



1700 Broadway Suite 1450 Denver Colorado 80290
(303) 860-0509 Fax (303) 830-2546

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OIL CON. DIV.
DIST. 3

REPORT OF SUB-SURFACE DIRECTIONAL SURVEY

Phillips Petroleum
COMPANY

B-2-29N-6W
San Juan Unit 29-6 #10
WELL NAME

Rio Arriba County, New Mexico
LOCATION

JOB NUMBER
410-80534

TYPE OF SURVEY
MSS

DATE
October 27, 1996

SURVEYED BY
Max Lund

OFFICE
DENVER



1700 Broadway Suite 1450 Denver Colorado 80290
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SURVEY CERTIFICATION SHEET

Phillips Petroleum

410-80534

October 27, 1996

Company

Job #

Date

B

Sec-2-T29N-R6W

San Juan Unit 29-6 #10

Rio Arriba County, New Mexico

Lease

Well #

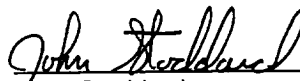
County and State

Surveyed from a depth of 3,400 feet to 3826 feet MD

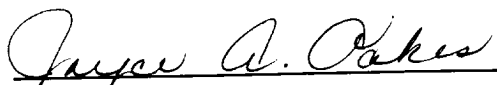
Type of Survey MSS

Directional Supervisor/Surveyor Max Lund

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by Baker Hughes INTEQ. This report represents a true and correct Directional Survey of this well based on the original data obtained at the well site. Wellbore Coordinates are calculated using minimum curvature.


John Stoddard
Operations Manager

This document has been subscribed and affirmed, or sworn to before me in the county of Denver, state of Colorado, this 12th day of November, 1996.

 My commission expires August 4, 2000
Notary

Certification Number:

437

Certification Date:

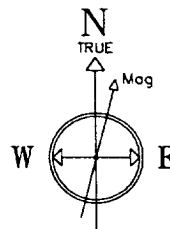
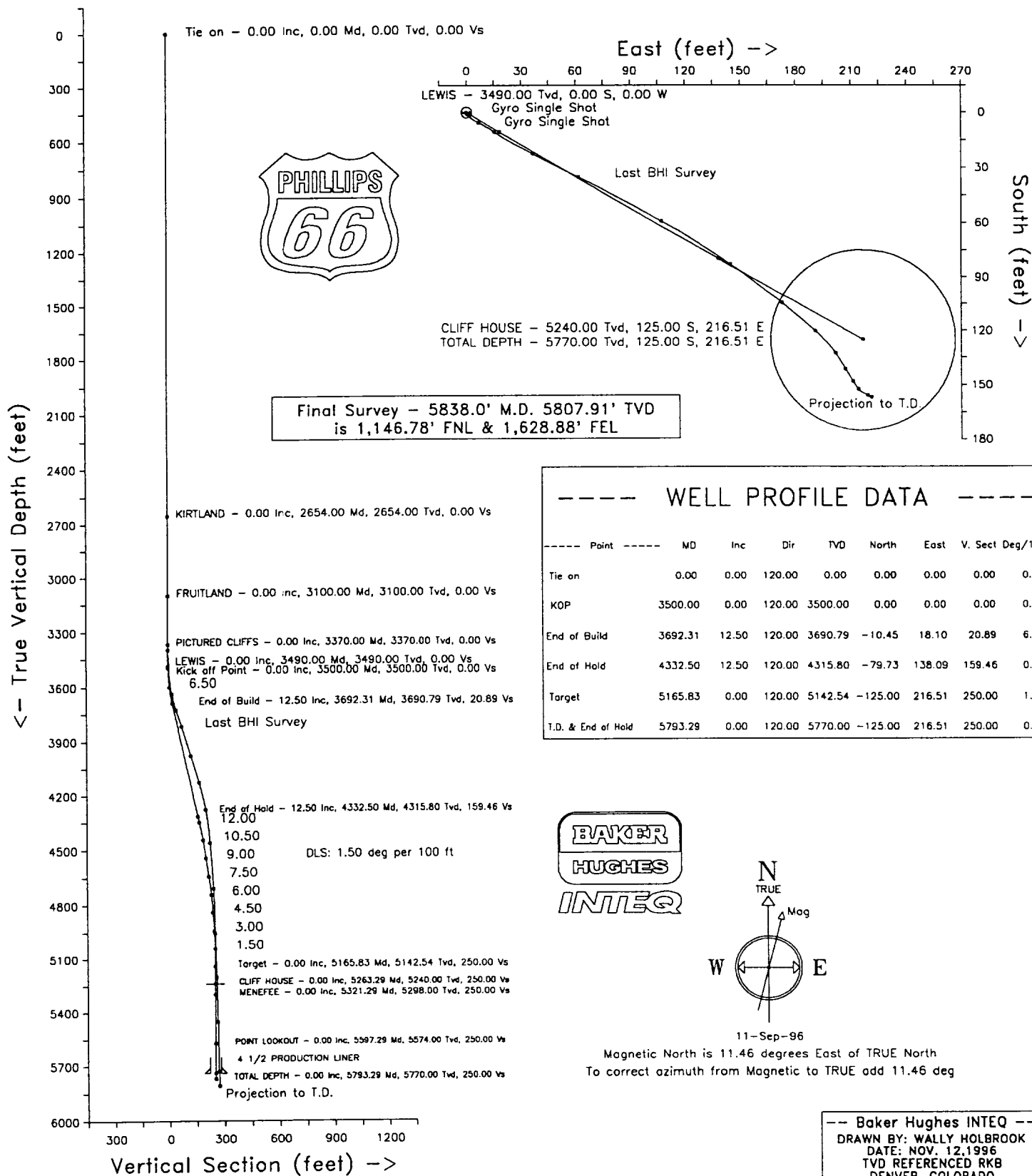
November 12, 1996

PHILLIPS PETROLEUM

Structure : SEC.2-T29N-R6W Well : SAN JUAN UNIT 29-6 #10

Field : RIO ARRIBA COUNTY

Location : NEW MEXICO



11-Sep-96

Magnetic North is 11.46 degrees East of TRUE North
To correct azimuth from Magnetic to TRUE add 11.46 deg

-- Baker Hughes INTEQ --
DRAWN BY: WALLY HOLBROOK
DATE: NOV. 12, 1996
TVD REFERENCED RKB
DENVER, COLORADO
PHONE: (303) 860-0509

PHILLIPS PETROLEUM
SEC.2-T29N-R6W

SAN JUAN UNIT 29-6 #10
SLOT #1
RIO ARriba COUNTY
NEW MEXICO

S U R V E Y L I S T I N G

by
Baker Hughes INTEQ

Your ref : Single Shot Survey
Our ref : svy3764
License :

Date printed : 12-Nov-96
Date created : 28-Oct-96
Last revised : 12-Nov-96

Field is centred on n36 0 0.000,w107 0 0
Structure is centred on n36 44 38.002,w107 25 12

Slot location is n36 44 28.212,w107 25 34.728
Slot Grid coordinates are N 2089295.449, E 619257.936
Slot local coordinates are 990.00 S 1850.00 W

Projection type: mercator - New Mexico West (3003), Spheroid: Clarke - 1866

Reference North is True North

PHILLIPS PETROLEUM

SEC. 2-T29N-R6W, SAN JUAN UNIT 29-6 #10

RIO ARriba COUNTY, NEW MEXICO

SURVEY LISTING

Page 1

Your ref : Single Shot Survey

Last revised : 12-Nov-96

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Depth	R E C T A N G U L A R C O O R D I N A T E S	Dogleg Deg/100ft	Vert Sect
0.00	0.00	0.00	0.00	0.00 E	0.00	0.00
3400.00	0.00	0.00	3400.00	0.00 E	0.00	0.00
3470.00	1.96	156.80	3469.99	0.47 E	2.80	0.96 Gyro Single Shot
3578.00	6.53	115.00	3577.68	6.77 E	4.85	8.56 Gyro Single Shot
3640.00	12.50	123.50	3638.80	15.57 E	9.87	18.78
3733.00	17.50	116.50	3728.61	22.40 S	5.71	42.80
3826.00	18.00	116.50	3817.18	35.05 S	0.54	71.10 Last BHI Survey
3996.00	17.00	119.50	3979.32	59.01 S	0.79	122.17
4152.00	16.25	125.50	4128.81	82.91 S	1.20	166.70
4307.00	10.25	130.50	4279.62	104.48 S	3.94	201.88
4490.00	4.75	133.50	4460.98	120.29 S	3.01	225.28
4738.00	3.00	146.50	4708.41	132.77 S	0.79	241.07
4985.00	1.75	151.50	4955.19	141.47 S	0.51	250.07
5233.00	1.75	147.50	5203.08	147.99 S	0.05	256.66
5483.00	0.75	139.50	5453.01	152.46 S	0.41	261.59
5761.00	1.75	116.50	5730.95	155.73 S	0.40	267.54
5838.00	1.75	116.50	5807.91	156.78 S	0.00	269.89 Projection to T.D.

All data is in feet unless otherwise stated.

Coordinates from SLOT #1 and TVD from RKB (6443.00 Ft above mean sea level).

Bottom hole distance is 271.06 on azimuth 125.34 degrees from wellhead.

Vertical section is from wellhead on azimuth 120.00 degrees.

Calculation uses the minimum curvature method.

Presented by Baker Hughes INTEQ

PHILLIPS PETROLEUM

SEC.2-T29N-R6W,SAN JUAN UNIT 29-6 #10
RIO ARriba COUNTY,NEW MEXICO

SURVEY LISTING Page 2
Your ref : Single Shot Survey
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Comments in wellpath

MD	TVD	Rectangular Coords.	Comment
3470.00	3469.99	1.10 S	0.47 E Gyro Single Shot
3578.00	3577.68	5.40 S	6.77 E Gyro Single Shot
3826.00	3817.18	35.05 S	61.86 E Last BHI Survey
5838.00	5807.91	156.78 S	221.12 E Projection to T.D.

Targets associated with this wellpath

Target name	Geographic Location	T.V.D.	Rectangular Coordinates	Revised
CLIFF HOUSE 29-6 #10		5240.00	125.00S	216.51E 16-Aug-96