

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BEFORE THE
OIL CONSERVATION DIVISION
Case No. 11165 Exhibit No. 1
Submitted By:
Naumann Oil and Gas Inc.
Hearing Date: January 19, 1995

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

Case No. 7304
Order No. R-6792

APPLICATION OF ARCO OIL AND GAS
COMPANY FOR DIRECTIONAL DRILLING
AND AN UNORTHODOX GAS WELL LOCATION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on July 15, 1981, and on August 12, 1981, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 2nd day of October, 1981, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, ARCO Oil and Gas Company, seeks authority to directionally drill its Custer Wells Well No. 1, the surface location of which is 1810 feet from the North line and 2164 feet from the West line of Section 6, Township 25 South, Range 37 East, Custer Field, in such a manner as to penetrate the Devonian formation at an unorthodox location within 100 feet of a point approximately 1800 feet from the North line and 1480 feet from the West line of said Section 6, and to bottom said well at a standard location in the Ellenburger formation within 100 feet of a point approximately 1650 feet from the North line and 760 feet from the West line of said Section 6, but in no event closer than 660 feet to said line. The N/2 of said Section 6 would be dedicated to each of said formations.

(3) That the offset operator to the west, Conoco, Inc., appeared at the hearing and objected to the unorthodox Devonian location on grounds that it would cause drainage of hydrocarbons from under the E/2 of Section 1, Township 25 South, Range 36 East, NMPM, being the spacing and proration unit dedicated to Conoco's wells Federal B-1 Well No. 5, located 1650 feet from the North line and 660 feet from the East line of said Section 1, and would therefore impair Conoco's correlative rights.

(4) That the Custer-Devonian Gas Pool appears to be of very limited lateral extent, being bounded on the north and east by a northwest/southeast trending fault and on the south and west by a productive limit based on reservoir rock quality and structure.

(5) That from the best information available, it would appear that because of the size and shape of the reservoir, none of the wells presently completed in said reservoir, nor the subject well, has dedicated thereto a fully productive 320-acre tract.

(6) That the Division, in determining the appropriate penalty for wells drilled at unorthodox locations or on tracts which are shown to be only partially productive, most often relies on a straight acreage determination of drainage impingement onto offsetting tracts or of productive areas.

(7) That inasmuch as each well in the Custer-Devonian Gas Pool appears to have less than 320 productive acres dedicated thereto, and no well's production has been penalized heretofore, determination of a penalty factor based on straight acreage in the instant case would be arbitrary and unjust and would not protect correlative rights.

(8) That Section 70-2-33 H, NMSA, 1978 Compilation, defines correlative rights as being "...the opportunity afforded, so far as it is practicable to do so, to the owner of each property in a pool to produce without waste his just and equitable share of the oil or gas, or both, in the pool...."

(9) That the protection of correlative rights in this particular case can best be served by not utilizing the usual methods of straight acreage penalty determination, but by utilizing a formula involving net acre-feet of pay.

(10) That the only offsetting well to applicant's Custer Wells Well No. 1 which would be adversely affected by said well is the Conoco Wells Federal B-1 Well No. 5, located as described in Finding No. (3) above.

(11) That according to the best available evidence at the hearing, said Conoco Wells Federal B-1 Well No. 5 has some 16,514

acre-feet of Devonian pay within its dedicated spacing and proration unit (the E/2 of Section 1, Township 25 South, Range 36 East, NMPM) which it can presumably drain.

(12) That according to the best available evidence at the hearing, the proposed well, ARCO's Custer Wells Well No. 1, would have some 15,387 acre feet of Devonian pay within its dedicated spacing and proration unit (the N/2 of Section 6, Township 25 South, Range 37 East, NMPM) which it would presumably drain.

(13) That inasmuch as said ARCO Custer Wells Well No. 1 would have less acre-feet of Devonian pay available to the well-bore than does the Conoco Wells Federal B-1 Well No. 5, said ARCO Custer Wells Well No. 1 should be penalized to offset any advantage it might gain over the Conoco well by reason of its unorthodox location.

(14) That such penalty should be based on the ratio of productive acre-feet dedicated to one well to productive acre feet dedicated to the other well and calculated as follows:

Production limitation factor =

$$\frac{\text{net acre-feet of Devonian pay dedicated to ARCO well}}{\text{net acre-feet of Devonian pay dedicated to Conoco well}} =$$

$$\frac{15,387}{16,514} = .93$$

(15) That in the absence of any special rules and regulations for the prorationing of production from the Devonian formation, the aforesaid production limitation factor should be applied against said well's ability to produce into the pipeline as determined by periodic well tests.

(16) That the minimum calculated allowable for the subject well should be reasonable, and 1,000,000 cubic feet of gas per day is a reasonable figure for such minimum allowable.

(17) That the applicant should be required to determine the subsurface location of the kick-off point in the subject well prior to directional drilling, and to determine the subsurface location of the Devonian pay and the Ellenburger pay by means of a continuous multi-shot directional survey conducted subsequent to said directional drilling, if said well is to be completed as a producing well.

(18) That approval of the subject application subject to the above provisions and limitations will afford the applicant the opportunity to produce its just and equitable share of the gas in the subject reservoir or other productive zones found, will

prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, ARCO Oil and Gas Company, is hereby authorized to directionally drill its Custer Wells Well No. 1, the surface location of which is 1810 feet from the North line and 2164 feet from the West line of Section 6, Township 25 South, Range 37 East, NMPM, Custer Field, Lea County, New Mexico, in such a manner as to penetrate the Devonian formation at an unorthodox location within 100 feet of a point 1800 feet from the North line and 1480 feet from the west line of said Section 6, and to bottom said well in the Ellenburger formation within 100 feet of a point 1650 feet from the North line and 760 feet from the West line of said Section 6, and in no event closer than 660 feet to said west line of said Section 6.

(2) That the N/2 of the aforesaid Section 6 shall be dedicated to said well in both the Custer-Devonian Gas Pool and the Custer-Ellenburger Gas Pool.

(3) That prior to directional drilling of said well, the operator shall determine the subsurface location of the kick-off point.

(4) That subsequent to the above-described directional drilling, should said well be a producer, a continuous multi-shot directional survey shall be made of the wellbore of the well from total depth to the kick-off point with shot points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe Office of the Division, P. O. Box 2088, Santa Fe, New Mexico, and that the operator shall notify the Division's Hobbs District Office of the date and time said survey is to be commenced.

(5) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depth.

IT IS FURTHER ORDERED:

(1) That the ARCO Custer Wells Well No. 1 is hereby assigned a Production Limitation Factor of 0.93 in the Devonian formation.

(2) That in the absence of any Special Rules and Regulations prorating gas production in said Devonian formation, the special rules hereinafter promulgated shall apply.

(3) That the following Special Rules and Regulations for a non-prorated gas well at an unorthodox location shall apply to the subject well:

SPECIAL RULES AND REGULATIONS
FOR THE
APPLICATION OF A "PRODUCTION LIMITATION FACTOR"
TO A NON-PRORATED GAS WELL

APPLICATION OF RULES

RULE 1. These rules shall apply to the Devonian formation completion of the ARCO Oil and Gas Company Custer Wells Well No. 1, the surface location of which is 1810 feet from the North line and 2164 feet from the West line of Section 6, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico, which well's Production Limitation Factor of 0.93 shall be applied to the well's deliverability (as determined by the hereinafter set forth procedure) to determine its maximum allowable rate of production.

RULE 2. The allowable period for the subject well shall be six months.

RULE 3. The year shall be divided into two allowable periods commencing at 7:00 o'clock a.m. on January 1 and July 1.

DETERMINATION OF DELIVERY CAPACITY

RULE 4. Immediately upon connection of the well the operator shall determine the open flow capacity of the well in accordance with the Division "Manual for Back-Pressure Testing of Natural Gas Wells" then current, and the well's initial deliverability shall be calculated against average pipeline pressure.

RULE 5. The well's "subsequent deliverability" shall be determined twice a year, and shall be equal to its highest single day's production during the months of April and May or October and November, whichever is applicable. Said subsequent deliverability, certified by the pipeline, shall be submitted to the appropriate District Office of the Division not later than June 15 and December 15 of each year.

RULE 6. The Division Director may authorize special deliverability tests to be conducted upon a showing that the well

has been worked over or that the subsequent deliverability, determined under Rule 5 above is erroneous. Any such special test shall be conducted in accordance with Rule 4 above.

RULE 7. The operator shall notify the appropriate district office of the Division and all offset operators of the date and time of initial or special deliverability tests in order that the Division or any such operator may at their option witness such tests.

CALCULATION AND ASSIGNMENT OF ALLOWABLES

RULE 8. The well's allowable shall commence upon the date of connection to a pipeline and when the operator has complied with all appropriate filing requirements of the Rules and Regulations and any special rules and regulations.

RULE 9. The well's allowable during its first allowable period shall be determined by multiplying its initial deliverability by its production limitation factor.

RULE 10. The well's allowable during all ensuing allowable periods shall be determined by multiplying its latest subsequent deliverability, as determined under provisions of Rule 5, by its production limitation factor. If the well shall not have been producing for at least 60 days prior to the end of its first allowable period, the allowable for the second allowable period shall be determined in accordance with Rule 9.

RULE 11. Revision of allowable based upon special well tests shall become effective upon the date of such test provided the results of such test are filed with the Division's district office within 30 days after the date of the test; otherwise the date shall be the date the test report is received in said office.

RULE 12. Revised allowables based on special well tests shall remain effective until the beginning of the next allowable period.

RULE 13. In no event shall the well receive an allowable of less than one million cubic feet of gas per day.

BALANCING OF PRODUCTION

RULE 14. January 1 and July 1 of each year shall be known as the balancing dates.

RULE 15. If the well has an underproduced status at the end of a six-month allowable period, it shall be allowed to carry such underproduction forward into the next period and may produce

such underproduction in addition to its regularly assigned allowable. Any underproduction carried forward into any allowable period which remains unproduced at the end of the period shall be cancelled.

RULE 16. Production during any one month of an allowable period in excess of the monthly allowable assigned to the well shall be applied against the underproduction carried into the period in determining the amount of allowable, if any, to be cancelled.

RULE 17. If the well has an overproduced status at the end of a six-month allowable period, it shall be shut in until such overproduction is made up.

RULE 18. If, during any month, it is discovered that the well is overproduced in an amount exceeding three times its average monthly allowable, it shall be shut in during that month and during each succeeding month until it is overproduced in an amount three times or less its monthly allowable, as determined hereinabove.

RULE 19. The Director of the Division shall have authority to permit the well, if it is subject to shut-in pursuant to Rules 17 and 18 above, to produce up to 500 MCF of gas per month upon proper showing to the Director that complete shut-in would cause undue hardship, provided however, such permission shall be rescinded for the well if it has produced in excess of the monthly rate authorized by the Director.

RULE 20. The Division may allow overproduction to be made up at a lesser rate than permitted under Rules 17, 18, or 19 above upon a showing at public hearing that the same is necessary to avoid material damage to the well.

GENERAL

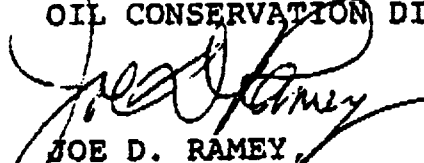
RULE 21. Failure to comply with the provisions of this order or the rules contained herein or the Rules and Regulations of the Division shall result in the cancellation of allowable assigned to the well. No further allowable shall be assigned to the well until all rules and regulations are complied with. The Division shall notify the operator of the well and the purchaser, in writing, of the date of allowable cancellation and the reason therefor.

(6) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

Page 8
Case No. 7304
Order No. R-6792

DONE at Santa Fe, New Mexico, on the day and year
hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



JOE D. RAMEY
Director

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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7481
Order No. R-6792-A

APPLICATION OF ARCO OIL & GAS COMPANY
FOR AMENDMENT OF ORDER NO. R-6792,
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on February 17, 1982, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 5th day of March, 1982, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Arco Oil and Gas Company, seeks the amendment of Division Order No. R-6792, which authorized the directional drilling of applicant's Custer Wells Well No. 1 to an unorthodox location in the Devonian and Ellenburger formations and imposed a production penalty in the Devonian.

(3) That said Custer Wells Well No. 1 encountered a new source of gas supply in the Devonian formation in a fault block lying to the East of the Custer-Devonian Gas Pool, and separate therefrom, at a measured depth of from 9435 feet to 9482 feet in the side tracked hole.

(4) That by stipulation the applicant and the offset operator have now agreed that the subject well is not affecting the offsetting property and applicant herein seeks removal of the penalty imposed in said Order No. R-6792 for so long as the well produces only from the present perforated interval in the Devonian formation as set out in Finding No. (3) above.

Case No. 7481
Order No. R-6792-A

(5) That suspension of the penalty provisions of said Order No. R-6792 for so long as the subject well is completed in that section of the Devonian formation described in Finding No. (3) above will permit the applicant to produce its share of the hydrocarbons from the Devonian Pool in which it is completed and will not cause waste nor result in violation of correlative rights.

(6) That to assure continued protection of correlative rights, the applicant should be required to give notice to offset operators, by certified mail, and obtain an order from the Division prior to producing said Custer Wells Well No. 1 from any Devonian interval other than that described in Finding No. (3) above.

IT IS THEREFORE ORDERED:

(1) That the Production Limitation Factor in the Devonian formation and the "Special Rules and Regulations For The Application Of A 'Production Limitation Factor' To A Non-Prorated Gas Well" contained in "Further Ordered" Paragraphs (1), (2), and (3) of Division Order No. R-6792 are hereby suspended.

PROVIDED HOWEVER: that such suspension shall apply only so long as the Arco Oil and Gas Company Custer Wells Well No. 1 located in Unit F of Section 6, Township 25 South, Range 37 East, NMPM, Lea County, New Mexico, remains completed in the Devonian interval from 9435 feet to 9482 feet in the side tracked hole.

PROVIDED FURTHER: that prior to recompletion of said Custer Wells Well No. 1 in any other Devonian interval the applicant shall give notice to offset operators, by certified mail, and shall obtain an order from the Division authorizing such recompletion.

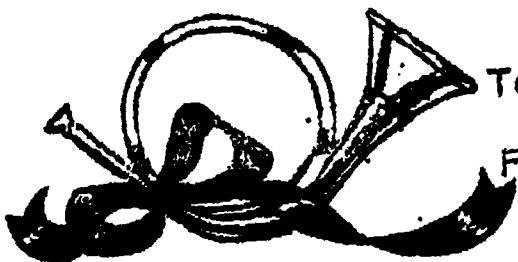
(2) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY,
Director

S E A L



To: Tom Kellehin

From: Ruth
Hobbs

HOLIDAY GREETINGS

Oil Conservation Division
Hobbs, New Mexico

(505) 393-6161

11 pages
Includes COVER

- | | |
|---|---|
| <input type="checkbox"/> For Your Files | <input type="checkbox"/> Prepare a Reply for My Signature |
| <input type="checkbox"/> For Your Review and Return | <input type="checkbox"/> For Your Information |
| <input type="checkbox"/> For Your Handling | <input type="checkbox"/> For Your Approval |
| <input checked="" type="checkbox"/> As Per Your Request | <input type="checkbox"/> For Your Signature |
| <input type="checkbox"/> Please Advise | <input type="checkbox"/> For Your Attention |

THIS IS FAX'D TO YOU

PER DAVID FRYE

LOBRO CORP -

12-15-94

RS

DIRECTIONAL DRILLING REPORT

ALL CALCULATIONS ARE PERFORMED BY DIGITAL ELECTRONIC COMPUTER
USING THE RADIUS OF CURVATURE METHOD

DATE OCTOBER 19, 1981

COMPANY ARCO OIL & GAS COMPANY

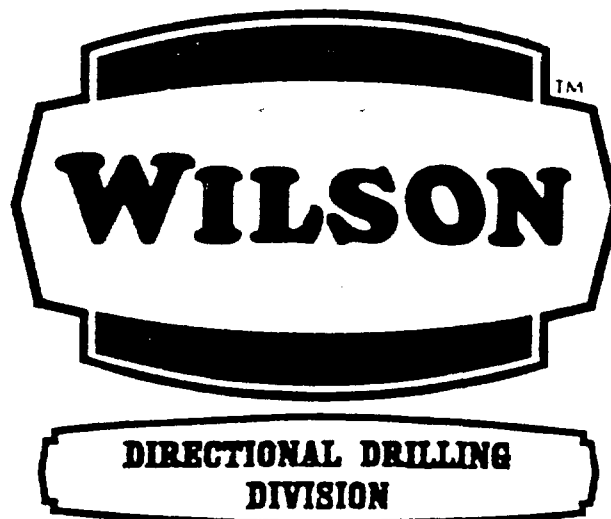
WELL WELL NO. 1

LOCATION CUSTER WELLS

LEA COUNTY, NEW MEXICO

MAGNETIC DECLINATION TRUE 9° 50' EAST

BEFORE THE
OIL CONSERVATION DIVISION 2
Case No. 11165 Exhibit No.
Submitted By:
Naumann Oil and Gas Inc.
Hearing Date: January 19, 1995



JOB NO. 36005-D

ARCO OIL & GAS COMPANY
WELL NO. 1
CUSTER WELLS
LEA COUNTY, NEW MEXICO

WILSON DOWNHOLE DIRECTIONAL DRILLING
TRUE 9 DEGREES 50 MINUTES EAST
10-19-81 JOB NO. 36005-D

RECORD OF SURVEY

ALL CALCULATIONS PERFORMED BY DIGITAL ELECTRONIC COMPUTER

RADIUS OF CURVATURE METHOD

MEAS. DEPTH	DRIFT ANGLE D M	TRUE VERTICAL DEPTH	VERTICAL SECTION	DRIFT DIREC DEG	PAGE 1	TOTAL COORDINATES	C L O S U R E S			DOG LEG SEVERITY DEG/100FT
							DISTANCE	ANGLE	D M S	
6400	0 15	6399.60	-22.91	S 57 E	12.53 S	22.04 E	25.35 S	60 22 53 E		0.000
6466	0 30	6465.60	-22.97	N 10 W	12.33 S	22.12 E	25.32 S	60 51 51 E		1.109
COORDINATES TO 6400' TAKEN FROM SPERRY SUN SURVEY										
6542	4 15	6541.53	-20.11	S 85 W	12.25 S	19.25 E	22.82 S	57 32 15 E		6.495
6602	6 0	6601.29	-14.79	S 88 W	12.55 S	13.90 E	18.73 S	47 55 24 E		2.951
6651	7 0	6649.97	-9.27	N 89 W	12.59 S	8.36 E	15.11 S	33 34 24 E		2.155
6682	7 0	6680.74	-5.50	S 88 W	12.62 S	4.58 E	13.43 S	19 56 4 E		1.179
6712	7 15	6710.51	-1.80	S 89 W	12.72 S	0.86 E	12.75 S	3 51 11 E		0.930
6771	8 0	6768.98	5.99	S 89 W	12.86 S	6.98 W	14.62 S	28 28 42 W		1.271
6865	9 15	6861.92	19.94	S 84 W	13.76 S	21.03 W	25.13 S	56 48 29 W		1.551
6960	10 30	6955.51	35.84	S 80 W	16.06 S	37.15 W	40.47 S	66 37 24 W		1.501
7051	11 30	7044.84	52.67	S 80 W	19.08 S	54.25 W	57.50 S	70 37 46 W		1.099
7143	11 30	7134.99	70.36	S 78 W	22.58 S	72.25 W	75.69 S	72 39 3 W		0.433
7239	12 15	7228.94	89.22	S 76 W	27.03 S	91.49 W	95.40 S	73 32 38 W		0.891
7320	12 45	7308.02	105.82	S 75 W	31.42 S	108.47 W	112.92 S	73 50 46 W		0.673
7379	13 0	7365.53	118.26	S 76 W	34.71 S	121.19 W	126.06 S	74 1 9 W		0.568

MEAS. DEPTH		TRUE DEPTH		VERTICAL SECTION		DRIFT DIREC		PAGE 2 TOTAL		COORDINATES		C L O S U R E S		DOG LEG SEVERITY	
ANGLE	D M	ANGLE	D M	SECTION	DIREC	DIREC	DEG					DISTANCE	ANGLE	D M	SEVERITY
															DEG/100FT
7470	13	0	7454.20	137.64	S 75 W	39.84	S	141.01	W	146.53	S 74 13 33	W	0.247		
7547	13	0	7548.71	158.11	S 73 W	45.85	S	161.98	W	168.35	S 74 11 48	W	0.464		
7658	12	45	7637.43	177.12	S 75 W	51.44	S	181.47	W	188.62	S 74 10 28	W	0.561		
7720	12	45	7697.90	190.04	S 75 W	54.98	S	194.69	W	202.30	S 74 13 49	W	0.000		
7786	11	45	7762.39	203.18	S 73 W	58.83	S	208.15	W	216.30	S 74 13 5	W	1.646		
7816	10	30	7791.83	208.55	S 72 W	60.57	S	213.67	W	222.09	S 74 10 26	W	4.216		
7894	8	0	7868.82	220.52	S 87 W	63.05	S	225.85	W	234.49	S 74 24 9	W	4.447		
7957	10	0	7931.05	230.31	N 80 W	62.33	S	235.62	W	243.72	S 75 10 59	W	4.523		
8015	11	30	7988.03	240.89	N 70 W	59.48	S	246.01	W	253.10	S 76 24 33	W	4.124		
8045	12	45	8017.36	246.86	N 65 W	57.06	S	251.82	W	258.21	S 77 14 5	W	5.441		
8134	14	15	8103.90	266.49	N 68 W	48.80	S	270.88	W	275.24	S 79 47 17	W	1.860		
8221	14	30	8188.18	287.12	N 69 W	40.89	S	290.98	W	293.84	S 82 0 7	W	0.405		
8328	15	0	8291.65	313.21	N 69 W	31.13	S	316.41	W	317.94	S 84 22 58	W	0.467		
8422	14	30	8382.56	336.07	N 68 W	22.36	S	338.68	W	339.42	S 86 13 26	W	0.597		
8452	14	30	8411.60	343.22	N 68 W	19.54	S	345.64	W	346.20	S 86 45 52	W	0.000		
8544	14	15	8500.72	364.85	N 66 W	10.62	S	366.67	W	366.82	S 88 20 28	W	0.604		
8669	14	30	8621.81	394.15	N 67 W	1.76	N	395.13	W	395.13	N 89 44 45	W	0.282		
8764	14	0	8713.89	416.53	N 71 W	10.15	N	416.94	W	417.06	N 88 36 24	W	1.162		
8887	14	45	8833.04	446.36	N 76 W	18.78	N	446.20	W	446.60	N 87 35 26	W	1.179		
9012	19	0	8952.63	482.22	N 78 W	26.86	N	481.56	W	482.31	N 86 48 28	W	3.432		
9066	20	30	9003.46	500.39	N 86 W	29.35	N	499.60	W	500.46	N 86 38 18	W	5.722		
9110	21	0	9044.61	515.98	N 87 W	30.30	N	515.16	W	516.05	N 86 38 4	W	1.393		
9141	21	30	9073.50	527.21	N 88 W	30.79	N	526.38	W	527.28	N 86 39 11	W	1.992		
9175	21	45	9105.11	539.73	N 88 W	31.23	N	538.90	W	539.81	N 86 41 3	W	0.735		
9266	21	45	9189.63	573.42	N 88 W	32.40	N	572.60	W	573.52	N 86 45 42	W	0.000		
9328	22	0	9247.16	596.50	N 88 W	33.21	N	595.69	W	596.61	N 86 48 34	W	0.403		
9449	22	0	9359.35	641.79	N 88 W	34.79	N	640.99	W	641.93	N 86 53 37	W	0.000		
9481	21	45	9389.05	653.71	N 86 W	35.41	N	652.89	W	653.85	N 86 53 44	W	2.456		
9537	20	45	9441.24	674.01	N 86 W	36.83	N	673.14	W	674.15	N 86 52 7	W	1.786		
9638	19	30	9536.07	708.76	N 85 W	39.55	N	707.78	W	708.89	N 86 48 8	W	1.284		

MEAS. DEPTH	DRIFT ANGLE	TRUE DEPTH	VERTICAL SECTION	DRIFT DIREC	PAGE TOTAL	COORDINATES	C L O S U R E S		DOG LEG SEVERITY
							DISTANCE	ANGLE	
	D	M		DEG			D	M	DEG/100FT
9729	19	0	9621.98	N 85 W	42.16	N 737.67 W	738.87	N 86 43 45	0.549
9822	21	15	9709.30	N 83 W	45.54	N 769.48 W	770.83	N 86 36 49	2.530
9850	22	0	9735.33	N 83 W	46.79	N 779.73 W	781.13	N 86 33 57	2.679
9883	22	30	9765.87	N 83 W	48.32	N 792.13 W	793.60	N 86 30 35	1.515
9914	22	30	9794.51	N 83 W	49.76	N 803.90 W	805.44	N 86 27 29	0.000
9947	22	45	9824.97	N 83 W	51.31	N 816.50 W	818.11	N 86 24 16	0.758
9978	22	45	9853.56	N 83 W	52.77	N 828.40 W	830.08	N 86 21 19	0.000
10065	22	0	9934.01	N 83 W	56.81	N 861.27 W	863.14	N 86 13 36	0.862
10111	20	0	9976.95	N 85 W	58.54	N 877.66 W	879.61	N 86 11 3	4.619
10167	16	30	10030.11	N 85 W	60.07	N 895.12 W	897.14	N 86 9 40	6.250
10202	15	0	10063.79	N 85 W	60.90	N 904.59 W	906.64	N 86 8 56	4.286
10233	14	15	10093.79	N 85 W	61.58	N 912.39 W	914.46	N 86 8 21	2.419
10262	13	45	10121.93	N 85 W	62.19	N 919.37 W	921.48	N 86 7 49	1.724
10295	13	30	10154.00	N 83 W	63.00	N 927.10 W	929.24	N 86 6 45	1.616
10369	12	45	10226.06	N 84 W	64.91	N 943.80 W	946.03	N 86 3 58	1.059
10427	12	0	10282.72	N 84 W	66.21	N 956.16 W	958.45	N 86 2 21	1.293
10458	11	30	10313.07	N 86 W	66.76	N 962.45 W	964.76	N 86 1 56	2.080
10487	11	30	10341.48	N 86 W	67.16	N 968.22 W	970.54	N 86 1 55	0.000
10670	12	30	10520.49	N 82 W	71.19	N 1006.03 W	1008.54	N 85 57 9	0.711
10783	13	15	10630.64	N 84 W	74.25	N 1031.02 W	1033.69	N 85 52 52	0.772
10814	13	0	10660.83	N 86 W	74.86	N 1038.03 W	1040.72	N 85 52 31	1.672
10876	13	0	10721.25	N 83 W	76.20	N 1051.91 W	1054.66	N 85 51 25	1.088
10908	13	45	10752.38	N 84 W	77.04	N 1059.26 W	1062.06	N 85 50 26	2.453
10938	13	15	10781.55	N 86 W	77.65	N 1066.24 W	1069.06	N 85 50 6	2.280
10966	13	15	10808.80	N 84 W	78.21	N 1072.63 W	1075.47	N 85 49 48	1.637
10998	13	0	10839.97	N 84 W	78.97	N 1079.85 W	1082.74	N 85 49 4	0.781
11030	12	45	10871.16	N 84 W	79.71	N 1086.95 W	1089.86	N 85 48 21	0.781
11057	12	30	10897.51	N 84 W	80.33	N 1092.81 W	1095.76	N 85 47 46	0.926
11090	12	15	10929.74	N 86 W	80.95	N 1099.86 W	1102.83	N 85 47 28	1.504
11155	11	30	10993.35	N 86 W	81.88	N 1113.20 W	1116.21	N 85 47 37	1.154

TRUE				PAGE		TOTAL		COORDINATES		C L O S U R E S		DOB LEG		
MEAS.	DRIFT	VERTICAL	VERTICAL	DRIFT	DIREC	DEG				DISTANCE	ANGLE	SEVERITY	DEG/100FT	
DEPTH	ANGLE	DEPTH	SECTION								D M S			
D M														
11187	11	0	11024.74	1122.44	N 87 W		82.26	N	1119.43	W	1122.45	N 85 47 51	W	1.677
11216	10	45	11053.22	1127.92	N 85 W		82.64	N	1124.89	W	1127.92	N 85 47 54	W	1.561
11246	10	15	11082.71	1133.38	N 88 W		82.98	N	1130.34	W	1133.39	N 85 48 6	W	2.469
11277	10	0	11113.23	1138.83	N 84 W		83.36	N	1135.78	W	1138.83	N 85 48 10	W	2.407
11309	10	0	11144.74	1144.38	N 88 W		83.74	N	1141.32	W	1144.39	N 85 48 13	W	2.170
11340	10	0	11175.27	1149.76	N 84 W		84.12	N	1146.68	W	1149.77	N 85 48 16	W	2.240
11370	10	0	11204.82	1154.97	N 85 W		84.62	N	1151.87	W	1154.97	N 85 47 55	W	0.579
11431	9	0	11264.98	1165.03	N 85 W		85.50	N	1161.90	W	1165.04	N 85 47 30	W	1.639
11460	9	0	11293.62	1169.57	N 84 W		85.93	N	1166.41	W	1169.58	N 85 47 12	W	0.539
11525	8	45	11357.84	1179.59	N 87 W		86.72	N	1176.41	W	1179.60	N 85 47 3	W	0.809
11586	9	15	11418.09	1189.14	N 86 W		87.31	N	1185.93	W	1189.14	N 85 47 23	W	0.859
11648	9	30	11479.26	1199.23	N 89 W		87.74	N	1196.02	W	1199.23	N 85 48 16	W	0.885
11712	10	30	11542.29	1210.33	N 87 W		88.14	N	1207.12	W	1210.34	N 85 49 27	W	1.654
11775	11	0	11604.19	1222.07	N 89 W		88.55	N	1218.87	W	1222.08	N 85 50 43	W	0.990
11839	11	30	11666.96	1234.51	S 88 W		88.43	N	1231.35	W	1234.52	N 85 53 33	W	1.203
11900	11	45	11726.71	1246.74	S 89 W		88.11	N	1243.63	W	1246.75	N 85 56 52	W	0.526
11963	11	15	11788.44	1259.26	N 89 W		88.10	N	1256.19	W	1259.28	N 85 59 18	W	1.015
12026	11	30	11850.20	1271.66	N 90 W		88.21	N	1268.62	W	1271.68	N 86 1 21	W	0.505
12057	11	15	11880.59	1277.75	N 90 W		88.21	N	1274.73	W	1277.78	N 86 2 30	W	0.806
12118	10	45	11940.47	1289.38	N 87 W		88.51	N	1286.36	W	1289.40	N 86 3 51	W	1.246
12151	10	30	11972.91	1295.46	N 85 W		88.93	N	1292.43	W	1295.49	N 86 3 50	W	1.350
12214	10	15	12034.88	1306.80	N 84 W		90.02	N	1303.72	W	1306.83	N 86 3 1	W	0.489
12276	9	45	12095.94	1317.56	N 83 W		91.24	N	1314.42	W	1317.58	N 86 1 47	W	0.854
12338	8	45	12157.13	1327.50	N 81 W		92.61	N	1324.29	W	1327.52	N 85 59 59	W	1.694
12402	8	15	12220.43	1336.92	N 80 W		94.17	N	1333.62	W	1336.94	N 85 57 40	W	0.815
12496	7	45	12313.51	1349.82	N 73 W		97.20	N	1346.32	W	1349.83	N 85 52 15	W	1.164
12590	8	30	12406.57	1362.83	N 75 W		100.85	N	1359.09	W	1362.83	N 85 45 23	W	0.853
12621	8	45	12437.22	1367.41	N 77 W		101.97	N	1363.60	W	1367.41	N 85 43 25	W	1.260
BOTTOM HOLE CLOSURE				1367.41	FEET AT N 85 43 25 W									

ARCO OIL & GAS COMPANY

WELL NO. 1

LOCATION	CUSTER WELLS
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LEA COUNTY, NEW MEXICO

DATE OCTOBER 19, 1981

PAGE 6 of 8

[illegible]

CLOSURE: Distance 1367.41' Direction N 85° 43' 25" W

WILSON SUPERVISOR: JAMES AGNEW

WE CERTIFY THAT THIS IS A TRUE AND CORRECT REPORT OF OUR SURVEY AND THAT IT AFFORDS A TRUE AND CORRECT REPRESENTATION OF OUR FINDINGS AS TO THE NATURE AND CONDITIONS OF THE WELL AT THE TIME THE SURVEY WAS MADE.

BEFORE ME THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED

JAMES AGNEW KNOWN TO ME TO
BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THIS INSTRUMENT, WHO AFTER BEING
DULY SWORN ON OATH, STATES THAT THE SAME IS A TRUE AND CORRECT STATEMENT
OF THE FACTS THEREIN RECITED.

SUBSCRIBED AND SWORN TO BEFORE ME THIS THE NINETEENTH DAY
OF OCTOBER 19 81

Ermy E. Standley
NOTARY PUBLIC IN AND FOR HARRIS COUNTY, TEXAS
JEROME STANDLEY

My Commission Expires July 17 1964
bonded by John L. Worthington & Son, Inc.

Handled by John I. Workette & Son, Inc.



WILSON INDUSTRIES INC.
Directional Drilling Division

ARCO OIL & GAS COMPANY

WELL NO. 1

CUSTER WELLS

LEA COUNTY, NEW MEXICO

WILSON DOWNHOLE DIRECTIONAL DRILLING

TRUE 9 DEGREES 50 MINUTES EAST

10-19-81 JOB NO. 36005-D



HORIZONTAL PLOT

SCALE - 1 INCH = 200 FEET

INITIAL SURVEY POINT

MD 6400.00 FEET
TVD 6399.60 FEET
SOUTH 12.55 FEET
EAST 22.04 FEET

BOTTOM HOLE LOCATION

MD 12621.00 FEET
TVD 12437.22 FEET
NORTH 101.97 FEET
WEST 1363.60 FEET

CLOSURE = 1367.41 N 85 43 25 W

-1400 -1200 -1000 -800 -600 -400 -200 0 200

TVD 12437'



200

0

-200

WELL NO. 1

CUSTER WELLS

LEA COUNTY, NEW MEXICO

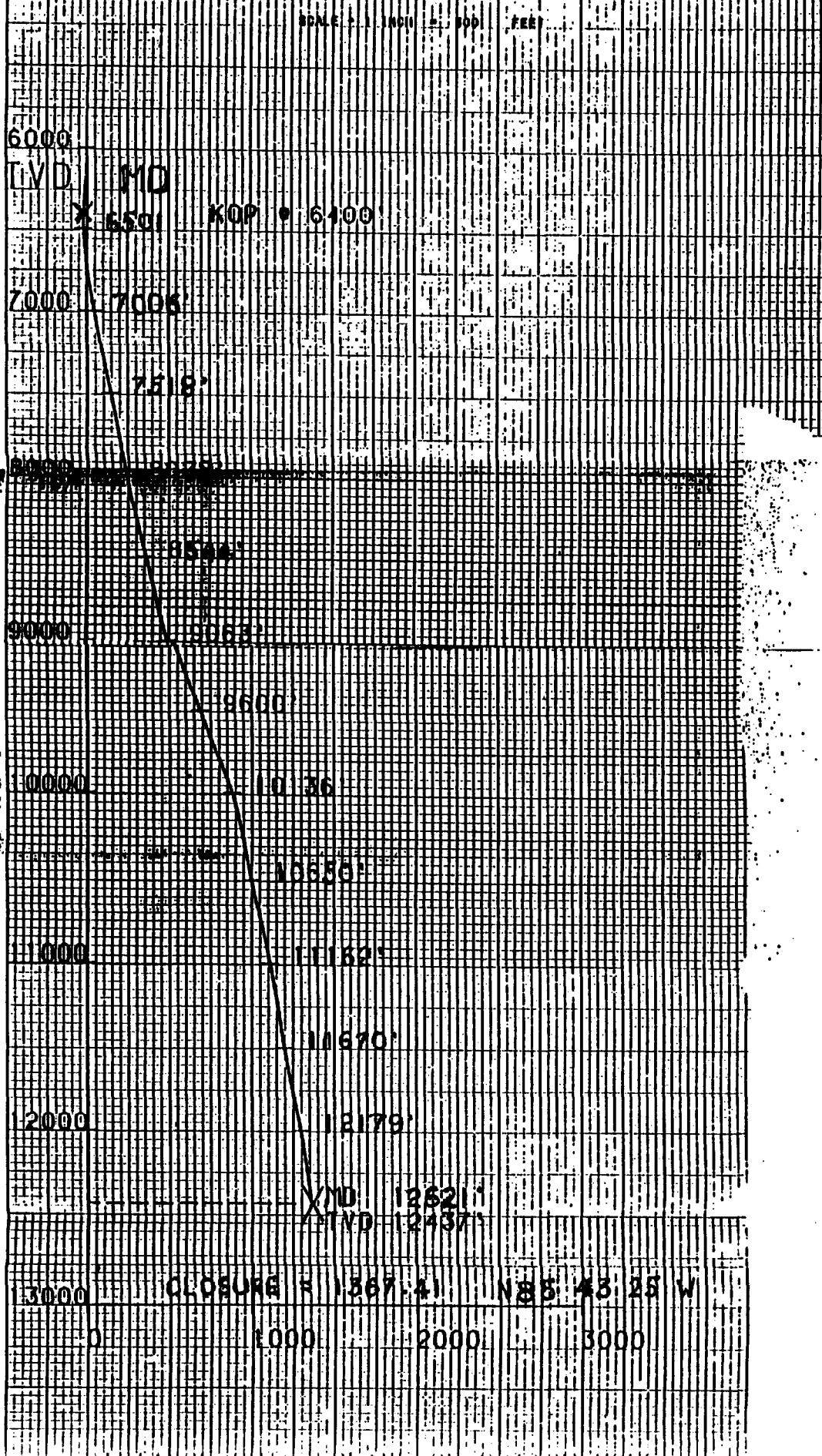
WILSON DOWNHOLE DIRECTIONAL DRILLING

TRUE 9 DEGREES 50 MINUTES EAST

10-19-81 JOB NO. 36005-D



VERTICAL SECTION PLOT



**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

IN THE MATTER OF THE HEARING CALLED
BY THE OIL CONSERVATION DIVISION
FOR THE PURPOSE OF CONSIDERING:

CASE NO. 11165

Application of NAUMANN OIL & GAS, Inc.
to vacate Division Order R-6792, as
amended for Compulsory Pooling, a non-
standard gas proration and spacing unit
and an Unorthodox Gas Well Location,
Lea County, New Mexico.

**CERTIFICATE OF MAILING
AND
COMPLIANCE WITH ORDER R-8054**

W. THOMAS KELLAHIN, attorney in fact and authorized representative of NAUMANN OIL AND GAS Inc., states that the notice provisions of Division Rule 1207 (Order R-8054) have been complied with, that Applicant has caused to be conducted a good faith diligent effort to find the correct addresses of all interested parties entitled to receive notice, that on the 29th day of December, 1994 I caused to be sent, by certified mail return receipt requested, notice of this hearing and a copy of the application for the referenced case along with the cover letter, at least twenty days prior to the hearing set for January 19, 1995, to the parties shown in the application as evidenced by the attached copies of receipt cards, and that pursuant to Division Rule 1207, notice has been given at the correct addresses provided by such rule.


W. Thomas Kellahin

SUBSCRIBED AND SWORN to before me on this 18th day of January, 1995.


Notary Public

My Commission Expires: June 15th, 1998

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
• Complete items 1 and/or 2 for additional services.
• Complete items 3, and 4a & b.
• Print your name and address on the reverse of this form so that we can return the article to you.
• The return receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. Addressee's Address
2. Restricted Delivery
Consult postmaster for fee.

3. Article Addressed to:
Texaco Exploration
& Production, Inc.
POB 2100
Denver, CO 80237

4a. Article Number
321 036 702

4b. Service Type
☒ Registered ☐ Insured
☐ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery
1-3-95

5. Signature (Addressee)
[Signature]

6. Signature (Agent)
[Signature]

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 U.S. GPO: 1993-352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

P 321 036 702



Receipt for Certified Mail
No insurance coverage provided.
Do not use for international mail.
Post Receipt

Texaco Exploration
& Production, Inc.
POB 2100
Denver, CO 80237

P 321 036 905



Receipt for Certified Mail
No insurance coverage provided.
Do not use for international mail.
Post Receipt

Jerry Hoover
CONOCO Inc.
10 Desta Drive
Ste. 100 W
Midland, Texas 79705

P 321 036 703



Receipt for Certified Mail
No insurance coverage provided.
Do not use for international mail.
Post Receipt

Citation Oil & Gas Corp.
8223 Willow Place South
Ste. 250
Houston, Texas 77070

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
• Complete items 1 and/or 2 for additional services.
• Complete items 3, and 4a & b.
• Print your name and address on the reverse of this form so that we can return the article to you.
• The return receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. Addressee's Address
2. Restricted Delivery
Consult postmaster for fee.

3. Article Addressed to:
Jerry Hoover
CONOCO Inc.
10 Desta Drive
Ste. 100 W
Midland, Texas 79705

4a. Article Number
321 036 905

4b. Service Type
☒ Registered ☐ Insured
☐ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)
Anita Gonzalez

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 U.S. GPO: 1993-352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

100, June 1991

Naumann/Custer #1
December 29, 1994