

DATE 4/19/01	SUSPENSE 5/9/01	ENGINEER DC	LOGGED IN KN	TYPE DHC	APP NO. 111645961
--------------	-----------------	-------------	--------------	----------	-------------------

AMEND

ABOVE THIS LINE FOR DIVISION USE ONLY

#736

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION COVERSHEET

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

Application Acronyms:

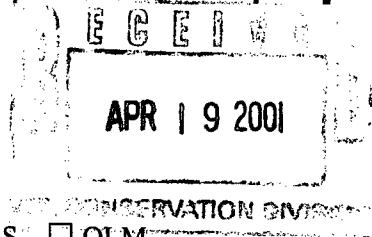
[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance 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 - Simultaneous Dedication
☐ NSL ☐ NSP ☐ 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 reviewed the 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.

Peggy Cole

Print or Type Name

Signature

Regulatory Supervisor

Title

Date

pbradfield@br-inc.com
 e-mail Address

District I
1625 N. French Drive, Hobbs, NM 88240

District II
811 South First Street, Artesia, NM 88210

District III
1000 Rio Brazos Road, Aztec, NM 87410

District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-107A
Revised May 15, 2000

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, New Mexico 87505

APPLICATION TYPE

☒ Single Well

☐ Establish Pre-Approved Pools

EXISTING WELLBORE

☒ Yes ☐ No

APPLICATION FOR DOWNHOLE COMMINGLING

Burlington Resources Oil and Gas

3401 East 30th Street, Farmington, New Mexico

Operator

Address

Angel Peak B

22E

F-13-028N-011W

San Juan

Lease

Well No.

Unit Letter-Section-Township-Range

County

OGRID No. 14538 Property Code 6788 API No. 30-045-25530 Lease Type: ☒ Federal ☐ State ☐ Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Otero Chacra	Armenta Gallup	Basin Dakota
Pool Code	82329	2290	71599
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	Will be supplied upon completion	5435-6064'	6300-6418'
Method of Production (Flowing or Artificial Lift)	New Zone	Artificial Lift	Artificial Lift
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)	Original – 361 psi From ANGEL PEAK #21 - OFFSET (see attachment)	Current – 137 psi Original – 349 psi (see attachment)	Current – 347 psi Original – 594 psi (see attachment)
Oil Gravity or Gas BTU (Degree API or Gas BTU)	BTU 1046 From ANGEL PEAK #21 - OFFSET	BTU 1207 – 11/97	BTU 1176 – 5/98
Producing, Shut-In or New Zone	New Zone	Producing	Producing
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: N/A Rates:	Date: Dec 2000 – Feb 2001 Rates: 10 MCPFD Commingled w/DK	Date: Dec 2000 – Feb 2001 Rates: 14 MCPFD Commingled w/GL
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil Gas Supplied Upon Completion	Oil Gas Supplied Upon Completion	Oil Gas Supplied Upon Completion

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones?

Yes ☒ No ☐

Are all produced fluids from all commingled zones compatible with each other?

Yes ☒ No ☐

Will commingling decrease the value of production?

Yes ☐ No ☒

If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application?

Yes ☒ No ☐

NMOCD Reference Case No. applicable to this well: _____

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.
- Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

List of other orders approving downhole commingling within the proposed Pre-Approved Pools

List of all operators within the proposed Pre-Approved Pools

Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.

Bottomhole pressure data.

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

SIGNATURE J. Thomas Loveland TITLE Production Engineer DATE 4/18/01

nco

TYPE OR PRINT NAME Lafell Thomas Loveland TELEPHONE NO. (505) 326-9700

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 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 30-045-25530		² Pool Code 82329/2290/71599		³ Pool Name Otero Chacra/Armenta Gallup/Basin Dakota	
⁴ Property Code 6788		⁵ Property Name Angel Peak B			⁶ Well Number 22E
⁷ OGRID No. 14538		⁸ Operator Name Burlington Resources Oil & Gas Company LP			⁹ Elevation 5822' GR

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
F	13	28N	11W		1750'	North	1650'	West	SJ

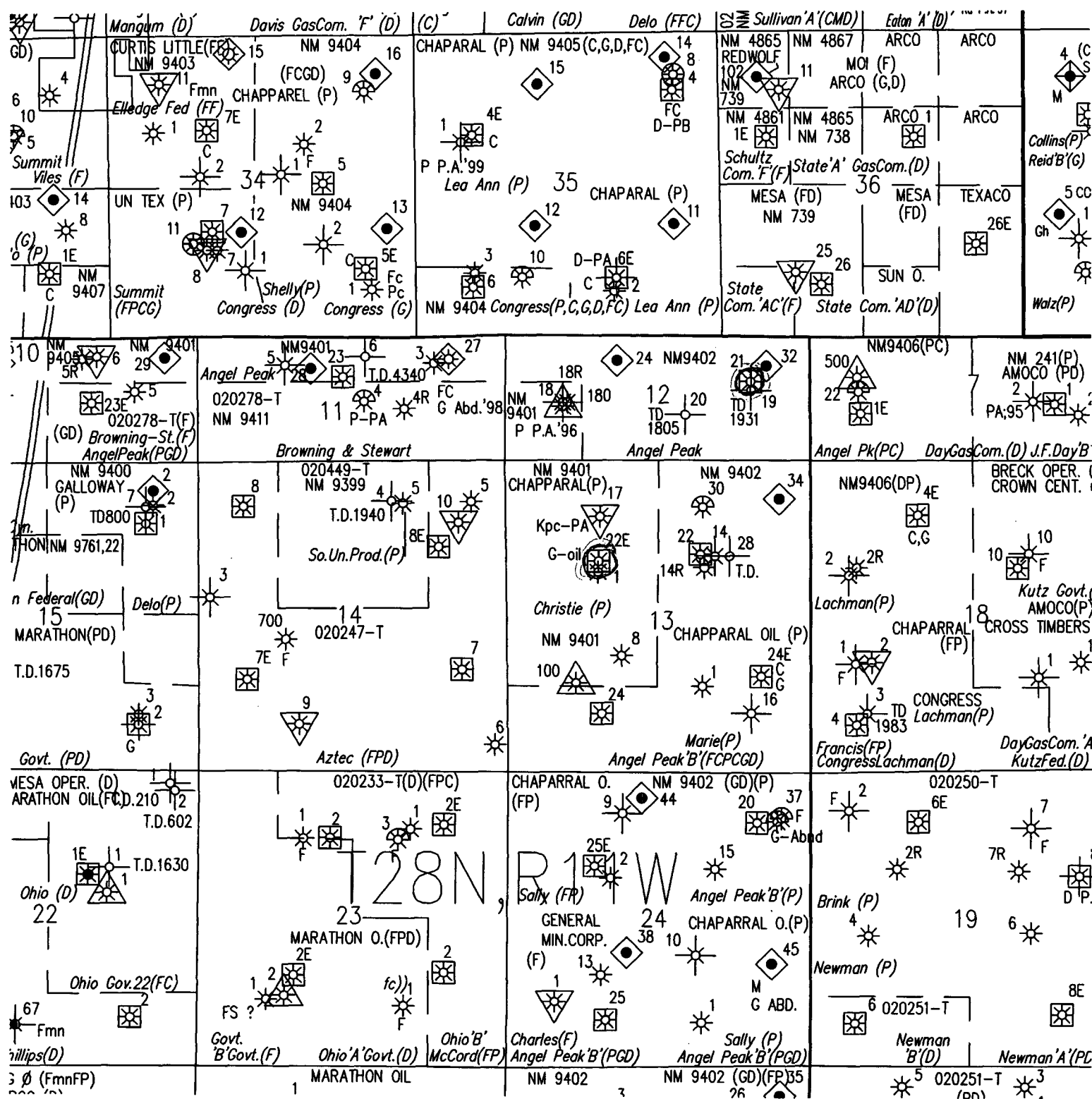
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres Gal - 40 DK--N/320	¹³ Joint or Infill Cha-160	¹⁴ Consolidation Code	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 				¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief	
				Signature <u>Peggy Cole</u> Printed Name <u>Regulatory Supervisor</u> Title Date	
Original plat from Michael Daly 10-21-82				¹⁸ 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 supervision, and that the same is true and correct to the best of my belief.	
				Date of Survey Signature and Seal of Professional Surveyer:	
				Certificate Number	



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.5.

5. LEASE DENIGATION AND SERIAL NO.

SF 047017-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Angel Peak "B"

9. WELL NO.

22-E

10. FIELD AND POOL, OR WILDCAT

Wildcat Gallup

11. SEC., T., R., M., OR BLOCK AND SURVEY
OR AREASec. 13, T28N, R11W,
N.M.P.M.12. COUNTY OR
PARISH

San Juan

13. STATE

New Mexico

1a. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ DRY ☐ Other

b. TYPE OF COMPLETION:

NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. REVR. ☐ Other

2. NAME OF OPERATOR

Union Texas Petroleum Corporation

3. ADDRESS OF OPERATOR

P.O. Box 808, Farmington, New Mexico 87499

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface 1750 ft./N; 1650 ft./W line

At top prod. interval reported below Same as above

At total depth Same as above

14. PERMIT NO.

DATE ISSUED

15. DATE SPUDDED

12/26/82

16. DATE T.D. REACHED

1/4/83

17. DATE COMPL. (Ready to prod.)

3/19/83

18. ELEVATIONS (DF, REB, RT, GR, ETC.)*

5834 R.K.B.

19. ELEV. CASINGHEAD

5822

20. TOTAL DEPTH, MD & TVD

6640 MD & TVD

21. PLUG, BACK T.D., MD & TVD

6550 MD & TVD

22. IF MULTIPLE COMPL.,
HOW MANY*

2

23. INTERVALS
DRILLED BY

ROTARY TOOLS

0-6640

CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

5435 - 6064 Gallup (MD & TVD)

25. WAS DIRECTIONAL
SURVEY MADE

No

26. TYPE ELECTRIC AND OTHER LOGS RUN

Dual Ind. Foc. Log, Comp. Dens., Comp. Neutron, Gamma-Ray

27. WAS WELL CORED

No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9-5/8"	40.00	328	12-1/4"	See Reverse Side	
7"	23.00	6633	8-3/4"	See Reverse Side	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-3/8" E.U.E.	5870	6207

31. PERFORATION RECORD (Interval, size and number)

See Attachment

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
See Attachment	

33.*

PRODUCTION

DATE FIRST PRODUCTION

3/22/83

PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)

Flowing

WELL STATUS (Producing or shut-in)

Producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
5/3/83	24	1-1/4"	→	10	145	2	14,500
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
193	302	→	10	145	2	40°	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

Sold

TEST WITNESSED BY

Bennie Brown

35. LIST OF ATTACHMENTS

Perforation and Fracture Record

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

Kenneth E. Roddy

TITLE

Area Production Supt.

DATE

May 4, 1983

*(See Instructions and Spaces for Additional Data on Reverse Side)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLI

(See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other _____				5. LEASE DESIGNATION AND SERIAL NO. SF 047017-A	
b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other _____				6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR Union Texas Petroleum Corporation				7. UNIT AGREEMENT NAME	
3. ADDRESS OF OPERATOR P.O. Box 808, Farmington, New Mexico 87499				8. FARM OR LEASE NAME Angel Peak "B"	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 1750 ft./N; 1650 ft./W line				9. WELL NO. 22-E	
At top prod. interval reported below Same as above				10. FIELD AND POOL, OR WILDCAT Basin Dakota	
At total depth Same as above				11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA Sec. 13, T28N, R11W, N.M.P.M.	
14. PERMIT NO.		DATE ISSUED		12. COUNTY OR PARISH San Juan	13. STATE New Mexico
15. DATE SPUDDED 12/26/82	16. DATE T.D. REACHED 1/4/83	17. DATE COMPL. (Ready to prod.) 3/10/83	18. ELEVATIONS (DF, REB, RT, OR, ETC.)* 5834 R.K.B.	19. ELEV. CASINGHEAD 5822	
20. TOTAL DEPTH, MD & TVD 6640 MD & TVD	21. PLUG BACK T.D., MD & TVD 6550 MD & TVD	22. IF MULTIPLE COMPL., HOW MANY* 2	23. INTERVALS DRILLED BY →	ROTARY TOOLS 0-6640	CABLE TOOLS -----
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 6300 - 6418 Dakota (MD & TVD)				25. WAS DIRECTIONAL SURVEY MADE No	
26. TYPE ELECTRIC AND OTHER LOGS RUN Dual Ind. Foc. Log, Comp. Dens., Comp. Neutron, Gamma Ray				27. WAS WELL CORRED No	
28. CASING RECORD (Report all strings set in well)					
CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9-5/8"	40.00	328	12-1/4"	See Reverse Side	
7"	23.00	6633	8-3/4"	See Reverse Side	
29. LINER RECORD					
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	
30. TUBING RECORD					
SIZE	DEPTH SET (MD)	PACKER SET (MD)			
2-3/8" E.U.E.	6310	6207			
31. PERFORATION RECORD (Interval, size and number) 1-0.40" hole at each of the following depths: 6300, 01, 02, 03, 6323, 24, 25, 26, 6377, 78, 79, 80, 81, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 6400, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18. (Total of 46 holes)				32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. DEPTH INTERVAL (MD) AMOUNT AND KIND OF MATERIAL USED 6300 - 6418 - 2000 gal. 15% HCl, 135,417 gal. of slick water & nitrogen, and 87,000 lb. of 20-40 sand.	
33. PRODUCTION					
DATE FIRST PRODUCTION 3/10/83		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing			WELL STATUS (Producing or shut-in) Shut-In
DATE OF TEST 4/20/83	HOURS TESTED 3	CHOKER SIZE 3/4"	PROD'N. FOR TEST PERIOD →	OIL—BBL. 46	GAS—MCF. 367
FLOW. TUBING PRESS. 20	CASING PRESSURE ---	CALCULATED 24-HOUR RATE →	OIL—BBL. ---	GAS—MCF. ---	WATER—BBL. ---
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Vented				TEST WITNESSED BY Clifton Gates	
35. LIST OF ATTACHMENTS None					
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records					
SIGNED Kenneth E. Roddy		TITLE Area Production Supt.		DATE May 4, 1983	

*(See Instructions and Spaces for Additional Data on Reverse Side)

ANGEL PEAK B #22E

Bottom Hole Pressures

Flowing and Static BHP

Cullender and Smith Method

Version 1.0 3/13/94

CHACRA		GALLUP	
<u>CH-Current</u>		<u>GL-Current</u>	
GAS GRAVITY	0	GAS GRAVITY	0.7104
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0	%N2	0.28
%CO2	0	%CO2	1.62
%H2S	0	%H2S	0
DIAMETER (IN)	0	DIAMETER (IN)	1.995
DEPTH (FT)	0	DEPTH (FT)	5750
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	0	BOTTOMHOLE TEMPERATURE (DEG F)	125
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	0	SURFACE PRESSURE (PSIA)	119
BOTTOMHOLE PRESSURE (PSIA)	#DIV/0!	BOTTOMHOLE PRESSURE (PSIA)	137.1
<u>CH-Original</u>		<u>GL-Original</u>	
GAS GRAVITY	0.5831	GAS GRAVITY	0.6976
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.18	%N2	0.4
%CO2	0.31	%CO2	2.21
%H2S	0	%H2S	0
DIAMETER (IN)	1.995	DIAMETER (IN)	1.995
DEPTH (FT)	2895	DEPTH (FT)	5750
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	92	BOTTOMHOLE TEMPERATURE (DEG F)	125
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	339	SURFACE PRESSURE (PSIA)	302
BOTTOMHOLE PRESSURE (PSIA)	360.7	BOTTOMHOLE PRESSURE (PSIA)	348.7

ANGEL PEAK B #22E

Bottom Hole Pressures

Flowing and Static BHP

Cullender and Smith Method

Version 1.0 3/13/94

DAKOTA			
<u>DK-Current</u>		<u>Current</u>	
GAS GRAVITY	0.6919	GAS GRAVITY	0
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.3	%N2	0
%CO2	1.7	%CO2	0
%H2S	0	%H2S	0
DIAMETER (IN)	1.995	DIAMETER (IN)	0
DEPTH (FT)	6359	DEPTH (FT)	0
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	131	BOTTOMHOLE TEMPERATURE (DEG F)	137
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	297	SURFACE PRESSURE (PSIA)	0
BOTTOMHOLE PRESSURE (PSIA)	347.4	BOTTOMHOLE PRESSURE (PSIA)	#DIV/0!
<u>DK-Original</u>		<u>Original</u>	
GAS GRAVITY	0.6901	GAS GRAVITY	0
COND. OR MISC. (C/M)	C	COND. OR MISC. (C/M)	C
%N2	0.46	%N2	0
%CO2	1.63	%CO2	0
%H2S	0	%H2S	0
DIAMETER (IN)	1.995	DIAMETER (IN)	0
DEPTH (FT)	6359	DEPTH (FT)	0
SURFACE TEMPERATURE (DEG F)	60	SURFACE TEMPERATURE (DEG F)	60
BOTTOMHOLE TEMPERATURE (DEG F)	131	BOTTOMHOLE TEMPERATURE (DEG F)	137
FLOWRATE (MCFPD)	0	FLOWRATE (MCFPD)	0
SURFACE PRESSURE (PSIA)	505	SURFACE PRESSURE (PSIA)	0
BOTTOMHOLE PRESSURE (PSIA)	593.9	BOTTOMHOLE PRESSURE (PSIA)	#DIV/0!

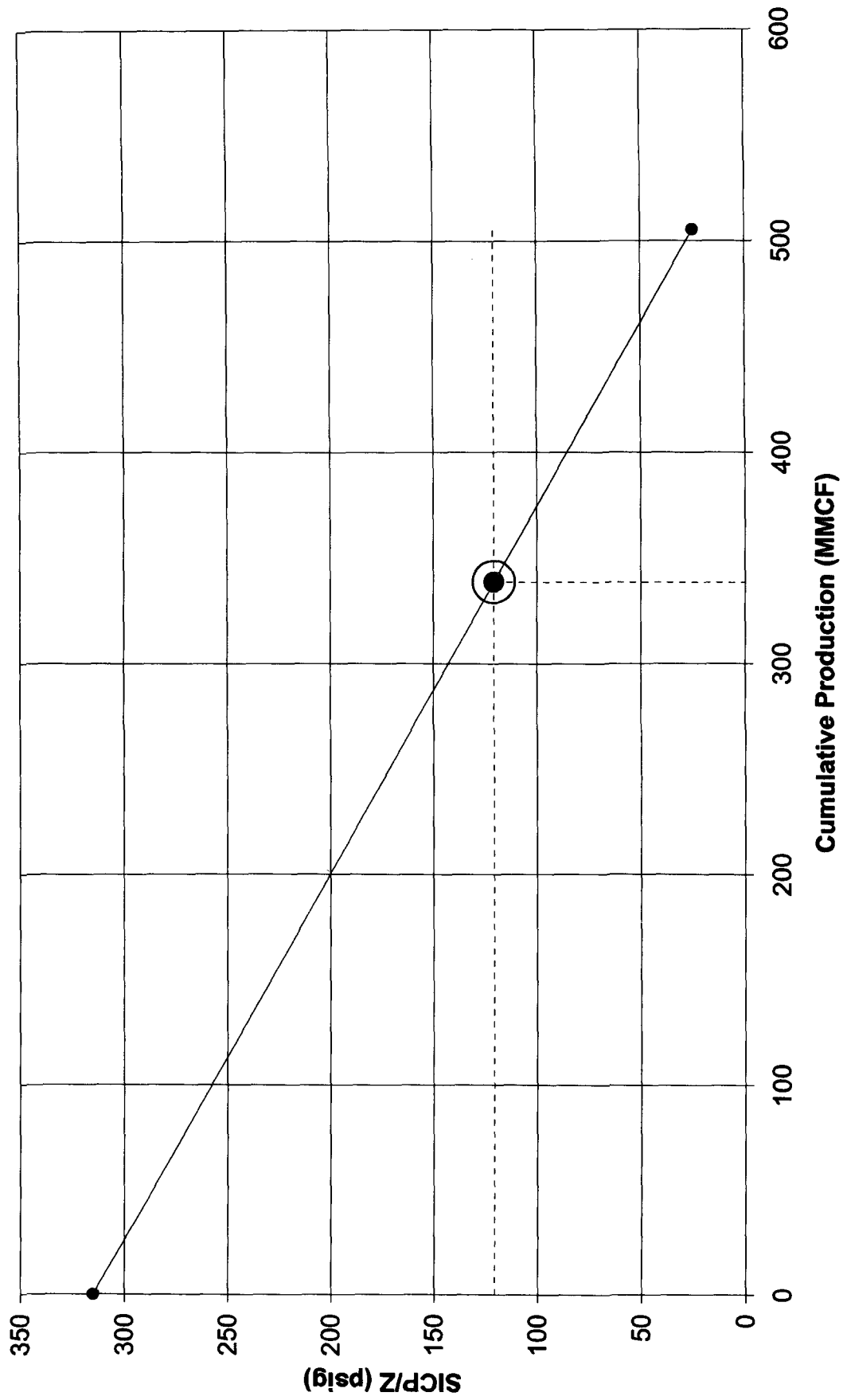
Angel Peak B #22E - SICP/Z Data

Zone: Gallup							
Date	SICP (psig)	Chromatograph Used	Z-Factor	SICP/Z (psig)	Cum Qg (MMCF)	Slope	Y Intercept
5/4/1983	302	7/23/1991	0.9586	315	0	N/A	315
2/28/2001	34	7/23/1991	1	25	505.153	-0.574168	315
						↓	↓
12/31/2000	???	7/23/1991	???	121	338.55	-0.574168	315
Z-Factor = 0.9822 SICP (psig) = 119							

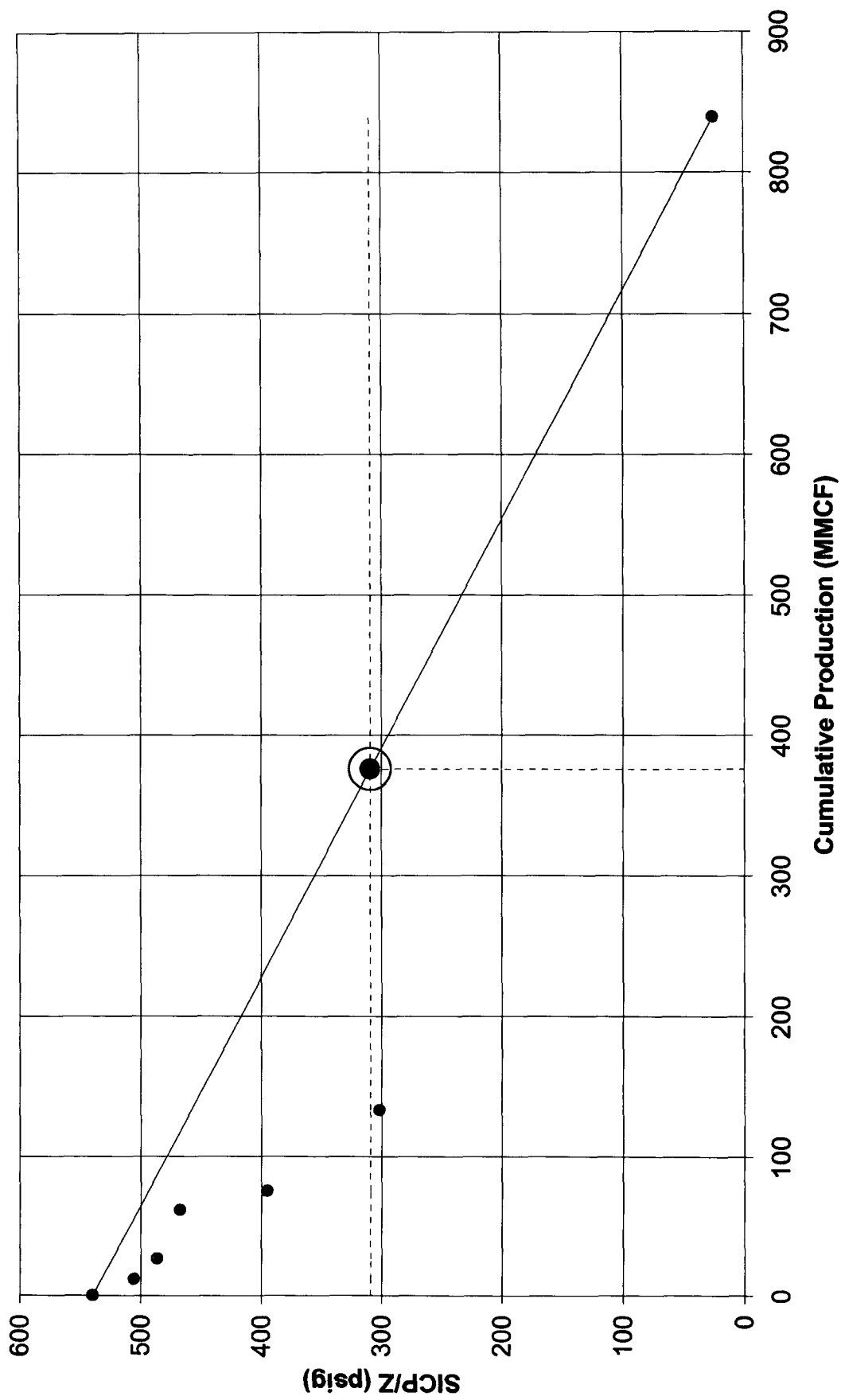
Zone: Dakota							
Date	SICP (psig)	Chromatograph Used	Z-Factor	SICP/Z (psig)	Cum Qg (MMCF)	Slope	Y Intercept
4/20/1983	505	7/1/1990	0.9355	540	0	N/A	540
5/1/1984	475	7/1/1990	0.9391	506	11.718	-2.902786	540
7/2/1985	458	7/1/1990	0.9411	487	26.372	-2.015537	540
4/20/1988	441	7/1/1990	0.9432	468	61.68	-1.171547	540
4/18/1990	376	7/1/1990	0.9511	395	75.323	-1.918226	540
4/29/1992	290	7/1/1990	0.9617	302	133.064	-1.790634	540
2/28/2001	34	7/1/1990	1	25	839.158	-0.613494	540
						↓	↓
12/31/2000	???	7/1/1990	???	309	375.802	-0.613494	540
Z-Factor = 0.9594 SICP (psig) = 297							

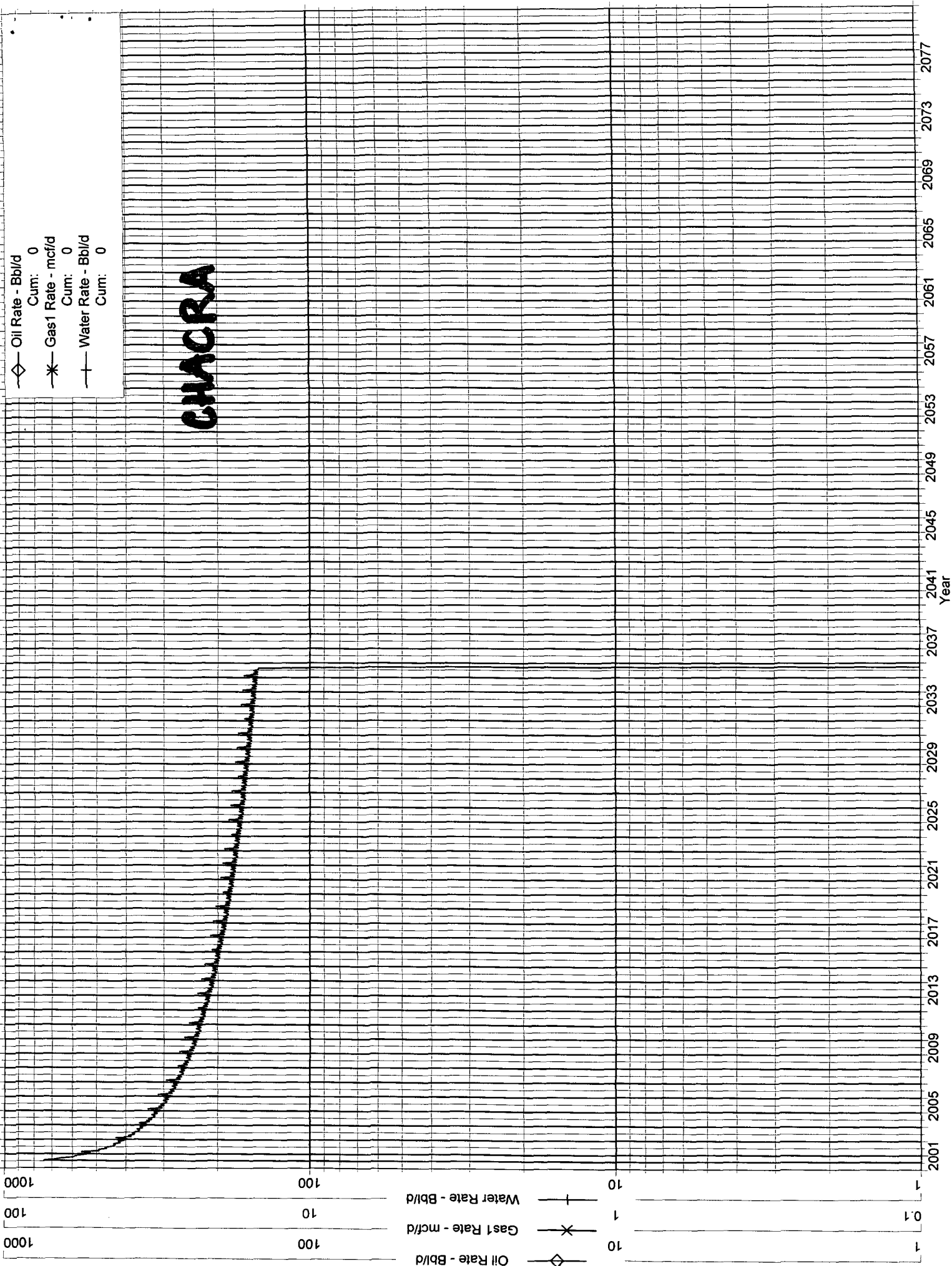
NOTE: FOR THE DAKOTA, EXTENDING A STRAIGHT LINE FROM THE FIRST PRESSURE POINT (5/4/83) THROUGH THE LATEST ACTUAL PRESSURE POINT (4/29/92) RESULTS IN AN ESTIMATE OF THE CURRENT SICP AS APPROXIMATELY -963 PSIG. BECAUSE THE SICP/Z VS. CUMULATIVE PRODUCTION PROFILE FOR A TIGHT ZONE SUCH AS THE DAKOTA WILL RESEMBLE A HYPERBOLIC DECLINE, IT IS KNOWN THAT NEAR-WELLBORE PRESSURE, AND HENCE SICP, WILL BE MAINTAINED LONGER THAN THIS PREDICTS. TO ARRIVE AT OUR ESTIMATE OF THE CURRENT SICP, RATE-TIME ANALYSIS WAS USED TO OBTAIN AN ULTIMATE RECOVERY FOR THE ZONE (505.153 MMCF FOR GALLUP AND 839.158 MMCF FOR DAKOTA) AT A SICP OF 25 PSIG (AVERAGE LINE PRESSURE FOR JANUARY-FEBRUARY 2001). THEN, A STRAIGHT LINE FROM THE INITIAL PRESSURE POINT TO THIS ULTIMATE RECOVERY AT 25 PSIG ALLOWED THE CALCULATION OF THE SICP FOR A CUMULATIVE RECOVERY OF 338.55 MMCF FOR GALLUP AND 375.802 MMCF FOR DAKOTA (12/31/00).

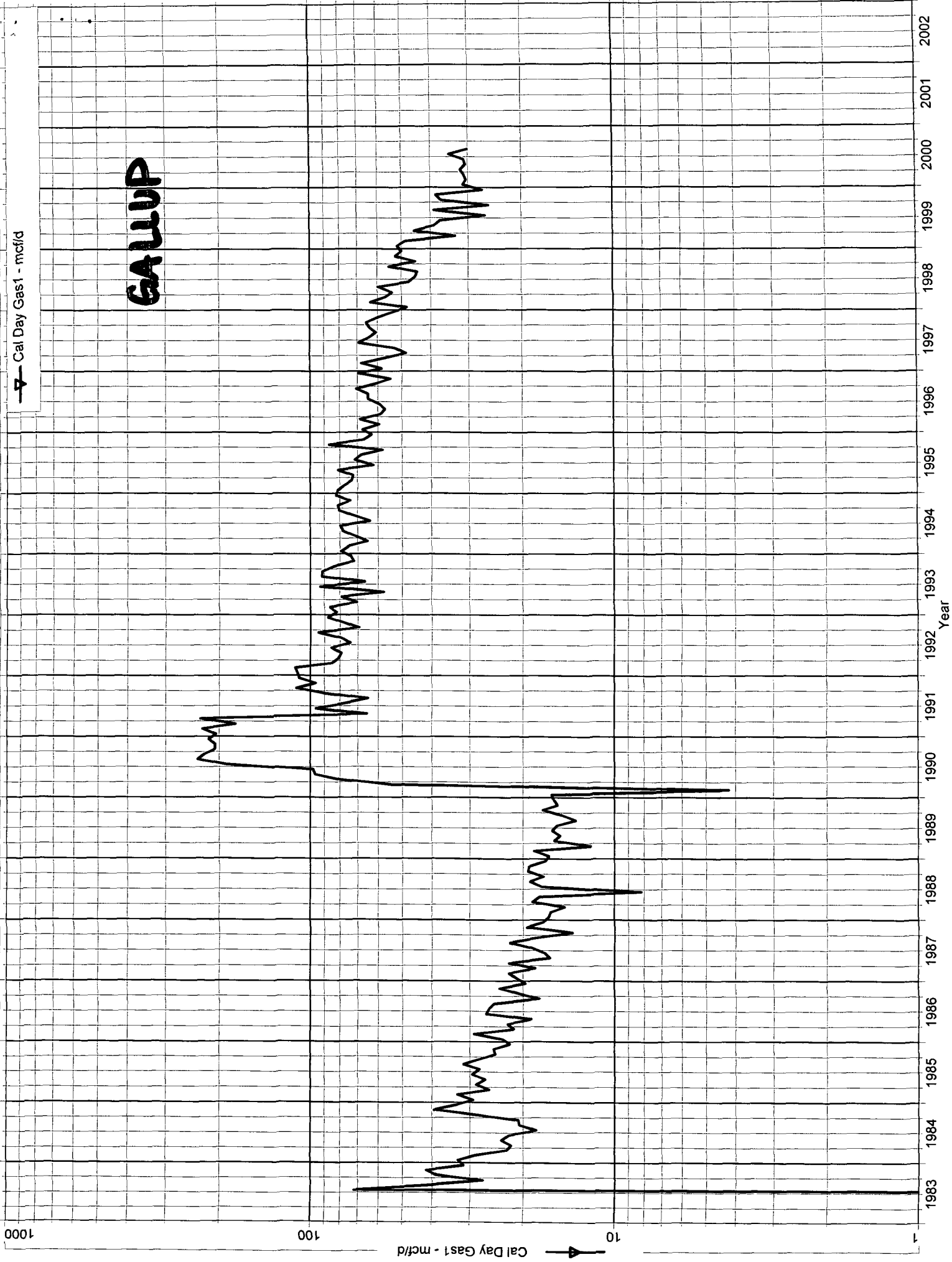
Angel Peak B #22E (GL)

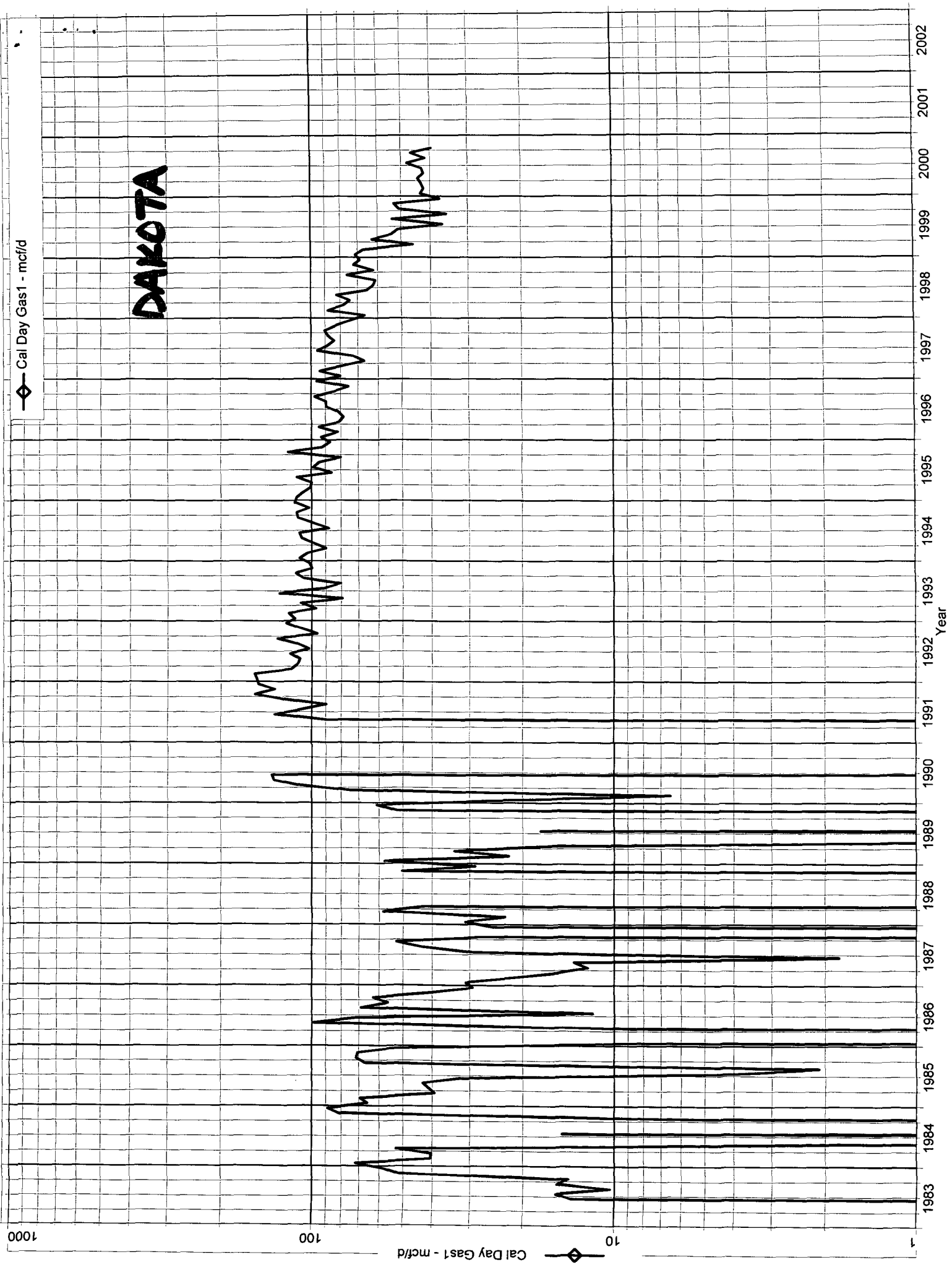


Angel Peak B #22E (DK)









TOW/cs Production Accounting - [Gas Analysis Information]

File Edit Tools Window Help



Name ANGEL PEAK B 22E DK/GLP 146033

Analysis Name

Analysis: 1:1

Analysis

Effective Date	05/01/1998	Hydrogen (H2)	MOL Fraction	MOL Count
			0.00000	0.0000
Sample Date	05/06/1998	Helium (He)	0.00000	0.0000
Pressure Base BTU	14.7300	Nitrogen (N2)	0.00300	0.0000
Wet/Dry	Dry	Carbon Dioxide (CO2)	0.01700	0.0000
Heat Content	1.17600000	Hydrogen Sulphide (H2S)	0.00000	0.0000
Specific Gravity	0.000	Methane (C1)	0.83940	0.0000
Coefficient Factor		Ethane (C2)	0.08700	2.3273
Calculation Type		Propane (C3)	0.02590	0.7130
☐ Enter Percentages		Isobutane (IB4)	0.00640	0.2093
☐ Enter GPM		Butane	0.00890	0.2806
Related To		Isopentane (IP5)	0.00390	0.1427
O2%	0.00000	Pentane (P5)	0.00260	0.0942
Hexane Plus GPM	0.2574	Hexane (C6)	0.00000	0.0000
C9 %	0.00590	Heptane (C7)	0.00000	0.0000
		Final Totals	Total	0.9941

05/01/1998 1:1



Name ANGEL PEAK 21 146042

Analysis Name

Analysis: 1:1

Analysis

		MOL Fraction		MOL Count
Effective Date	03/01/1998	Hydrogen (H2)	0.00000	0.0000
		Helium (He)	0.00000	0.0000
Sample Date	03/02/1998	Nitrogen (N2)	0.00180	0.0000
Pressure Base BTU	14.7300	Carbon Dioxide (CO2)	0.00310	0.0000
Wet/Dry	Dry	Hydrogen Sulphide (H2S)	0.00000	0.0000
Heat Content	1.04600000	Methane (C1)	0.95440	0.0000
Specific Gravity	0.831 1.800	Ethane (C2)	0.03130	0.8373
Coefficient Factor		Propane (C3)	0.00770	0.2122
Calculation Type		Isobutane (IB4)	0.00110	0.0360
☐ Enter Percentages		Butane	0.00030	0.0095
☐ Enter GPM		Isopentane (IP5)	0.00010	0.0037
		Pentane (P5)	0.00010	0.0036
		Hexane (C6)	0.00000	0.0000
		Heptane (C7)	0.00000	0.0000
02%	0.00000	Final Totals	Total	0.9999
Hexane Plus GPM	0.0044			
C9 %	0.00010			

03/01/1998

2:3