NEW MEXICO OIL CONSERVATION COMMISSION — Form C-122
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL — Revised 9-1-63

Type Test: [X] Initial [ ] Annual [ ] Special				Test Date: 6/22/95	API Number: 30-021-20086
Company: Amoco Corporation		Connection: Wellhead Sales to CO2 Services			
Pool: N/A		Formation: Tubb			Unit: BDCDGU
Completion Date: 7/28/95 sales	Total Depth: 2321	Plug Back Depth: 2266		Elevation: 4556 RDB	Farm or Lease Name: Bravo Dome
Csg. Size: 5-1/2 / Wt.: 14	Csg. Inside Dia.: 5.012 / Set At: 2321	Perforations From: 2123 To: 2242			Well Number: 1930-251-J
Tbg. Size: 2-3/8 J55 / Wt.: 4.7	Tbg. Inside Dia.: 1.995 / Set At.: 2086	Perforations From: x To: x			Unit Sec. Twp. Rge.: sec 25,T-19,R-30
Type well -Single-Bradenhead-G.G. or G.O. Multiple: Single		Packer Set At: 2086			County: Harding
Producing Through: Tubing	Reservoir Temp, F: 95	Mean Annual Temp, F: 60	Baro. Press. - PSIA: 12.2		State: New Mexico

L	H	Gg	%CO2	%N2	%H2S		Prover	Meter Run	Taps
			100	0	0		PITOT		

	FLOW DATA					TUBING DATA		CASING DATA		
NO.	Prover Size	X	Stat. Press psig	Diff.Press. hw	Temp. `F	Press. p.s.i.g.	Temp. `F	Press. p.s.i.g.	Temp. `F	Duration of Flow
SI						535				24 hour
1.	pitot	x	x	x	x	450				60 MIN
2.	pitot	x	x	x	x	400				60 MIN
3.	pitot	x	x	x	x	350				60 MIN
4.	pitot	x	x	x	x	300				60 MIN
5.										

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour) / hw * Pm	Pressure Pm	Flow Temp. Factor Ft	Gravity Factor Fg	Super Compressibility F	Rate of Flo Q, Mcfd
1.						1016
2.						1306
3.						1447
4.						1587
5.						

NO.		Temp, `R		
1.				
2.				
3.				
4.				
5.				

Gas Liquid Hydrocarbon Ratio	N/A Mcf/bbl
A. P. I. Gravity of Liquid Hydroca	N/A Deg.
Specific Gravity Separator Gas	N/A
Specific Gravity Flowing Fluid	1.5192
Critical Pressure	1072 P.S.I.A.
Critical Temperature	548 R

Pc 547.2 Pc^2 299,428

(1) Pc^2 / (P c^2 - P w^2) = 1.483

(2) | P c^2 / | Pc^2-Pw^2 | |^n = 1.220

NO.	P	P w	P w^2	Pc^2 - P w^2
1.		462.2	213,629	85,799
2.		412.2	169,909	129,519
3.		362.2	131,189	168,239
4.		312.2	97,469	201,959
5.				

AOF = Q | P^2 / |Pc^2-Pw^2| |^n = 1,936

Absolute Open Flow: 1,936 Mcfd @ 15.025	Angle of Slope:	Slop: 0.505	
Remarks:			
Approved By Commission:	Conducted By: Bill Prichard	Calculated By: Software	Checked By: Gary Ford

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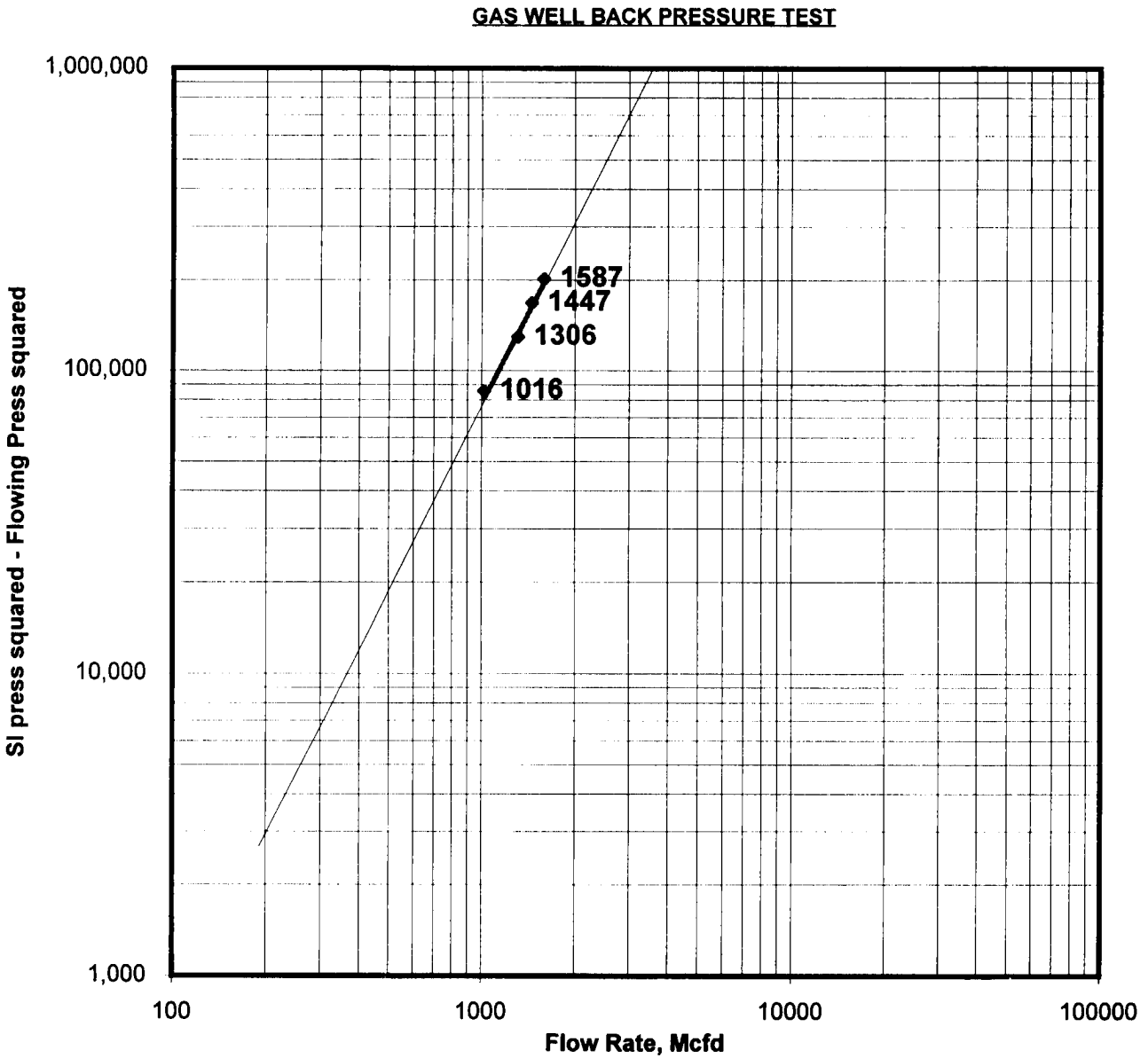
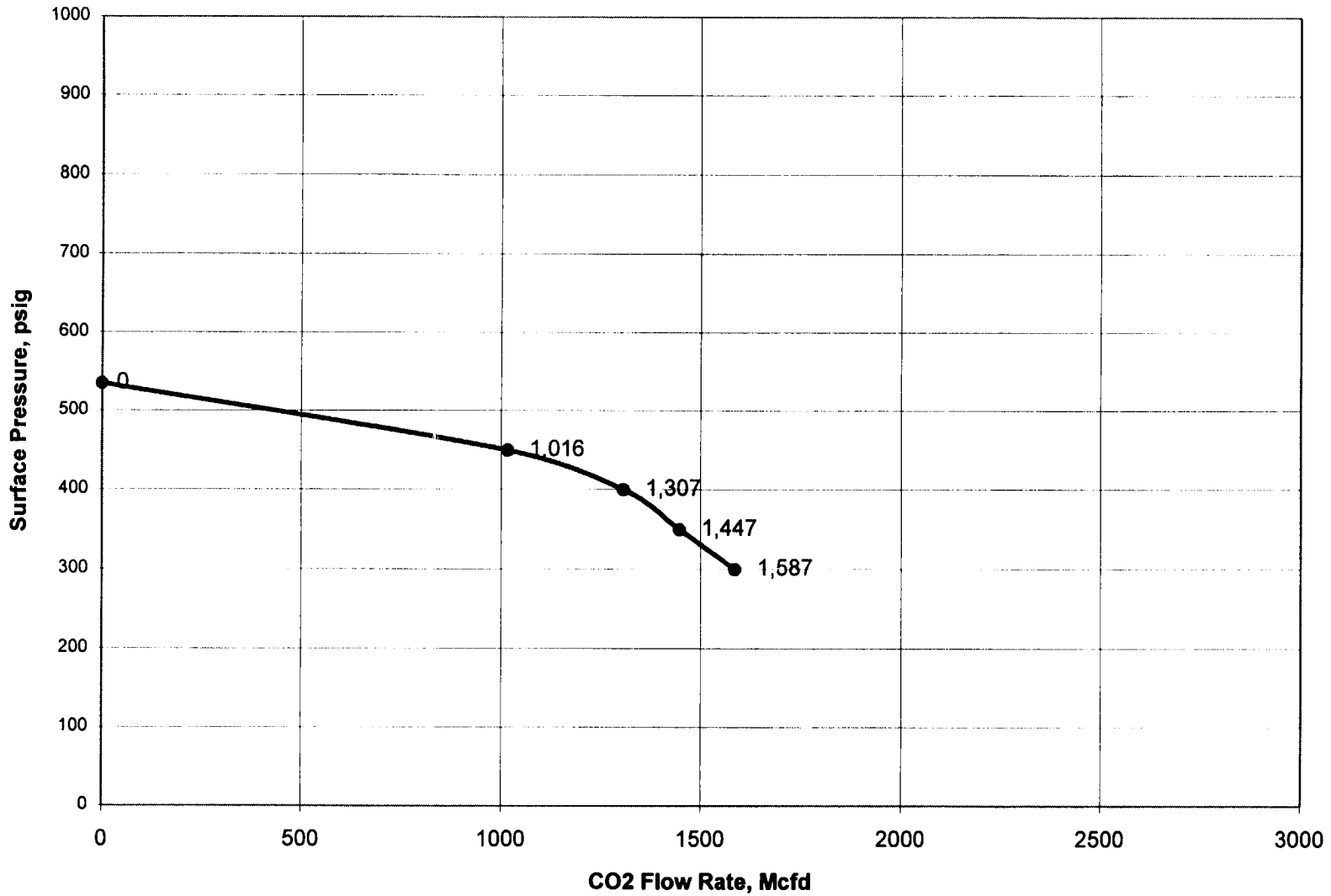

GAS WELL BACK PRESSURE TEST
1,000,000
100,000
10,000
1,000
SI press squared - Flowing Press squared
1587
1447
1306
1016
100
1000
10000
100000
Flow Rate, Mcfd

HOUSPB;DATA;I:\common\bdome\aoftest\C-122.XLS

Bravo Dome 1930-251 J



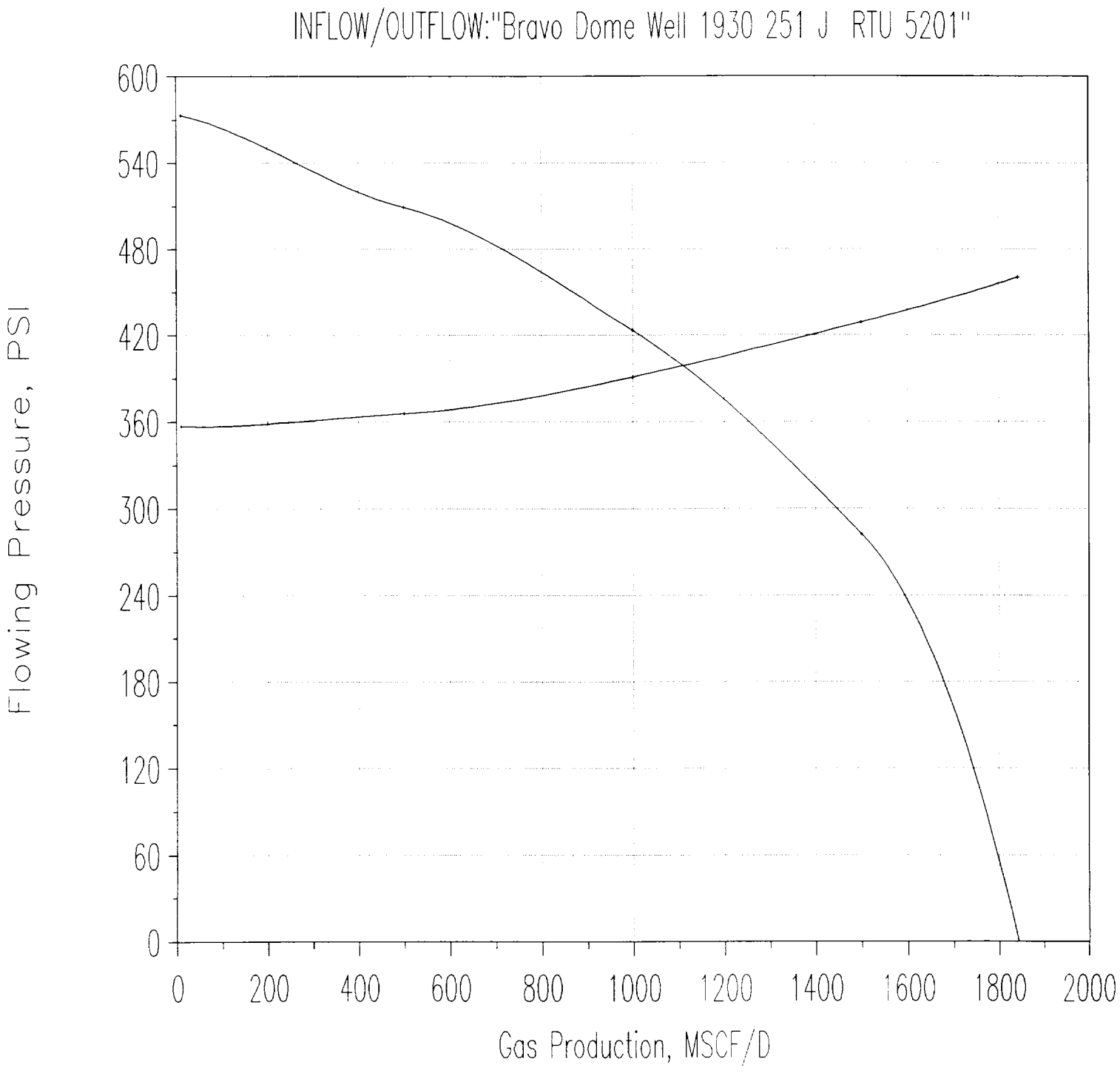
Bravo Dome CO2 Gas Unit

Well No. **1930-251-J**

Calculations to determine 1 / Slope, n value used on form C-122

Flow Rate	Pc^2-Pw^2	Log of Flow Rate	Log of Pc^2-Pw^2	n	1/n	Q1 at 20000 psia	Q2 at 200000 psia	Log of Q1	Log of Q2	n
										auto
1016	85799	3.0068937	4.933482226	**0.516**	**1.939**	730	1598	2.863073	3.20346	**0.340**
1306	129519	3.1159432	5.112333483							
1447	168239	3.1604685	5.225926678			500	1598	2.69897	3.203577	[illegible]
1587	201959	3.2005769	5.305263212							manual
						10315.42	103149.9422			
						4.013487	5.013468989			

	Pitot Tube Pressure	Pitot Tube Flow Rate	Adjustment Factor	Adjusted Flow Rate	Static Pressure
Shut In				0	535
Test 1	10	2,902	0.35	1,016	450
Test 2	16	3,733	0.35	1,307	400
Test 3	19	4,133	0.35	1,447	350
Test 4	22	4,533	0.35	1,587	300
Test 5	22	4,533	0.35	1,587	300



	Flowline ID	Tubing DIA	Sep psi	Perf spf	Bean ID	Pres Inj	Depth Inj	GLR Inj	Skin	WC
B	.000	1.995	308.0	0.	.0	0.	0.	0.	-4.	0.

```
*****************************************************
*   Amoco Nodal Analysis Program for Well System    *
*              SNAP: Version  3.17                  *
*        Copyright 1991 Amoco Corporation           *
*     Copyright 1991 Amoco Production Company       *
*                All Rights Reserved                *
*****************************************************

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SUMMARY  OF INPUT PARAMETERS:
*****************************

 Project ID :  Bravo Dome Well 1930 251 J  RTU 5201
 User Name  :  Gary Ford

Module Selection
****************

         2 Module(s) Have Been Selected for This Study

         (4) VERTICAL MULTIPHASE FLOW
         (7) RESERVOIR INFLOW PERFORMANCE
         Node Is between Modules   4 AND   7

 Multiphase Flow Correlations used for the Simulation
 ***************************************************
Gas Well:
           Gray & Ros Correlation

 Fluid Property Correlations
 ***************************
  Z-Factor Corr.: Hall & Yarborough
   Gas Viscosity Corr.: Lee et al

 End Point Pressure and Temperature Data
 ***************************************

         Discharge Pressure      =       308. PSIG
         Discharge/Surface Temp. =        60.  DEG
         Bottom Hole Temperature =        95.  DEG


 INPUT FOR SEGMENT 1 OF VERTICAL FLOW:
 *************************************

                                                |ANNULAR FLOW ONLY |
        SEGMENT  TUBING ID,  WELLBORE   ANGLE,  TUBING       CASING
           NO.    INCHES     DEPTH,FT  DEGREES  O.D.,INCHES  I.D.,IN
           ---   ---------   --------  -------  ---------    ------
            1     1.995          0.       .00      .000         .00

             Length of Wellbore for above Segment,ft     2200.


 RESERVOIR DATA:
 ***************
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RESERVOIR PRESSURE(PSIG)	=	575.0
TEMPERATURE - BHT (DEG/F)	=	95.0
EFFECTIVE PERMEABILITY (MD)	=	3.5
PERFORATED INTERVAL (FT)	=	43.0
FORMATION THICKNESS (FT)	=	75.0
DRAINAGE RADIUS (FT)	=	2640.0
WELL BORE DIA. (INCHES)	=	5.0
TURBULENCE COEFF., (1/ft)	=	.51377E+10
SKIN FACTOR (Total)	=	-3.9

AOFP FOR OPEN HOLE COMPLETION IN BASE CASE IS 1842.
Flow rates changed by SNAP to accomodate AOFP restriction
New Rates are:
10. 500. 1000. 1500. 1842.

DESIGN VARIABLES -- BASE CASE --
****

FLOWLINE ID,IN	TUBING DIA,IN	DISCHG PSIG	PERF SPF	BEAN DIA,IN	CASING PSIG	DEPTH GAS INJ	INJEC GLR
.000	1.995	308.	0.	.00	0.	-NA-	0.

RESERVOIR PRESSURE (PSI) = 575.0 SKIN FACTOR = -3.9

MODULE PRESSURE DROPS--AT ABOVE DESIGN VARIABLES
****

GAS-MCFD LIQ-B/D	FLOW LINE	CHOKE	SSSV	TUBING (1)	TUBING (2)	PERF/OR GR PACK	SAND FACE P
10.	0.	0.	0.	49.	0.	0.	573.
500.	0.	0.	0.	58.	0.	0.	509.
1000.	0.	0.	0.	83.	0.	0.	423.
1500.	0.	0.	0.	121.	0.	0.	282.
1842.	0.	0.	0.	152.	0.	0.	0.

****
* *
* PRESSURE-RATE PROFILE FOR INFLOW-OUTFLOW CURVES *
* *
****

** Tubing and/or flowline diameter is defaulted to
first segment ID in the sensitivity studies **

--BASE CASE--

FLOW RATE	INFLOW PRESSURE	OUTFLOW PRESSURE
10.	573.	357.
500.	509.	366.
1000.	423.	391.
1500.	282.	429.
1842.	0.	460.

FOR BASE CASE WELL WILL FLOW AT 1090.
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Input Data File Echo Back

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*************************************************************************
Bravo Dome Well 1930 251 J  RTU 5201    /PROJECT TITLE
Gary Ford                               /USER NAME
 2 4 7 0                                /NMOD,MOD(I),INJSW
 8                                       /NUM_RATE
     0.01      0.50      1.00      1.50      2.00      2.50      3.00      3.50/QQ(I)
1 2   308.0   1    60.0      95.0        /IPR,NODE,PST,PSGN,TST,TBH
4      0.0 0.000 32.0 1.519 1.030 0       /IGAS,BCM,BMW,API,SG,SW,MCODE
 60.0  95.0    2200    2200  1           /MOD41 TSUR,TBOT,DEPTH,PSD,NCHG
0  1.995     0.0  0.00 0.000150 0.0  0.000 /MOD42,NT ID,H,ANG,R,OD,CID
3   0.650 10  0                         /MOD43 NGL,SGGL,VC,ITFLG
     0.0       0.0                      /MOD44 DINJ,GLRING
 1  2  0                                /MOD71 IWTYPE,NCURVE,IHWELL
   75.0    43.0   5.000    2640 0.0     0.00 /MOD72 H,L_PERF,RW,RE,ANG,PB
    575    3.520  1.00  -3.890  1    0.000  0/MOD73 PWS,K,Kr,SKIN,Iturb,Beta/Phi
N--FL.ID-TUB.ID-SEP.P-SPF--CK.ID--PINJ---DINJ---GLINJ---SKIN---WC----RES_PRES
*** End of File ***
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