	0.10	4.4	112.13
2600.0	0.21	300.31	2600.0	3.7	-1.4	3.7	0.02	4.0	111.18
2700.0	0.28	251.76	2700.0	3.4	-1.4	3.3	0.21	3.6	113.16
2800.0	0.28	251.44	2800.0	2.9	-1.6	2.9	0.00	3.3	118.81
2900.0	0.27	274.24	2900.0	2.4	-1.6	2.4	0.11	2.9	124.26
3000.0	0.24	259.61	3000.0	2.0	-1.7	2.0	0.07	2.6	130.14
3100.0	0.25	266.09	3100.0	1.6	-1.7	1.6	0.03	2.3	137.90
3200.0	0.18	265.11	3200.0	1.2	-1.7	1.2	0.07	2.1	145.99
3300.0	0.26	259.41	3300.0	0.8	-1.8	0.8	0.08	2.0	156.07
3400.0	0.26	274.49	3400.0	0.4	-1.8	0.4	0.07	1.9	169.12
3500.0	0.16	278.27	3500.0	0.0	-1.8	0.0	0.10	1.8	180.42
3600.0	0.14	226.52	3600.0	-0.2	-1.9	-0.2	0.13	1.9	187.38
3700.0	0.09	185.62	3700.0	-0.3	-2.0	-0.3	0.09	2.0	189.47
3800.0	0.07	110.92	3800.0	-0.3	-2.1	-0.3	0.10	2.1	187.72
3900.0	0.26	137.54	3900.0	-0.1	-2.3	-0.1	0.20	2.3	181.91
4000.0	0.20	133.76	4000.0	0.2	-2.6	0.2	0.06	2.6	175.54
4100.0	0.41	156.49	4100.0	0.5	-3.0	0.5	0.24	3.1	171.19
4200.0	0.45	160.79	4200.0	0.8	-3.7	0.7	0.05	3.8	168.76
4300.0	0.43	148.10	4300.0	1.1	-4.4	1.1	0.10	4.6	166.41
4400.0	0.52	119.00	4400.0	1.7	-5.0	1.7	0.25	5.2	161.47
4500.0	0.72	117.78	4499.9	2.7	-5.5	2.6	0.20	6.1	154.47
4545.0	0.71	115.31	4544.9	3.2	-5.7	3.1	0.07	6.5	151.44

Scientific Drilling

Field: Wildcat
Site: Eddy County, NM
Well: Fed Com 1625 #321
Wellpath: VH - Job #32K1004668
Survey: 10/29/04

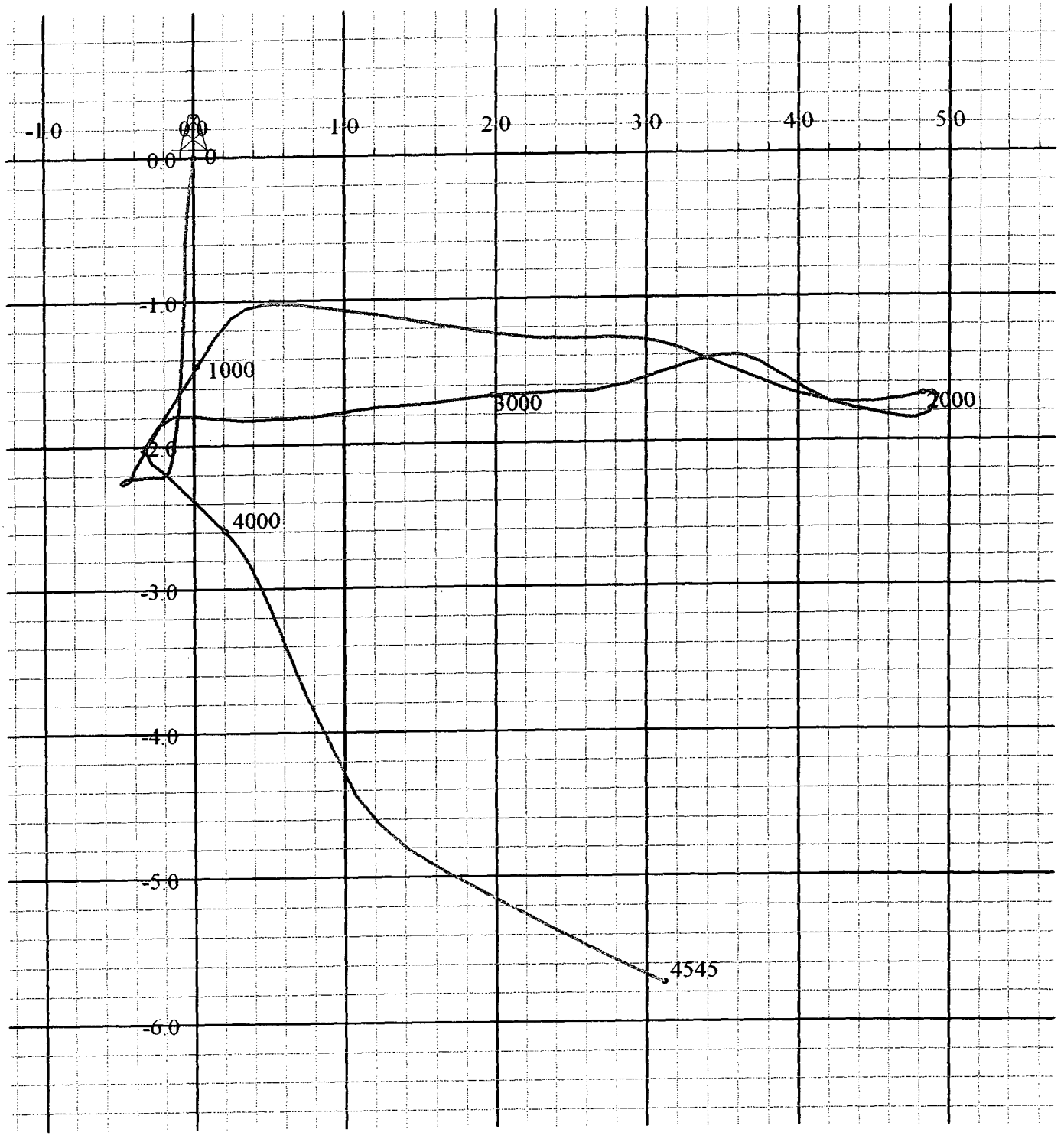
G T M

Azimuths to Grid North
True North: 0.00°
Magnetic North: 0.00°

Magnetic Field
Strength: 0nT
Dip Angle: 0.00°
Date: 12/7/2004
Model: igrf2000

West(-)/East(+) [1ft/in]

South(-)/North(+) [1ft/in]



SURVEY CALCULATION PROGRAM

MINIMUM CURVATURE CALCULATIONS(SPE-3362) v1.00.02

OPERATOR:	PERENCO	**Supervisors:**	
WELL:	1625 FEDERAL COM # 321	MIKE HOLLAND	
LOCATION:	EDDY COUNTY, NM	TRACY BUROW	
JOB NUMBER:	MDR-4255		
COMMENTS			
TIE IN TO SCIENTIFIC GYRO		**MAG DEC.(-/+)**	8.99
		GRID CORR.(-/+)	0.02
		TOTAL CORR.(-/+)	9.01

DATE: 11/11/04 TIME: 11:05 AM TRUE TO GRID

TARGET DIP	-1.00	ANGLE	89.00	LINE	4904.6	DIRECTION	90.37	TARGET TRACKING TO CENTER	

TEMP	SUR #	MD	INC	TRUE AZM	TVD	SECT	N-S	E-W	DLS/ 100	ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)
	TIE	4545	0.7	115.3	4544.9	3.2	-5.7	3.1	n/a	359.7	5.7
	1	4629	21.5	85.0	4626.9	19.1	-4.6	19.1	24.9	278.0	4.5
	2	4661	30.1	84.5	4655.7	33.0	-3.3	33.0	26.9	249.5	3.1
	3	4693	36.8	86.4	4682.4	50.5	-1.9	50.5	21.2	223.1	1.6
	4	4725	39.7	88.6	4707.5	70.3	-1.1	70.3	10.0	198.3	0.6
	5	4757	39.7	87.9	4732.1	90.8	-0.5	90.7	1.4	174.1	-0.1
	6	4789	39.7	87.8	4756.8	111.2	0.3	111.2	0.2	149.8	-1.0
	7	4853	45.9	90.8	4803.7	154.6	0.8	154.6	10.2	103.6	-1.8
	8	4885	49.7	93.0	4825.2	178.3	0.0	178.3	12.9	82.5	-1.1
	9	4917	53.9	93.5	4845.0	203.4	-1.5	203.4	13.2	63.2	0.2
	10	4949	58.7	94.9	4862.7	230.0	-3.4	230.0	15.4	45.9	1.9
	11	4981	64.0	94.1	4878.1	258.0	-5.6	257.9	16.7	31.1	4.0
	12	5013	69.0	92.4	4890.8	287.3	-7.3	287.2	16.4	18.8	5.4
	13	5045	74.4	90.5	4900.9	317.6	-8.0	317.6	17.8	9.3	6.0
	14	5077	79.5	91.9	4908.1	348.8	-8.7	348.7	16.5	2.6	6.4
	15	5110	86.9	90.7	4912.0	381.5	-9.4	381.5	22.7	-0.7	7.0
	16	5142	87.4	90.1	4913.6	413.5	-9.7	413.4	2.4	-1.8	7.0
	17	5175	87.5	90.2	4915.1	446.5	-9.7	446.4	0.4	-2.6	6.9
	18	5204	87.7	90.4	4916.3	475.4	-9.9	475.4	1.0	-3.4	6.8
	19	5236	87.1	89.4	4917.7	507.4	-9.8	507.3	3.6	-4.2	6.6
	20	5267	86.9	89.3	4919.3	538.4	-9.5	538.3	0.7	-5.3	6.0
	21	5299	85.5	88.5	4921.5	570.3	-8.9	570.2	5.0	-6.9	5.2
	22	5332	85.2	88.7	4924.1	603.1	-8.1	603.1	1.1	-9.0	4.2
	23	5364	89.1	88.5	4925.7	635.1	-7.3	635.0	12.2	-10.0	3.2
	24	5396	91.7	88.1	4925.5	667.1	-6.3	667.0	8.2	-9.2	2.0
	25	5427	93.0	87.9	4924.2	698.0	-5.3	698.0	4.2	-7.4	0.8
	26	5460	93.3	88.0	4922.4	730.9	-4.1	730.9	1.0	-5.0	-0.6
	27	5492	92.3	89.4	4920.9	762.9	-3.4	762.9	5.4	-2.9	-1.6
	28	5522	91.7	90.6	4919.8	792.9	-3.4	792.8	4.5	-1.4	-1.8
	29	5554	88.0	91.4	4919.9	824.8	-3.9	824.8	11.8	-0.9	-1.4
	30	5586	88.0	91.7	4921.0	856.8	-4.8	856.8	0.9	-1.4	-0.8
	31	5620	88.3	92.0	4922.1	890.8	-5.9	890.8	1.2	-1.9	0.1

SURVEY CALCULATION PROGRAM

MINIMUM CURVATURE CALCULATIONS(SPE-3362) v1.00.02

OPERATOR:	PERENCO	**Supervisors:**	
WELL:	1625 FEDERAL COM # 321	MIKE HOLLAND	
LOCATION:	EDDY COUNTY, NM	TRACY BUROW	
JOB NUMBER:	MDR-4255		
COMMENTS			
TIE IN TO SCIENTIFIC GYRO		**MAG DEC.(-/+)**	8.99
		GRID CORR.(-/+)	0.02
		TOTAL CORR.(-/+)	9.01
DATE: 11/11/04	TIME: 11:05 AM	TRUE TO GRID	

TARGET DIP	-1.00	ANGLE	89.00	LINE	4904.6	DIRECTION	90.37	TARGET TRACKING TO CENTER	

TEMP	SUR #	MD	INC	TRUE AZM	TVD	SECT	N-S	E-W	DLS/ 100	ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)
	32	5652	87.9	91.4	4923.2	922.8	-6.8	922.7	2.3	-2.4	0.9
	33	5684	87.6	90.9	4924.4	954.7	-7.5	954.7	1.8	-3.1	1.3
	34	5716	88.0	91.0	4925.7	986.7	-8.0	986.7	1.3	-3.8	1.6
	35	5748	87.9	90.2	4926.8	1018.7	-8.3	1018.7	2.5	-4.4	1.8
	36	5780	88.5	90.3	4927.8	1050.7	-8.5	1050.6	1.9	-4.8	1.7
	37	5812	89.4	89.8	4928.4	1082.7	-8.5	1082.6	3.2	-4.9	1.5
	38	5844	87.8	88.2	4929.2	1114.6	-7.9	1114.6	7.1	-5.1	0.7
	39	5876	87.7	87.0	4930.4	1146.6	-6.6	1146.6	3.8	-5.8	-0.8
	40	5908	89.2	88.6	4931.3	1178.5	-5.4	1178.5	6.9	-6.1	-2.2
	41	5940	90.9	90.4	4931.3	1210.5	-5.1	1210.5	7.7	-5.5	-2.7
	42	5972	88.8	88.4	4931.4	1242.5	-4.8	1242.5	9.1	-5.0	-3.3
	43	6004	88.0	87.6	4932.2	1274.5	-3.6	1274.5	3.5	-5.4	-4.6
	44	6036	89.8	89.0	4932.9	1306.5	-2.7	1306.5	7.1	-5.4	-5.7
	45	6068	88.0	90.3	4933.5	1338.4	-2.5	1338.5	6.9	-5.5	-6.1
	46	6100	89.2	90.2	4934.3	1370.4	-2.6	1370.4	3.8	-5.7	-6.2
	47	6132	88.3	88.8	4935.0	1402.4	-2.4	1402.4	5.2	-5.9	-6.7
	48	6164	89.2	88.7	4935.7	1434.4	-1.7	1434.4	2.8	-6.0	-7.6
	49	6196	88.5	91.4	4936.3	1466.4	-1.7	1466.4	8.7	-6.1	-7.8
	50	6229	88.0	92.8	4937.3	1499.4	-2.9	1499.4	4.5	-6.5	-6.8
	51	6261	86.9	94.0	4938.7	1531.3	-4.8	1531.3	5.1	-7.4	-5.1
	52	6293	83.7	94.4	4941.4	1563.1	-7.1	1563.1	10.1	-9.4	-3.0
	53	6325	83.2	94.9	4945.0	1594.8	-9.7	1594.8	2.2	-12.5	-0.6
	54	6357	83.3	94.3	4948.8	1626.5	-12.3	1626.4	1.9	-15.8	1.8
	55	6389	86.2	93.7	4951.7	1658.3	-14.5	1658.2	9.3	-18.1	3.8
	56	6420	88.1	92.2	4953.2	1689.2	-16.1	1689.2	7.8	-19.1	5.2
	57	6452	88.1	91.9	4954.3	1721.2	-17.2	1721.1	0.9	-19.6	6.1
	58	6484	88.3	91.6	4955.3	1753.2	-18.2	1753.1	1.1	-20.1	6.9
	59	6516	88.0	91.5	4956.3	1785.1	-19.1	1785.1	1.0	-20.6	7.5
	60	6548	88.2	91.0	4957.4	1817.1	-19.8	1817.0	1.7	-21.1	8.0
	61	6581	88.4	90.6	4958.4	1850.1	-20.2	1850.0	1.4	-21.5	8.3
	62	6613	89.9	91.0	4958.8	1882.1	-20.7	1882.0	4.9	-21.4	8.5
	63	6645	90.1	90.3	4958.8	1914.1	-21.0	1914.0	2.3	-20.8	8.7

SURVEY CALCULATION PROGRAM

MINIMUM CURVATURE CALCULATIONS(SPE-3362) v1.00.02

OPERATOR:	PERENCO	**Supervisors:**	
WELL:	1625 FEDERAL COM # 321	MIKE HOLLAND	
LOCATION:	EDDY COUNTY, NM	TRACY BUROW	
JOB NUMBER:	MDR-4255		
COMMENTS			
TIE IN TO SCIENTIFIC GYRO		**MAG DEC.(-/+)**	**8.99**
		GRID CORR.(-/+)	**0.02**
		TOTAL CORR.(-/+)	**9.01**

DATE: 11/11/04 TIME: 11:05 AM TRUE TO GRID

TARGET DIP	-1.00	ANGLE	89.00	LINE	4904.6	DIRECTION	90.37	TARGET TRACKING TO CENTER	

TEMP	SUR #	MD	INC	TRUE AZM	TVD	SECT	N-S	E-W	DLS/ 100	ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)
	64	6677	88.3	91.1	4959.3	1946.1	-21.4	1946.0	6.2	-20.7	8.8
	65	6708	86.0	91.6	4960.8	1977.0	-22.1	1976.9	7.6	-21.7	9.4
	66	6740	84.9	92.1	4963.4	2008.9	-23.2	2008.8	3.8	-23.7	10.2
	67	6772	85.2	92.0	4966.1	2040.8	-24.3	2040.7	1.0	-25.9	11.1
	68	6804	87.2	92.0	4968.3	2072.7	-25.4	2072.6	6.3	-27.5	12.0
	69	6836	88.8	92.1	4969.4	2104.7	-26.6	2104.6	5.0	-28.0	13.0
	70	6868	89.6	91.8	4969.8	2136.7	-27.7	2136.5	2.7	-27.9	13.9
	71	6900	88.3	92.7	4970.4	2168.6	-28.9	2168.5	4.9	-27.9	14.9
	72	6932	86.8	93.7	4971.8	2200.6	-30.7	2200.4	5.6	-28.7	16.5
	73	6964	87.0	94.2	4973.5	2232.5	-32.9	2232.3	1.7	-29.9	18.5
	74	6996	88.6	94.6	4974.7	2264.4	-35.4	2264.2	5.2	-30.6	20.7
	75	7028	89.8	95.0	4975.2	2296.3	-38.0	2296.1	4.0	-30.5	23.2
	76	7060	87.3	95.7	4976.0	2328.1	-41.0	2327.9	8.1	-30.7	26.0
	77	7092	86.8	95.7	4977.6	2359.9	-44.2	2359.7	1.6	-31.8	29.0
	78	7124	86.4	95.3	4979.5	2391.8	-47.3	2391.5	1.8	-33.2	31.8
	79	7156	87.7	95.9	4981.2	2423.6	-50.4	2423.3	4.5	-34.3	34.7
	80	7188	89.1	94.9	4982.1	2455.4	-53.4	2455.2	5.4	-34.6	37.5
	81	7220	90.4	94.9	4982.2	2487.3	-56.1	2487.0	4.1	-34.2	40.1
	82	7252	90.6	95.1	4981.9	2519.2	-58.9	2518.9	0.9	-33.3	42.6
	83	7284	87.7	95.3	4982.4	2551.1	-61.8	2550.8	9.1	-33.3	45.3
	84	7316	86.3	95.6	4984.1	2583.0	-64.8	2582.6	4.5	-34.4	48.2
	85	7348	86.3	95.4	4986.1	2614.8	-67.9	2614.4	0.6	-35.9	51.0
	86	7380	87.2	94.5	4988.0	2646.6	-70.7	2646.2	4.0	-37.1	53.6
	87	7412	88.0	94.1	4989.3	2678.5	-73.1	2678.1	2.8	-37.9	55.8
	88	7444	87.7	92.7	4990.5	2710.4	-74.9	2710.0	4.5	-38.6	57.4
	89	7476	89.1	92.7	4991.4	2742.4	-76.5	2742.0	4.4	-38.9	58.7
	90	7508	88.1	92.2	4992.2	2774.4	-77.8	2773.9	3.5	-39.1	59.9
	91	7541	87.8	92.1	4993.4	2807.3	-79.1	2806.9	1.0	-39.7	60.9
	92	7573	87.8	92.2	4994.6	2839.3	-80.3	2838.8	0.3	-40.4	61.9
	93	7605	88.4	92.0	4995.6	2871.3	-81.4	2870.8	2.0	-40.9	62.9
	94	7637	87.7	92.2	4996.7	2903.2	-82.6	2902.7	2.3	-41.4	63.9
	95	7668	88.6	92.9	4997.7	2934.2	-84.0	2933.7	3.7	-41.9	65.0

SURVEY CALCULATION PROGRAM

MINIMUM CURVATURE CALCULATIONS(SPE-3362) v1.00.02

OPERATOR:	PERENCO	**Supervisors:**	
WELL:	1625 FEDERAL COM # 321	MIKE HOLLAND	
LOCATION:	EDDY COUNTY, NM	TRACY BUROW	
JOB NUMBER:	MDR-4255		
COMMENTS			
TIE IN TO SCIENTIFIC GYRO		**MAG DEC.(-/+)**	**8.99**
		GRID CORR.(-/+)	**0.02**
		TOTAL CORR.(-/+)	**9.01**
DATE: 11/11/04	TIME: 11:05 AM	TRUE TO GRID	

TARGET DIP	-1.00	ANGLE	89.00	LINE	4904.6	DIRECTION	90.37

TEMP	SUR #	MD	INC	TRUE AZM	TVD	SECT	N-S	E-W	DLS/ 100	TARGET TRACKING TO CENTER ABOVE(+) BELOW(-)	RIGHT(+) LEFT(-)
	96	7700	90.2	93.7	4998.1	2966.1	-85.8	2965.6	5.6	-41.7	66.7
	97	7732	88.8	92.9	4998.4	2998.1	-87.7	2997.6	5.0	-41.4	68.3
	98	7763	85.9	92.5	4999.8	3029.0	-89.1	3028.5	9.4	-42.3	69.6
	99	7796	86.2	92.2	5002.1	3061.9	-90.5	3061.4	1.3	-44.0	70.7
	100	7828	84.8	91.7	5004.6	3093.8	-91.6	3093.3	4.6	-45.9	71.6
	101	7859	85.1	90.9	5007.3	3124.7	-92.3	3124.2	2.7	-48.1	72.1
	102	7891	85.1	88.6	5010.0	3156.6	-92.1	3156.0	7.2	-50.3	71.7
	103	7923	85.4	87.8	5012.7	3188.4	-91.1	3187.9	2.7	-52.4	70.5
	104	7955	87.0	85.3	5014.8	3220.3	-89.2	3219.8	9.3	-54.0	68.4
	105	7987	87.4	81.6	5016.4	3252.0	-85.6	3251.5	11.6	-55.0	64.6
	106	8019	87.7	80.6	5017.7	3283.6	-80.6	3283.1	3.3	-55.8	59.4
	107	8051	88.5	81.0	5018.8	3315.1	-75.5	3314.7	2.8	-56.3	54.1
	108	8082	92.0	80.1	5018.7	3345.6	-70.4	3345.3	11.7	-55.6	48.8
	109	8114	92.4	79.2	5017.4	3377.1	-64.7	3376.7	3.1	-53.9	42.9
	110	8146	92.3	78.5	5016.1	3408.4	-58.5	3408.1	2.2	-52.0	36.5
	111	8178	92.4	78.3	5014.8	3439.7	-52.0	3439.4	0.7	-50.1	29.8
	112	8210	92.7	77.8	5013.4	3470.9	-45.4	3470.7	1.8	-48.2	23.0
	113	8242	90.7	77.0	5012.4	3502.1	-38.4	3501.9	6.7	-46.7	15.8
	BIT	8285	90.7	77.0	5011.9	3543.9	-28.8	3543.8	0.0	-45.4	5.9

Submit in duplicate to appropriate district office.
See Rule 401 & Rule 1122

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

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DEC 20 2004
OCD-ARTESIA

Form C-122
Revised October, 1999

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator	PERENCO				Lease or Unit Name	1625 FED. COM.			
Type Test: ☑ Initial ☐ Annual ☐ Special					Test Date: 12/5/04	Well No.: 321			
Completion Date	Total Depth		Plug Back TD		Elevation: 3606 GL	Unit Ltr - Sec - TWP - Rge: D 26 16 25			
Csg. Size: 7"	Wt.: 26#	d	Set At	Perforations: From: To:		County: EDDY			
Tbg. Size: 2 3/8	Wt.: 4.7	d: 1.995	Set At: 4903	Perforations: From: To:		Pool: Cottonwood Creek ~~WILD CAT~~ (ABO) GAS			
Type Well-Single-Bradenhead-G.G. or G.O. Multiple: SINGLE				Packer Set At: 4203		Formation: ABO			
Producing Thru: TBG	Reservoir Temp.°F: 123 @ 4903		Mean Annual Temp. °F: 60	Baro. Press.-P_a: 13.2		Connection			
L: 8200	H: 4553	Gg: 0.663	%CO_2: 1.05	%N_2: 0.783	%H_2S: X	Prover: N/A	Meter Run: 3.068		Taps: FLG

	FLOW DATA				TUBING DATA		CASING DATA		
No.	Prover Line Size x Orifice Size	Press p.s.i.g.	Diff. h_w	Temp. °F	Press p.s.i.g.	Temp. °F	Press p.s.i.g.	Temp. °F	Duration of Flow
SI					1704		PKR		48 HRS
1	3 X 1.500	217	41	88	1373		"		1 hr
2	3 X 1.500	247	54.8	89	1018		"		1 hr
3	3 X 1.500	247	56.3	90	764		"		1 hr
4	3 X 1.500	217	51.8	92	563		"		1 hr
5									

RATE OF FLOW CALCULATIONS

No.	COEFFICIENT (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor Ft.	Gravity Factor F_g	Super Compress Factor F pv	Rate of Flow Q. Mcfd
1	11.13	97.15	230.2	0.9741	1.228	1.021	1,321
2	11.13	119.41	260.2	0.9732	1.228	1.023	1,625
3	11.13	121.03	260.2	0.9723	1.228	1.023	1,645
4	11.13	109.2	230.2	0.9706	1.228	1.02	1,478
5							

No.	P_r	Temp. °R	T_r	Z
1	0.34	548	1.45	0.96
2	0.38	549	1.45	0.955
3	0.38	550	1.45	0.955
4	0.34	552	1.46	0.961
5				

Gas Liquid Hydrocarbon Ratio	DRY GAS		Mcf bbl.
A.P. I. Gravity of Liquid Hydrocarbons	DRY		Deg.
Specific Gravity Separator Gas	0.663		XXXXXXX
Specific Gravity Flowing Fluid	XXXXX		N/A
Critical Pressure	* 674 P.S.I.A.	N/A	P.S.I.A.
Critical Temperature	* 377 R.	N/A	R

P_c 1717.2 P_c^2 2948.8

No.	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		1402.4	1966.8	982
2		1065.7	1135.7	1831.1
3		825.6	681.6	2267.2
4		630.1	397	2551.7
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} =$ 3.003 (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n =$ 1.731

AOF = Q 79825 $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n =$ 2.286

Absolute Open Flow	2,286	Mcfd @ 15.025	Angle of Slope Q:	63.5	Slope n: 0.499

Remarks: NO OIL PRODUCED - 1.5 BBLS H20 -- CORR TO 1.059 % CO2

Approved By Division:	Conducted By:	Calculated By:	Checked By:
	Metering & Testing Serv., Inc.	BM	BM

COMPANY : FERRENCO LEASE : 1023 FED. COM. WELL NO. : 321

UNIT : D SECTION : 26 TOWNSHIP : 16

L : 8200 H : 4553 L/H : 2 G/GMIX : 0.663

%CO2 : 1.059 %N2 : 0.783 H2S : DATE :12-05-04

d : 1.995 Fr :0.018231 GH : 3018.6 RANGE : 25

VOL 1 : 1321 PSIA 1 : 1386.2 RESV.TEMP 123.0

VOL 2 : 1625 PSIA 2 : 1031.2

VOL 3 : 1645 PSIA 3 : 777.2 SHUT-IN PR= 1717.2

VOL 4 : 1478 PSIA 4 : 576.2

PCR : 674

TCR : 377

LINE	RATE 1		RATE 2		RATE 3		RATE 4	
	`1ST	`2ND	`1ST	``2ND	`1ST	`2ND	`1ST	`2ND
1 QM	1.321	1.321	1.625	1.625	1.645	1.645	1.478	1.478
2 TW	534	534	534	534	534	534	534	534
3 Ts	583.0	583.0	583.0	583.0	583.0	583.0	583.0	583.0
4 T	558.5	558.5	558.5	558.5	558.5	558.5	558.5	558.5
PR (est)	2.06		1.53		1.15		0.85	
5 Z(est)	0.788	0.778	0.828	0.817	0.862	0.851	0.890	0.881
6 TZ	440.0	434.6	462.5	456.5	481.3	475.5	497.1	491.9
7 GH/TZ	6.860	6.946	6.527	6.613	6.272	6.349	6.072	6.137
8 eS	1.293	1.298	1.277	1.281	1.265	1.269	1.256	1.259
9 1-e-S	0.227	0.229	0.217	0.220	0.210	0.212	0.204	0.206
10 Pt	1386.2	1386.2	1031.2	1031.2	777.2	777.2	576.2	576.2
11 Pt2 /1000	1921.6	1921.6	1063.4	1063.4	604.0	604.0	332.0	332.0
12 Fr	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.018231	0.0182311
13 Fc=FrTZ	8.022	7.923	8.431	8.322	8.774	8.668	9.063	8.968
14 FcQm	10.60	10.47	13.70	13.52	14.43	14.26	13.40	13.25
15 L/H(FcQm)	202.3	197.3	338.1	329.4	375.2	366.2	323.2	316.4
16 Fw	45.87879	45.24004	73.40247	72.34296	78.63523	77.58016	65.80917	65.041664
17 Pw2	1967.4	1966.8	1136.8	1135.7	682.7	681.6	397.8	397.0
18 Ps2	2544.6	2552.0	1452.0	1455.3	863.7	864.9	499.5	499.8
19 Ps	1595.2	1597.5	1205.0	1206.4	929.4	930.0	706.8	707.0
20 P	1490.7	1491.9	1118.1	1118.8	853.3	853.6	641.5	641.6
21 Pr	2.21	2.21	1.66	1.66	1.27	1.27	0.95	0.95
22 Tr	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48
23 Z	0.778	0.778	0.817	0.817	0.851	0.851	0.881	0.881

Pc = 1717.2 Pc2 = 2948.8

Pt2 = 1921.6 Pw = 1402.4

1063.4 1065.7

604.0 825.6

332.0 630.1

Pc2-Pw2= 982.0 Pw2 = 1966.8

1813.1 1135.7

2267.2 681.6

2551.7 397.0

n = 0.499

Pc2/(Pc2-Pw2) = 3.003

1.626

1.301

1.156

[Pc2/Pc2-Pw2]n = 1.731

1.275

1.140

1.075

AOF= Q 2.286

2.071

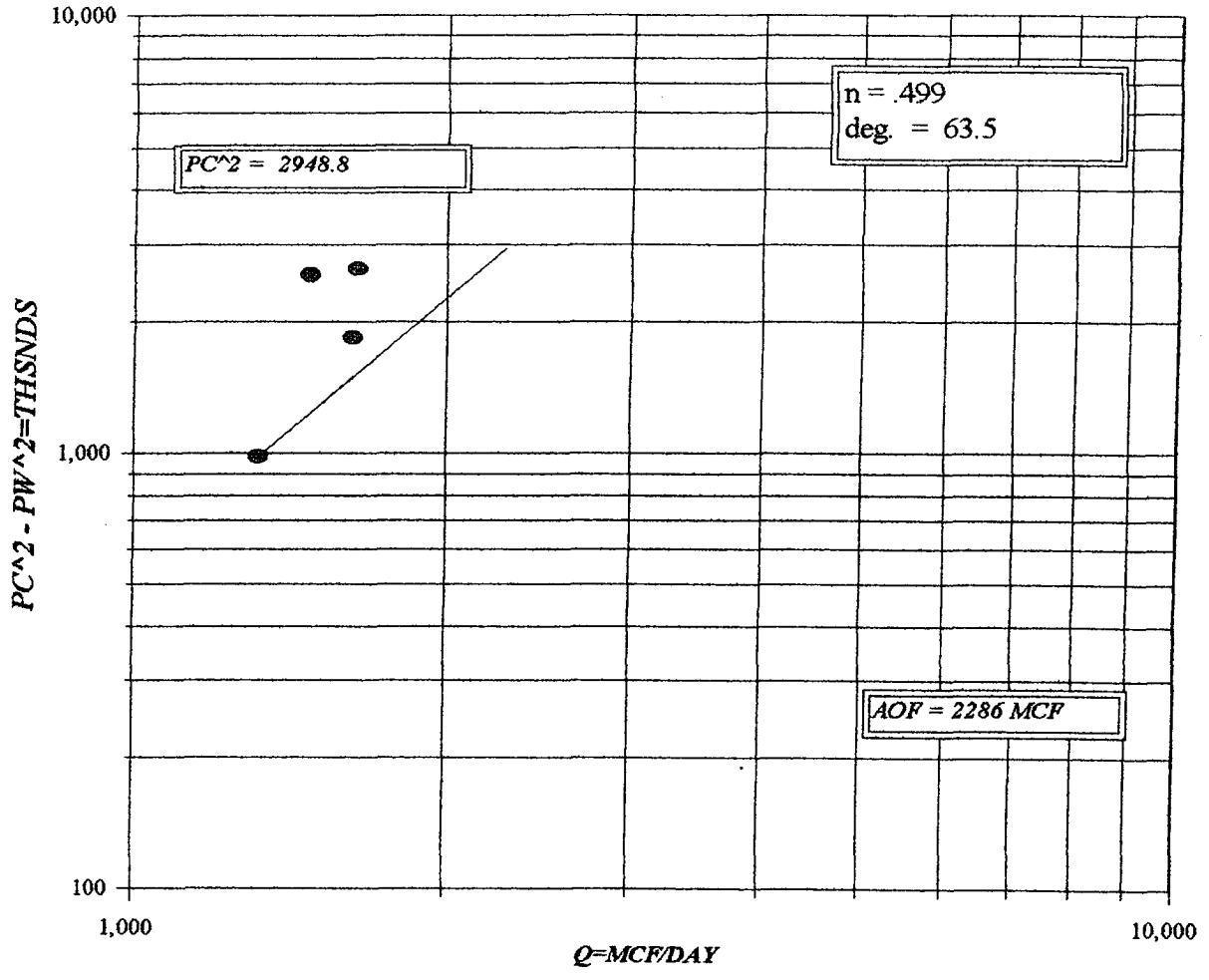
1.876

1.589

FORM C122-D

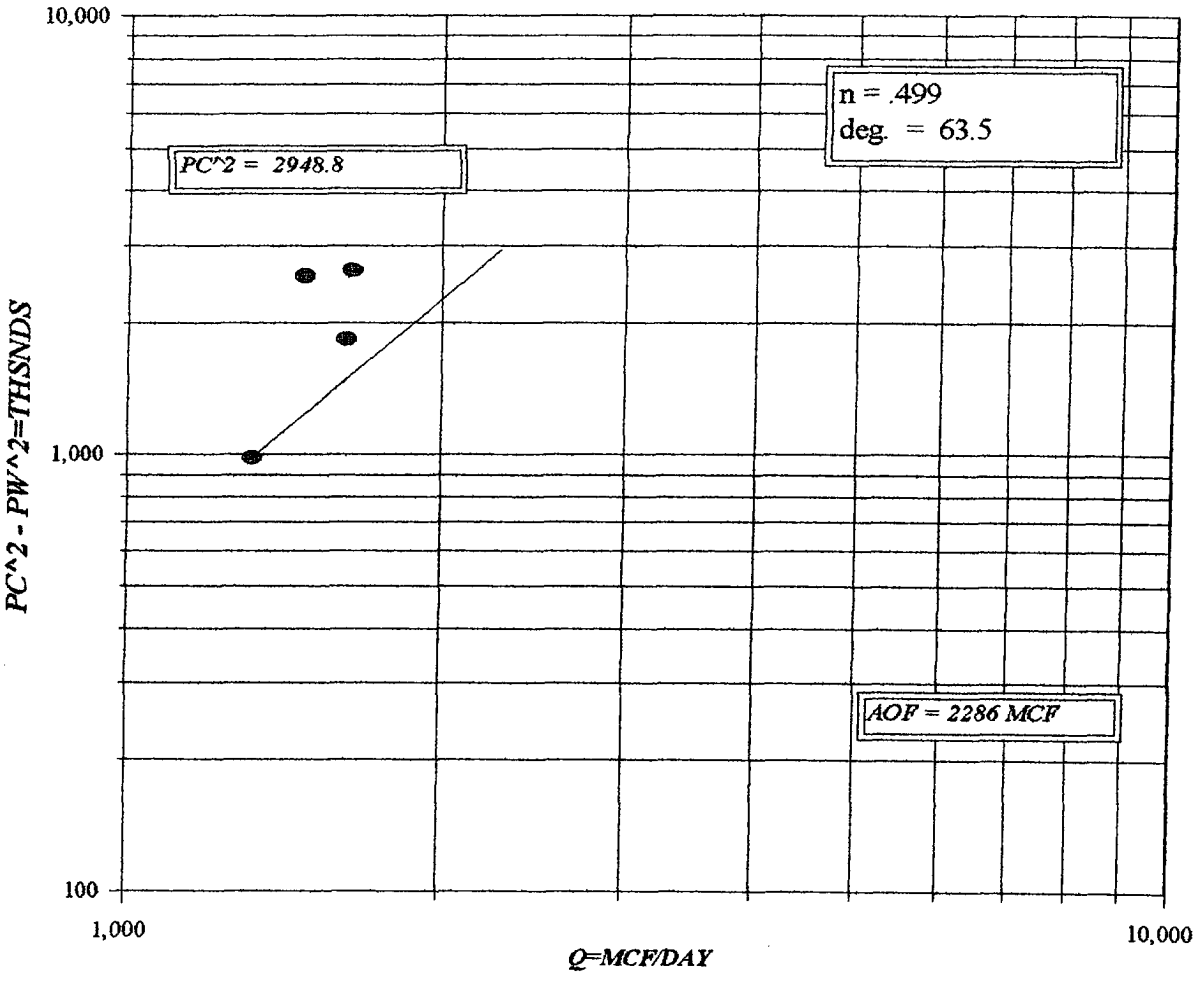
PERENCO

1625 FED. COM. # 321



PERENCO

1625 FED. COM. # 321



Laboratory Services, Inc.
2609 West Marland
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Metering & Testing Services, Inc.
Attention: Tom Duncan
2807 W. County Road
Hobbs, New Mexico

SAMPLE:
IDENTIFICATION 1625 Fed Com 321
COMPANY: Perenco
LEASE:
PLANT:

SAMPLE DATA:

DATE SAMPLED	12/3/04
ANALYSIS DATE:	12/3/04
PRESSURE – PSIG	380
SAMPLE TEMP. °F	86
ATMOS. TEMP. °F	54

GAS (XX) LIQUID ( )
SAMPLED BY: Shannon Johnson
ANALYSIS BY: Vickie Biggs

REMARKS:

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM
Hydrogen Sulfide	(H2S)		
Nitrogen	(N2)	0.783	
Carbon Dioxide	(CO2)	1.059	
Methane	(C1)	87.784	
Ethane	(C2)	5.811	1.550
Propane	(C3)	2.220	0.610
I-Butane	(IC4)	0.320	0.104
N-Butane	(NC4)	0.615	0.193
I-Pentane	(IC5)	0.202	0.074
N-Pentane	(NC5)	0.189	0.068
Hexane Plus	(C6+)	1.017	0.441
		100.000	3.040

BTU/CU.FT. – DRY	1140
AT 14.650 DRY	1136
AT 14.650 WET	1116
AT 14.73 DRY	1142
AT 14.73 WET	1123

MOLECULAR WT. 19.2585

SPECIFIC GRAVITY –	
CALCULATED	0.663
MEASURED	