

ABOVE THIS LINE FOR DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
- Engineering Bureau -  
2040 South Pacheco, Santa Fe, NM 87505



*2622*

**ADMINISTRATIVE APPLICATION COVERSHEET**

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATION FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Application Acronyms:**

- [NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]  
[DD-Directional Drilling] [SD-Simultaneous Dedication]  
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]  
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION - Check Those Which Apply for [A]:**

- [A] Location - Spacing Unit - Directional Drilling  
☐ NSL ☐ NSP ☐ DD ☐ SD

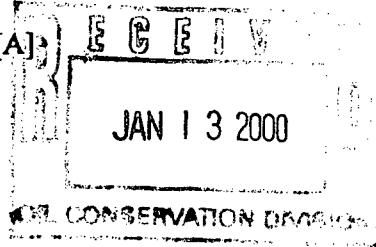
Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement

☒ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery

☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR



[2] **NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply**

- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners  
[B] ☐ Offset Operators, Leaseholders or Surface Owner  
[C] ☐ Application is One Which Requires Published Legal Notice  
[D] ☐ Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office  
[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,  
[F] ☐ Waivers are Attached

[3] **INFORMATION / DATA SUBMITTED IS COMPLETE - Certification**

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data (including API numbers, pool codes, etc.), pertinent information and any required notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Mark Stodola  
Print or Type Name

Mark Stodola  
Signature

Reservoir Engr.  
Title

1/11/00  
Date

## DISTRICT I

P.O. Box 1980, Hobbs, NM 88241-1980

## DISTRICT II

811 South First St., Artesia, NM 88210-2835

## DISTRICT III

1000 Rio Brazos Rd, Aztec, NM 87410-1693

State of New Mexico  
Energy, Minerals and Natural Resources Department

## OIL CONSERVATION DIVISION

2040 S. Pacheco  
Santa Fe, New Mexico 87505-6429Form C-107-A  
New 3-12-96

APPROVAL PROCESS:

☒ Administrative ☐ Hearing

EXISTING WELLBORE

☒ YES ☐ NO

## APPLICATION FOR DOWNHOLE COMMINGLING

Operator Phillips Petroleum Company Address 5525 Hwy. 64, Farmington, NM 87401Lessee San Juan 29-6 Unit Well No. #16 Unit Ltr. - Sec - Twp - Rge N, 32 T29N, R6W County Rio ArribaOGRID NO. 017654 Property Code 009257 API NO. 30-039-07471 Spacing Unit Lease Types: (check 1 or more)  
Federal ☐ State ☐ (and/or) Fee ☒

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	72439 S. Blanco PC, Ext.		72319 Blanco Mesaverde
2. Top and Bottom of Pay Section (Perforations)	3585' - 3652	<i>Will add</i>	5353' - 5935'
3. Type of production (Oil or Gas)	Gas	<i>new shale</i>	Gas
4. Method of Production (Flowing or Artificial Lift)	Flowing	<i>Will test</i>	Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a. (Current) 1056 psi *	a. <i>PC fe +- Corros Re-submit</i>	a. 350 psi (est)
	b. (Original) 1200 psi (est.)	b. <i>PC prod forecast</i>	b. 1280 psi (est.)
6. Oil Gravity ( $^{\circ}$ API) or Gas BTU Content	1100 btu/scf		1200 btu/scf
7. Producing or Shut-In?	Producing		Shut-in
Production Marginal? (yes or no)	yes		yes
* If Shut-In, give date and oil/gas/water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: Rates:	Date: Rates:	Date: 9/30/99 Rates: 200 mcf/d, 0 bopd
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: 1/9/00 Rates: 336 mcf/d, 0 bopd	Date: Rates:	Date: Rates:
8. Fixed Percentage Allocation Formula - % for each zone	Oil: % Gas: %	Oil: % Gas: %	Oil: % Gas: %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? ☐ Yes ☒ No  
If not, have all working, overriding, and royalty interests been notified by certified mail? ☐ Yes ☒ No  
Have all offset operators been given written notice of the proposed downhole commingling? ☒ Yes ☐ No11. Will cross-flow occur? ☐ Yes ☒ No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. ☐ Yes ☐ No (If No, attach explanation)12. Are all produced fluids from all commingled zones compatible with each other? ☒ Yes ☐ No13. Will the value of production be decreased by commingling? ☐ Yes ☒ No (If Yes, attach explanation)14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. ☐ Yes ☐ No15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). R-11187

## 16. ATTACHMENTS:

- \* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- \* Production curve for each zone for at least one year. (If not available, attach explanation.)
- \* For zones with no production history, estimated production rates and supporting data.
- \* Data to support allocation method or formula.
- \* Notification list of all offset operators.
- \* Notification list of working, overriding, and royalty interests for uncommon interest cases.
- \* Any additional statements, data, or documents required to support commingling.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Mark Stodola TITLE Reservoir Engr. DATE 1/11/00TYPE OR PRINT NAME Mark Stodola TELEPHONE NO. ( 505 ) 599-3455

\* We didnot get measured bottomhole pressure in MV. Instead have attached BHP measurements from four adjacent wells to support item 5a above

District I  
PO Box 1988, Hobbs, NM 88241-1988

District II

811 South First, Artesia, NM 88210

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 October 18, 1994

Instructions on back

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-039-07471		2 Pool Code 72439		3 Pool Name S. Blanco Pictured Cliffs, Ext.	
4 Property Code 009257		5 Property Name San Juan 29-6 Unit			6 Well Number 16
7 OGRID No. 017654		8 Operator Name Phillips Petroleum Company			9 Elevation 6752'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	32	29N	6W		900	South	1650	West	Rio Arriba

11 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
N									
12 Dedicated Acres 160 ac SW/4		13 Joint or Infill J		14 Consolidation Code U		15 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

16	Section 32	Fee 6382.92 acres	1650'	900'	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief  <i>Patsy Clugston</i> Signature Patsy Clugston Printed Name Regulatory Assistant Title 10-15-99 Date

REC'D MAY 9 1955

Copies sent to  
Atty. S. A. J. H.

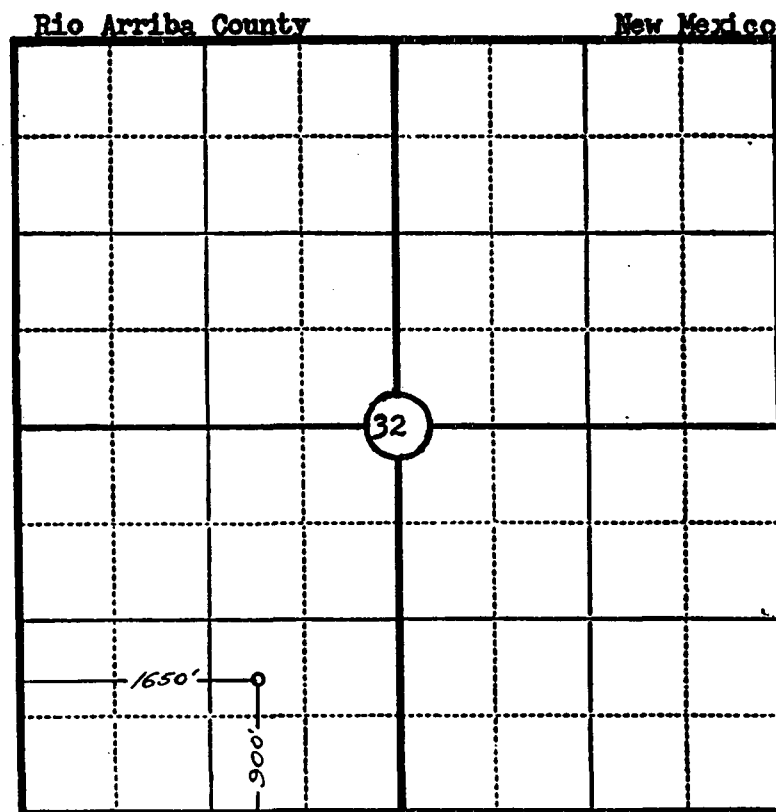
Company PACIFIC NORTHWEST PIPELINE CORPORATION

Lease \_\_\_\_\_ Well No. \_\_\_\_\_

Sec. #<sup>n</sup> 32, T. 29 N, R. 6 W, N.M.P.M.

Location 900' from the South line and 1650' from the West line.

Elevation 6752 Ungraded ground.



RECEIVED  
OCT 1 9 1955  
OIL CON. DIV.  
DIST. 3

Scale—4 inches equal 1 mile.

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

Seal:

*James P. Leese*  
Registered ~~Surveyor~~ Land Surveyor.

James P. Leese  
N. Mex. Reg. No. 1463

Surveyed 6 May, 1955

SAN JUAN ENGINEERING CO.  
P. O. Box 752  
FARMINGTON, N. M.



# PHILLIPS PETROLEUM COMPANY

FARMINGTON, NEW MEXICO 87401  
5525 HWY. 64 NBU 3004

January 11, 2000

New Mexico Oil & Gas Conservation Div.  
2040 South Pacheco  
Santa Fe, New Mexico 87505-6429

Downhole Commingling Allocation Method  
on the San Juan 29-6 Unit #16

Dear Sirs:

Phillips is proposing to utilize the subtraction method on the subject well for approximately twelve months after actual commingling occurs. After the twelve month period we will convert to the ratio method as indicated in our commingling application. We believe this will be a more accurate method of allocating production considering that the Mesaverde interval has been producing for years and that the production will not be stabilized on the Pictured Cliffs for several months.

## Pictured Cliffs Forecast

February 2000	9,262	March 2000	10,035
April 2000	9,499	May 2000	9,601
June 2000	9,215	July 2000	9,189
August 2000	8,990	September 2000	8,632
October 2000	8,612	November 2000	8,272
December 2000	8,254	January 2000	8,082

For example, if the total volume for March 2000 were 16,235 mcf, then the Pictured Cliffs would be allocated 10,035 mcf and the Mesaverde 6,200 mcf. And subsequently, the Pictured Cliffs would be allocated  $(10,035/16,235)$  or 61.81%, and Mesaverde would be allocated  $(6,200/16,235)$  or 38.19%.

Sincerely,

PHILLIPS PETROLEUM COMPANY

Mark W. Stodola  
Reservoir Engineer

MS/pc

cc: OCD - Aztec  
BLM- Farmington  
NM Commissioner of Public Lands - Santa Fe

# H & H Wireline Service Inc.

P. O. Box 899, Flora Vista New Mexico 87415

DECEMBER 1, 1999

## PHILLIPS PETROLEUM COMPANY

5525 HWY 64 NBU 3004  
FARMINGTON, NEW MEXICO 87415

WELL NAME: SAN JUAN 29-6-#16

TYPE TEST: STATIC PRESSURE  
FORMATION: PICTURE CLIFF  
COUNTY: RIO ARRIBA  
STATE: NEW MEXICO

ATTENTION: MR. JERRY LOUDERMILK

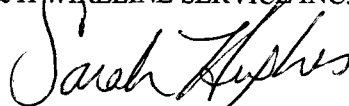
GENTLEMEN:

ATTACHED YOU WILL FIND THE RESULTS OF THE ABOVE CAPTIONED TEST OF STATIC GRADIENT SURVEY ON THE ABOVE CAPTIONED WELL WHICH ARE IN TABULAR AND GRAPHICAL FORM.

IT HAS BEEN OUR PLEASURE TO CONDUCT THIS SERVICE FOR YOU. WE ARE LOOKING FORWARD TO SERVING YOU IN THE FUTURE.

THANK YOU,

H & H WIRELINE SERVICE INC.



CHARLES HUGHES & SARAH HUGHES  
PRESIDENT

HUGHES PETROLEUM COMPANY  
5525 HWY 64 NBU 3004  
FARMINGTON, NEW MEXICO 87401

DATE: DECEMBER 1, 1999

WELL NAME: SAN JUAN 29-6 # 16  
FORMATION: PICTURE CLIFF

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA  
STATE: NEW MEXICO

TOTAL DEPTH: PBTD 3748'  
PERFS: 3585' TO 3652'  
TUBING: 2 3/8 TO 3603'  
CASING SIZE:  
PACKER:  
OTHER: 1.81 FN @ 3592'  
PRESSURED UP @

CASING PRESSURE:  
TUBING PRESSURE: 960  
OIL LEVEL:  
WATER LEVEL:  
TEMPERATURE:  
ELEMENT NO. 86484  
ELEMENT RANGE 0 TO 3000

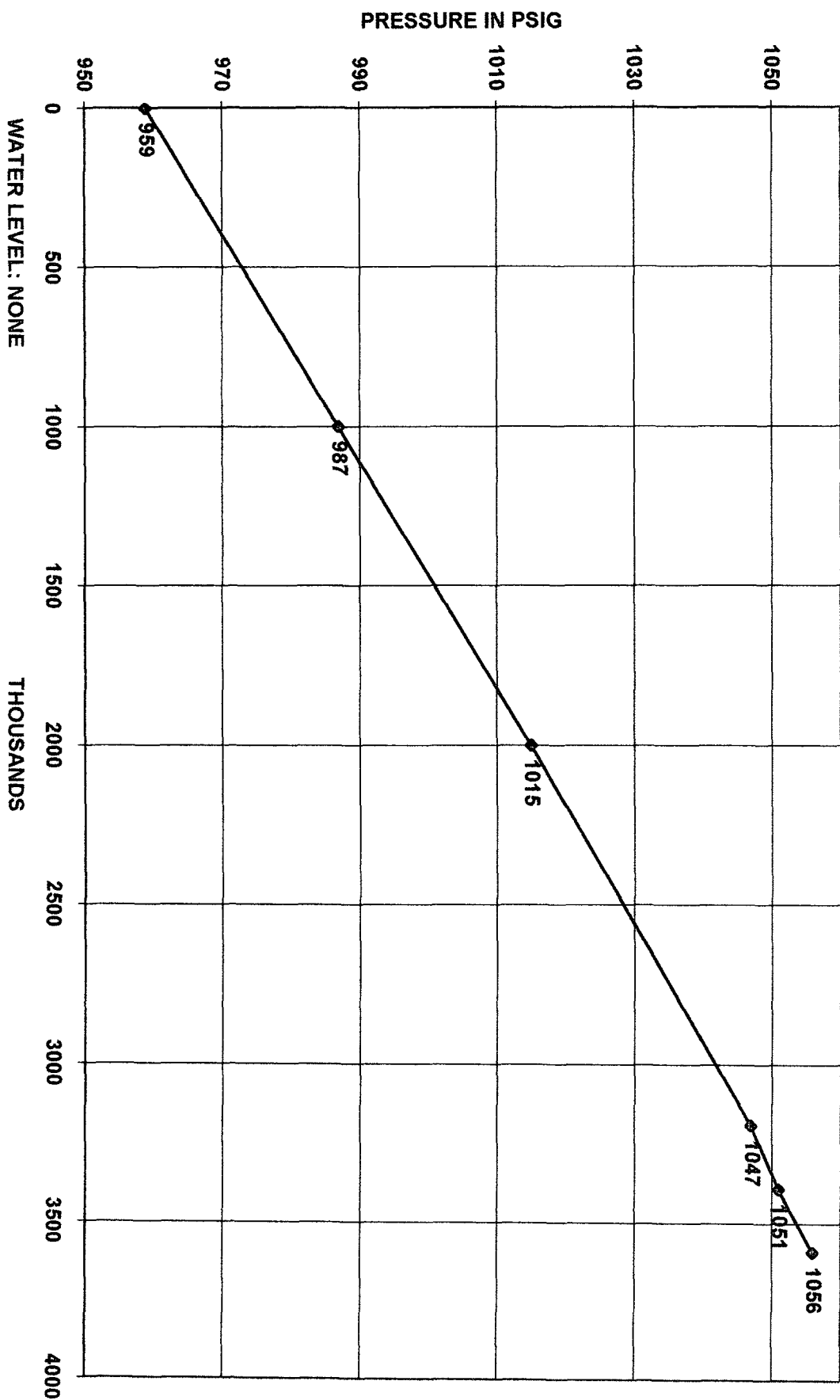
WELL STATUS: SHUT IN

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	959	
1000	987	0.028
2000	1015	0.028
3192	1047	0.027
3392	1051	0.020
3592	1056	0.025

SLM

H & H WIRELINE SERVICE INC.  
P. O. BOX 899  
FLORA VISTA, NEW MEXICO 87415  
OPERATOR: CHARLES HUGHES  
UNIT NO. T-10

PHILLIPS PETROLEUM SAN JUAN 29-6 # 16  
DATE: DECEMBER 1, 1999





# H & H Wireline Service Inc.

P. O. Box 899, Flora Vista New Mexico 87415

NOVEMBER 23, 1999

## PHILLIPS PETROLEUM COMPANY

5525 HWY 64 NBU 3004  
FARMINGTON, NEW MEXICO 87415

WELL NAME: SAN JUAN 29-6 # 53 & 51

TYPE TEST: STATIC PRESSURE  
FORMATION: MESA VERDE  
COUNTY: RIO ARRIBA  
STATE: NEW MEXICO

ATTENTION: MR. JERRY LOUDERMILK

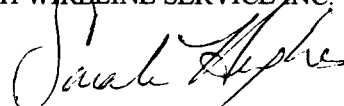
GENTLEMEN:

ATTACHED YOU WILL FIND THE RESULTS OF THE ABOVE CAPTIONED TEST OF STATIC GRADIENT SURVEY ON THE ABOVE CAPTIONED WELLS WHICH ARE IN TABULAR AND GRAPHICAL FORM.

IT HAS BEEN OUR PLEASURE TO CONDUCT THIS SERVICE FOR YOU. WE ARE LOOKING FORWARD TO SERVING YOU IN THE FUTURE.

THANK YOU,

H & H WIRELINE SERVICE INC.



CHARLES HUGHES & SARAH HUGHES  
PRESIDENT

PHILLIPS PETROLEUM COMPANY  
5525 HWY 64 NBU 3004  
FARMINGTON, NEW MEXICO 87401

DATE: NOVEMBER 23, 1999

WELL NAME: SAN JUAN 29-6 # 53  
FORMATION: MESA VERDE

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA  
STATE: NEW MEXICO

TOTAL DEPTH: 5645'  
PERFS: 5034' TO 5600'  
TUBING: 2 3/8 TO 5579'  
CASING SIZE:  
PACKER:  
OTHER:  
**PRESSURED UP @ 10:45**

CASING PRESSURE:  
TUBING PRESSURE: 295  
OIL LEVEL:  
WATER LEVEL: 5389'  
TEMPERATURE:  
ELEMENT NO. 86484  
ELEMENT RANGE 0 TO 3000

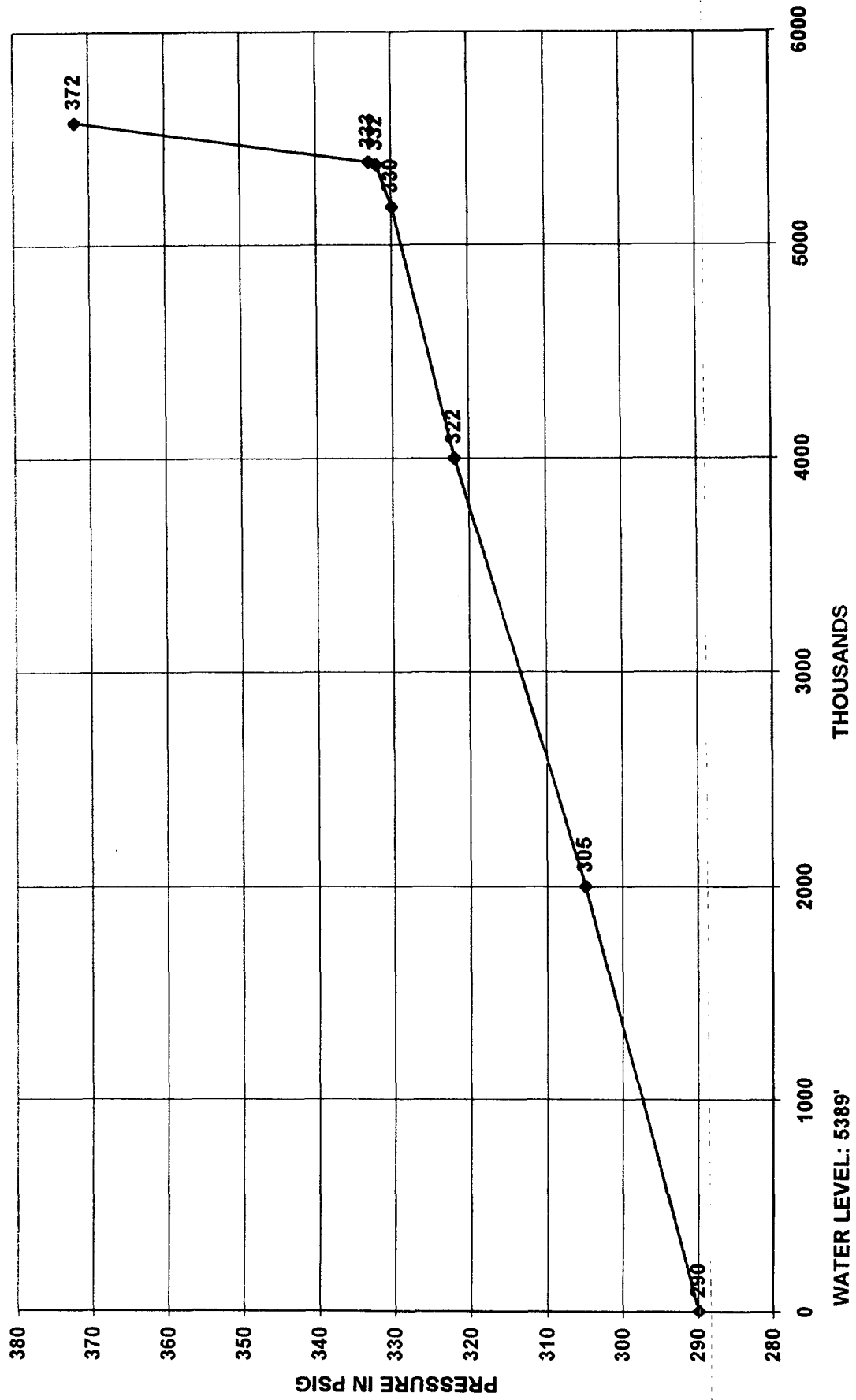
WELL STATUS: SHUT IN

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	290	
2000	305	0.008
4000	322	0.009
5176	330	0.007
5376	332	0.010
5576	372	0.200

**SLM @ 5579'**

H & H WIRELINE SERVICE INC.  
P. O. BOX 899  
FLORA VISTA, NEW MEXICO 87415  
OPERATOR: CHARLES HUGHES  
UNIT NO. T-11

PHILLIPS PETROLEUM SAN JUAN 29-6 # 53  
DATE: NOVEMBER 23, 1999



PHILLIPS PETROLEUM COMPANY  
5525 HWY 64 NBU 3004  
FARMINGTON, NEW MEXICO 87401

DATE: NOVEMBER 23, 1999

WELL NAME: SAN JUAN 29-6 # 51  
FORMATION: MESA VERDE

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA  
STATE: NEW MEXICO

TOTAL DEPTH: 6012'  
PERFS: 5872' TO 5992'  
TUBING: 2 3/8 TO 5981'  
CASING SIZE:  
PACKER:  
OTHER:  
PRESSURED UP @ 13:00

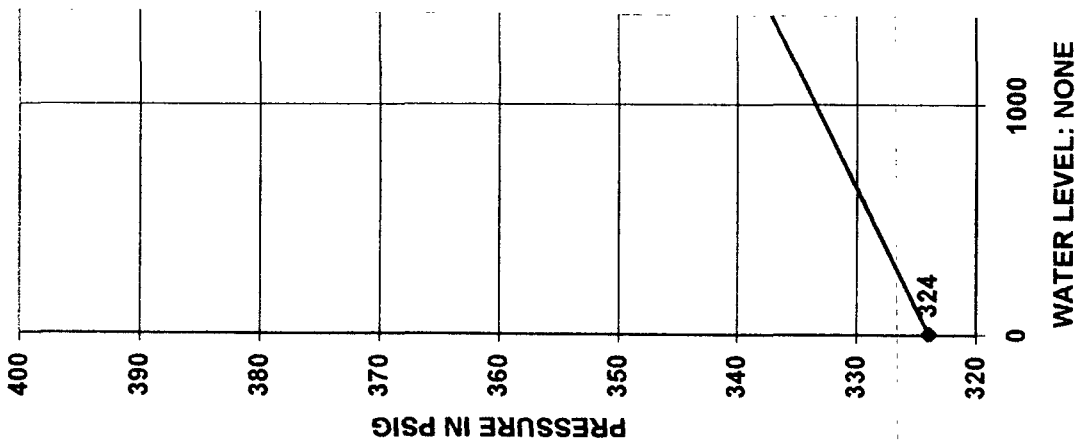
CASING PRESSURE: 350  
TUBING PRESSURE: 325  
OIL LEVEL:  
WATER LEVEL:  
TEMPERATURE:  
ELEMENT NO. 86484  
ELEMENT RANGE 0 TO 3000

WELL STATUS: SHUT IN

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	324	
2000	343	0.010
4000	365	0.011
5570	381	0.010
5770	385	0.020
5970	389	0.020

SLM @ 5578'

H & H WIRELINE SERVICE INC.  
P. O. BOX 899  
FLORA VISTA, NEW MEXICO 87415  
OPERATOR: CHARLES HUGHES  
UNIT NO. T-11



PHILLIPS PETROLEUM COMPANY  
5525 HWY 64 NBU 3004  
FARMINGTON, NEW MEXICO 87401

DATE: JUNE 3, 1999

WELL NAME: SAN JUAN 29-6 # 53A  
FORMATION: MESA VERDE

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARriba  
STATE: NEW MEXICO

TOTAL DEPTH:  
PERFS:  
TUBING SIZE: 2 3/8 TO 5987'  
CASING SIZE:  
PACKER:  
OTHER: SN @ 5986'  
RAN PRESSURE @ 11:30

CASING PRESSURE:  
TUBING PRESSURE: 110  
OIL LEVEL:  
WATER LEVEL: 4871'  
TEMPERATURE:  
ELEMENT NO.  
ELEMENT RANGE 0 TO 3500

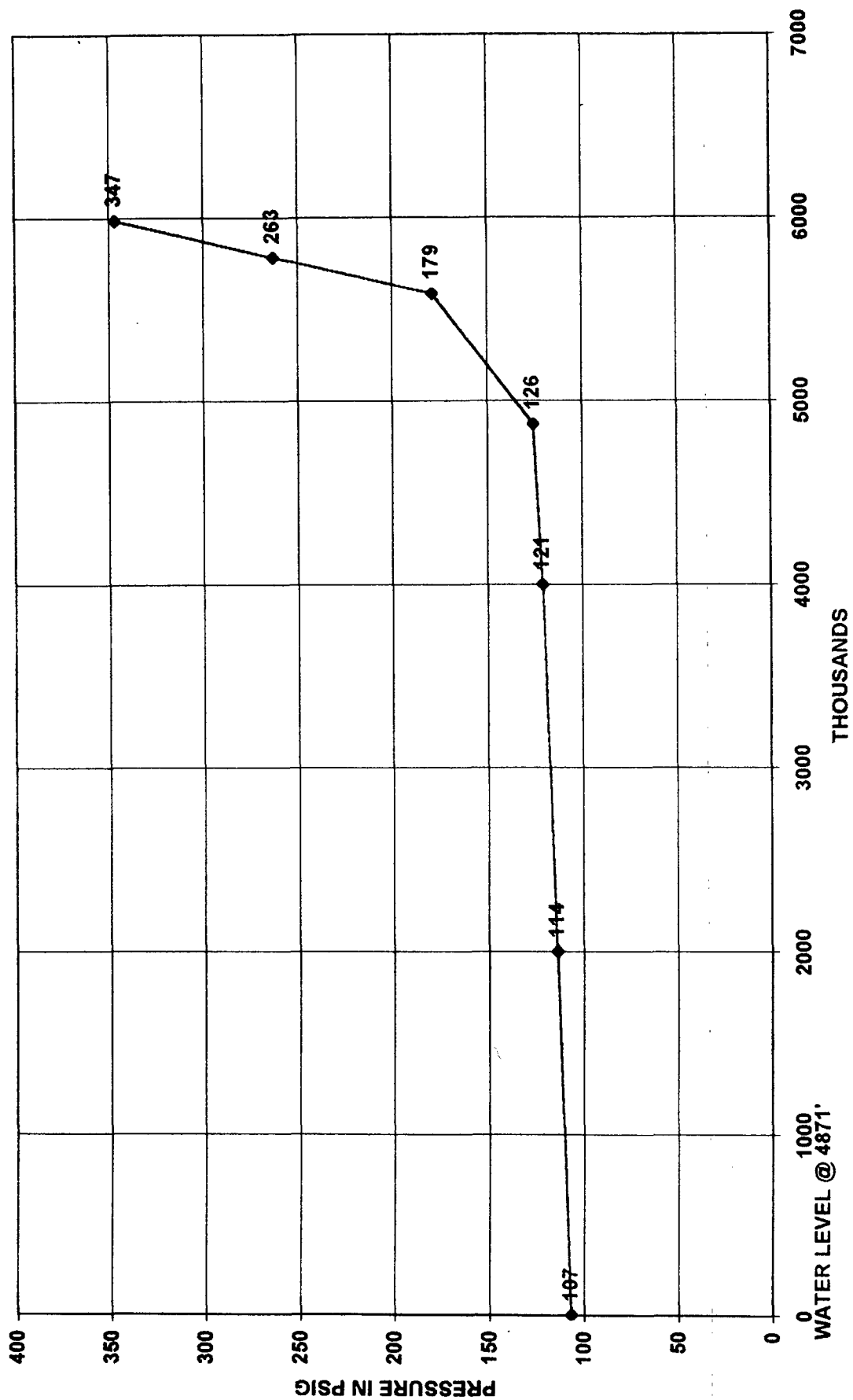
WELL STATUS: SHUT IN

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	107	
2000	114	0.004
4000	121	0.004
5586	179	0.037
5786	263	0.420
5986	347	0.420

RAN SLM @ 6016'

H & H WIRELINE SERVICE INC.  
P. O. BOX 899  
FLORA VISTA, NEW MEXICO 87415  
OPERATOR: STEVEN HODGES  
UNIT NO. T-8

PHILLIPS PETROLEUM SAN JUAN 29-6 # 53A  
DATE: JUNE 3, 1999



PHILLIPS PETROLEUM COMPANY  
5525 HWY 64 NBU 3004  
FARMINGTON, NEW MEXICO 87401

DATE: JUNE 3, 1999

WELL NAME: SAN JUAN 29-6 # 51A  
FORMATION: MESA VERDE

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA  
STATE: NEW MEXICO

TOTAL DEPTH:  
PERFS: TO  
TUBING SIZE: 2 3/8 TO 5842'  
CASING SIZE: TO  
PACKER:  
OTHER: SN @ 5812'  
ENGAGED @ 10:05

CASING PRESSURE:  
TUBING PRESSURE: 220  
OIL LEVEL:  
WATER LEVEL: 5709'  
TEMPERATURE:  
ELEMENT NO.  
ELEMENT RANGE 0 TO 3500

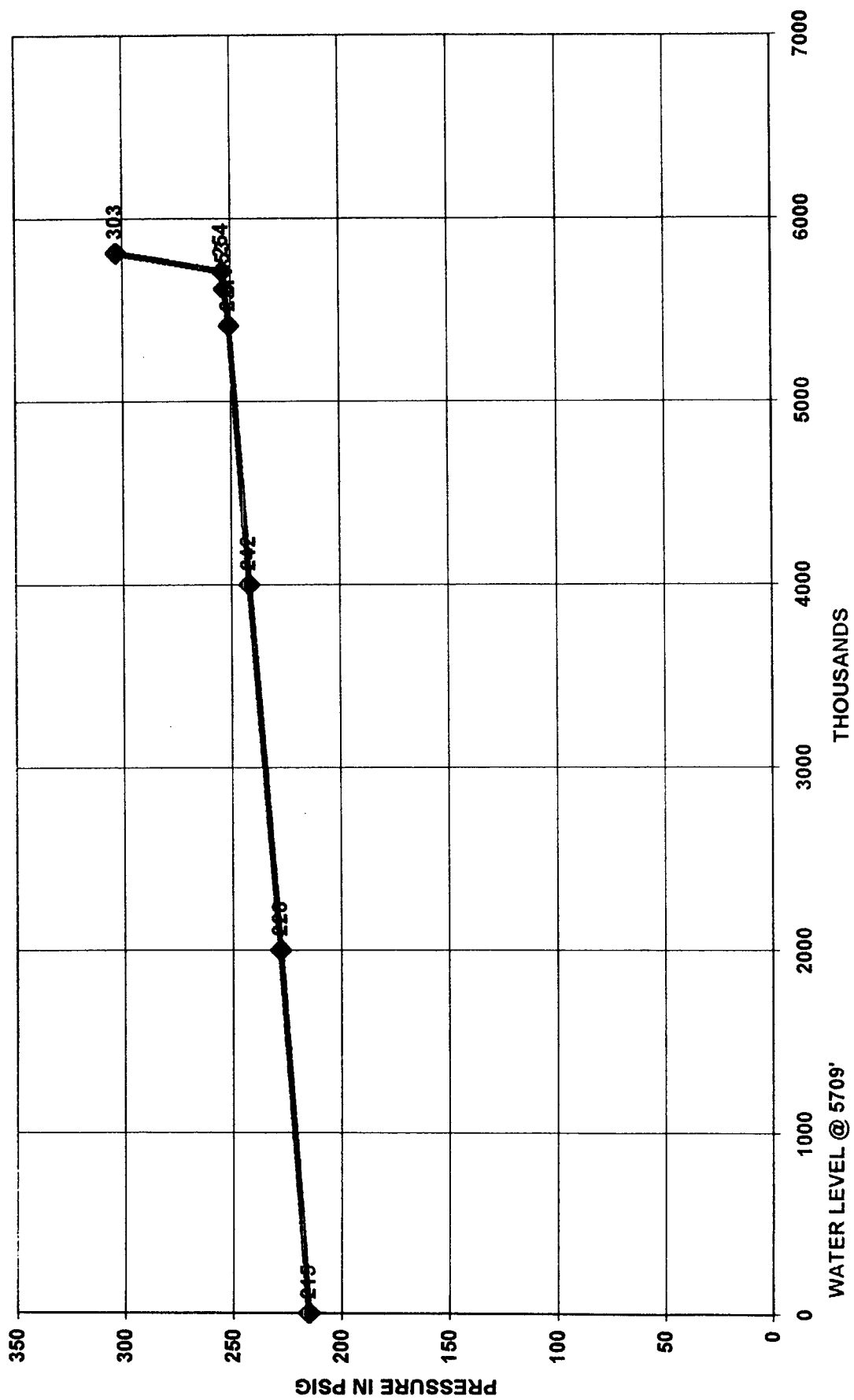
WELL STATUS: SHUT IN

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	215	
2000	228	0.006
4000	242	0.007
5412	251	0.007
5612	253	0.010
5812	303	0.250

RAN SLM TO 5910'

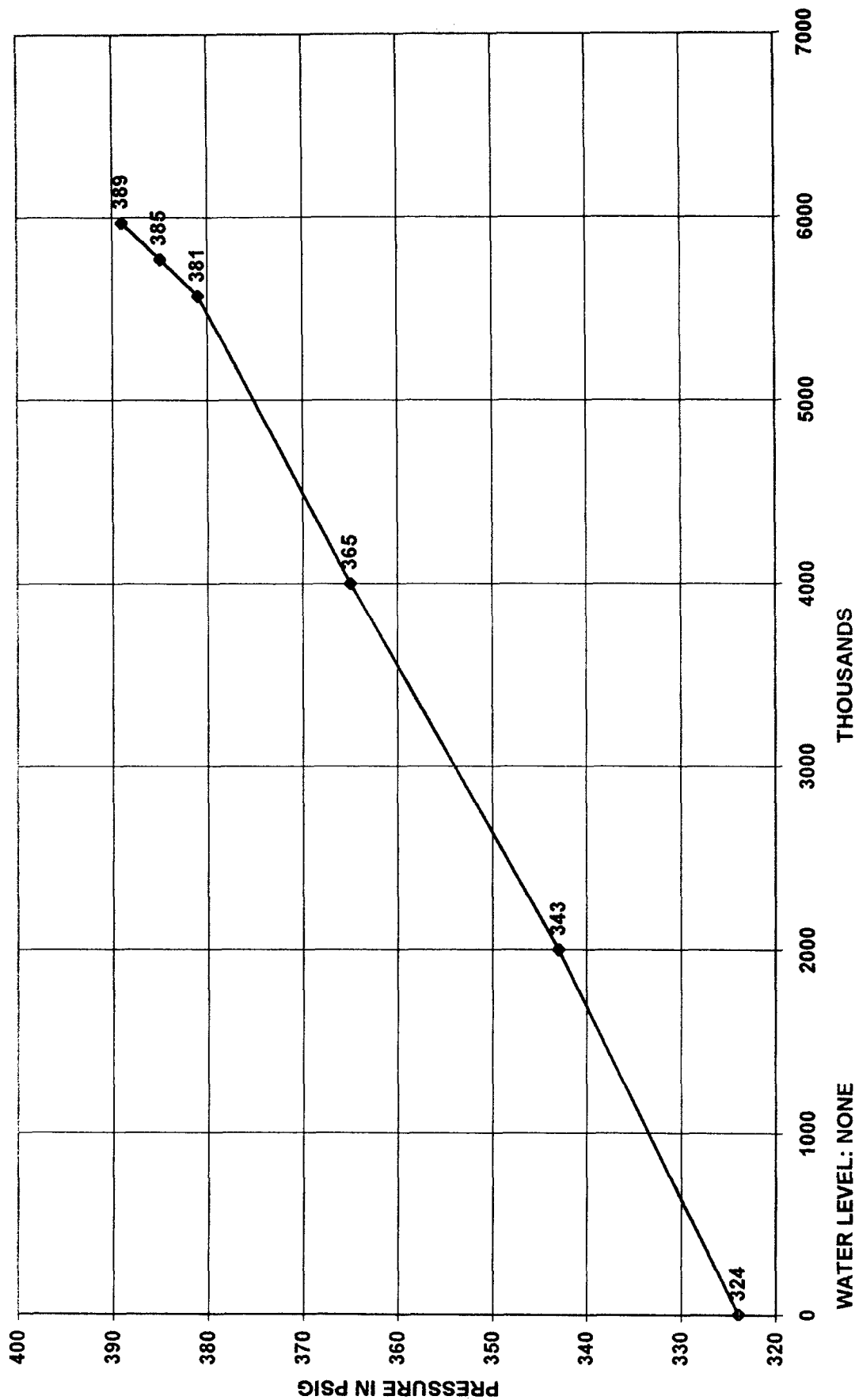
H & H WIRELINE SERVICE INC.  
P. O. BOX 899  
FLORA VISTA, NEW MEXICO 87415  
OPERATOR: STEVEN HODGES  
UNIT NO. T-8

PHILLIPS PETROLEUM SAN JUAN 29-6 # 51A  
DATE: JUNE 3, 1999





PHILLIPS PETROLEUM SAN JUAN 29-6 # 51  
DATE: NOVEMBER 23, 1999



MEP81-01

PARPI - WELLZONE PRODUCTION BROWSE

Date: 12/07/99

MONTHLY TOTALS

User: MWSTODO

Wellzone F0260 01 Yr: 1998 Mth: 10 Property: 650112 SAN JUAN 29-6 MESA VERDE

Screen: 1 (1-Prod, 2-Inj, 3-Both) Well No: 000016

Type: T (T-Total, D-Daily Avg) Field: 070724 BLANCO

Period: M (M-Mnthly, Y-Yrly, C-Cum) Resvr: 20002 MESAVERDE

ADJ	PRODUCED				DAYS		WELL			
FLG DATE	OIL (BBL)	GAS (MCF)	WATER (BBL)	PROD	OP	ST	CL	TY		
1998-10	0.00	3,973	0	31.00	31	11	03	2		
1998-11	0.00	3,863	0	30.00	30	11	03	2		
1998-12	0.00	4,333	0	31.00	31	11	03	2		
1999-01	0.00	4,053	0	31.00	31	11	03	2		
1999-02	0.00	3,313	0	28.00	28	11	03	2		
1999-03	0.00	3,343	0	31.00	31	11	03	2		
1999-04	0.00	3,615	0	30.00	30	11	03	2		
1999-05	0.00	3,364	0	31.00	31	11	03	2		
1999-06	0.00	3,166	0	30.00	30	11	03	2		
1999-07	0.00	4,804	0	31.00	31	11	03	2		
1999-08	0.00	7,069	0	31.00	31	11	03	2		
* 1999-09	0.00	6,007	0	30.00	30	11	03	2		

PA1=ICE PA2=Exit PF1=Help PF3=End PF11=GRAPH  
 Transfer-> PF7=Backward PF8=Forward PF4=PREV SCREEN PF12=LOG GRAPH

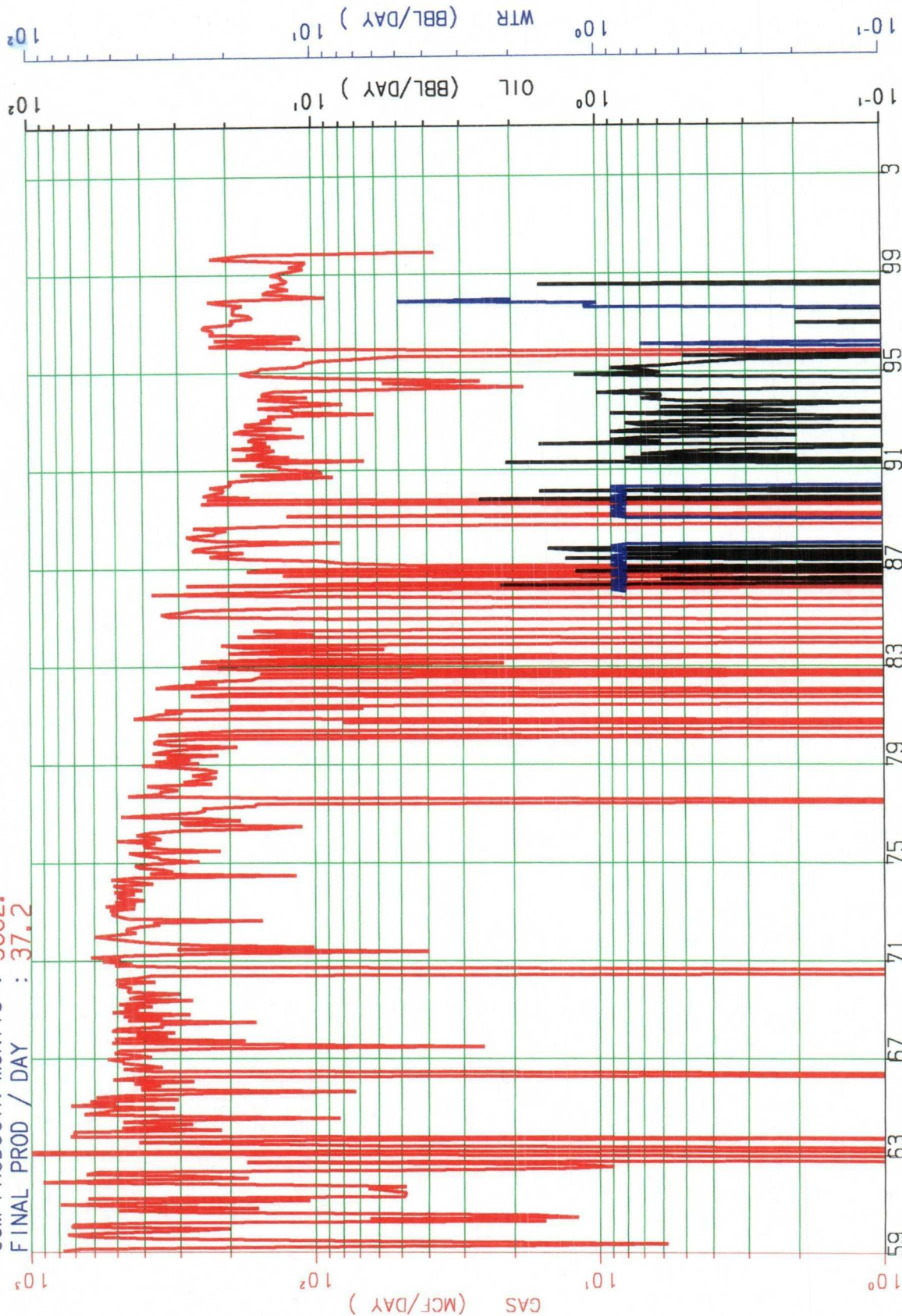
1/59-11/99

INITIAL PROD / DAY : 772.4  
REMAINING LIFE : 40.92  
CUM PRODUCTN-MUNITS : 3662.  
FINAL PROD / DAY : 37.2

ASSOC.

Current Cums

3662. MMCF GAS  
1285. BBL OIL  
1361. BBL WTR



LEASE- 650112 : SAN JUAN 29-6 MESA VERDE  
RESVR- 002 : BLANCO  
WELL - 000016 CUM MMCF= 3965.

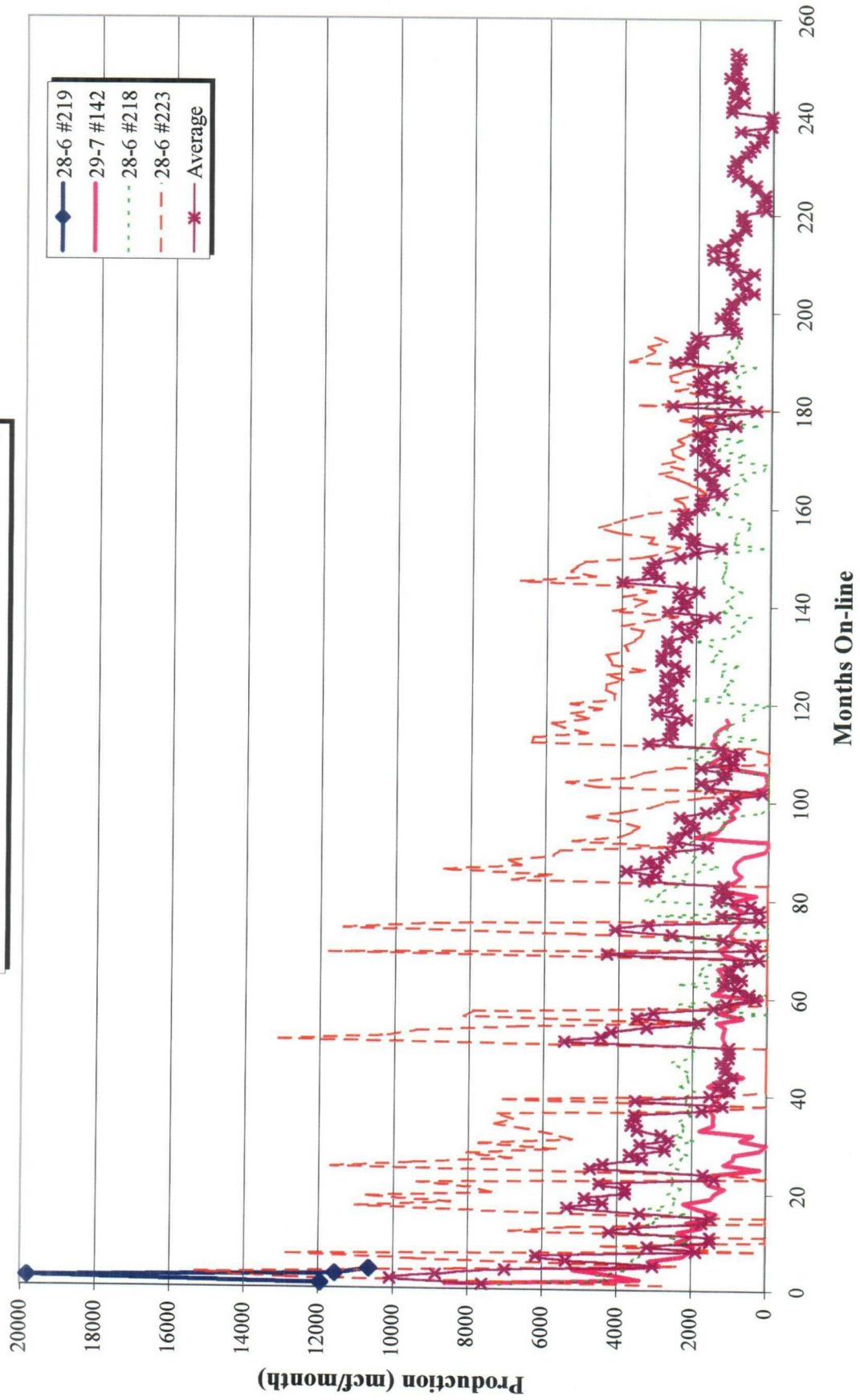
F026001  
ZONE-650112002000016 F026001  
API-30039074710000 THRU 99/11

### San Juan 29-6 #16 Pictured Cliffs Forecast

<i>Initial Production Rate</i>	=	350	MCFD
<i>Hyperbolic Exponent</i>	=	0.33	
<i>Decline Rate</i>	=	27.360	%

Month	Days	Cum. Days	Initial q MCFD	Final q MCFD	Average q MCFD	Cum. MCF	<i>Monthly MCF</i>
Dec-99	31	31	350	342	346	10,725	<b>10,725</b>
Jan-00	31	62	342	335	338	21,206	<b>10,481</b>
Feb-00	28	90	335	327	331	30,468	<b>9,262</b>
Mar-00	31	121	327	320	324	40,504	<b>10,035</b>
Apr-00	30	151	320	313	316	50,002	<b>9,499</b>
May-00	31	182	313	306	310	59,604	<b>9,601</b>
Jun-00	30	212	306	300	303	68,819	<b>9,215</b>
Jul-00	31	243	300	293	296	78,008	<b>9,189</b>
Aug-00	31	274	293	287	290	86,997	<b>8,990</b>
Sep-00	30	305	287	281	284	95,630	<b>8,632</b>
Oct-00	31	336	281	275	278	104,241	<b>8,612</b>
Nov-00	30	366	275	269	272	112,513	<b>8,272</b>
Dec-00	31	397	269	264	267	120,768	<b>8,254</b>
Jan-01	31	428	264	258	261	128,849	<b>8,082</b>
Feb-01	28	456	258	253	256	136,004	<b>7,155</b>
Mar-01	31	487	253	248	251	143,770	<b>7,766</b>
Apr-01	30	518	248	243	246	151,235	<b>7,465</b>
May-01	31	549	243	238	241	158,689	<b>7,454</b>

Pictured Cliffs Production  
(Area near SW corner of San Juan 29-6 Unit)



### Production Allocation Methodology

◆ Adding New Zone to Existing Zone - Initially Subtraction Method followed by Fixed Allocation Method

- Subtraction Method (+/- 1st 12 months)
  - Forecast production rate by month for existing zone utilizing established decline curve for zone
  - Subtract forecasted rate from commingled rate to define new zone rate
  - Utilize subtraction method for +/- 12 months until new zone rate stabilizes, then utilize fixed allocation method with current rates
- Fixed Allocation Method (after Subtraction Method)
  - Utilize forecasted rate from established decline curve for lower zone
  - Calculate upper zone rate by subtracting lower zone rate from commingled rate
  - Lower zone allocation =  $\frac{\text{Lower zone rate}}{\text{Commingled rate}}$
  - Upper zone allocation =  $\frac{(\text{Commingled rate} - \text{Lower zone rate})}{\text{Commingled rate}}$