23-32-38W
15-189-20567

Crawford, Schaefer & Taylor, Inc.
Petroleum Consultants

Gary E. Crawford, PhD.
George T. Schaefer, P.E.
Billy (Pete) Taylor, P.E.

December 20, 1984

Mr. James L. Ashton
Div. Res. Engineer
ANADARKO PRODUCTION COMPANY
P.O.Box 5050
Denver, CO 80217

Re: Benchmark of History Match Run: APC - Nordling A. No. 1/
Production from APC - Speakman No. 1

Jim:

I apperciate your taking time the other day to answer my questions concerning your work on the subject well. As promised I have enclosed for your review, a copy of our GASFIELD model run using the same data. I don't know exactly what matching criteria you are using, but the Comparison of Results table shows our results for just the grid block pressure in location (5,5,2) and a pore volume weighted average pressure for all of layer 2. The GASFIELD weighted pressures appear to best fit the observed pressure data. I am meeting today with Jerry to discuss these results.

Should you have any questions please feel free to call or perhaps visit our offices. I have also enclosed our company brochure which gives our background and the services we offer.

Sincerely

Pete

Billy P. Taylor

BPT/djp

BENCHMARK RUN OF

APC - NORDLING A NO. 1 / PRODUCTION FROM APC - SPEAKMAN NO. 1

FOR

ANADARKO PRODUCTION COMPANY

BY

CRAWFORD, SCHAEFER & TAYLOR
11999 KATY FREEWAY, STE. 170
HOUSTON, TEXAS 77079

COMPARISON OF RESULTS

BENCHMARK RUN OF APC-NORDLING A NO.1 / PRODUCTION FROM APC-SPEAKMAN NO.1

DAYS	YEARS	CUM GAS MMcf	Pobs	**** P(5,5.2) ***** McDONALD	Pobs-Pcalc	**** P(5,5.2) ***** GASFIELD	Pobs-Pcalc	** Pavg by PV(2) ** GASFIELD	Pobs-Pcalc
365.0	1.0	285	438	411	27	410	28	416	23
730.0	2.0	570	426	402	24			406	20
1095.0	3.0	855	416	393	23			397	19
1460.0	4.0	1140	407	385	22			389	18
1825.0	5.0	1425	399	377	22			381	18
2190.0	6.0	1710	390	370	20	368	22	374	16
2555.0	7.0	1995	383	363	20			367	17
2920.0	8.0	2280	375	356	19			359	16
3285.0	9.0	2564	368	349	19			352	16
3650.0	10.0	2850	359	342	18	338	21	345	14
4015.0	11.0	3134	351	335	16			338	13
4380.0	12.0	3420	344	328	16			331	13
4745.0	13.0	3704	336	321	15			324	12
5110.0	14.0	3990	329	314	15	310	19	317	12
5475.0	15.0	4274	323	309	14			310	13
5840.0	16.0	4560	314	300	14			303	11
6205.0	17.0	4844	307	294	14			296	11
6570.0	18.0	5128	299	286	13	281	18	289	10
6935.0	19.0	5414	291	279	12			282	9
7300.0	20.0	5698	284	273	11			275	9
7665.0	21.0	5984	280	269	11			268	12
8030.0	22.0	6259	270	259	11	253	17	261	9
8395.0	23.0	6534	263	253	10			255	8
8760.0	24.0	6809	255	246	9			248	7
9125.0	25.0	7084	248	239	9			242	7
9490.0	26.0	7360	241	233	8	226	15	235	6
9855.0	27.0	7760	225	218	7			222	4
10220.0	28.0	8158	208	202	6	195	13	210	-2
10585.0	29.0	8558	196	191	5			198	-2
10950.0	30.0	8957	185	180	5	171	15	187	-2
11315.0	31.0	9262	180	176	5			181	-1
11680.0	32.0	9568	173	169	4			174	-1
12045.0	33.0	9873	166	162	4			167	-1
12410.0	34.0	10179	158	154	4	145	13	159	-1
12775.0	35.0	10356	163	160	4			159	4
12957.5	35.5	10524	149	146	3			153	-4
13048.8	35.8	10608	146	143	3	134	12	151	-5
13140.0	36.0	10692	143	140	3			148	-5
13231.2	36.2	10709	159	156	3	147	13	150	9
13320.0	36.5	10726	161	157	4	148	13	152	9

INITIALIZATION RUN

```
        DRY GAS RESERVOIR MODEL
                WITH
        SURFACE GATHERING SYSTEM
             VERSION 2.26
  JAMES K. PATTERSON    (713)496-4794
```

LISTING OF INPUT DATA

```
CARD NO.   CARD IMAGE
--------  ---------+---------+---------+---------+---------+---------+---------+---------+
    1     LIST
    2     PRINT  PVT  GRID  POR  PERM  TRAN  THICK  PV  PI  GIP
    3     TITLE
    4                                   BENCHMARK RUN OF
    5           APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
    6     SUBTITLE
    7                             FOR ANADARKO PRODUCTION COMPANY
    8                                   DECEMBER 4, 1984
    9     START  1  1  1985
   10     RESERVOIR TEMP  549.8
   11     PVT  VISCOSITY  Z
   12       0.1   .01017  1.0
   13       5.1   .01019   .9992
   14      10.1   .01020   .9985
   15      20.1   .01024   .9971
   16      30.1   .01027   .9956
   17      40.1   .01031   .9941
   18      50.1   .01035   .9926
   19      60.1   .01038   .9912
   20      80.1   .01045   .9882
   21     100.1   .01052   .9853
   22     125.1   .01061   .9817
   23     150.1   .01070   .9780
   24     175.1   .01079   .9744
   25     200.1   .01088   .9708
   26     250.1   .01106   .9636
   27     300.1   .01125   .9565
   28     350.1   .01143   .9494
   29     400.1   .01162   .9424
   30     450.1   .01180   .9355
   31     500.1   .01199   .9287
   32
   33     INIT   428.9
   34     GRID  5  5  5
   35     DELX  ROW
   36      1335  700  350  170  85
   37     DELY  COLUMN
   38      1335  700  350  170  85
   39     POR   1  5  1  5  1  1    .078
   40     POR   1  5  1  5  2  2    .140
   41     POR   1  5  1  5  3  3    .111
   42     POR   1  5  1  5  4  5    .099
   43     PERM  1  5  1  5  1  1   2.4
   44     PERM  1  5  1  5  2  2 100.
   45     PERM  1  5  1  5  3  4   1.4
   46     PERM  1  5  1  5  5  5    .5
   47     KZ    1  5  1  5  1  5    .01
   48     TH    1  5  1  5  1  1   39
   49     TH    1  5  1  5  2  2   50
   50     TH    1  5  1  5  3  3   51
```

```
52    TH    1  5  1  5  5  5   42
53    MOD  TZ  1  5  1  5  2  2   .005
54    MOD  TZ  1  5  1  5  3  3   .500
55    MOD  TZ  1  5  1  5  4  4   .200
56    MOD  TZ  1  5  1  5  5  5   .006
57    GO
58    STOP
```

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1

FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PVT DATA FOR RESERVOIR NO. 1

GAS GRAVITY ..... .650 (AIR=1.0) ← DEFAULT - NOT USED IN THIS RUN
TEMPERATURE ..... 89.8 DEGREES F
CRITICAL TEMP. ..... 372.9 DEGREES R
CRITICAL PRESSURE .... 670.0 PSIA

PRESSURE (PSIA)	Z FACTOR	VISCOSITY (CP)	GAS POTENTIAL
.1	1.0000	.0102	-5.7820E+06
20.1	.9971	.0102	-5.7621E+06
40.1	.9941	.0103	-5.7033E+06
60.1	.9912	.0104	-5.6058E+06
80.1	.9882	.0105	-5.4697E+06
100.1	.9853	.0105	-5.2956E+06
120.1	.9824	.0106	-5.0836E+06
140.1	.9795	.0107	-4.8340E+06
160.1	.9766	.0107	-4.5471E+06
180.1	.9737	.0108	-4.2233E+06
200.1	.9708	.0109	-3.8627E+06
220.1	.9679	.0110	-3.4656E+06
240.1	.9650	.0110	-3.0322E+06
260.1	.9622	.0111	-2.5629E+06
280.1	.9593	.0112	-2.0580E+06
300.1	.9565	.0113	-1.5178E+06
320.1	.9537	.0113	-9.4243E+05
340.1	.9508	.0114	-3.3201E+05
360.1	.9480	.0115	3.1320E+05
380.1	.9452	.0115	9.9280E+05
400.1	.9424	.0116	1.7065E+06
420.1	.9396	.0117	2.4543E+06
440.1	.9369	.0118	3.2360E+06
460.1	.9341	.0118	4.0515E+06
480.1	.9314	.0119	4.9002E+06
500.1	.9287	.0120	5.7820E+06

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4. 1984

BLOCK DIMENSIONS DX (FEET)

LAYER 1

	1	2	3	4	5
1	1335.0	700.0	350.0	170.0	85.0
2	1335.0	700.0	350.0	170.0	85.0
3	1335.0	700.0	350.0	170.0	85.0
4	1335.0	700.0	350.0	170.0	85.0
5	1335.0	700.0	350.0	170.0	85.0

LAYER 2

	1	2	3	4	5
1	1335.0	700.0	350.0	170.0	85.0
2	1335.0	700.0	350.0	170.0	85.0
3	1335.0	700.0	350.0	170.0	85.0
4	1335.0	700.0	350.0	170.0	85.0
5	1335.0	700.0	350.0	170.0	85.0

LAYER 3

	1	2	3	4	5
1	1335.0	700.0	350.0	170.0	85.0
2	1335.0	700.0	350.0	170.0	85.0
3	1335.0	700.0	350.0	170.0	85.0
4	1335.0	700.0	350.0	170.0	85.0
5	1335.0	700.0	350.0	170.0	85.0

LAYER 4

	1	2	3	4	5
1	1335.0	700.0	350.0	170.0	85.0
2	1335.0	700.0	350.0	170.0	85.0
3	1335.0	700.0	350.0	170.0	85.0
4	1335.0	700.0	350.0	170.0	85.0
5	1335.0	700.0	350.0	170.0	85.0

LAYER 5

	1	2	3	4	5
1	1335.0	700.0	350.0	170.0	85.0
2	1335.0	700.0	350.0	170.0	85.0
3	1335.0	700.0	350.0	170.0	85.0
4	1335.0	700.0	350.0	170.0	85.0
5	1335.0	700.0	350.0	170.0	85.0

TIME IS 0.0 DAYS DATE IS 1/ 1/1985

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

NET PAY THICKNESS (FEET)

LAYER 1

	1	2	3	4	5
1	39.00	39.00	39.00	39.00	39.00
2	39.00	39.00	39.00	39.00	39.00
3	39.00	39.00	39.00	39.00	39.00
4	39.00	39.00	39.00	39.00	39.00
5	39.00	39.00	39.00	39.00	39.00

LAYER 2

	1	2	3	4	5
1	50.00	50.00	50.00	50.00	50.00
2	50.00	50.00	50.00	50.00	50.00
3	50.00	50.00	50.00	50.00	50.00
4	50.00	50.00	50.00	50.00	50.00
5	50.00	50.00	50.00	50.00	50.00

LAYER 3

	1	2	3	4	5
1	51.00	51.00	51.00	51.00	51.00
2	51.00	51.00	51.00	51.00	51.00
3	51.00	51.00	51.00	51.00	51.00
4	51.00	51.00	51.00	51.00	51.00
5	51.00	51.00	51.00	51.00	51.00

LAYER 4

	1	2	3	4	5
1	65.00	65.00	65.00	65.00	65.00
2	65.00	65.00	65.00	65.00	65.00
3	65.00	65.00	65.00	65.00	65.00
4	65.00	65.00	65.00	65.00	65.00
5	65.00	65.00	65.00	65.00	65.00

LAYER 5

	1	2	3	4	5
1	42.00	42.00	42.00	42.00	42.00
2	42.00	42.00	42.00	42.00	42.00
3	42.00	42.00	42.00	42.00	42.00
4	42.00	42.00	42.00	42.00	42.00
5	42.00	42.00	42.00	42.00	42.00

TIME IS 0.0 DAYS

DATE IS 1/ 1/1985

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

POROSITY (FRACTION)

LAYER 1

	1	2	3	4	5
1	.0780	.0780	.0780	.0780	.0780
2	.0780	.0780	.0780	.0780	.0780
3	.0780	.0780	.0780	.0780	.0780
4	.0780	.0780	.0780	.0780	.0780
5	.0780	.0780	.0780	.0780	.0780

LAYER 2

	1	2	3	4	5
1	.1400	.1400	.1400	.1400	.1400
2	.1400	.1400	.1400	.1400	.1400
3	.1400	.1400	.1400	.1400	.1400
4	.1400	.1400	.1400	.1400	.1400
5	.1400	.1400	.1400	.1400	.1400

LAYER 3

	1	2	3	4	5
1	.1110	.1110	.1110	.1110	.1110
2	.1110	.1110	.1110	.1110	.1110
3	.1110	.1110	.1110	.1110	.1110
4	.1110	.1110	.1110	.1110	.1110
5	.1110	.1110	.1110	.1110	.1110

LAYER 4

	1	2	3	4	5
1	.0990	.0990	.0990	.0990	.0990
2	.0990	.0990	.0990	.0990	.0990
3	.0990	.0990	.0990	.0990	.0990
4	.0990	.0990	.0990	.0990	.0990
5	.0990	.0990	.0990	.0990	.0990

LAYER 5

	1	2	3	4	5
1	.0990	.0990	.0990	.0990	.0990
2	.0990	.0990	.0990	.0990	.0990
3	.0990	.0990	.0990	.0990	.0990
4	.0990	.0990	.0990	.0990	.0990
5	.0990	.0990	.0990	.0990	.0990

TIME IS 0.0 DAYS DATE IS 1/ 1/1985

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

X-DIRECTION PERMEABILITY (MD)

LAYER 1

	1	2	3	4	5
1	2.40	2.40	2.40	2.40	2.40
2	2.40	2.40	2.40	2.40	2.40
3	2.40	2.40	2.40	2.40	2.40
4	2.40	2.40	2.40	2.40	2.40
5	2.40	2.40	2.40	2.40	2.40

LAYER 2

	1	2	3	4	5
1	100.00	100.00	100.00	100.00	100.00
2	100.00	100.00	100.00	100.00	100.00
3	100.00	100.00	100.00	100.00	100.00
4	100.00	100.00	100.00	100.00	100.00
5	100.00	100.00	100.00	100.00	100.00

LAYER 3

	1	2	3	4	5
1	1.40	1.40	1.40	1.40	1.40
2	1.40	1.40	1.40	1.40	1.40
3	1.40	1.40	1.40	1.40	1.40
4	1.40	1.40	1.40	1.40	1.40
5	1.40	1.40	1.40	1.40	1.40

LAYER 4

	1	2	3	4	5
1	1.40	1.40	1.40	1.40	1.40
2	1.40	1.40	1.40	1.40	1.40
3	1.40	1.40	1.40	1.40	1.40
4	1.40	1.40	1.40	1.40	1.40
5	1.40	1.40	1.40	1.40	1.40

LAYER 5

	1	2	3	4	5
1	.50	.50	.50	.50	.50
2	.50	.50	.50	.50	.50
3	.50	.50	.50	.50	.50
4	.50	.50	.50	.50	.50
5	.50	.50	.50	.50	.50

TIME IS 0.0 DAYS DATE IS 1/ 1/1985

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

Y-DIRECTION PERMEABILITY (MD)

LAYER 1

	1	2	3	4	5
1	2.40	2.40	2.40	2.40	2.40
2	2.40	2.40	2.40	2.40	2.40
3	2.40	2.40	2.40	2.40	2.40
4	2.40	2.40	2.40	2.40	2.40
5	2.40	2.40	2.40	2.40	2.40

LAYER 2

	1	2	3	4	5
1	100.00	100.00	100.00	100.00	100.00
2	100.00	100.00	100.00	100.00	100.00
3	100.00	100.00	100.00	100.00	100.00
4	100.00	100.00	100.00	100.00	100.00
5	100.00	100.00	100.00	100.00	100.00

LAYER 3

	1	2	3	4	5
1	1.40	1.40	1.40	1.40	1.40
2	1.40	1.40	1.40	1.40	1.40
3	1.40	1.40	1.40	1.40	1.40
4	1.40	1.40	1.40	1.40	1.40
5	1.40	1.40	1.40	1.40	1.40

LAYER 4

	1	2	3	4	5
1	1.40	1.40	1.40	1.40	1.40
2	1.40	1.40	1.40	1.40	1.40
3	1.40	1.40	1.40	1.40	1.40
4	1.40	1.40	1.40	1.40	1.40
5	1.40	1.40	1.40	1.40	1.40

LAYER 5

	1	2	3	4	5
1	.50	.50	.50	.50	.50
2	.50	.50	.50	.50	.50
3	.50	.50	.50	.50	.50
4	.50	.50	.50	.50	.50
5	.50	.50	.50	.50	.50

TIME IS 0.0 DAYS

DATE IS 1/ 1/1985

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

Z-DIRECTION PERMEABILITY (MD)

LAYER 1

	1	2	3	4	5
1	.010	.010	.010	.010	.010
2	.010	.010	.010	.010	.010
3	.010	.010	.010	.010	.010
4	.010	.010	.010	.010	.010
5	.010	.010	.010	.010	.010

LAYER 2

	1	2	3	4	5
1	.010	.010	.010	.010	.010
2	.010	.010	.010	.010	.010
3	.010	.010	.010	.010	.010
4	.010	.010	.010	.010	.010
5	.010	.010	.010	.010	.010

LAYER 3

	1	2	3	4	5
1	.010	.010	.010	.010	.010
2	.010	.010	.010	.010	.010
3	.010	.010	.010	.010	.010
4	.010	.010	.010	.010	.010
5	.010	.010	.010	.010	.010

LAYER 4

	1	2	3	4	5
1	.010	.010	.010	.010	.010
2	.010	.010	.010	.010	.010
3	.010	.010	.010	.010	.010
4	.010	.010	.010	.010	.010
5	.010	.010	.010	.010	.010

LAYER 5

	1	2	3	4	5
1	.010	.010	.010	.010	.010
2	.010	.010	.010	.010	.010
3	.010	.010	.010	.010	.010
4	.010	.010	.010	.010	.010
5	.010	.010	.010	.010	.010

TIME IS 0.0 DAYS DATE IS 1/ 1/1985

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

X-DIRECTION TRANSMISSIBILITY

LAYER 1

	1	2	3	4	5
1	0.	5.019E-05	9.727E-05	1.964E-04	4.005E-04
2	0.	2.632E-05	5.100E-05	1.030E-04	2.100E-04
3	0.	1.316E-05	2.550E-05	5.149E-05	1.050E-04
4	0.	6.391E-06	1.239E-05	2.501E-05	5.100E-05
5	0.	3.195E-06	6.193E-06	1.251E-05	2.550E-05

LAYER 2

	1	2	3	4	5
1	0.	2.681E-03	5.196E-03	1.049E-02	2.139E-02
2	0.	1.406E-03	2.724E-03	5.501E-03	1.122E-02
3	0.	7.029E-04	1.362E-03	2.751E-03	5.609E-03
4	0.	3.414E-04	6.616E-04	1.336E-03	2.724E-03
5	0.	1.707E-04	3.308E-04	6.680E-04	1.362E-03

LAYER 3

	1	2	3	4	5
1	0.	3.828E-05	7.420E-05	1.498E-04	3.055E-04
2	0.	2.007E-05	3.890E-05	7.856E-05	1.602E-04
3	0.	1.004E-05	1.945E-05	3.928E-05	8.010E-05
4	0.	4.875E-06	9.448E-06	1.908E-05	3.890E-05
5	0.	2.438E-06	4.724E-06	9.539E-06	1.945E-05

LAYER 4

	1	2	3	4	5
1	0.	4.879E-05	9.456E-05	1.909E-04	3.894E-04
2	0.	2.558E-05	4.958E-05	1.001E-04	2.042E-04
3	0.	1.279E-05	2.479E-05	5.006E-05	1.021E-04
4	0.	6.213E-06	1.204E-05	2.432E-05	4.958E-05
5	0.	3.107E-06	6.021E-06	1.216E-05	2.479E-05

LAYER 5

	1	2	3	4	5
1	0.	1.126E-05	2.182E-05	4.406E-05	8.986E-05
2	0.	5.904E-06	1.144E-05	2.311E-05	4.712E-05
3	0.	2.952E-06	5.721E-06	1.155E-05	2.356E-05
4	0.	1.434E-06	2.779E-06	5.611E-06	1.144E-05
5	0.	7.169E-07	1.389E-06	2.806E-06	5.721E-06

IME IS 0.0 DAYS

DATE IS 1/ 1/1985

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

Y-DIRECTION TRANSMISSIBILITY

AYER 1

	1	2	3	4	5
1	0.	0.	0.	0.	0.
2	5.019E-05	2.632E-05	1.316E-05	6.391E-06	3.195E-06
3	9.727E-05	5.100E-05	2.550E-05	1.239E-05	6.193E-06
4	1.964E-04	1.030E-04	5.149E-05	2.501E-05	1.251E-05
5	4.005E-04	2.100E-04	1.050E-04	5.100E-05	2.550E-05

AYER 2

	1	2	3	4	5
1	0.	0.	0.	0.	0.
2	2.681E-03	1.406E-03	7.029E-04	3.414E-04	1.707E-04
3	5.196E-03	2.724E-03	1.362E-03	6.616E-04	3.308E-04
4	1.049E-02	5.501E-03	2.751E-03	1.336E-03	6.680E-04
5	2.139E-02	1.122E-02	5.609E-03	2.724E-03	1.362E-03

AYER 3

	1	2	3	4	5
1	0.	0.	0.	0.	0.
2	3.828E-05	2.007E-05	1.004E-05	4.875E-06	2.438E-06
3	7.420E-05	3.890E-05	1.945E-05	9.448E-06	4.724E-06
4	1.498E-04	7.856E-05	3.928E-05	1.908E-05	9.539E-06
5	3.055E-04	1.602E-04	8.010E-05	3.890E-05	1.945E-05

AYER 4

	1	2	3	4	5
1	0.	0.	0.	0.	0.
2	4.879E-05	2.558E-05	1.279E-05	6.213E-06	3.107E-06
3	9.456E-05	4.958E-05	2.479E-05	1.204E-05	6.021E-06
4	1.909E-04	1.001E-04	5.006E-05	2.432E-05	1.216E-05
5	3.894E-04	2.042E-04	1.021E-04	4.958E-05	2.479E-05

AYER 5

	1	2	3	4	5
1	0.	0.	0.	0.	0.
2	1.126E-05	5.904E-06	2.952E-06	1.434E-06	7.169E-07
3	2.182E-05	1.144E-05	5.721E-06	2.779E-06	1.389E-06
4	4.406E-05	2.311E-05	1.155E-05	5.611E-06	2.806E-06
5	8.986E-05	4.712E-05	2.356E-05	1.144E-05	5.721E-06

TIME IS 0.0 DAYS DATE IS 1/ 1/1985

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

Z-DIRECTION TRANSMISSIBILITY

LAYER 1

	1	2	3	4	5
1	0.	0.	0.	0.	0.
2	0.	0.	0.	0.	0.
3	0.	0.	0.	0.	0.
4	0.	0.	0.	0.	0.
5	0.	0.	0.	0.	0.

LAYER 2

	1	2	3	4	5
1	8.183E-07	4.291E-07	2.145E-07	1.042E-07	5.210E-08
2	4.291E-07	2.250E-07	1.125E-07	5.464E-08	2.732E-08
3	2.145E-07	1.125E-07	5.625E-08	2.732E-08	1.366E-08
4	1.042E-07	5.464E-08	2.732E-08	1.327E-08	6.635E-09
5	5.210E-08	2.732E-08	1.366E-08	6.635E-09	3.318E-09

LAYER 3

	1	2	3	4	5
1	7.211E-05	3.781E-05	1.891E-05	9.183E-06	4.591E-06
2	3.781E-05	1.983E-05	9.913E-06	4.815E-06	2.407E-06
3	1.891E-05	9.913E-06	4.957E-06	2.407E-06	1.204E-06
4	9.183E-06	4.815E-06	2.407E-06	1.169E-06	5.847E-07
5	4.591E-06	2.407E-06	1.204E-06	5.847E-07	2.923E-07

LAYER 4

	1	2	3	4	5
1	2.511E-05	1.317E-05	6.584E-06	3.198E-06	1.599E-06
2	1.317E-05	6.905E-06	3.452E-06	1.677E-06	8.385E-07
3	6.584E-06	3.452E-06	1.726E-06	8.385E-07	4.192E-07
4	3.198E-06	1.677E-06	8.385E-07	4.073E-07	2.036E-07
5	1.599E-06	8.385E-07	4.192E-07	2.036E-07	1.018E-07

LAYER 5

	1	2	3	4	5
1	8.168E-07	4.283E-07	2.141E-07	1.040E-07	5.201E-08
2	4.283E-07	2.246E-07	1.123E-07	5.454E-08	2.727E-08
3	2.141E-07	1.123E-07	5.614E-08	2.727E-08	1.363E-08
4	1.040E-07	5.454E-08	2.727E-08	1.325E-08	6.623E-09
5	5.201E-08	2.727E-08	1.363E-08	6.623E-09	3.311E-09

TIME IS 0.0 DAYS DATE IS 1/ 1/1985

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PORE VOLUME (CU.FT.)

LAYER 1

	1	2	3	4	5
1	5.422E+06	2.843E+06	1.421E+06	6.904E+05	3.452E+05
2	2.843E+06	1.491E+06	7.453E+05	3.620E+05	1.810E+05
3	1.421E+06	7.453E+05	3.726E+05	1.810E+05	9.050E+04
4	6.904E+05	3.620E+05	1.810E+05	8.791E+04	4.396E+04
5	3.452E+05	1.810E+05	9.050E+04	4.396E+04	2.198E+04

LAYER 2

	1	2	3	4	5
1	1.248E+07	6.542E+06	3.271E+06	1.589E+06	7.943E+05
2	6.542E+06	3.430E+06	1.715E+06	8.330E+05	4.165E+05
3	3.271E+06	1.715E+06	8.575E+05	4.165E+05	2.083E+05
4	1.589E+06	8.330E+05	4.165E+05	2.023E+05	1.012E+05
5	7.943E+05	4.165E+05	2.083E+05	1.012E+05	5.058E+04

LAYER 3

	1	2	3	4	5
1	1.009E+07	5.290E+06	2.645E+06	1.285E+06	6.424E+05
2	5.290E+06	2.774E+06	1.387E+06	6.737E+05	3.368E+05
3	2.645E+06	1.387E+06	6.935E+05	3.368E+05	1.684E+05
4	1.285E+06	6.737E+05	3.368E+05	1.636E+05	8.180E+04
5	6.424E+05	3.368E+05	1.684E+05	8.180E+04	4.090E+04

LAYER 4

	1	2	3	4	5
1	1.147E+07	6.014E+06	3.007E+06	1.460E+06	7.302E+05
2	6.014E+06	3.153E+06	1.577E+06	7.658E+05	3.829E+05
3	3.007E+06	1.577E+06	7.883E+05	3.829E+05	1.914E+05
4	1.460E+06	7.658E+05	3.829E+05	1.860E+05	9.299E+04
5	7.302E+05	3.829E+05	1.914E+05	9.299E+04	4.649E+04

LAYER 5

	1	2	3	4	5
1	7.410E+06	3.886E+06	1.943E+06	9.437E+05	4.718E+05
2	3.886E+06	2.037E+06	1.019E+06	4.948E+05	2.474E+05
3	1.943E+06	1.019E+06	5.094E+05	2.474E+05	1.237E+05
4	9.437E+05	4.948E+05	2.474E+05	1.202E+05	6.008E+04
5	4.718E+05	2.474E+05	1.237E+05	6.008E+04	3.004E+04

TIME IS 0.0 DAYS

DATE IS 1/ 1/1985

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	428.9	428.9	428.9	428.9	428.9
2	428.9	428.9	428.9	428.9	428.9
3	428.9	428.9	428.9	428.9	428.9
4	428.9	428.9	428.9	428.9	428.9
5	428.9	428.9	428.9	428.9	428.9

LAYER 2

	1	2	3	4	5
1	428.9	428.9	428.9	428.9	428.9
2	428.9	428.9	428.9	428.9	428.9
3	428.9	428.9	428.9	428.9	428.9
4	428.9	428.9	428.9	428.9	428.9
5	428.9	428.9	428.9	428.9	428.9

LAYER 3

	1	2	3	4	5
1	428.9	428.9	428.9	428.9	428.9
2	428.9	428.9	428.9	428.9	428.9
3	428.9	428.9	428.9	428.9	428.9
4	428.9	428.9	428.9	428.9	428.9
5	428.9	428.9	428.9	428.9	428.9

LAYER 4

	1	2	3	4	5
1	428.9	428.9	428.9	428.9	428.9
2	428.9	428.9	428.9	428.9	428.9
3	428.9	428.9	428.9	428.9	428.9
4	428.9	428.9	428.9	428.9	428.9
5	428.9	428.9	428.9	428.9	428.9

LAYER 5

	1	2	3	4	5
1	428.9	428.9	428.9	428.9	428.9
2	428.9	428.9	428.9	428.9	428.9
3	428.9	428.9	428.9	428.9	428.9
4	428.9	428.9	428.9	428.9	428.9
5	428.9	428.9	428.9	428.9	428.9

TIME IS 0.0 DAYS DATE IS 1/ 1/1985

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

INITIAL GAS IN PLACE (MCF)

LAYER 1

	1	2	3	4	5
1	1.600E+05	8.388E+04	4.194E+04	2.037E+04	1.019E+04
2	8.388E+04	4.398E+04	2.199E+04	1.068E+04	5.341E+03
3	4.194E+04	2.199E+04	1.100E+04	5.341E+03	2.670E+03
4	2.037E+04	1.068E+04	5.341E+03	2.594E+03	1.297E+03
5	1.019E+04	5.341E+03	2.670E+03	1.297E+03	6.485E+02

LAYER 2

	1	2	3	4	5
1	3.681E+05	1.930E+05	9.651E+04	4.688E+04	2.344E+04
2	1.930E+05	1.012E+05	5.060E+04	2.458E+04	1.229E+04
3	9.651E+04	5.060E+04	2.530E+04	1.229E+04	6.145E+03
4	4.688E+04	2.458E+04	1.229E+04	5.969E+03	2.985E+03
5	2.344E+04	1.229E+04	6.145E+03	2.985E+03	1.492E+03

LAYER 3

	1	2	3	4	5
1	2.977E+05	1.561E+05	7.805E+04	3.791E+04	1.895E+04
2	1.561E+05	8.185E+04	4.092E+04	1.988E+04	9.939E+03
3	7.805E+04	4.092E+04	2.046E+04	9.939E+03	4.969E+03
4	3.791E+04	1.988E+04	9.939E+03	4.827E+03	2.414E+03
5	1.895E+04	9.939E+03	4.969E+03	2.414E+03	1.207E+03

LAYER 4

	1	2	3	4	5
1	3.384E+05	1.774E+05	8.872E+04	4.309E+04	2.155E+04
2	1.774E+05	9.304E+04	4.652E+04	2.260E+04	1.130E+04
3	8.872E+04	4.652E+04	2.326E+04	1.130E+04	5.649E+03
4	4.309E+04	2.260E+04	1.130E+04	5.487E+03	2.744E+03
5	2.155E+04	1.130E+04	5.649E+03	2.744E+03	1.372E+03

LAYER 5

	1	2	3	4	5
1	2.187E+05	1.147E+05	5.733E+04	2.784E+04	1.392E+04
2	1.147E+05	6.012E+04	3.006E+04	1.460E+04	7.300E+03
3	5.733E+04	3.006E+04	1.503E+04	7.300E+03	3.650E+03
4	2.784E+04	1.460E+04	7.300E+03	3.546E+03	1.773E+03
5	1.392E+04	7.300E+03	3.650E+03	1.773E+03	8.864E+02

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1

FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

I N I T I A L C O N D I T I O N S

FIELD NO.	PRESSURE (PSIA)	WTR. SATN. (FRACTION)	GAS-IN-PLACE (BCF)
1	428.9	0.0000	5.408

15-189-20567

HISTORY MATCH RUN

```
                                  .....................................
                                  .                                   .
                                  .       DRY GAS RESERVOIR MODEL     .
                                  .               WITH                .
                                  .       SURFACE GATHERING SYSTEM     .
                                  .            VERSION  2.26          .
                                  .  JAMES K. PATTERSON    (713)496-4794 .
                                  .                                   .
                                  .....................................
 63    LIST
 64    ** RECURRENT DATA FOLLOWS
 65    PRINT INPUT
 66    WELL  SPEAKMAN   1  5  5
 67    WELL  SPEAKMAN   2  5  5
 68    WELL  SPEAKMAN   3  5  5
 69    GATHERING-CENTER   1  3  1
 70    C,N  1  .002  .85
 71    C,N  2  .122  .85
 72    C,N  3  .002  .85
 73    PERF  1   1  0  0  0  0
 74    PERF  2   0  1  0  0  0
 75    PERF  3   0  0  1  0  0
 76    THP 1 3 1.00
 77    TUBING 1 3   10  10
 78    DELIVERABILITY OFF
 79    QMAX  1  3  3*9000
 80    TARGET   195.2  1
 81    TSTEP  1    DAYS
 82    TIME  1
 83    TSTEP  5
 84    TIME  10
 85    TSTEP  91.25
 86    TIME 91.25
 87    PRINT  WELLS  PRESS  SUMMARY
 88    TIME  365
 89    TSTEP  182.5
 90    TIME  730
 91    OUTPUT  4  WELLS  PRESS
 92    TSTEP  365
 93    TIME  3650
 94    TIME  7665
 95    TARGET  188.5  1
 96    TIME  9490
 97    TSTEP  182.5
 98    TARGET  273.5  1
 99    TIME  10950
100    TSTEP  365
101    TARGET  209.2  1
102    TIME  12410
103    TARGET  121.5  1
104    TIME  12775
105    TSTEP  91.25
106    TARGET  230    1
107    TIME  13140
108    TARGET  48     1
109    TSTEP  30.4
110    PRINT  WELLS  PRESS  SUMMARY
111    TIME  13320
112    STOP
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BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1

FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

I N I T I A L C O N D I T I O N S

FIELD NO.	PRESSURE (PSIA)	WTR. SATN. (FRACTION)	GAS-IN-PLACE (BCF)
1	428.9	0.0000	.626
2	428.9	0.0000	1.440
3	428.9	0.0000	1.164
4	428.9	0.0000	1.323
5	428.9	0.0000	.855

TOTAL INITIAL GAS-IN-PLACE ..... 5.408 BCF

DATA FOR WELLS THAT WERE ADDED OR MODIFIED AT THIS STEP

WELL NO.	NAME	GROUP I	J	LINE	NO.	TYPE	QMAX	THP	C / SKIN	N / TURB	DEPTH	DIAM.	GAS GRAV.	ROUGHNESS FACTOR	FRICTION FACTOR
1	SPEAKMAN	5	5	0	1	1	9000.	1.	.00200	.85000	10.	10.000	.650	.00060	.01089
2	SPEAKMAN	5	5	0	1	1	9000.	1.	.12200	.85000	10.	10.000	.650	.00060	.01089
3	SPEAKMAN	5	5	0	1	1	9000.	1.	.00200	.85000	10.	10.000	.650	.00060	.01089

***** ITERATION PARAMETERS --- .00010 .00037 .00140 .00520 .01930 .07200 .26800 1.00000

***** TIME STEP IS 1.0 DAYS

****

TIME IS 1.0 DAYS STEP NO. 1 DATE IS 2/ 1/1985

****

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	428.9	AVERAGE DAY ..	195. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	457.0	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	.0	CUMULATIVE ...	.00 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.012

***** TIME STEP IS 5.0 DAYS

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**********************************************************************************************************************
TIME IS     6.0 DAYS                                  STEP NO.  2                                  DATE IS  7/ 1/1985
**********************************************************************************************************************
PRESSURE AND RECOVERY              PRODUCTION              MATERIAL BALANCE       ITERATIONS          CONVERGENCE
AVG. PRESSURE ...  428.8     AVERAGE DAY ..   195. MCFD     INCREMENTAL  -.000     GLOBAL .....  2     GLOBAL ..... 0.000
AVG. (P/Z) ......  456.9     PEAK DAY .....     0. MCFD     CUMULATIVE   1.000     NETWORK ....  0     NETWORK .... 0.000
RECOVERY, PERCENT     .0     CUMULATIVE ...    .00 BCF                            RESERVOIR ..  8     DP( 5, 5, 2)  .001


**********************************************************************************************************************
TIME IS    10.0 DAYS                                  STEP NO.  3                                  DATE IS 11/ 1/1985
**********************************************************************************************************************
PRESSURE AND RECOVERY              PRODUCTION              MATERIAL BALANCE       ITERATIONS          CONVERGENCE
AVG. PRESSURE ...  428.8     AVERAGE DAY ..   195. MCFD     INCREMENTAL  -.000     GLOBAL .....  2     GLOBAL ..... 0.000
AVG. (P/Z) ......  456.9     PEAK DAY .....     0. MCFD     CUMULATIVE   1.000     NETWORK ....  0     NETWORK .... 0.000
RECOVERY, PERCENT     .0     CUMULATIVE ...    .00 BCF                            RESERVOIR ..  8     DP( 5, 4, 2)  .000


***** TIME STEP IS     91.2 DAYS
```

TIME IS 91.2 DAYS STEP NO. 4 DATE IS 2/ 4/1985

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	427.6	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	455.5	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	.3	CUMULATIVE ...	.02 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.002

TIME IS 182.5 DAYS STEP NO. 5 DATE IS 2/ 7/1985

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	426.2	AVERAGE DAY ..	195. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	454.0	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	.7	CUMULATIVE ...	.04 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.011

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	428.5	456.5	.11
2	421.4	448.6	1.85
3	426.4	454.2	.62
4	428.6	456.7	.08
5	428.9	457.0	.00

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.04

TIME IS 273.8 DAYS STEP NO. 6 DATE IS 1/10/1985

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	424.9	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	452.5	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	1.0	CUMULATIVE ...	.05 BCF			RESERVOIR ..	8	DP(3, 2, 2)	.005

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	428.2	456.2	.18
2	418.3	445.1	2.61
3	424.6	452.2	1.07
4	428.2	456.3	.17
5	428.9	457.0	.00

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.05

TIME IS 365.0 DAYS STEP NO. 7 DATE IS 1/ 1/1986

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	423.6	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	451.0	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	1.3	CUMULATIVE ...	.07 BCF			RESERVOIR ..	8	DP(5, 5, 3)	.004

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	427.9	455.9	.25
2	415.5	441.9	3.31
3	422.7	450.0	1.55
4	427.7	455.7	.30
5	428.9	457.0	.00

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.07

W E L L R A T E S A N D P R E S S U R E S

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	AVG. DAY CONDITIONS RATE (MCFD)	AVG. DAY CONDITIONS BHP (PSIA)	AVG. DAY CONDITIONS THP (PSIA)	PEAK DAY CONDITIONS DLVRBILTY (MCFD)	PEAK DAY CONDITIONS BHP (PSIA)	PEAK DAY CONDITIONS THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	3.2	416.	416.	0.0	0.	416.	423.1	1.17
2	SPEAKMAN	5	5	0	1	9000.0	188.8	405.	404.	0.0	0.	405.	410.0	68.93
3	SPEAKMAN	5	5	0	1	9000.0	3.2	411.	411.	0.0	0.	411.	416.9	1.15

TIME IS 365.0 DAYS DATE IS 1/ 1/1986

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	428.3	428.1	428.1	428.0	428.0
2	428.1	427.7	427.4	427.3	427.3
3	428.1	427.4	426.6	426.2	426.1
4	428.0	427.3	426.2	425.3	424.8
5	428.0	427.3	426.1	424.8	423.1

LAYER 2

	1	2	3	4	5
1	416.0	415.8	415.7	415.6	415.6
2	415.8	415.2	414.8	414.7	414.7
3	415.7	414.8	414.0	413.5	413.4
4	415.6	414.7	413.5	412.4	411.9
5	415.6	414.7	413.4	411.9	410.0

LAYER 3

	1	2	3	4	5
1	423.0	422.9	422.8	422.8	422.8
2	422.9	422.4	422.1	422.0	422.0
3	422.8	422.1	421.3	420.9	420.8
4	422.8	422.0	420.9	419.6	419.0
5	422.8	422.0	420.8	419.0	416.9

LAYER 4

	1	2	3	4	5
1	427.7	427.7	427.7	427.7	427.7
2	427.7	427.6	427.6	427.6	427.6
3	427.7	427.6	427.5	427.5	427.5
4	427.7	427.6	427.5	427.4	427.4
5	427.7	427.6	427.5	427.4	427.4

LAYER 5

	1	2	3	4	5
1	428.9	428.9	428.9	428.9	428.9
2	428.9	428.9	428.9	428.9	428.9
3	428.9	428.9	428.9	428.9	428.9
4	428.9	428.9	428.9	428.9	428.9
5	428.9	428.9	428.9	428.9	428.9

TIME IS 547.5 DAYS STEP NO. 8 DATE IS 2/ 7/1986

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	420.9	AVERAGE DAY ..	195. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	448.0	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	2.0	CUMULATIVE ...	.11 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.014

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	427.3	455.2	.40
2	410.4	436.2	4.56
3	418.7	445.5	2.53
4	426.1	453.9	.68
5	428.9	457.0	.01

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.11

TIME IS 730.0 DAYS STEP NO. 9 DATE IS 1/ 1/1987

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	418.2	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	445.0	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	2.6	CUMULATIVE ...	.14 BCF			RESERVOIR ..	8	DP(1, 1, 2)	.011

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	426.6	454.4	.57
2	405.7	430.9	5.72
3	414.7	441.0	3.51
4	424.2	451.7	1.17
5	428.8	456.9	.02

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.14

***** TIME STEP IS 365.0 DAYS

TIME IS 1095.0 DAYS STEP NO. 10 DATE IS 1/ 1/1988

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	412.9	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	439.0	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	4.0	CUMULATIVE ...	.21 BCF			RESERVOIR ..	8	DP(5, 5, 3)	.028

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	425.0	452.6	.97
2	397.2	421.3	7.83
3	407.1	432.4	5.40
4	419.3	446.2	2.38
5	428.6	456.7	.07

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.21

TIME IS 1460.0 DAYS STEP NO. 11 DATE IS 31/12/1988

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	407.5	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	433.0	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	5.3	CUMULATIVE ...	.28 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.006

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	423.2	450.6	1.41
2	389.1	412.2	9.81
3	399.6	424.0	7.23
4	413.8	439.9	3.74
5	428.3	456.4	.15

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.28

TIME IS 1825.0 DAYS — STEP NO. 12 — DATE IS 31/12/1989

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	402.2	AVERAGE DAY ..	195. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	426.9	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	6.6	CUMULATIVE ...	.36 BCF			RESERVOIR ..	8	DP(5, 5, 1)	.010

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	421.3	448.4	1.89
2	381.4	403.6	11.69
3	392.3	415.9	9.01
4	407.8	433.2	5.21
5	427.9	455.9	.25

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.36

TIME IS 2190.0 DAYS — STEP NO. 13 — DATE IS 31/12/1990

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	396.8	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	420.9	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	7.9	CUMULATIVE ...	.43 BCF			RESERVOIR ..	8	DP(3, 2, 2)	.014

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	419.1	446.0	2.41
2	373.9	395.2	13.52
3	385.2	407.8	10.77
4	401.7	426.3	6.73
5	427.4	455.3	.38

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.43

WELL RATES AND PRESSURES

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	AVG. DAY CONDITIONS RATE (MCFD)	AVG. DAY CONDITIONS BHP (PSIA)	AVG. DAY CONDITIONS THP (PSIA)	PEAK DAY CONDITIONS DLVRBILTY (MCFD)	PEAK DAY CONDITIONS BHP (PSIA)	PEAK DAY CONDITIONS THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	3.7	406.	406.	0.0	0.	406.	413.5	7.60
2	SPEAKMAN	5	5	0	1	9000.0	188.2	364.	364.	0.0	0.	364.	367.8	412.86
3	SPEAKMAN	5	5	0	1	9000.0	3.2	374.	374.	0.0	0.	374.	378.6	7.03

TIME IS 2190.0 DAYS

DATE IS 31/12/1990

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	419.6	419.4	419.3	419.3	419.3
2	419.4	418.8	418.4	418.3	418.3
3	419.3	418.4	417.6	417.1	417.0
4	419.3	418.3	417.1	415.9	415.4
5	419.3	418.3	417.0	415.4	413.5

LAYER 2

	1	2	3	4	5
1	374.4	374.2	374.1	374.1	374.1
2	374.2	373.6	373.2	373.1	373.0
3	374.1	373.2	372.2	371.8	371.7
4	374.0	373.1	371.8	370.6	369.8
5	374.0	373.0	371.6	369.8	367.8

LAYER 3

	1	2	3	4	5
1	385.7	385.4	385.4	385.3	385.3
2	385.4	384.9	384.5	384.4	384.4
3	385.3	384.5	383.6	383.1	383.0
4	385.3	384.4	383.1	381.7	381.1
5	385.3	384.4	383.0	381.1	378.6

LAYER 4

	1	2	3	4	5
1	401.8	401.7	401.7	401.7	401.7
2	401.7	401.5	401.5	401.5	401.5
3	401.7	401.5	401.4	401.3	401.3
4	401.7	401.5	401.3	401.3	401.3
5	401.7	401.5	401.3	401.3	401.3

LAYER 5

	1	2	3	4	5
1	427.4	427.4	427.4	427.4	427.4
2	427.4	427.3	427.3	427.3	427.3
3	427.4	427.3	427.3	427.3	427.3
4	427.4	427.3	427.3	427.3	427.3
5	427.4	427.3	427.3	427.3	427.3

TIME IS 2555.0 DAYS — STEP NO. 14 — DATE IS 31/12/1991

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	391.4	AVERAGE DAY ..	195. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	414.9	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	9.2	CUMULATIVE ...	.50 BCF			RESERVOIR ..	8	DP(5, 4, 2)	.027

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	416.9	443.5	2.97
2	366.5	387.0	15.32
3	378.1	399.9	12.50
4	395.4	419.2	8.27
5	426.7	454.6	.54

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.50

TIME IS 2920.0 DAYS — STEP NO. 15 — DATE IS 30/12/1992

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	386.0	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	408.9	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	10.5	CUMULATIVE ...	.57 BCF			RESERVOIR ..	8	DP(5, 5, 1)	.009

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	414.5	440.8	3.56
2	359.3	378.9	17.09
3	371.2	392.2	14.19
4	389.0	412.1	9.84
5	426.0	453.7	.73

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.57

TIME IS 3285.0 DAYS STEP NO. 16 DATE IS 30/12/1993

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	380.6	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.001	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	402.9	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	11.9	CUMULATIVE ...	.64 BCF			RESERVOIR ..	8	DP(5, 5, 3)	.009

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	412.0	437.9	4.19
2	352.1	371.0	18.83
3	364.2	384.4	15.89
4	382.6	404.9	11.40
5	425.1	452.7	.94

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.64

TIME IS 3650.0 DAYS STEP NO. 17 DATE IS 30/12/1994

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	375.2	AVERAGE DAY ..	195. MCFD	INCREMENTAL	-.001	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	396.8	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	13.2	CUMULATIVE ...	.71 BCF			RESERVOIR ..	8	DP(3, 3, 2)	.029

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	409.3	434.9	4.84
2	345.0	363.1	20.55
3	357.3	376.8	17.57
4	376.2	397.8	12.97
5	424.1	451.6	1.18

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.71

WELL RATES AND PRESSURES

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	AVG. DAY CONDITIONS RATE (MCFD)	AVG. DAY CONDITIONS BHP (PSIA)	AVG. DAY CONDITIONS THP (PSIA)	PEAK DAY CONDITIONS DLVRBILTY (MCFD)	PEAK DAY CONDITIONS BHP (PSIA)	PEAK DAY CONDITIONS THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	4.1	395.	394.	0.0	0.	395.	402.9	13.36
2	SPEAKMAN	5	5	0	1	9000.0	187.8	334.	334.	0.0	0.	334.	338.4	687.34
3	SPEAKMAN	5	5	0	1	9000.0	3.3	345.	345.	0.0	0.	345.	350.4	11.77

TIME IS 3650.0 DAYS

DATE IS 30/12/1994

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	409.9	409.6	409.5	409.5	409.5
2	409.6	408.9	408.5	408.4	408.4
3	409.5	408.5	407.5	407.0	406.9
4	409.5	408.4	407.0	405.7	405.1
5	409.5	408.4	406.9	405.1	402.9

LAYER 2

	1	2	3	4	5
1	345.6	345.3	345.2	345.2	345.2
2	345.3	344.6	344.2	344.1	344.1
3	345.2	344.2	343.2	342.7	342.6
4	345.1	344.1	342.7	341.4	340.8
5	345.1	344.0	342.6	340.8	338.4

LAYER 3

	1	2	3	4	5
1	357.8	357.6	357.5	357.5	357.5
2	357.6	357.0	356.6	356.5	356.5
3	357.5	356.6	355.6	355.1	354.9
4	357.5	356.5	355.1	353.6	352.9
5	357.5	356.4	354.9	352.9	350.4

LAYER 4

	1	2	3	4	5
1	376.3	376.2	376.2	376.2	376.2
2	376.2	376.1	376.0	376.0	376.0
3	376.2	376.0	375.9	375.9	375.8
4	376.2	376.0	375.9	375.8	375.8
5	376.2	376.0	375.8	375.8	375.8

LAYER 5

	1	2	3	4	5
1	424.1	424.1	424.1	424.1	424.1
2	424.1	424.1	424.1	424.1	424.1
3	424.1	424.1	424.1	424.1	424.1
4	424.1	424.1	424.1	424.1	424.1
5	424.1	424.1	424.1	424.1	424.1

TIME IS 4015.0 DAYS — STEP NO. 18 — DATE IS 30/12/1995

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	369.8	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	390.8	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	14.5	CUMULATIVE ...	.78 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.028

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	406.5	431.8	5.52
2	337.9	355.2	22.28
3	350.5	369.2	19.22
4	369.8	390.6	14.54
5	423.1	450.4	1.44

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.78

TIME IS 4380.0 DAYS — STEP NO. 19 — DATE IS 29/12/1996

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	364.4	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	384.8	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	15.8	CUMULATIVE ...	.85 BCF			RESERVOIR ..	9	DP(5, 5, 2)	.025

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	403.7	428.6	6.23
2	330.8	347.5	23.98
3	343.7	361.6	20.88
4	363.4	383.5	16.09
5	421.9	449.1	1.73

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.85

TIME IS 4745.0 DAYS — STEP NO. 20 — DATE IS 29/12/1997

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	358.9	AVERAGE DAY ..	195. MCFD	INCREMENTAL	-.001	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	378.8	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	17.1	CUMULATIVE ...	.93 BCF			RESERVOIR ..	8	DP(2, 2, 2)	.026

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	400.7	425.2	6.97
2	323.8	339.7	25.67
3	336.8	354.1	22.53
4	357.0	376.4	17.64
5	420.7	447.7	2.04

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	.93

TIME IS 5110.0 DAYS — STEP NO. 21 — DATE IS 29/12/1998

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	353.5	AVERAGE DAY ..	195. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	372.7	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	18.4	CUMULATIVE ...	1.00 BCF			RESERVOIR ..	8	DP(5, 5, 3)	.022

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	397.6	421.7	7.73
2	316.7	332.0	27.37
3	330.1	346.7	24.15
4	350.7	369.4	19.17
5	419.3	446.2	2.37

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	1.00

WELL RATES AND PRESSURES

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	AVG. DAY CONDITIONS RATE (MCFD)	AVG. DAY CONDITIONS BHP (PSIA)	AVG. DAY CONDITIONS THP (PSIA)	PEAK DAY CONDITIONS DLVRBILTY (MCFD)	PEAK DAY CONDITIONS BHP (PSIA)	PEAK DAY CONDITIONS THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	4.5	381.	381.	0.0	0.	381.	390.4	19.70
2	SPEAKMAN	5	5	0	1	9000.0	187.4	304.	304.	0.0	0.	304.	309.7	961.21
3	SPEAKMAN	5	5	0	1	9000.0	3.3	316.	316.	0.0	0.	316.	322.5	16.56

TIME IS 5110.0 DAYS

DATE IS 29/12/1998

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	398.2	397.9	397.8	397.8	397.8
2	397.9	397.2	396.7	396.5	396.5
3	397.8	396.7	395.6	395.0	394.8
4	397.8	396.5	395.0	393.5	392.8
5	397.8	396.5	394.8	392.8	390.4

LAYER 2

	1	2	3	4	5
1	317.4	317.1	316.9	316.9	316.9
2	317.1	316.3	315.9	315.8	315.7
3	316.9	315.9	314.8	314.3	314.2
4	316.9	315.7	314.3	312.9	312.2
5	316.9	315.7	314.1	312.2	309.7

LAYER 3

	1	2	3	4	5
1	330.7	330.4	330.3	330.3	330.3
2	330.4	329.7	329.2	329.1	329.1
3	330.3	329.2	328.2	327.6	327.4
4	330.3	329.1	327.6	326.0	325.3
5	330.3	329.1	327.4	325.2	322.5

LAYER 4

	1	2	3	4	5
1	350.8	350.7	350.7	350.7	350.7
2	350.7	350.6	350.5	350.5	350.5
3	350.7	350.5	350.4	350.3	350.3
4	350.7	350.5	350.3	350.3	350.3
5	350.7	350.5	350.3	350.3	350.3

LAYER 5

	1	2	3	4	5
1	419.3	419.3	419.3	419.3	419.3
2	419.3	419.3	419.3	419.3	419.3
3	419.3	419.3	419.3	419.3	419.3
4	419.3	419.3	419.3	419.3	419.3
5	419.3	419.3	419.3	419.3	419.3

TIME IS 5475.0 DAYS STEP NO. 22 DATE IS 29/12/1999

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	348.0	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	366.7	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	19.8	CUMULATIVE ...	1.07 BCF			RESERVOIR ..	9	DP(5, 5, 2)	.023

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	394.4	418.2	8.51
2	309.7	324.3	29.05
3	323.4	339.2	25.77
4	344.4	362.4	20.70
5	417.9	444.6	2.72

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	1.07

TIME IS 5840.0 DAYS STEP NO. 23 DATE IS 28/12/2000

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	342.6	AVERAGE DAY ..	195. MCFD	INCREMENTAL	-.001	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	360.7	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	21.1	CUMULATIVE ...	1.14 BCF			RESERVOIR ..	8	DP(1, 1, 2)	.027

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	391.1	414.5	9.31
2	302.8	316.7	30.72
3	316.6	331.8	27.40
4	338.1	355.4	22.23
5	416.4	442.9	3.09

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	1.14

TIME IS 6205.0 DAYS STEP NO. 24 DATE IS 28/12/2001

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	337.1	AVERAGE DAY ..	195. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	354.7	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	22.4	CUMULATIVE ...	1.21 BCF			RESERVOIR ..	8	DP(3, 3, 2)	.028

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	387.8	410.7	10.13
2	295.8	309.0	32.39
3	309.9	324.4	29.01
4	331.8	348.5	23.74
5	414.8	441.2	3.48

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	1.21

TIME IS 6570.0 DAYS STEP NO. 25 DATE IS 28/12/2002

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	331.6	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	348.7	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	23.7	CUMULATIVE ...	1.28 BCF			RESERVOIR ..	9	DP(5, 1, 2)	.039

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	384.3	406.9	10.98
2	288.7	301.4	34.06
3	303.2	317.2	30.60
4	325.6	341.7	25.24
5	413.2	439.3	3.88

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	1.28

W E L L R A T E S A N D P R E S S U R E S

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	AVG. DAY CONDITIONS RATE (MCFD)	AVG. DAY CONDITIONS BHP (PSIA)	AVG. DAY CONDITIONS THP (PSIA)	PEAK DAY CONDITIONS DLVRBILTY (MCFD)	PEAK DAY CONDITIONS BHP (PSIA)	PEAK DAY CONDITIONS THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	5.0	365.	365.	0.0	0.	365.	376.1	26.68
2	SPEAKMAN	5	5	0	1	9000.0	186.9	275.	274.	0.0	0.	275.	281.2	1234.40
3	SPEAKMAN	5	5	0	1	9000.0	3.3	288.	288.	0.0	0.	288.	294.8	21.38

TIME IS 6570.0 DAYS

DATE IS 28/12/2002

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	385.1	384.7	384.6	384.5	384.5
2	384.7	383.9	383.3	383.2	383.1
3	384.6	383.3	382.0	381.4	381.2
4	384.5	383.2	381.4	379.7	378.9
5	384.5	383.1	381.2	378.9	376.1

LAYER 2

	1	2	3	4	5
1	289.4	289.1	289.0	288.9	288.9
2	289.1	288.3	287.8	287.6	287.6
3	289.0	287.8	286.6	286.0	285.9
4	288.9	287.7	286.0	284.5	283.8
5	288.9	287.6	285.9	283.8	281.2

LAYER 3

	1	2	3	4	5
1	303.9	303.6	303.4	303.4	303.4
2	303.6	302.9	302.4	302.2	302.2
3	303.4	302.4	301.2	300.5	300.4
4	303.4	302.2	300.5	298.7	297.8
5	303.4	302.2	300.4	297.8	294.8

LAYER 4

	1	2	3	4	5
1	325.7	325.6	325.6	325.6	325.6
2	325.6	325.4	325.3	325.3	325.3
3	325.6	325.3	325.2	325.2	325.2
4	325.6	325.3	325.2	325.1	325.1
5	325.6	325.3	325.2	325.1	325.1

LAYER 5

	1	2	3	4	5
1	413.2	413.2	413.2	413.2	413.2
2	413.2	413.2	413.2	413.2	413.2
3	413.2	413.2	413.2	413.2	413.2
4	413.2	413.2	413.2	413.2	413.2
5	413.2	413.2	413.2	413.2	413.2

TIME IS 6935.0 DAYS — STEP NO. 26 — DATE IS 28/12/2003

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	326.1	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	342.6	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	25.0	CUMULATIVE ...	1.35 BCF			RESERVOIR ..	8	DP(5, 4, 3)	.008

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT D.G.I.P.
1	380.8	402.9	11.84
2	281.8	293.8	35.71
3	296.5	309.8	32.21
4	319.3	334.8	26.74
5	411.5	437.4	4.30

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	1.35

TIME IS 7300.0 DAYS — STEP NO. 27 — DATE IS 27/12/2004

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	320.6	AVERAGE DAY ..	195. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	336.6	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	26.4	CUMULATIVE ...	1.42 BCF			RESERVOIR ..	8	DP(5, 5, 3)	.026

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT D.G.I.P.
1	377.2	398.9	12.72
2	274.8	286.3	37.37
3	289.8	302.6	33.80
4	313.2	328.0	28.23
5	409.7	435.4	4.74

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	1.42

TIME IS 7665.0 DAYS STEP NO. 28 DATE IS 27/12/2005

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	315.1	AVERAGE DAY ..	195. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	330.6	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	27.7	CUMULATIVE ...	1.50 BCF			RESERVOIR ..	9	DP(5, 1, 2)	.044

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	373.5	394.8	13.62
2	267.8	278.7	39.03
3	283.2	295.4	35.37
4	307.0	321.3	29.70
5	407.9	433.3	5.19

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	195.2	195.2	0.00	1.50

TIME IS 8030.0 DAYS STEP NO. 29 DATE IS 27/12/2006

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	309.8	AVERAGE DAY ..	189. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	324.8	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	28.9	CUMULATIVE ...	1.57 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.023

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	369.8	390.7	14.52
2	261.4	271.7	40.55
3	276.7	288.3	36.92
4	300.9	314.6	31.16
5	406.0	431.2	5.66

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	188.5	188.5	0.00	1.57

WELL RATES AND PRESSURES

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	AVG. DAY CONDITIONS RATE (MCFD)	AVG. DAY CONDITIONS BHP (PSIA)	AVG. DAY CONDITIONS THP (PSIA)	PEAK DAY CONDITIONS DLVRBILTY (MCFD)	PEAK DAY CONDITIONS BHP (PSIA)	PEAK DAY CONDITIONS THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	5.3	347.	347.	0.0	0.	347.	360.7	34.35
2	SPEAKMAN	5	5	0	1	9000.0	179.9	246.	246.	0.0	0.	246.	253.2	1504.44
3	SPEAKMAN	5	5	0	1	9000.0	3.2	260.	260.	0.0	0.	260.	267.7	26.22

TIME IS 8030.0 DAYS

DATE IS 27/12/2006

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	370.7	370.3	370.0	370.0	370.0
2	370.3	369.3	368.7	368.5	368.5
3	370.0	368.7	367.2	366.5	366.3
4	370.0	368.5	366.5	364.7	363.8
5	370.0	368.4	366.3	363.8	360.7

LAYER 2

	1	2	3	4	5
1	262.1	261.8	261.6	261.6	261.6
2	261.8	260.9	260.4	260.2	260.2
3	261.6	260.4	258.9	258.3	258.1
4	261.6	260.2	258.3	256.7	255.9
5	261.6	260.2	258.1	255.9	253.2

LAYER 3

	1	2	3	4	5
1	277.4	277.1	277.0	276.9	276.9
2	277.1	276.3	275.8	275.7	275.7
3	277.0	275.8	274.6	273.9	273.7
4	276.9	275.7	273.9	272.0	271.1
5	276.9	275.7	273.7	271.1	267.7

LAYER 4

	1	2	3	4	5
1	301.1	301.0	300.9	300.9	300.9
2	301.0	300.8	300.7	300.7	300.7
3	300.9	300.7	300.5	300.5	300.5
4	300.9	300.7	300.5	300.4	300.4
5	300.9	300.7	300.5	300.4	300.4

LAYER 5

	1	2	3	4	5
1	406.0	406.0	406.0	406.0	406.0
2	406.0	406.0	406.0	406.0	406.0
3	406.0	406.0	406.0	406.0	406.0
4	406.0	406.0	406.0	406.0	406.0
5	406.0	406.0	406.0	406.0	406.0

TIME IS 8395.0 DAYS STEP NO. 30 DATE IS 27/12/2007

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	304.4	AVERAGE DAY ..	189. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	319.0	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	30.2	CUMULATIVE ...	1.63 BCF			RESERVOIR ..	8	DP(5, 5, 3)	.026

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	366.1	386.5	15.44
2	254.8	264.6	42.11
3	270.4	281.5	38.42
4	294.9	308.1	32.60
5	404.0	429.0	6.14

PRODUCTION SUMMARY

GATHERING CENTER NO.	NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	188.5	188.5	0.00	1.63

TIME IS 8760.0 DAYS STEP NO. 31 DATE IS 26/12/2008

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	299.1	AVERAGE DAY ..	189. MCFD	INCREMENTAL	.001	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	313.1	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	31.5	CUMULATIVE ...	1.70 BCF			RESERVOIR ..	8	DP(5, 5, 1)	.018

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	362.2	382.2	16.37
2	248.1	257.4	43.68
3	264.1	274.7	39.91
4	288.9	301.6	34.02
5	402.1	426.8	6.63

PRODUCTION SUMMARY

GATHERING CENTER NO.	NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	188.5	188.5	0.00	1.70

TIME IS 9125.0 DAYS STEP NO. 32 DATE IS 26/12/2009

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	293.7	AVERAGE DAY ..	189. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	307.3	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	32.8	CUMULATIVE ...	1.77 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.024

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	358.4	377.9	17.31
2	241.5	250.3	45.23
3	257.7	267.7	41.42
4	283.0	295.1	35.42
5	400.0	424.5	7.13

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	188.5	188.5	0.00	1.77

TIME IS 9490.0 DAYS STEP NO. 33 DATE IS 26/12/2010

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	288.4	AVERAGE DAY ..	189. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	301.5	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	34.0	CUMULATIVE ...	1.84 BCF			RESERVOIR ..	8	DP(5, 5, 3)	.024

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	354.4	373.6	18.27
2	234.8	243.1	46.81
3	251.4	261.0	42.90
4	277.1	288.8	36.82
5	397.9	422.1	7.64

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	188.5	188.5	0.00	1.84

WELL RATES AND PRESSURES

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	---AVG. DAY CONDITIONS-- RATE (MCFD)	BHP (PSIA)	THP (PSIA)	--PEAK DAY CONDITIONS--- DLVRBILTY (MCFD)	BHP (PSIA)	THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	5.9	328.	328.	0.0	0.	328.	343.8	42.64
2	SPEAKMAN	5	5	0	1	9000.0	179.3	217.	217.	0.0	0.	217.	225.7	1766.59
3	SPEAKMAN	5	5	0	1	9000.0	3.3	232.	232.	0.0	0.	232.	241.5	32.99

TIME IS 9490.0 DAYS

DATE IS 26/12/2010

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	355.3	354.9	354.7	354.7	354.7
2	354.9	353.8	353.1	352.9	352.9
3	354.7	353.1	351.5	350.6	350.4
4	354.7	352.9	350.6	348.4	347.4
5	354.7	352.9	350.4	347.4	343.8

LAYER 2

	1	2	3	4	5
1	235.5	235.2	235.0	235.0	235.0
2	235.2	234.3	233.7	233.5	233.5
3	235.0	233.7	232.3	231.6	231.4
4	235.0	233.5	231.6	229.6	228.7
5	235.0	233.5	231.4	228.7	225.7

LAYER 3

	1	2	3	4	5
1	252.1	251.8	251.7	251.6	251.6
2	251.8	251.0	250.5	250.3	250.3
3	251.7	250.5	248.9	248.1	247.9
4	251.6	250.3	248.1	246.1	245.1
5	251.6	250.3	247.9	245.1	241.5

LAYER 4

	1	2	3	4	5
1	277.3	277.2	277.2	277.1	277.1
2	277.2	277.0	276.9	276.9	276.9
3	277.2	276.9	276.7	276.7	276.7
4	277.1	276.9	276.7	276.6	276.6
5	277.1	276.9	276.7	276.6	276.6

LAYER 5

	1	2	3	4	5
1	397.9	397.9	397.9	397.9	397.9
2	397.9	397.9	397.9	397.9	397.9
3	397.9	397.9	397.9	397.9	397.9
4	397.9	397.9	397.9	397.9	397.9
5	397.9	397.9	397.9	397.9	397.9

TIME IS 9672.5 DAYS STEP NO. 34 DATE IS 26/ 6/2011

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	284.5	AVERAGE DAY ..	274. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	297.3	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	35.0	CUMULATIVE ...	1.89 BCF			RESERVOIR ..	9	DP(4, 3, 2)	.007

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	352.1	370.9	18.84
2	227.9	235.7	48.43
3	247.3	256.5	43.88
4	274.1	285.5	37.54
5	396.9	420.9	7.90

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	273.5	273.5	0.00	1.89

TIME IS 9855.0 DAYS STEP NO. 35 DATE IS 26/12/2011

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	280.5	AVERAGE DAY ..	274. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	293.1	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	35.9	CUMULATIVE ...	1.94 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.035

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	349.6	368.2	19.43
2	221.5	228.9	49.92
3	242.7	251.6	44.95
4	270.9	282.0	38.29
5	395.8	419.7	8.16

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	273.5	273.5	0.00	1.94

TIME IS 10037.5 DAYS — STEP NO. 36 — DATE IS 25/ 6/2012

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	276.6	AVERAGE DAY ..	274. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	288.9	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	36.8	CUMULATIVE ...	1.99 BCF			RESERVOIR ..	8	DP(2, 2, 2)	.024

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	347.1	365.5	20.03
2	215.4	222.4	51.34
3	237.9	246.4	46.08
4	267.6	278.5	39.07
5	394.7	418.5	8.43

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	273.5	273.5	0.00	1.99

TIME IS 10220.0 DAYS — STEP NO. 37 — DATE IS 25/12/2012

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	272.7	AVERAGE DAY ..	274. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	284.6	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	37.7	CUMULATIVE ...	2.04 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.030

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	344.6	362.7	20.65
2	209.5	216.1	52.72
3	233.1	241.3	47.21
4	264.2	274.8	39.88
5	393.6	417.3	8.70

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	273.5	273.5	0.00	2.04

WELL RATES AND PRESSURES

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	AVG. DAY CONDITIONS RATE (MCFD)	AVG. DAY CONDITIONS BHP (PSIA)	AVG. DAY CONDITIONS THP (PSIA)	PEAK DAY CONDITIONS DLVRBILTY (MCFD)	PEAK DAY CONDITIONS BHP (PSIA)	PEAK DAY CONDITIONS THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	10.0	292.	292.	0.0	0.	292.	326.1	49.55
2	SPEAKMAN	5	5	0	1	9000.0	258.5	176.	176.	0.0	0.	176.	194.8	1955.71
3	SPEAKMAN	5	5	0	1	9000.0	5.1	195.	195.	0.0	0.	195.	216.7	34.61

TIME IS 10220.0 DAYS

DATE IS 25/12/2012

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	346.1	345.4	345.1	345.0	345.0
2	345.4	343.6	342.4	342.0	342.0
3	345.1	342.4	339.5	338.0	337.7
4	345.0	342.0	338.0	334.3	332.5
5	345.0	342.0	337.7	332.5	326.1

LAYER 2

	1	2	3	4	5
1	210.8	210.2	209.7	209.7	209.7
2	210.2	208.5	207.6	207.3	207.3
3	209.7	207.6	205.4	204.3	204.0
4	209.7	207.3	204.3	201.4	199.7
5	209.7	207.3	204.0	199.7	194.8

LAYER 3

	1	2	3	4	5
1	234.1	233.7	233.5	233.4	233.4
2	233.7	232.5	231.6	231.4	231.3
3	233.5	231.6	229.3	228.0	227.7
4	233.4	231.4	228.0	224.7	223.0
5	233.4	231.3	227.7	223.0	216.7

LAYER 4

	1	2	3	4	5
1	264.5	264.3	264.2	264.2	264.2
2	264.3	264.0	263.9	263.8	263.8
3	264.2	263.9	263.6	263.6	263.6
4	264.2	263.8	263.6	263.5	263.5
5	264.2	263.8	263.6	263.5	263.4

LAYER 5

	1	2	3	4	5
1	393.6	393.6	393.6	393.6	393.6
2	393.6	393.6	393.6	393.6	393.6
3	393.6	393.6	393.6	393.6	393.6
4	393.6	393.6	393.6	393.6	393.6
5	393.6	393.6	393.6	393.6	393.6

TIME IS 10402.5 DAYS STEP NO. 38 DATE IS 25/ 6/2013

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	268.8	AVERAGE DAY ..	274. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	280.4	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	38.6	CUMULATIVE ...	2.09 BCF			RESERVOIR ..	9	DP(5, 1, 2)	.026

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	342.0	359.8	21.28
2	283.7	210.0	54.06
3	228.2	236.0	48.36
4	260.7	271.0	40.71
5	392.5	416.1	8.97

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	273.5	273.5	0.00	2.09

TIME IS 10585.0 DAYS STEP NO. 39 DATE IS 25/12/2013

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	264.8	AVERAGE DAY ..	274. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	276.2	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	39.6	CUMULATIVE ...	2.14 BCF			RESERVOIR ..	8	DP(5, 5, 1)	.024

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	339.3	356.8	21.93
2	198.0	203.9	55.39
3	223.4	230.9	49.49
4	257.1	267.1	41.57
5	391.4	414.8	9.24

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	273.5	273.5	0.00	2.14

TIME IS 10767.5 DAYS STEP NO. 40 DATE IS 25/ 6/2014

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	260.9	AVERAGE DAY ..	274. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	272.0	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	40.5	CUMULATIVE ...	2.19 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.013

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	336.6	353.8	22.58
2	192.4	198.0	56.68
3	218.5	225.7	50.63
4	253.4	263.1	42.43
5	390.3	413.5	9.52

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	273.5	273.5	0.00	2.19

TIME IS 10950.0 DAYS STEP NO. 41 DATE IS 25/12/2014

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	257.0	AVERAGE DAY ..	274. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	267.8	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	41.4	CUMULATIVE ...	2.24 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.022

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	333.8	350.8	23.25
2	186.8	192.1	57.98
3	213.7	220.6	51.74
4	249.7	259.1	43.32
5	389.1	412.2	9.80

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	273.5	273.5	0.00	2.24

W E L L R A T E S A N D P R E S S U R E S

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	---AVG. DAY CONDITIONS-- RATE (MCFD)	BHP (PSIA)	THP (PSIA)	--PEAK DAY CONDITIONS--- DLVRBILTY (MCFD)	BHP (PSIA)	THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	11.5	268.	268.	0.0	0.	268.	311.6	57.54
2	SPEAKMAN	5	5	0	1	9000.0	256.7	148.	148.	0.0	0.	148.	170.5	2143.59
3	SPEAKMAN	5	5	0	1	9000.0	5.3	169.	169.	0.0	0.	169.	195.1	38.40

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	335.7	334.8	334.4	334.4	334.3
2	334.8	332.6	331.2	330.8	330.7
3	334.4	331.2	327.8	326.0	325.6
4	334.4	330.8	326.0	321.6	319.2
5	334.3	330.7	325.6	319.3	311.6

LAYER 2

	1	2	3	4	5
1	188.2	187.5	187.3	187.2	187.2
2	187.5	185.9	184.9	184.6	184.6
3	187.3	184.9	182.4	181.1	180.8
4	187.2	184.6	181.1	177.6	176.1
5	187.2	184.5	180.8	176.1	170.5

LAYER 3

	1	2	3	4	5
1	214.9	214.4	214.1	214.1	214.1
2	214.4	213.0	212.0	211.7	211.7
3	214.1	212.0	209.4	208.0	207.6
4	214.1	211.7	208.0	204.2	202.2
5	214.1	211.7	207.6	202.2	195.1

LAYER 4

	1	2	3	4	5
1	249.9	249.8	249.7	249.7	249.7
2	249.8	249.4	249.3	249.2	249.2
3	249.7	249.3	249.0	248.9	248.9
4	249.7	249.2	248.9	248.8	248.8
5	249.7	249.2	248.9	248.8	248.8

LAYER 5

	1	2	3	4	5
1	389.1	389.1	389.1	389.1	389.1
2	389.1	389.1	389.1	389.1	389.1
3	389.1	389.1	389.1	389.1	389.1
4	389.1	389.1	389.1	389.1	389.1
5	389.1	389.1	389.1	389.1	389.1

TIME IS 11315.0 DAYS STEP NO. 42 DATE IS 25/12/2015

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	251.0	AVERAGE DAY ..	209. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	261.3	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	42.8	CUMULATIVE ...	2.32 BCF			RESERVOIR ..	8	DP(5, 5, 3)	.036

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	328.9	345.3	24.44
2	180.8	185.7	59.37
3	205.8	212.2	53.58
4	242.4	251.2	45.03
5	386.8	409.6	10.38

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	209.2	209.2	0.00	2.32

TIME IS 11680.0 DAYS STEP NO. 43 DATE IS 24/12/2016

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	244.9	AVERAGE DAY ..	209. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	254.9	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	44.2	CUMULATIVE ...	2.39 BCF			RESERVOIR ..	8	DP(5, 5, 1)	.028

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	323.9	339.8	25.64
2	174.0	178.6	60.93
3	198.6	204.5	55.26
4	235.3	243.7	46.68
5	384.4	407.0	10.96

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	209.2	209.2	0.00	2.39

TIME IS 12045.0 DAYS — STEP NO. 44 — DATE IS 24/12/2017

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	238.9	AVERAGE DAY ..	209. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	248.4	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	45.6	CUMULATIVE ...	2.47 BCF			RESERVOIR ..	8	DP(5, 5, 3)	.039

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	318.8	334.3	26.86
2	166.8	171.0	62.59
3	191.7	197.2	56.85
4	228.5	236.3	48.29
5	382.0	404.2	11.55

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	209.2	209.2	0.00	2.47

TIME IS 12410.0 DAYS — STEP NO. 45 — DATE IS 24/12/2018

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	232.8	AVERAGE DAY ..	209. MCFD	INCREMENTAL	.001	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	242.0	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	47.1	CUMULATIVE ...	2.54 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.019

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	313.7	328.6	28.10
2	159.4	163.2	64.29
3	184.8	189.9	58.44
4	221.9	229.3	49.83
5	379.5	401.5	12.15

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	209.2	209.2	0.00	2.54

WELL RATES AND PRESSURES

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	---AVG. DAY CONDITIONS-- RATE (MCFD)	BHP (PSIA)	THP (PSIA)	--PEAK DAY CONDITIONS--- DLVRBILTY (MCFD)	BHP (PSIA)	THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	10.3	254.	254.	0.0	0.	254.	292.7	71.59
2	SPEAKMAN	5	5	0	1	9000.0	194.8	128.	128.	0.0	0.	128.	144.9	2429.00
3	SPEAKMAN	5	5	0	1	9000.0	4.1	148.	147.	0.0	0.	148.	168.0	44.29

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	315.5	314.6	314.3	314.2	314.2
2	314.6	312.5	311.2	310.8	310.7
3	314.3	311.2	307.9	306.2	305.8
4	314.2	310.8	306.2	302.1	300.0
5	314.2	310.7	305.8	300.0	292.7

LAYER 2

	1	2	3	4	5
1	160.9	159.9	159.7	159.6	159.6
2	159.9	158.5	157.6	157.4	157.3
3	159.7	157.6	155.5	154.4	154.2
4	159.6	157.3	154.4	151.6	149.7
5	159.6	157.3	154.2	149.7	144.9

LAYER 3

	1	2	3	4	5
1	185.9	185.4	185.2	185.2	185.2
2	185.4	184.2	183.4	183.1	183.0
3	185.2	183.4	181.1	179.5	179.2
4	185.2	183.1	179.5	176.2	174.6
5	185.2	183.0	179.2	174.6	168.0

LAYER 4

	1	2	3	4	5
1	222.1	222.0	221.9	221.9	221.9
2	222.0	221.7	221.5	221.5	221.5
3	221.9	221.5	221.3	221.3	221.2
4	221.9	221.5	221.3	221.2	221.1
5	221.9	221.5	221.2	221.1	221.1

LAYER 5

	1	2	3	4	5
1	379.5	379.5	379.5	379.5	379.5
2	379.5	379.5	379.5	379.5	379.5
3	379.5	379.5	379.5	379.5	379.5
4	379.5	379.5	379.5	379.5	379.5
5	379.5	379.5	379.5	379.5	379.5

TIME IS 12775.0 DAYS STEP NO. 46 DATE IS 24/12/2019

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	229.3	AVERAGE DAY ..	122. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	238.2	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	47.9	CUMULATIVE ...	2.59 BCF			RESERVOIR ..	9	DP(5, 1, 2)	.012

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	309.6	324.2	29.07
2	158.8	162.6	64.42
3	180.2	185.1	59.51
4	215.8	222.8	51.25
5	377.1	398.7	12.76

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	121.5	121.5	0.00	2.59

***** TIME STEP IS 91.2 DAYS

TIME IS 12866.3 DAYS | STEP NO. 47 | DATE IS 24/ 3/2020

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	227.7	AVERAGE DAY ..	230. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	236.4	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	48.3	CUMULATIVE ...	2.61 BCF			RESERVOIR ..	9	DP(5, 3, 2)	.014

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	308.3	322.7	29.39
2	156.0	159.7	65.06
3	178.8	183.6	59.83
4	214.3	221.2	51.60
5	376.4	398.0	12.91

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	230.0	230.0	0.00	2.61

TIME IS 12957.5 DAYS | STEP NO. 48 | DATE IS 23/ 6/2020

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	226.0	AVERAGE DAY ..	230. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	234.7	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	48.7	CUMULATIVE ...	2.63 BCF			RESERVOIR ..	8	DP(4, 3, 2)	.007

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	306.9	321.2	29.72
2	153.4	156.9	65.67
3	177.2	181.9	60.19
4	212.8	219.6	51.95
5	375.8	397.3	13.06

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	230.0	230.0	0.00	2.63

TIME IS 13048.8 DAYS | STEP NO. 49 | DATE IS 22/ 9/2020

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	224.3	AVERAGE DAY ..	230. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	232.9	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	49.0	CUMULATIVE ...	2.65 BCF			RESERVOIR ..	8	DP(5, 5, 1)	.006

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	305.5	319.7	30.05
2	150.8	154.2	66.27
3	175.6	180.2	60.58
4	211.3	218.0	52.29
5	375.2	396.7	13.21

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	230.0	230.0	0.00	2.65

WELL RATES AND PRESSURES

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	---AVG. DAY CONDITIONS-- RATE (MCFD)	BHP (PSIA)	THP (PSIA)	--PEAK DAY CONDITIONS--- DLVRBILTY (MCFD)	BHP (PSIA)	THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	12.2	226.	226.	0.0	0.	226.	280.4	77.04
2	SPEAKMAN	5	5	0	1	9000.0	213.2	108.	108.	0.0	0.	108.	133.7	2528.86
3	SPEAKMAN	5	5	0	1	9000.0	4.6	126.	126.	0.0	0.	126.	156.7	46.37

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	307.4	306.6	306.2	306.1	306.1
2	306.6	304.3	302.8	302.4	302.3
3	306.2	302.8	299.0	297.0	296.5
4	306.1	302.4	297.0	291.9	289.3
5	306.1	302.3	296.6	289.3	280.4

LAYER 2

	1	2	3	4	5
1	152.2	151.5	151.3	151.2	151.2
2	151.5	149.7	148.7	148.4	148.3
3	151.3	148.7	146.1	144.8	144.5
4	151.2	148.4	144.8	141.4	139.6
5	151.2	148.3	144.4	139.6	133.7

LAYER 3

	1	2	3	4	5
1	176.6	176.2	176.0	175.9	175.9
2	176.2	175.0	174.1	173.8	173.8
3	176.0	174.1	171.7	170.3	169.9
4	175.9	173.8	170.3	166.4	164.3
5	175.9	173.8	169.9	164.3	156.7

LAYER 4

	1	2	3	4	5
1	211.6	211.4	211.4	211.3	211.3
2	211.4	211.1	211.0	211.0	211.0
3	211.4	211.0	210.8	210.7	210.7
4	211.3	211.0	210.7	210.6	210.6
5	211.3	211.0	210.7	210.6	210.6

LAYER 5

	1	2	3	4	5
1	375.2	375.2	375.2	375.2	375.2
2	375.2	375.2	375.2	375.2	375.2
3	375.2	375.2	375.2	375.2	375.2
4	375.2	375.2	375.2	375.2	375.2
5	375.2	375.2	375.2	375.2	375.2

TIME IS 13140.0 DAYS STEP NO. 50 DATE IS 23/12/2020

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	222.6	AVERAGE DAY ..	230. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	231.1	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	49.4	CUMULATIVE ...	2.67 BCF			RESERVOIR ..	8	DP(5, 5, 1)	.015

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	304.1	318.1	30.39
2	148.2	151.5	66.85
3	173.8	178.4	60.98
4	209.8	216.5	52.64
5	374.6	396.0	13.37

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	230.0	230.0	0.00	2.67

***** TIME STEP IS 30.4 DAYS

TIME IS 13170.4 DAYS — STEP NO. 51 — DATE IS 22/ 1/2021

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	222.5	AVERAGE DAY ..	48. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	231.0	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	49.5	CUMULATIVE ...	2.67 BCF			RESERVOIR ..	9	DP(4, 2, 2)	.002

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	303.8	317.8	30.46
2	148.9	152.2	66.70
3	173.3	177.8	61.09
4	209.4	215.9	52.75
5	374.4	395.7	13.42

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	48.0	48.0	0.00	2.67

TIME IS 13200.8 DAYS — STEP NO. 52 — DATE IS 21/ 2/2021

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	222.4	AVERAGE DAY ..	48. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	.000
AVG. (P/Z)	230.9	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	49.5	CUMULATIVE ...	2.68 BCF			RESERVOIR ..	8	DP(5, 5, 2)	.005

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	303.6	317.6	30.52
2	149.5	152.9	66.55
3	172.9	177.4	61.19
4	208.9	215.4	52.86
5	374.1	395.5	13.47

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	48.0	48.0	0.00	2.68

TIME IS 13231.2 DAYS | STEP NO. 53 | DATE IS 24/ 3/2021

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	222.3	AVERAGE DAY ..	48. MCFD	INCREMENTAL	-.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	230.7	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	49.5	CUMULATIVE ...	2.68 BCF			RESERVOIR ..	8	DP(5, 5, 1)	.000

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	303.3	317.3	30.58
2	150.1	153.5	66.42
3	172.5	177.0	61.28
4	208.4	214.9	52.98
5	373.9	395.3	13.52

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	48.0	48.0	0.00	2.68

WELL RATES AND PRESSURES

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	---AVG. DAY CONDITIONS-- RATE (MCFD)	BHP (PSIA)	THP (PSIA)	--PEAK DAY CONDITIONS--- DLVRBILTY (MCFD)	BHP (PSIA)	THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	2.4	287.	287.	0.0	0.	287.	294.9	78.40
2	SPEAKMAN	5	5	0	1	9000.0	44.7	142.	142.	0.0	0.	142.	146.5	2552.36
3	SPEAKMAN	5	5	0	1	9000.0	.9	160.	160.	0.0	0.	160.	164.7	46.87

TIME IS 13231.2 DAYS

DATE IS 24/ 3/2021

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	304.9	304.0	303.7	303.6	303.6
2	304.0	302.0	301.0	300.8	300.7
3	303.7	301.0	299.2	298.6	298.4
4	303.6	300.8	298.6	297.3	296.7
5	303.6	300.7	298.4	296.7	294.9

LAYER 2

	1	2	3	4	5
1	150.5	150.3	150.2	150.2	150.2
2	150.3	149.9	149.6	149.5	149.5
3	150.2	149.6	149.0	148.7	148.7
4	150.2	149.5	148.7	148.0	147.7
5	150.2	149.5	148.7	147.7	146.5

LAYER 3

	1	2	3	4	5
1	173.5	173.0	172.8	172.8	172.8
2	173.0	171.9	171.1	170.8	170.8
3	172.8	171.1	169.2	168.4	168.2
4	172.8	170.8	168.4	166.8	166.3
5	172.8	170.8	168.2	166.3	164.7

LAYER 4

	1	2	3	4	5
1	208.6	208.5	208.4	208.4	208.4
2	208.5	208.2	208.0	208.0	208.0
3	208.4	208.0	207.8	207.8	207.8
4	208.4	208.0	207.8	207.7	207.7
5	208.4	208.0	207.8	207.7	207.7

LAYER 5

	1	2	3	4	5
1	373.9	373.9	373.9	373.9	373.9
2	373.9	373.9	373.9	373.9	373.9
3	373.9	373.9	373.9	373.9	373.9
4	373.9	373.9	373.9	373.9	373.9
5	373.9	373.9	373.9	373.9	373.9

TIME IS 13320.0 DAYS | STEP NO. 56 | DATE IS 21/ 6/2021

PRESSURE AND RECOVERY		PRODUCTION		MATERIAL BALANCE		ITERATIONS		CONVERGENCE	
AVG. PRESSURE ...	222.0	AVERAGE DAY ..	48. MCFD	INCREMENTAL	.000	GLOBAL	2	GLOBAL	0.000
AVG. (P/Z)	230.4	PEAK DAY	0. MCFD	CUMULATIVE	1.000	NETWORK	0	NETWORK	0.000
RECOVERY, PERCENT	49.6	CUMULATIVE ...	2.68 BCF			RESERVOIR ..	8	DP(3, 3, 2)	.001

PRESSURE SUMMARY

FIELD/ RESERVOIR NUMBER	AVERAGE PRESSURE (PSIA)	AVG. P/Z (PSIA)	RECOVERY PERCENT O.G.I.P.
1	302.6	316.4	30.76
2	151.6	155.0	66.08
3	171.6	176.0	61.49
4	207.0	213.4	53.30
5	373.3	394.6	13.67

PRODUCTION SUMMARY

GATHERING CENTER NO.	GATHERING CENTER NAME	DELIVERY PRESSURE (PSIA)	TARGET RATE (MCF/D)	AVERAGE PRODUCTION (MCF/D)	PEAK DAY DELVRBILITY (MCF/D)	CUMULATIVE PRODUCTION (BCF)
1		1.0	48.0	48.0	0.00	2.68

W E L L R A T E S A N D P R E S S U R E S

WELL NO.	NAME	I	J	LINE	CENTER NO.	QMAX (MCFD)	AVG. DAY CONDITIONS RATE (MCFD)	AVG. DAY CONDITIONS BHP (PSIA)	AVG. DAY CONDITIONS THP (PSIA)	PEAK DAY CONDITIONS DLVRBILTY (MCFD)	PEAK DAY CONDITIONS BHP (PSIA)	PEAK DAY CONDITIONS THP (PSIA)	RESERVOIR PRESSURE (PSIA)	CUMULATIVE PRODUCTION (MMCF)
1	SPEAKMAN	5	5	0	1	9000.0	2.4	289.	289.	0.0	0.	289.	296.0	78.61
2	SPEAKMAN	5	5	0	1	9000.0	44.7	144.	144.	0.0	0.	144.	148.1	2556.33
3	SPEAKMAN	5	5	0	1	9000.0	.9	161.	161.	0.0	0.	161.	165.5	46.95

TIME IS 13320.0 DAYS

DATE IS 21/ 6/2021

BENCHMARK RUN OF
APC - NORDLING A NO.1 / PRODUCTION FROM APC - SPEAKMAN NO.1
FOR ANADARKO PRODUCTION COMPANY
DECEMBER 4, 1984

PRESSURE (PSI)

LAYER 1

	1	2	3	4	5
1	303.7	303.0	302.7	302.7	302.7
2	303.0	301.6	301.0	300.8	300.8
3	302.7	301.0	299.8	299.3	299.2
4	302.7	300.8	299.3	298.2	297.7
5	302.7	300.8	299.2	297.7	296.0

LAYER 2

	1	2	3	4	5
1	151.9	151.8	151.7	151.7	151.7
2	151.8	151.4	151.2	151.1	151.1
3	151.7	151.2	150.6	150.4	150.3
4	151.7	151.1	150.4	149.7	149.3
5	151.7	151.1	150.3	149.3	148.1

LAYER 3

	1	2	3	4	5
1	172.4	172.0	171.8	171.8	171.8
2	172.0	171.0	170.3	170.2	170.1
3	171.8	170.3	169.0	168.5	168.4
4	171.8	170.2	168.5	167.5	167.0
5	171.8	170.1	168.4	167.0	165.5

LAYER 4

	1	2	3	4	5
1	207.2	207.1	207.0	207.0	207.0
2	207.1	206.8	206.6	206.6	206.6
3	207.0	206.6	206.5	206.4	206.4
4	207.0	206.6	206.4	206.4	206.4
5	207.0	206.6	206.4	206.4	206.3

LAYER 5

	1	2	3	4	5
1	373.3	373.3	373.3	373.3	373.3
2	373.3	373.3	373.3	373.3	373.3
3	373.3	373.3	373.3	373.3	373.3
4	373.3	373.3	373.3	373.3	373.3
5	373.3	373.3	373.3	373.3	373.3