

AMOCO PRODUCTION CO.

SOUTH HOBBS UNIT 202

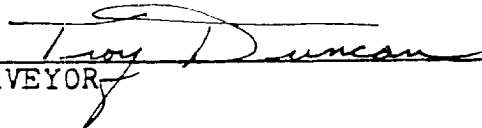
LEA COUNTY, NEW MEXICO

SCIENTIFIC DRILLING CONTROLS

SURVEY CERTIFICATION

COMPANY AMOCO PRODUCTION WELL NAME & NO. SOUTH HOBBS UNIT 202
DATE of CERTIFICATION 12-2-85 LOCATION LEA COUNTY, NEW MEXICO
TYPE of SURVEY MAGNETIC DIRECTIONAL FROM 0 TO 4145
JOB NUMBER 132M1285063 TICKET NUMBER 102554

THE ABOVE SURVEY WAS PERFORMED BY ME ON November 19 19 85
THE RESULTS OBTAINED FROM ACTUAL FIELD DATA CONFORM TO ESTABLISHED
STANDARDS AND ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE.



SURVEYOR

Troy L. Duncan

FILM TRANSFER RECEIPT

I HEREBY ACKNOWLEDGE RECEIPT OF ORIGINAL FILM OBTAINED ON THE ABOVE
SURVEY.

DATE RECEIVED 19

COMPANY REPRESENTATIVE

SURVEY CONFIRMATION

I HAVE EXAMINED THE ABOVE SURVEY AND FOUND THE DATA AND RESULTS
ACCEPTABLE ACCORDING TO CURRENT SCIENTIFIC DRILLING CONTROLS STANDARDS.



S.D.C. REPRESENTATIVE

Troy L. Duncan



(915) 563-0511

P.O. Box 6341 Terminal Station Midland, TX 79711-0341

SURVEY CERTIFICATION SHEET

STATE OF TEXAS
COUNTY OF MIDLAND

I, Troy Oney, in the employ of Eastman Whipstock, Inc., did on the days of Nov. 25, 19 85 thru Nov. 26, 19 85 conduct or supervise the taking of a Magnetic Multi Shot survey by the method of magnetic orientation from a depth of 3085 feet to 4145 feet, with recordings of inclination and direction being obtained at approximate intervals of 63 feet.

This survey was conducted at the request of Amoco Production Company for their South Hobbs Unit No. 202, Lea County, State of New Mexico, in the field.

This data for this survey and the calculation were obtained and performed by me according to standards and procedures as set forth by Eastman Whipstock, Inc. and is true and correct to the best of my knowledge.

Troy Oney
Directional Supervisor/ Surveyor

The data for this survey has been examined by me and conforms to principles and procedures set forth by Eastman Whipstock, Inc.

Before me, the undersigned authority, on this day personally appeared Troy Oney, known to me to be the person whose name is subscribed to this instrument, who after being by me duly sworn on oath, states that he has knowledge of all the facts stated above and that this instrument is a true statement of facts therein recited.

Subscribed and sworn to before me on this 26 day of November, 19 85



Timothy R. Stephens
Notary Public, State of Texas
My Commission Expires 4-1-89

Timothy R. Stephens
Notary Public in and for the
County of Midland, Texas
My commission expires

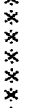
MAGNETIC DIRECTIONAL SURVEY
FOR

JOB NUMBER: 132-M-1285-063

LOCATION: LEA COUNTY, NEW MEXICO

SURVEY ENGINEER; CHRISTENSEN

VERTICAL SECTION: CALCULATED USING PROPOSAL OF N 90-- 0 E

* THIS SURVEY IS CORRECT TO THE BEST OF MY *
KNOWLEDGE AND IS SUPPORTED BY ACTUAL FIELD DATA.
*
*
*

* COMPANY REPRESENTATIVE *

AMF / SCIENTIFIC DRILLING
MIDLAND, TEXAS

JOB NUMBER: 132-M-1285-063

DATE: 11/19/85

INRUN SURVEY

BY

THE RADIUS OF CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC DM	BEARING D M	COORDINATES LATITUDE DEPARTURE	D-LEG PER 100
88.00	88.00	-.26	.38	0-30	S 42- 0 W	.29 S .26 W	.57
146.00	146.00	-.83	.63	0-45	N 58- 0 W	.37 S .83 W	1.42
204.00	203.99	-1.33	.76	0-45	N 25- 0 W	.19 N 1.33 W	.73
262.00	261.98	-1.68	.89	1- 0	N 21- 0 W	1.01 N 1.68 W	.44
320.00	319.97	-2.03	1.01	1- 0	N 20- 0 W	1.96 N 2.03 W	.03
378.00	377.97	-2.47	1.01	1- 0	N 32- 0 W	2.87 N 2.47 W	.36
436.00	435.95	-3.14	1.14	1-15	N 40- 0 W	3.79 N 3.14 W	.51
494.00	493.94	-3.93	1.27	1-15	N 37- 0 W	4.78 N 3.93 W	.11
554.00	553.92	-4.60	1.44	1-30	N 19- 0 W	6.04 N 4.60 W	.83
585.00	584.91	-4.94	.81	1-30	N 30- 0 W	6.78 N 4.94 W	.93
647.00	646.89	-5.85	1.76	1-45	N 32- 0 W	8.29 N 5.85 W	.41
709.00	708.86	-6.69	1.89	1-45	N 21- 0 W	9.98 N 6.69 W	.54
771.00	770.83	-7.13	1.76	1-30	N 8- 0 W	11.68 N 7.13 W	.72
833.00	832.81	-7.20	1.89	2- 0	N 4- 0 E	13.57 N 7.19 W	1.00
895.00	894.78	-7.10	1.89	1-30	N 2- 0 E	15.46 N 7.10 W	.81

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MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D M	BEARING D M	COORDINATES LATITUDE DEPARTURE	D-LEG PER 100
1019.00	1018.73	-6.67	3.52	1-45	N 12- 0 E	18.94 N 6.67 W	.30
1081.00	1080.70	-6.53	1.62	1-15	N 2- 0 W	20.56 N 6.53 W	.99
1143.00	1142.69	-6.39	1.35	1-15	N 14- 0 E	21.90 N 6.39 W	.56
1205.00	1204.67	-6.12	1.49	1-30	N 7- 0 E	23.36 N 6.11 W	.49
1267.00	1266.65	-5.79	1.62	1-30	N 16- 0 E	24.95 N 5.79 W	.38
1329.00	1328.63	-5.26	1.49	1-15	N 26- 0 E	26.34 N 5.26 W	.56
1391.00	1390.62	-4.63	1.49	1-30	N 24- 0 E	27.69 N 4.63 W	.41
1453.00	1452.60	-4.10	1.49	1-15	N 18- 0 E	29.08 N 4.10 W	.46
1515.00	1514.59	-3.49	1.22	1- 0	N 42- 0 E	30.12 N 3.49 W	.85
1577.00	1576.58	-2.87	1.08	1- 0	N 28- 0 E	31.01 N 2.87 W	.39
1610.00	1609.57	-2.60	.50	0-45	N 37- 0 E	31.43 N 2.60 W	.86
1691.00	1690.56	-2.82	1.24	1- 0	N 60- 0 W	32.50 N 2.82 W	1.63
1753.00	1752.56	-3.14	.95	0-45	N 18- 0 E	33.32 N 3.13 W	1.80
1815.00	1814.55	-2.69	.81	0-45	N 49- 0 E	33.99 N 2.69 W	.65
1877.00	1876.54	-2.06	.81	0-45	N 54- 0 E	34.49 N 2.06 W	.11

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INRUN SURVEY

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MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC DM	BEARING D M	COORDINATES LATITUDE DEPARTURE	D-LEG PER 100
1939.00	1938.54	-1.34	.95	1- 0	N 45- 0 E	35.11 N 1.34 W	.46
2001.00	2000.53	-.50	1.22	1-15	N 42- 0 E	.50 W	.41
2063.00	2062.51	.37	1.35	1-15	N 38- 0 E	.37 F	.14
2125.00	2124.49	1.22	1.49	1-30	N 32- 0 E	1.22 E	.46
2249.00	2248.43	3.00	3.79	2- 0	N 24- 0 E	3.00 E	.45
2311.00	2310.39	3.91	2.43	2-30	N 20- 0 E	3.91 E	.84
2373.00	2372.32	5.02	2.84	2-45	N 26- 0 E	5.02 E	.60
2435.00	2434.25	6.18	2.97	2-45	N 20- 0 E	6.18 E	.46
2497.00	2496.18	7.22	2.97	2-45	N 21- 0 E	7.22 E	.08
2559.00	2558.10	8.51	3.11	3- 0	N 28- 0 E	8.51 E	.69
2621.00	2620.02	10.01	3.24	3- 0	N 27- 0 E	10.01 E	.08
2745.00	2743.85	12.85	6.49	3- 0	N 25- 0 E	12.86 E	.08
2807.00	2805.76	14.12	3.24	3- 0	N 21- 0 E	14.12 E	.34
2869.00	2867.68	15.44	3.24	3- 0	N 27- 0 E	15.44 E	.51
2931.00	2929.58	17.28	3.51	3-30	N 36- 0 E	17.28 E	1.15

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MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D M	BEARING D M	COORDINATES LATITUDE DEPARTURE	D-LEG PER 100
2993.00	2991.44	19.66	4.06	4- 0	N 36- 0 E	75.74 N 19.66 E	.81
3055.00	3053.28	22.25	4.46	4-15	N 35- 0 E	79.37 N 22.25 E	.42
3085.00	3083.21	23.49	2.09	3-45	N 38- 0 E	81.05 N 23.49 E	1.81
3126.00	3124.13	25.05	2.50	3-15	N 39- 0 E	83.01 N 25.05 E	1.23
3188.00	3186.02	28.36	3.78	3-45	N 90- 0 E	84.59 N 28.36 E	4.91
3251.00	3248.72	34.12	6.04	7-15	S 60- 0 E	83.04 N 34.12 E	7.01
3313.00	3310.01	41.73	9.30	10- 0	S 50- 0 E	77.72 N 41.73 E	5.04
3376.00	3372.05	50.05	10.94	10- 0	S 49- 0 E	70.61 N 50.05 E	.28
3438.00	3433.13	58.31	10.63	9-45	S 53- 0 E	63.92 N 58.31 E	1.18
3501.00	3495.22	66.94	10.67	9-45	S 55- 0 E	57.65 N 66.94 E	.54
3563.00	3556.33	75.59	10.50	9-45	S 56- 0 E	51.70 N 75.59 E	.27
3626.00	3618.44	84.38	10.53	9-30	S 57- 0 E	45.89 N 84.38 E	.48
3688.00	3679.61	92.90	10.10	9-15	S 58- 0 E	40.46 N 92.90 E	.48
3751.00	3741.82	101.46	9.99	9- 0	S 60- 0 E	35.32 N 101.46 E	.64
3813.00	3803.05	109.94	9.70	9- 0	S 62- 0 E	30.62 N 109.94 E	.50

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MIDLAND, TEXAS

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MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	COURSE DEV.	INC D M	BEARING D M	COORDINATES LATITUDE DEPARTURE	D-LEG PER 100
3876.00	3865.26	118.84	9.99	9-15 S	64- 0 E	26.08 N 118.84 E	.64
3938.00	3926.45	127.84	9.97	9-15 S	65- 0 E	21.79 N 127.84 E	.26
4001.00	3988.63	137.09	10.13	9-15 S	67- 0 E	17.67 N 137.09 E	.51
4063.00	4049.78	146.51	10.23	9-45 S	67- 0 E	13.67 N 146.51 E	.81
4126.00	4111.85	156.49	10.81	10- 0 S	68- 0 E	9.54 N 156.49 E	.48
4145.00	4130.56	159.55	3.30	10- 0 S	68- 0 E	8.30 N 159.55 E	.00

THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF

4145.00 FEET EQUALS 159.77 FEET AT N 87- 1 E.

WRS COMPLETION REPORT

COMPLETIONS
PI# 30-T-0013 02/24/86

SEC 6 TWP 19S RGE 38E
30-025-29443-0000 PAGE 1

NMEX STATE LEA COUNTY * 1650FSL 1100FEL SEC
FOOTAGE SPOT D DO
WELL CLASS INIT FIN

AMOCO PROD OPERATOR SOUTH HOBBS (GBSA) UNIT

202 WELL NO. HOBBS FIELD/POOL/AREA
3629KB 3617GR API 30-025-29443-0000
OPER ELEV PERMIT OR WELL I.D. NO.

11/13/1985 12/30/1985 ROTARY LEASE TYPE/NO.
SPUD DATE COMP. DATE TYPE TOOL 54 RIG SUB .11
4300 GRBG-SAD CACTUS DRLG CONTRACTOR HOBBS
PROJ. DEPTH PROJ. FORM PB 4166 FM/TD GRBG-SAD
DTD 4174 LOG T.D. PLUG BACK TD OLD T.D. FORM T.D.
DRILLERS T.D. LOCATION DESCRIPTION

1 MI W HOBBS, NM

WELL IDENTIFICATION/CHANGES

BHL LOC CHGD FROM 1600 FSL 990 FEL SEC

CASING/LINER DATA

CSG 14 @ 40 1075 SACKS
CSG 8 5/8 @ 1662 W/ 750 SACKS
CSG 5 1/2 @ 4166 W/

TUBING DATA

TBG 2 3/8 AT 4043

INITIAL POTENTIAL

IPP 5BOPD 2.0MCFD 4BW 004
GRBG-SAD PERF W/ 416/IT 4062- 4165
PERF 4062- 4165 2600GALS
ACID 4062- 4165 6000GALS 9625LBS SAND ADDTVGEL
15% NE HCL
SGFR 4062- 4165
GOR 400

GTY NOT RPTD

CONTINUED IC# 300257050785



Petroleum Information
CORPORATION

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PI-WRS-GE
Form No 15

COMPLETIONS
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AMOCO PROD
 202

SOUTH HOBBS (GBSA) UNIT D DO
 TYPE FORMATION LTH TOP DEPTH/SUB BSE DEPTH/SUB
 LOG RUSTLER 1549 2080
 LOG SALT 1651 1978
 LOG YATES 2788 841
 LOG SVN RVRS 3024 605
 LOG QUEEN 3528 101
 LOG GRAYBURG 4042 -413

LOGS AND SURVEYS /INTERVAL, TYPE/
 DLL MSFL
 PROPOSED TVD AND BOTTOM HOLE LOCATION
 BHL LOC MEASURED FROM FSL & FEL OF SEC 1658N 940W

DRILLING PROGRESS DETAILS
 AMOCO PROD
 BOX 68
 HOBBS, NM 88240
 505-393-2167
 LOC/1985/
 DRLG 550
 10/08 1662 TD, WOC
 11/18 4174 TD, PB 4166, WOCT
 11/20 4174 TD, PB 4166, PREP TEST
 12/02 4174 TD, PB 4166, PREP TOP
 12/16 4174 TD, PB 4166, WOPT
 12/26 4174 TD, PB 4166, PREP TOP
 01/02 4174 TD, PB 4166, PREP TOP
 02/18 TD REACHED 11/26/85 RIG REL 11/27/85
 4174 TD, PB 4166
 COMP 12/30/85, IPP 5 BO, 2 MCFGPD, 4 BWPD,
 PROD ZONE - GRAYBURG-SAN ANDRES 4062-4165
 NO CORES OR DSTS RPTD