Case No
6927

Large Exhibits

V.S.U.C.P. MICROGRAPHICS

BEST AVAILABLE COPY

C
(NORTH)

C'
(SOUTH)

GENERAL AMER. OIL
No. 9
GREEN "B"

CONTINENTAL OIL
No. 1
STATE "19" COM.

H. E. YATES
No. 10
EMPIRE SO. DP. UN.

H. E. YATES
No. 13
EMPIRE SO. DP. UN.

AMOCO
No. 5
EMPIRE SO. DP. UN.

ATOKA

UPPER MORROW

DATUM

LOWER MORROW

BARNETT

PERF
20/10,744-764
Comp Nat

TD 10,870'
IPF 9.25 MMCFGPD
GOR --
GTY --
7-11-79
PB 10,834'

CUM. PROD. @ 3-1-80
1159.9 MMCF
AVG. PROD. - FEB. 1980
3379.4 MCF/DAY

PERF
16/10,679-687

PERF
64/10,706-722
Swb Dry, SI overnight
A/2400, F/1569 MCF

TD 10,880'
IPCAOF 4.874 MMCFGPD
GOR Dry
GTY NR
3-24-79
PB 10,792'

CUM. PROD. @ 3-1-80
630.2 MMCF
AVG. PROD. - FEB. 1980
1120.0 MCF/DAY

PERF
10,722-758

TD 11,010'
IPCAOF 14.72 MMCFGPD
GOR 42,677
GTY .657
6- - -78
PB 10,968'

CUM. PROD. @ 3-1-80
3247.9 MMCF
AVG. PROD. - FEB. 1980
887.3 MCF/DAY

PERF
12/10,665-677
F/3500 MCFG/20'
Nat

DST
10,570-701, Op 120'
Unload Cond & Mud in
45' F/Est 3200 MCFPD
R/10' Cond ISC R/6 CFG
W/tr Cond
180'/4537
FP 1056-1891
240'/4537

TD 11,060'
IPF 5.0 MMCFGPD
GOR --
GTY --
4-7-77
PB 10,960'

CUM. PROD. @ 3-1-80
1624.3 MMCF
AVG. PROD. - FEB. 1980
1902.6 MCF/DAY

PERF
20/10,736-805
F/4.4 MMCFGPD

TD 10,968'
IPCAOF 12.874 MMCFGPD
GOR Dry
GTY .668
2-5-75
PB 10,876'

CUM. PROD. @ 3-1-80
1608.4 MMCF
AVG. PROD. - FEB. 1980
-0- MCF/DAY

INDEX MAP

R-28-E
R-29-E
T 17 S

SCALE
1" = 400' Horizontal
1" = 40' Vertical

EXHIBIT NO.

DOYLE HARTMAN

STRATIGRAPHIC

CROSS SECTION C-C'

(NORTH - SOUTH)

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.

BEST AVAILABLE COPY

B
(WEST)

YATES PETROLEUM
No. 1
LUCAS STORE "KT" ST. COM.

YATES PETROLEUM
No. 1
LUCAS STORE "JZ" ST. COM.

EXXON
No. 1-CY
STATE

DOYLE HARTMAN
No. 1
EMPIRE STATE

PENNZOIL
No.
AIS "24" STATE COM.

ATOKA

UPPER MORROW

DST
10,255-69, Op 90"
S/600' N
90"/3685
Rr 280-322
180"/3930

DATUM

LOWER MORROW

BARNETT

CHESTER

TD 10,413' PB 6703'
IPF 54 BO + 40 BWPD
dry hole in Morrow

TD 10,699'
P & A 1-12-79

TD 10,800'
P & A 5-17-[illegible]

W.N.M.G.F. MICROGRAPHICS
BEST AVAILABLE COPY

B
(WEST)

YATES PETROLEUM
No. 1
LUCAS STORE "KT" ST. COM.

YATES PETROLEUM
No. 1
LUCAS STORE "JZ" ST. COM.

HONDO OIL
No. 2
STATE "BV"

ATOKA

UPPER MORROW

DATUM

LOWER MORROW

BARNETT

CHESTER

DST
10,255-69, Op 90"
SI/600' M
90"/3695
FF 280-322
180"/3930

TD 10,690'
P & A 1-12-79

W.N.M.G.F. MICROGRAPHICS
BEST AVAILABLE COPY

YATES PETROLEUM
No. 1
LUCAS STORE "JZ" ST COM.

EXXON
NSL 1-
STATE

HONDO OIL
No. 2
STATE "BV"

HNZOIL
o. 1
STATE COM.

CONTINENTAL OIL
No. 1
STATE "19" COM.

B'
(EAST)

ATOKA

UPPER MORROW

LOWER MORROW

BARNETT

CHESTER

ROW

ROW

DST
10,155-59, Op 90"
F/690' M
30"/1695
IF 280-322
180"/3930

DST
10,422-800, Op 10" PF
Op 60", GTS 38" 32 MCF
Rec 372' SOCGM
S C 0/1.113 CFG 1700 cc
GCGM @ 250#
60"/1176, FP 308-348
180"/1282

PERF
36/10679-697

PERF
8a/10,706-722
Swb Dry, S.I.overnight
A/2400, F/1569 MCF

DATUM

TD 10,690'
P & A 1-12-79

TD 10,880' PB 10,792'
IPCAOF 4.874 MMCFGPD
GOR Dry GTY SR
3-24-79

CUM. PROD. @ 3-1-80
630.2 MMCF
AVG. PROD. - FEB. 1980
1120.0 MCF/DAY

SCALE
1" = 400' Horizontal
1" = 40' Vertical

INDEX MAP

R-29-E R-29-E

T 17 S T 17 S

B B'

EXHIBIT NO.

DOYLE HARTMAN

STRATIGRAPHIC

CROSS SECTION B-B'

(WEST-EAST)

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.

N.M.M.I.F. MICROGRAPHICS
BEST AVAILABLE COPY

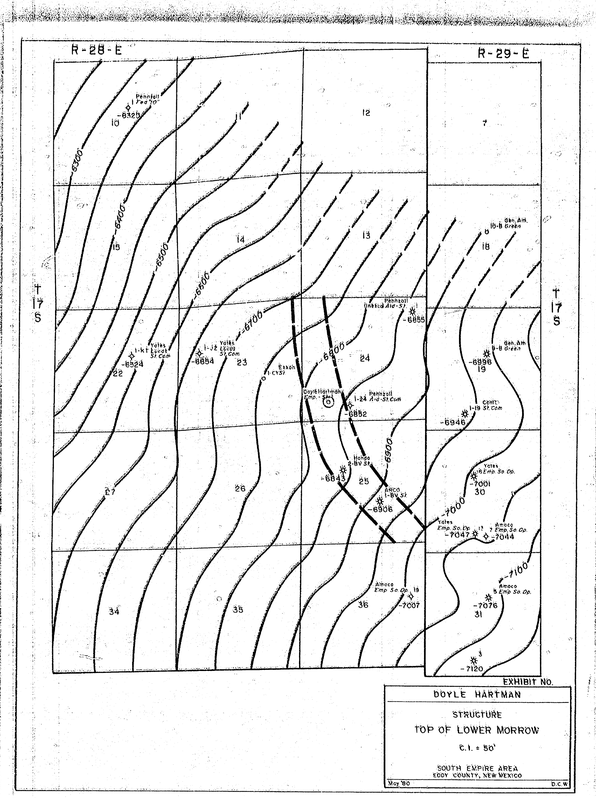


EXHIBIT No.

DOYLE HARTMAN

STRUCTURE

TOP OF LOWER MORROW

C.I. = 50'

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.

V.A.N.C.F. MICROGRAPHICS

BEST AVAILABLE COPY

B
(WEST)

YATES PETROLEUM
No. 1
LUCAS STORE "KT" ST. COM.

YATES PETROLEUM
No. 1
LUCAS STORE "JZ" ST. COM.

EXXON
No. 1-CY
STATE

DOYLE HARTMAN
No. 1
EMPIRE STATE

ATOKA

UPPER MORROW

DST
10,255-69, Op 90"
R/600' M
90"/3695
FP 280-322
180"/3530

DATUM

LOWER MORROW

BARNETT

CHESTER

TD 10,413' PB 6703'
IPP 54 BO + 43 BWPD
Dry Hole in Morrow

TD 10,690'
P & A 1-12-79

W.R.M.C.P. MICROGRAPHICS

BEST AVAILABLE COPY

DOYLE HARTMAN
No. 1
EMPIRE STATE

PENNZOIL
No. 1
AID "24" STATE COM.

CONTINENTAL OIL
No. 1
STATE "10" COM.

B'
(EAST)

ATOKA

UPPER MORROW

DST
10,422-800; Op. 10" FF
Op 60", CIS 38" 32 MCF
Rec 327' SGCDM
S C 8/1,113 CFG 1700 cc
GCDM @ 250#
60"/1741, FP 308-348
180"/1282

DATUM

LOWER MORROW

Pikr
31/10679-687

MISS
48/10,706-722
Sub Dry, S.I.overnight
2/2400, P/1569 MCF

BARNETT

TD 10,800'
P & A 3-13-79

TD 10,880'
IPCAOF 4.874 MMCFPD
CGR Dry
3-14-79

PB 10,792'
GTY XR

CUM. PROD. @ 3-1-80
630.2 MMCF
AVG. PROD. - FEB. 1980
1120.0 MCF/DAY

SCALE
1" = 400' Horizontal
1" = 40' Vertical

INDEX MAP

R-28-E
R-29-E
T-17-S
B
B'

EXHIBIT NO.
DOYLE HARTMAN
STRATIGRAPHIC
CROSS SECTION B-B'
(WEST-EAST)
SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO
May '80
D.C.W.

N.M.O.C.C. MICROGRAPHICS
BEST AVAILABLE COPY

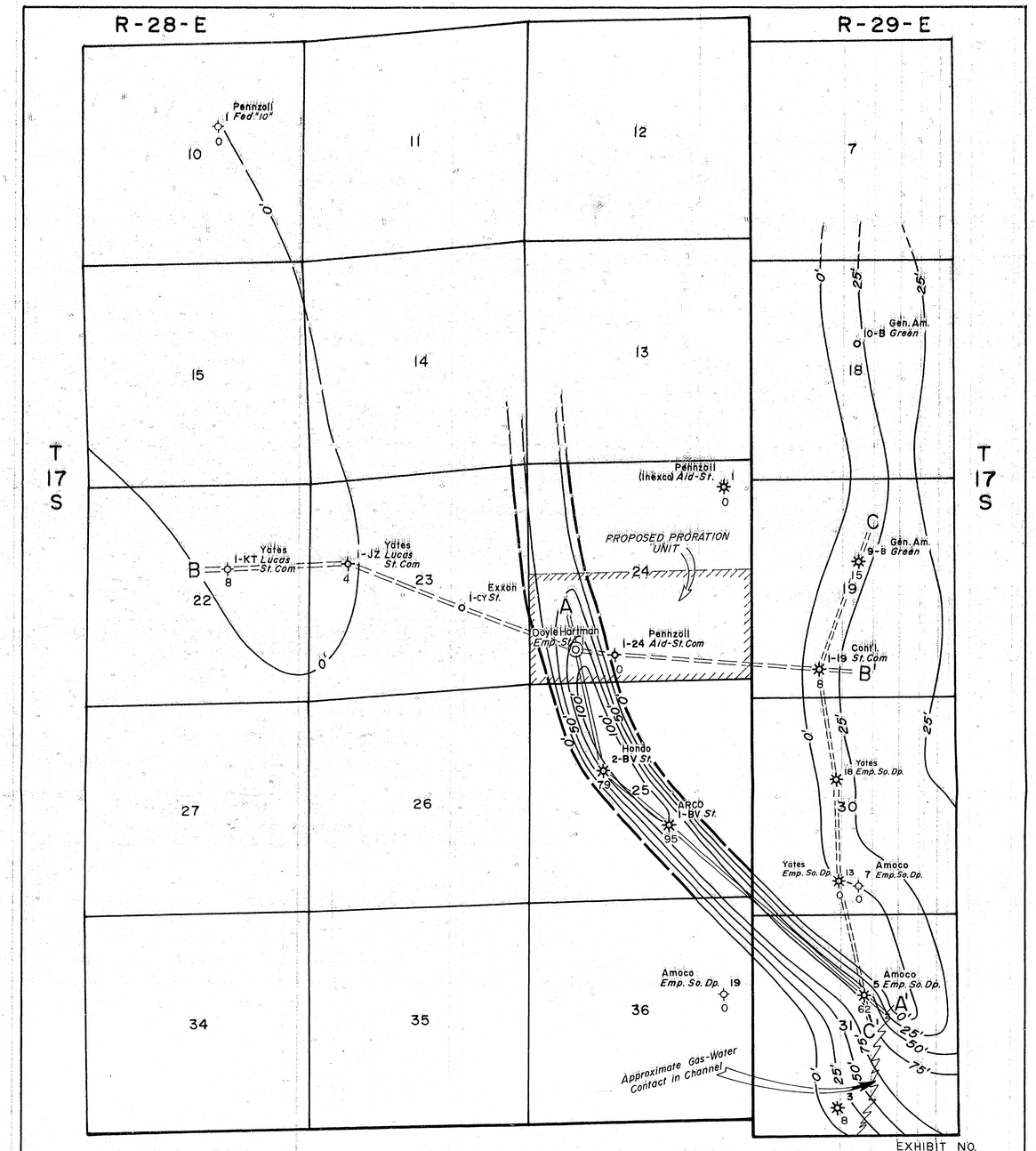


EXHIBIT NO.

DOYLE HARTMAN

LOWER MORROW NET SAND POROSITY ISOPACH

C.I. = 25'

(35 API UNITS > 8% POROSITY)

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.

W.N.M.C.F. MICROGRAPHICS
BEST AVAILABLE COPY

A
(NW)

DOYLE HARTMAN
No. 1
EMPIRE STATE

HONDO OIL
No. 2
STATE "BV"

ARCO
No. 1
STATE "BV"

ANOCO
No. 5
EMPIRE SO. DP. UN.

ATOKA

UPPER MORROW

DATUM

LOWER MORROW

BARNETT

CHESTER

PERF
70/10,612-682

PERF
68/10,685-753,
5/10,765-785;
F/4.1 MMCFGPD +
5 B Diet

DST
10,710-785, Op 182"
F/13.2 MMCFGPD ...
RFP 2050 Rec 3 BOM,
21 B Diet ...
60/ACGSL, FP 3224-3872
240"/4062

PERF
28/10,794-803
F/4.4 MMCFGPD/A'

TD 10,929' PB 10,870'
IPCAOF 39.915 MMCFGPD
GOR -- GTY .673
12-5-79

CUM. PROD. @ 3-1-80
542.9 MMCF
AVG. PROD. - FEB. 1980
7713.8 MCF/DAY

TD 10,860'
IPCAOF 61.163 MMCFGPD
GOR 76,400 GTY .667
6-15-78

CUM. PROD. @ 3-1-80
6542.0 MMCF
AVG. PROD. - FEB. 1980
10.698 MCF/DAY

TD 10,968' PB 10,876'
IPCAOF 12.874 MMCFGPD
GOR Dry GTY .668
7-5-75

CUM. PROD. @ 3-1-80
1608.4 MMCF
AVG. PROD. - FEB. 1980
-0- MCF/DAY

SCALE
1" = 400' Horizon
1" = 40' Vertic

V.V.N.C.F. MICROGRAPHICS
BEST AVAILABLE COPY

AMOCO
NO. 5
EMPIRE SO. DP. UN.

A'
(SE)

ATOKA

UPPER MORROW

LOWER MORROW

DATUM

BARNETT

PERF
10,710-785, Op 182"
9/13.2 MMCFGPD
SPF 3030 Bac 3 HRS.
21 B Diff.
MCF/D863; FP 3224-3878
BBO/D1062

PERF
10,796-803
9/4.4 MMCFGPD/4'

TD 10,968'
IPCAOF 12.874 MMCFGPD
COR Dry GTY .668
2-5-75

PB 10,876'

CUM. PROD. @ 3-1-80
1608.4 MMCF
AVG. PROD. - FEB. 1980
-0- MCF/DAY

INDEX MAP

R-28-E

R-29-E

T 17 S

SCALE
1" = 400' Horizontal
1" = 40' Vertical

EXHIBIT NO.

DOYLE HARTMAN

STRATIGRAPHIC

CROSS SECTION A-A'

(NORTHWEST - SOUTHEAST)

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.

N.M.M.C.F. MICROGRAPHICS
BEST AVAILABLE COPY

C
(NORTH)

C'
(SOUTH)

GENERAL AMER. OIL
No. 9
GREEN "B"

CONTINENTAL OIL
No. 1
STATE "19" COM.

H. E. YATES
No. 18
EMPIRE SO. DP. UN.

H. E. YATES
No. 13
EMPIRE SO. DP. UN.

AMOCO
No. 5
EMPIRE SO. DP. UN.

ATOKA

UPPER MORROW

DATUM

LOWER MORROW

BARNETT

PERF
20/10,744-784
Comp Nat

PERF
36/10,679-687

PERF
64/10,706-722
Swb Dry, SI overnight
A/2405, F/1360 MCF

PERF
10,722-758

PERF
12/10,665-677
F/3500 MCFD/20'
Nat

DST
10,570-701, Op 120"
Unload Cond & Mud in
45" F/Est 3200 MCFPD
W/10" Cond TSC W/6 CFG
w/1c Cond
180"/4537
FP 1056-1891
240"/4537

PERF
2h/10,796-803
F/4.4 MMCFGPD/4"

TD 10,570'
IPF 9.25 MMCFGPD
SIP --
QTY --
7-11-79
PB 10,834'

CUM. PROD. @ 3-1-80
1159.9 MMCF
AVG. PROD. - FEB. 1980
3379.4 MCF/DAY

TD 10,880'
IPCAOF 4.874 MMCFGPD
GOR Dry
QTY N'L
3-24-79
PB 10,792'

CUM. PROD. @ 3-1-80
630.2 MMCF
AVG. PROD. - FEB. 1980
1120.0 MCF/DAY

TD 11,010'
IPCAOF 14.72 MMCFGPD
GOR 42,677
QTY .657
PB 10,968'

CUM. PROD. @ 3-1-80
3247.9 MMCF
AVG. PROD. - FEB. 1980
887.3 MCF/DAY

TD 11,060'
IPF 5.0 MMCFGPD
GOR --
QTY --
4-7-77
PB 10,960'

CUM. PROD. @ 3-1-80
1624.3 MMCF
AVG. PROD. - FEB. 1980
1902.6 MCF/DAY

TD 10,968'
IPCAOF 12.674 MMCFGPD
GOR Dry
QTY .668
2-5-75
PB 10,876'

CUM. PROD. @ 3-1-80
1608.4 MMCF
AVG. PROD. - FEB. 1980
-0- MCF/DAY

INDEX MAP

R-28-E

T 17 S

C

C'

SCALE
1" = 400' Horizontal
1" = 40' Vertical

EXHIBIT NO.

DOYLE HARTMAN

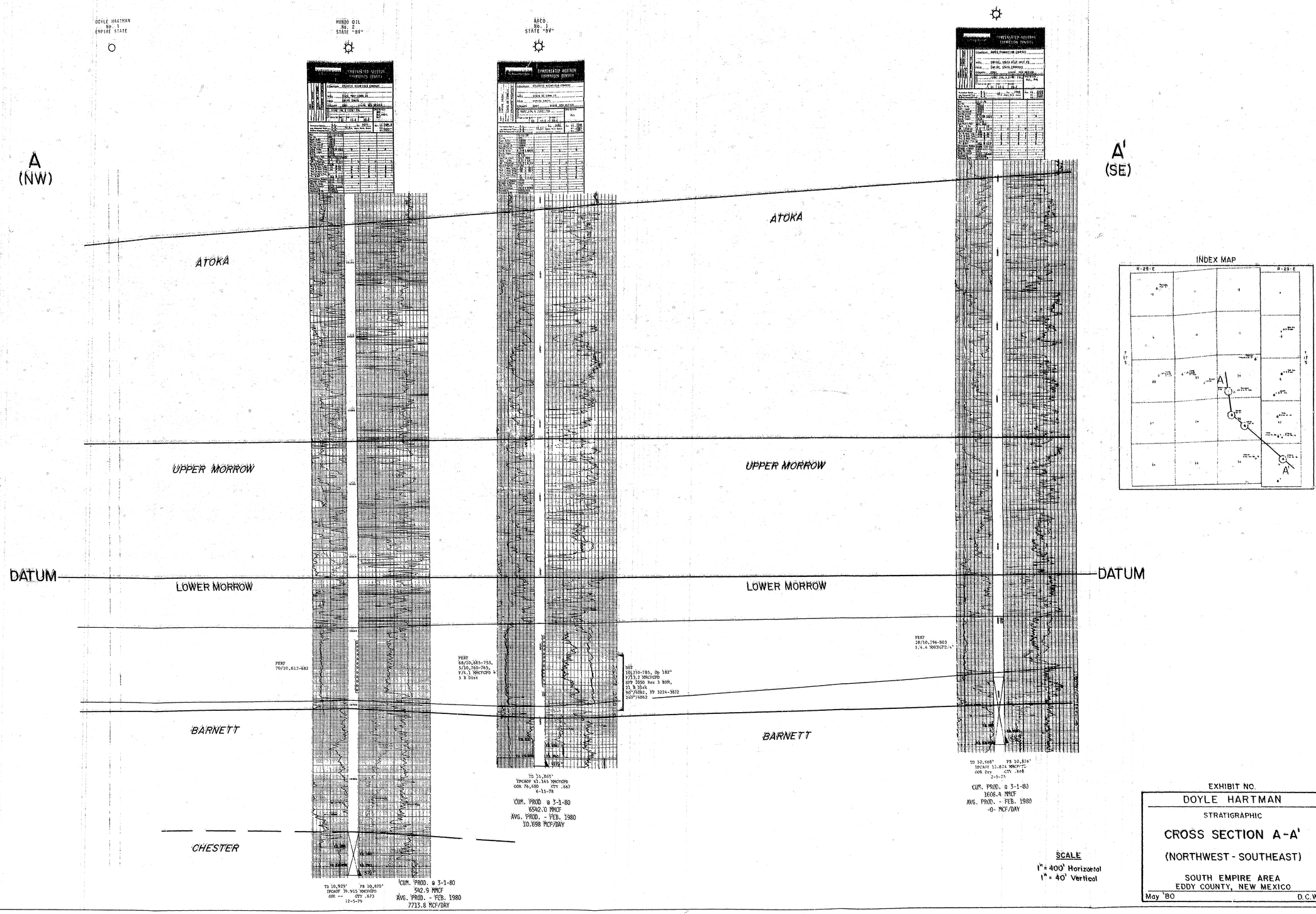
STRATIGRAPHIC

CROSS SECTION C-C'

(NORTH - SOUTH)

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.


DOYLE HARTMAN
No. 1
EMPIRE STATE
HONDO OIL
No. 2
STATE "BV"
ARCO
No. 1
STATE "BV"
AMOCO
No. 5
EMPIRE SO. DP. UN.
A
(NW)
A'
(SE)
ATOKA
ATOKA
UPPER MORROW
UPPER MORROW
DATUM
LOWER MORROW
LOWER MORROW
DATUM
BARNETT
BARNETT
CHESTER
PERF
70/10,612-682
PERF
68/10,685-753,
5/10,760-765,
F/4.1 MMCFGPD &
S B Dist
DST
101/10-785, Op 182"
F/31.2 MMCFGPD
SIP 2050 Rec 3 BOM,
21 W DSK
90"/4082, FP 3224-3872
240"/4062
PERF
28/10,794-803
F/4.4 MMCFGPD/4"
TD 10,929'
PB 10,870'
TPCAOF 39.915 MMCFGPD
GOR --
GTY .673
12-5-79
CUM. PROD. @ 3-1-80
542.9 MMCF
AVG. PROD. - FEB. 1980
7715.8 MCF/DAY
TD 10,860'
TPCAOF 63.345 MMCFGPD
GOR 76,400
GTY .667
6-15-78
CUM. PROD. @ 3-1-80
6542.0 MMCF
AVG. PROD. - FEB. 1980
10.698 MCF/DAY
TD 10,968'
PB 10,876'
TPCAOF 12.824 MMCFGPD
GOR Trs
GTY .668
2-5-75
CUM. PROD. @ 3-1-80
1608.4 MMCF
AVG. PROD. - FEB. 1980
-0- MCF/DAY
INDEX MAP
R-28-E
R-29-E
T 17 S
A
A'
SCALE
1" = 400' Horizontal
1" = 40' Vertical
EXHIBIT NO.
DOYLE HARTMAN
STRATIGRAPHIC
CROSS SECTION A-A'
(NORTHWEST - SOUTHEAST)
SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO
May '80
D.C.W.

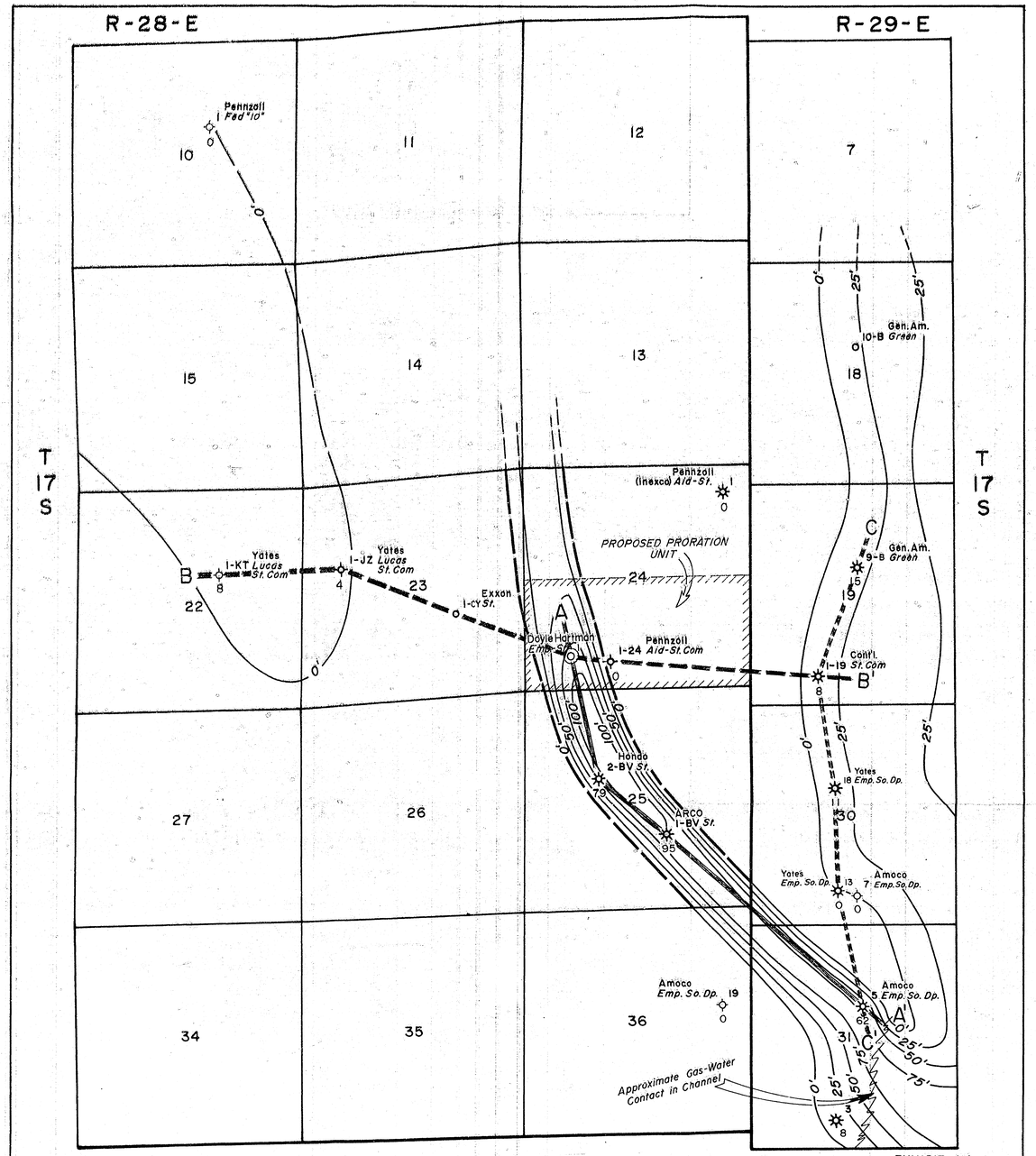


EXHIBIT NO.

DOYLE HARTMAN

LOWER MORROW
NET SAND POROSITY ISOPACH

C.I. = 25'

(35 API UNITS > 8% POROSITY)

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.

N.M.O.C.D. MICROGRAPHICS
BEST AVAILABLE COPY

C
(NORTH)

C'
(SOUTH)

GENERAL AMER. OIL
No. 9
GREEN "B"

CONTINENTAL OIL
No. 1
STATE "19" COM.

H. E. YATES
No. 10
EMPIRE SO. DP. UN.

H. E. YATES
No. 13
EMPIRE SO. DP. UN.

AMOCO
No. 9
EMPIRE SO. DP. UN.

ATOKA

UPPER MORROW

DATUM

LOWER MORROW

BARNETT

PERF
20/10,744-764
Comp Nat

PERF
36/10,679-687

PERF
64/10,706-722
Swb Dry, SI overnight
A/2400, F/1569 MCF

PERF
10,722-75R

PERF
12/10,665-677
F/3500 MCFG/20'
Nat

DST
10,570-701, Op 120"
Unload Cond & Mud in
45" F/Est 3200 MCFPD
R/10' Cond (SC R/6 CFG
w/Tr Cond
180"/4537
FP 1056-1891
240"/4537

PERF
28/10,796-803
F/4.4 MMCFGPD/4"

5½"

TD 10,876'
IPF 9.25 MMCFGPD
GOR --
GTY --
7-11-79
PB 10,834'

CUM. PROD. @ 3-1-80
1159.9 MMCF
AVG. PROD. - FEB. 1980
3379.4 MCF/DAY

3½"

TD 10,880'
IPCAOF 4.874 MMCFGPD
GOR Dry
GTY NR
3-24-79
PB 10,792'

CUM. PROD. @ 3-1-80
630.2 MMCF
AVG. PROD. - FEB. 1980
1120.0 MCF/DAY

4½"

TD 11,010'
IPCAOF 14.72 MMCFGPD
GOR 42,679
GTY .657
6- - -78
PB 10,968'

CUM. PROD. @ 3-1-80
3247.9 MMCF
AVG. PROD. - FEB. 1980
887.3 MCF/DAY

5½"

TD 11,060'
IPF 5.0 MMCFGPD
GOR --
GTY --
4-7-77
PB 10,960'

CUM. PROD. @ 3-1-80
1624.3 MMCF
AVG. PROD. - FEB. 1980
1902.6 MCF/DAY

5½"

TD 10,968'
IPCAOF 12.874 MMCFGPD
GOR Dry
GTY .666
2-5-75
PB 10,876'

CUM. PROD. @ 3-1-80
1608.4 MMCF
AVG. PROD. - FEB. 1980
-0- MCF/DAY

INDEX MAP

R-28-E
R-29-E
T 17 S
T 17 S
C
C'

SCALE
1" = 400' Horizontal
1" = 40' Vertical

EXHIBIT NO
DOYLE HARTMAN
STRATIGRAPHIC
CROSS SECTION C-C'
(NORTH - SOUTH)
SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO
May '80 D.C.W.

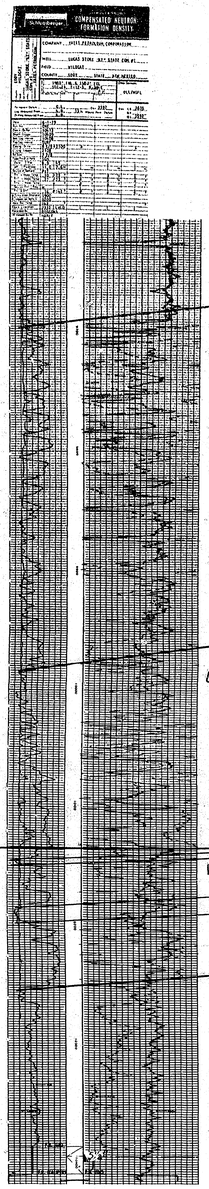
YATES PETROLEUM
No. 1
LUCAS STONE "XT" ST. CON.

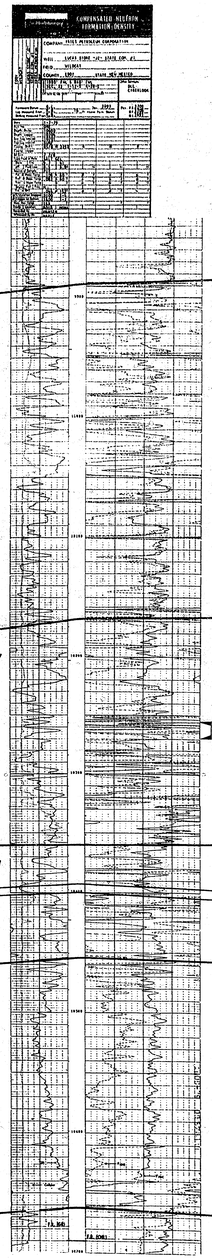
YATES PETROLEUM
No. 1
LUCAS STONE "UZ" ST. CON.

EXXON
No. 1-CY
STATE

DOYLE HARTMAN
No. 1
EMPIRE STATE

B
(WEST)





ATOKA

UPPER MORROW

DST
10,255-69, Op 90"
R/600' M
30"/3685
FP 280-322
180"/3930

DATUM

LOWER MORROW

BARNETT

CHESTER

TD 10,413' PB 6703'
IPF 54 BO + 43 BWPD
Dry Hole in Morrow

TD 10,690'
P & A 1-12-79

W.N.M.C.P. MICROGRAPHICS

BEST AVAILABLE COPY

EXXON
No. 1-CY
STATE

DOYLE HARTMAN
No. 1
EMPIRE STATE

PENNZOIL
No. 1
AID "24" STATE COM.

CONTINENTAL OIL
No. 1
STATE "19" COM.

B'
(EAST)

ATOKA

UPPER MORROW

LOWER MORROW

BARNETT

DATUM

DST
10,422-80D, Op 10" FF
Op 60", GTS 38" 32 MCF
Rec 377' SOCDM
5 °C @1.115 CPG 1700 cc
GCDM @ 250#
60"/1174, FP 308-348
180"/1282

PERF
36/10679-687

PERF
64/10,706-722
Sub Dry, S.I.overnight
A/2400, F/1569 MCF

TD 10,800'
P & A 5-13-79

TD 10,880'
IPGAOF 4.674 MCFPDTD
Gok Dry GTY NR
3-24-79

CUM. PROD. @ 3-1-80
630.2 MMCF
AVG. PROD. - PER. 1980
1120.0 MCF/DAY

SCALE
1" = 400' Horizontal
1" = 40' Vertical

INDEX MAP

R-28-E R-29-E

T 17 S

B B'

EXHIBIT NO.

DOYLE HARTMAN

STRATIGRAPHIC

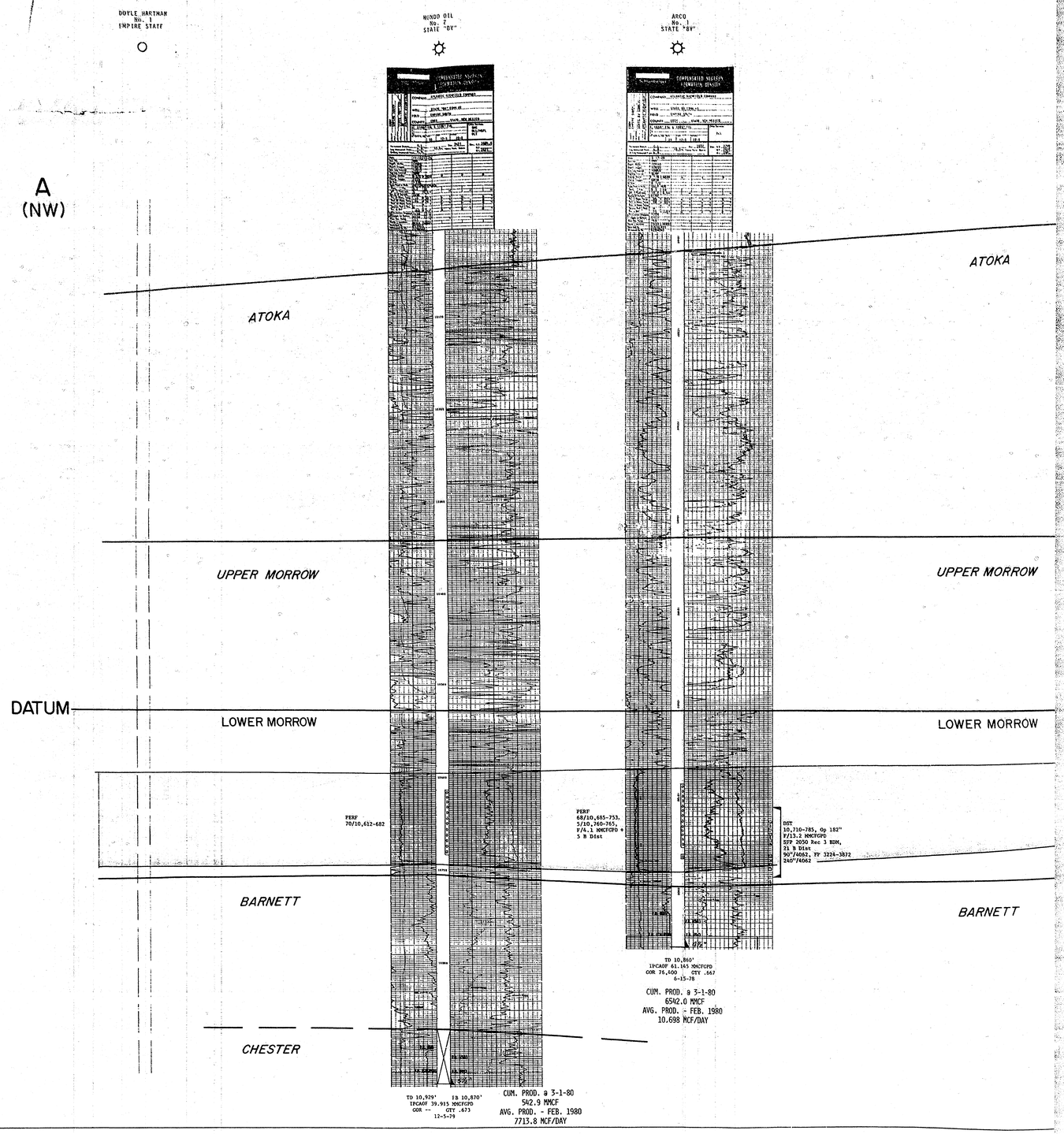
CROSS SECTION B-B'

(WEST-EAST)

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.

N.M.O.C.D. MICROGRAPHICS
BEST AVAILABLE COPY



W.N.M.C.F. MICROGRAPHICS
BEST AVAILABLE COPY

AMOCO
No. 5
EMPIRE SO. DP. UN.

A'
(SE)

ATOKA

UPPER MORROW

DATUM

LOWER MORROW

PERF
10,796-803
F/4.4 MMCFGPD/4"

DST
10,710-785, Op 182"
F/13.2 MMCFGPD
SIP 3050 Rec 3 BBW,
21 B Dist
90"/4062, FF 3224-3072
240"/4052

BARNETT

TD 10,968'
TPCAOF 12.87¢ MMCFGPD
GOR Dry CTY .668
2-5-75

CUM. PROD. @ 3-1-80
1608.4 MMCF
AVG. PROD. - FEB. 1980
-0- MCF/DAY

INDEX MAP

R-26-E R-29-E

T 17 S

SCALE
1" = 400' Horizontal
1" = 40' Vertical

EXHIBIT NO.

DOYLE HARTMAN

STRATIGRAPHIC

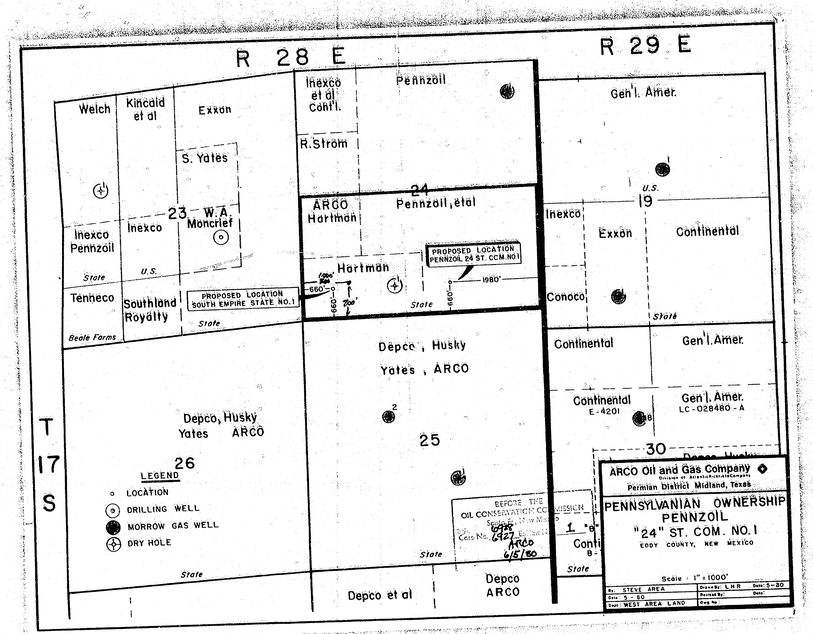
CROSS SECTION A-A'

(NORTHWEST - SOUTHEAST)

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.

W.N.M.C.F. MICROGRAPHICS
BEST AVAILABLE COPY



N.M.N.C.P. MICROGRAPHICS
BEST AVAILABLE COPY

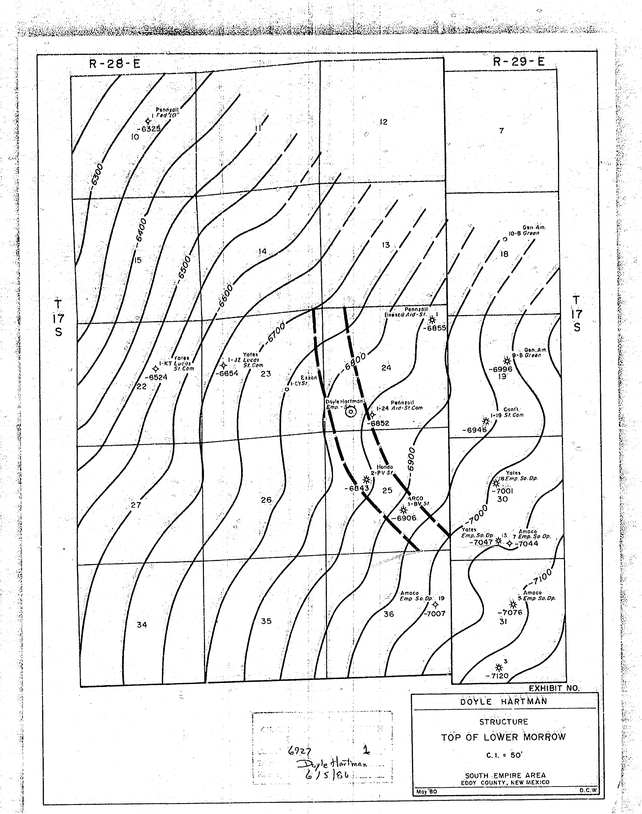


EXHIBIT NO.

DOYLE HARTMAN

STRUCTURE

TOP OF LOWER MORROW

C.I. = 50'

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.

6927
Doyle Hartman
6/5/86

1

W.N.M.C.P. MICROGRAPHICS

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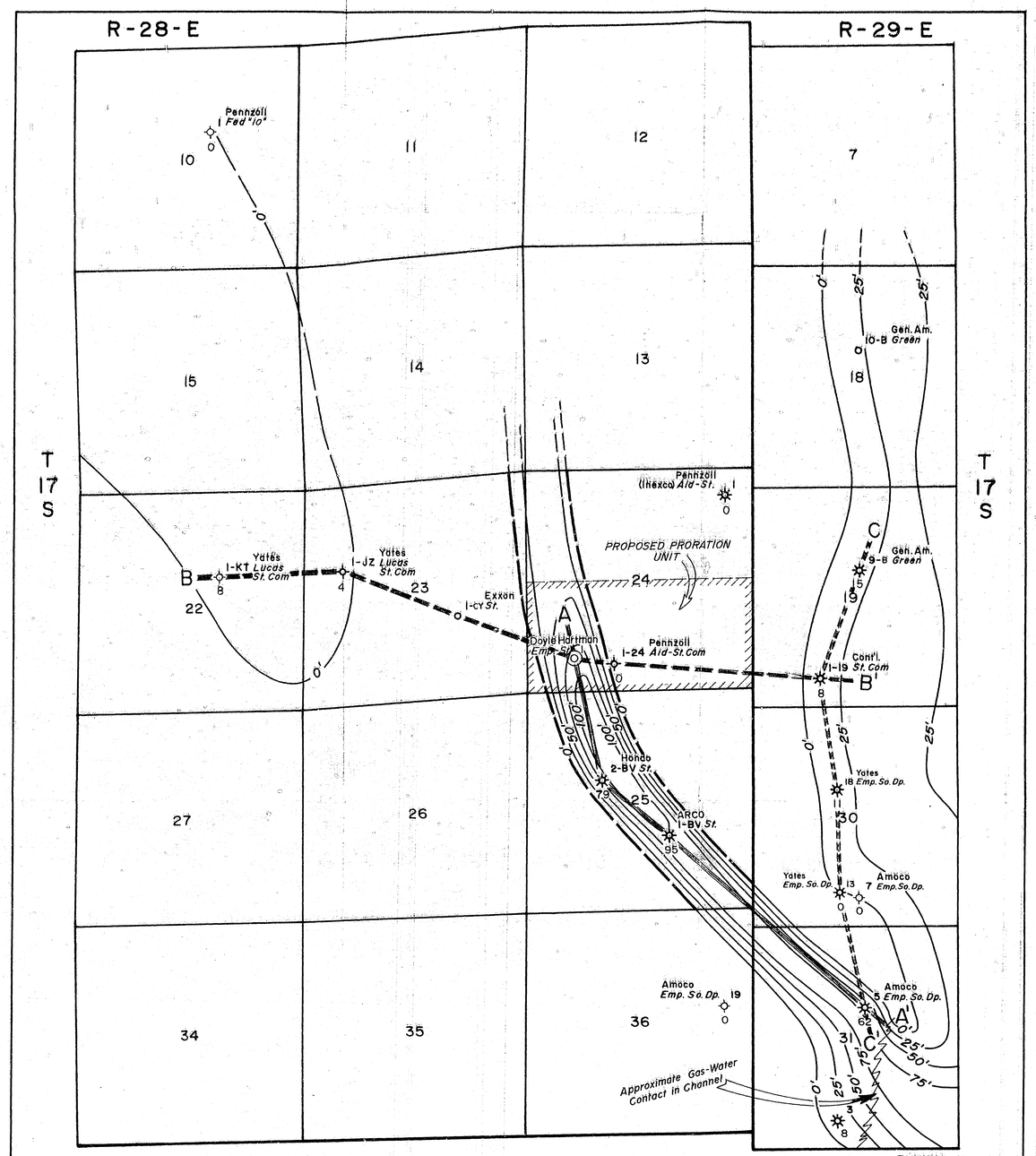


EXHIBIT NO. 2

DOYLE HARTMAN

LOWER MORROW NET SAND POROSITY ISOPACH

C.I. = 25'

(35 API UNITS > 8% POROSITY)

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.

NOTE THIS
CASE NO. 6927 2
Doyle Hartman
6/5/80

N.M.O.C.D. MICROGRAPHICS
BEST AVAILABLE COPY

A
(NW)

DOYLE HARTMAN
No. 1
EMPIRE STATE

HONDO OIL
No. 2
STATE "BV"

ARCO
No. 1
STATE "BV"

AMOCO
No. 5
EMPIRE SO. DP. UN.

ATOKA

UPPER MORROW

DATUM

LOWER MORROW

BARNETT

CHESTER

PERF
70/10,612-682

PERF
68/10,685-755,
5/10,760-765,
F/4.1 MMCFGPD +
5 B Dist

DST
10,710-785, Op 182"
F/13.2 MMCFGPD
SFP 2050 Rec 3 BDW,
21 B Dist
907/A062, FP 3224-3872
2AW"/A062

PERF
38/10,794-803
F/4.4 MMCFGPD/4'

TD 10,929' PB 10,870'
IPCAOF 39.915 MMCFGPD
GOR -- GTY .673
12-5-79

CUM. PROD. @ 3-1-80
542.9 MMCF
AVG. PROD. - FEB. 1980
7713.8 MCF/DAY

TD 10,860'
IPCAOF 61.143 MMCFGPD
GOR 76,400 GTY .667
6-15-79

CUM. PROD. @ 3-1-80
6542.0 MMCF
AVG. PROD. - FEB. 1980
10.698 MCF/DAY

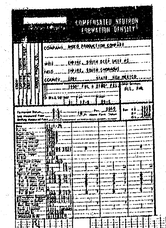
TD 10,968' PB 10,876'
IPCAOF 12.5 MMCFGPD
GOR Dry GTY .665
2-1-79

CUM. PROD. @ 3-1-80
1608.4 MMCF
AVG. PROD. - FEB. 1980
-0- MCF/DAY

SCALE
1" = 400' Horizon
1" = 40' Vertic

N.M.N.C.F. MICROGRAPHICS
BEST AVAILABLE COPY

AMOCO
No. 5
EMPIRE SO. DP. UN.



A'
(SE)

ATOKA

UPPER MORROW

DATUM

LOWER MORROW

DST
10,710-785, Op 182"
F/13.2 MMCFGPD
SIP 2050 Rec 3 BOM,
23 B Dist
90'/6060, FP 3224-3872
240'/6060

PERF
10,710,796-803
F/4.4 MMCFGPD/4'

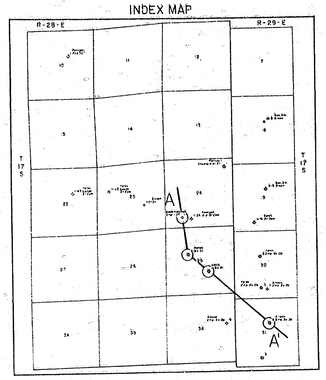
BARNETT

TD 10,968'
IPCAOF 12.874 MMCFGPD
CON Dry
2-5-75

PB 10,876'
GTY .665

CUM. PROD. @ 3-1-80
1608.4 MMCF
AVG. PROD. - FEB. 1980
-0- MCF/DAY

INDEX MAP



SCALE
1" = 400' Horizontal
1" = 40' Vertical

EXHIBIT NO.

DOYLE HARTMAN

STRATIGRAPHIC

CROSS SECTION A-A'

(NORTHWEST - SOUTHEAST)

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.

W.R.C.F. MICROGRAPHICS

BEST AVAILABLE COPY

C
(NORTH)

C'
(SOUTH)

GENERAL AMER. OIL
No. 9
GREEN "B"

CONTINENTAL OIL
No. 1
STATE "19" COM.

H. E. YATES
No. 18
EMPIRE SO. DP. UN.

H. E. YATES
No. 13
EMPIRE SO. DP. UN.

AMOCO
No. 5
EMPIRE SO. DP. UN.

ATOKA

UPPER MORROW

DATUM

LOWER MORROW

BARNETT

PERF
20/10,744-784
Comp Nat

PERF
36/10,679-687

PERF
64/10,706-722
Swb Dry, SI overnight
A/2400, F/1569 MCF

PERF
10,722-758

PERF
12/10,665-677
F/3500 MCFD/20/64
Nat

DST
10,57?-701, Op 120"
Initial Cond & Mud In
45" F/Est 3200 MCFPD
R/10' Cond (SC R/6 CFG
w/Lt Cond
180"/4537
FP 1056-1891
240"/4537

PERF
20/10,796-803
F/4.4 MMCFGPD/4"

TD 10,670' PB 10,634'
IPF 9.25 MMCFGPD
SIP -- QTY --
7-11-79

CUM. PROD. @ 3-1-80
1159.9 MMCF
AVG. PROD. - FEB. 1980
3379.4 MCF/DAY

TD 10,880' PB 10,792'
IPCAOF 4.874 MMCFGPD
GOR Dry QTY NR
3-24-79

CUM. PROD. @ 3-1-80
630.2 MMCF
AVG. PROD. - FEB. 1980
1120.0 MCF/DAY

TD 11,010' PB 10,968'
IPCAOF 14.72 MMCFGPD
GOR 42,677 QTY .657
6- - -78

CUM. PROD. @ 3-1-80
3247.9 MMCF
AVG. PROD. - FEB. 1980
887.3 MCF/DAY

TD 11,060' PB 10,960'
IPF 5.0 MMCFGPD
GOR -- QTY --
4-7-77

CUM. PROD. @ 3-1-80
1624.3 MMCF
AVG. PROD. - FEB. 1980
1902.6 MCF/DAY

TD 10,968' PB 10,876'
IPCAOF 12.874 MMCFGPD
GOR Dry QTY .668
2-5-75

CUM. PROD. @ 3-1-80
1608.4 MMCF
AVG. PROD. - FEB. 1980
-0- MCF/DAY

INDEX MAP

R-28-E R-29-E

T 17 S T 17 S

C C'

OIL CONSERVATION DIVISION
EXHIBIT NO. 4
CASE NO. 6927
Doyle Hartman
6-5-80

EXHIBIT NO.

DOYLE HARTMAN

STRATIGRAPHIC

CROSS SECTION C-C'

(NORTH - SOUTH)

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

SCALE
1" = 400' Horizontal
1" = 40' Vertical

May '80 D.C.W.

B
(WEST)

YATES PETROLEUM
No. 1
LUCAS STORE "KT" ST. COM.

YATES PETROLEUM
No. 1
LUCAS STORE "JZ" ST. COM.

EXXON
No. 1-CY
STATE

DOYLE HARTMAN
No. 1
EMPIRE STATE

PENNZOIL
No. 1
AID "24" STATE COM.

CONTINENTAL OIL
No. 1
STATE "19" COM.

DATUM

ATOKA

UPPER MORROW

LOWER MORROW

BARNETT

CHESTER

DST
10,255-69, Op 90"
G/600" M
90"/3695
FP 280-322
180"/3930

DST
10,422-800, Op 10" FF
Op 60", GTS 38" 32 MCF
Rec 327' SGCHM
S C 8/1.113 CFG 1700 cc
GCHM 2 350
60"/1174, FP 308-348
180"/1282

TD 10,413' PB 6703'
IPF 54 BO + 43 BWPD
Dry Hole in Morrow

TD 10,690'
P & A 1-12-79

TD 10,800'
P & A 3-13-79

CUM. PROD. @ 3-1-80
630.2 MMCF
AVG. PROD. - FEB. 1980
1120.0 MCF/DAY

SC
1" = 400
1" = 40

PENNZOIL
No. 1
AID "24" STATE COM.

CONTINENTAL OIL
No. 1
STATE "19" COM.

B'
(EAST)

ATOKA

UPPER MORROW

LOWER MORROW

DATUM

BARNETT

DST
10,422-800, Op 10" FP
Op 60", GTS 18" 32 MCF
Rec 377' SGCDM
S C 8/1.111 CPG 1700 cc
CCDM 0 250#
60"/1174, FP 308-348
180"/1282

PERF
36/10679-687

PERF
64/10,706-722
Swb Dry, S. I. overnight
A/2400, F/1569 MCF

TD 10,800'
P & A 5-25-79

TD 10,880' PB 10,792'
IPCAOF 4.874 MMCFGPD
GOR Dry GTY NR
1-24-79

CUM. PROD. @ 3-1-80
630.2 MMCF
AVG. PROD. - FEB. 1980
1120.0 MCF/DAY

SCALE
1" = 400' Horizontal
1" = 40' Vertical

INDEX MAP

R-28-E | R-29-E

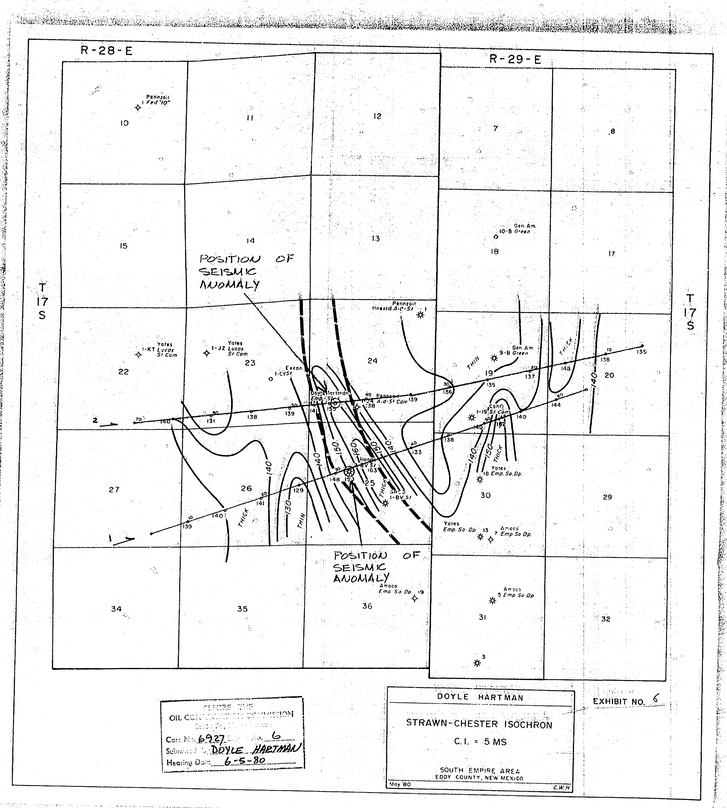
T 17 S

B — B

OIL CONSERVATION DIVISION
CASE NO. 6977
EXHIBIT NO. 5
Doyle Hartman
6-3-80

EXHIBIT NO.
DOYLE HARTMAN
STRATIGRAPHIC
CROSS SECTION B-B'
(WEST-EAST)
SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO
May '80 D.C.W.

W.R.M.C.F. MICROGRAPHICS
BEST AVAILABLE COPY



OIL CONSERVATION COMMISSION
BEFORE THE EXAMINER
Case No. 6927 Exh. 6
Submitted by: DOYLE HARTMAN
Hearing Date: 6-5-80

DOYLE HARTMAN

STRAWN-CHESTER ISOCHRON

C.I. = 5 MS

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May 80 C.M.W.

EXHIBIT NO. 6

N.M.O.C.D. MICROGRAPHICS
BEST AVAILABLE COPY

FIELD RECORDING PARAMETERS

ENERGY ARRAY

TYPE PATTERN	PARALLELOGRAM	SHOT INTERVAL	330 FT
DIMENSIONS	90 FT BROAD	NUMBER UNITS	4 VIBRATORS
TAILING OFFSET	805 FT	SWEEP SPECS	8-45 HZ IN 11 SEC
LATERAL OFFSET	135 FT	SWPS PATTERN	20

GEOPHONE ARRAY

TYPE PATTERN	9 ARM STAR	GROUP INTERVAL	330 FT
DIMENSIONS	90 FT ACROSS	GEOPHONES/GROUP	36
SEISMOMETER SPACING	30 FT	GEOPHONE MODEL	GSI 200, 10 HZ

INSTRUMENTATION

TYPE INSTRUMENTS	DFS-4 CFS	NUMBER OF TRACES	24
FIELD FILTER	0-62 HZ	NOTCH FILTER	IN 60 HZ
RECORD LENGTH	15 SECS	SAMPLE RATE	4

TIMAP PROCESSING

DIVERSITY VERTICAL STACK
ZERO PHASE VIBROSEIS CORRELATION

TRUE AMPLITUDE RECOVERY
ALPHA= 4 5 DB PER SEC FROM 0 0 TO 3 9 SEC
TRACE EDIT

COMMON DEPTH POINT GATHER
TIME VARIANT DECONVOLUTION
FILTERS= 3 LENGTH=136 MSEC
PRE STACK EQUALIZATION

FIRST BREAK SUPPRESSION
TIME 0 440 650
TRACE 1&13 10&15 18&24
NORMAL MOVEOUT CORRECTION
AUTOMATED HIGH FREQUENCY STATICS

12 FOLD COMMON DEPTH POINT STACK

TIME INVARIANT FILTER
8 - 45 HZ 0 - 4000 MSEC

POST STACK EQUALIZATION

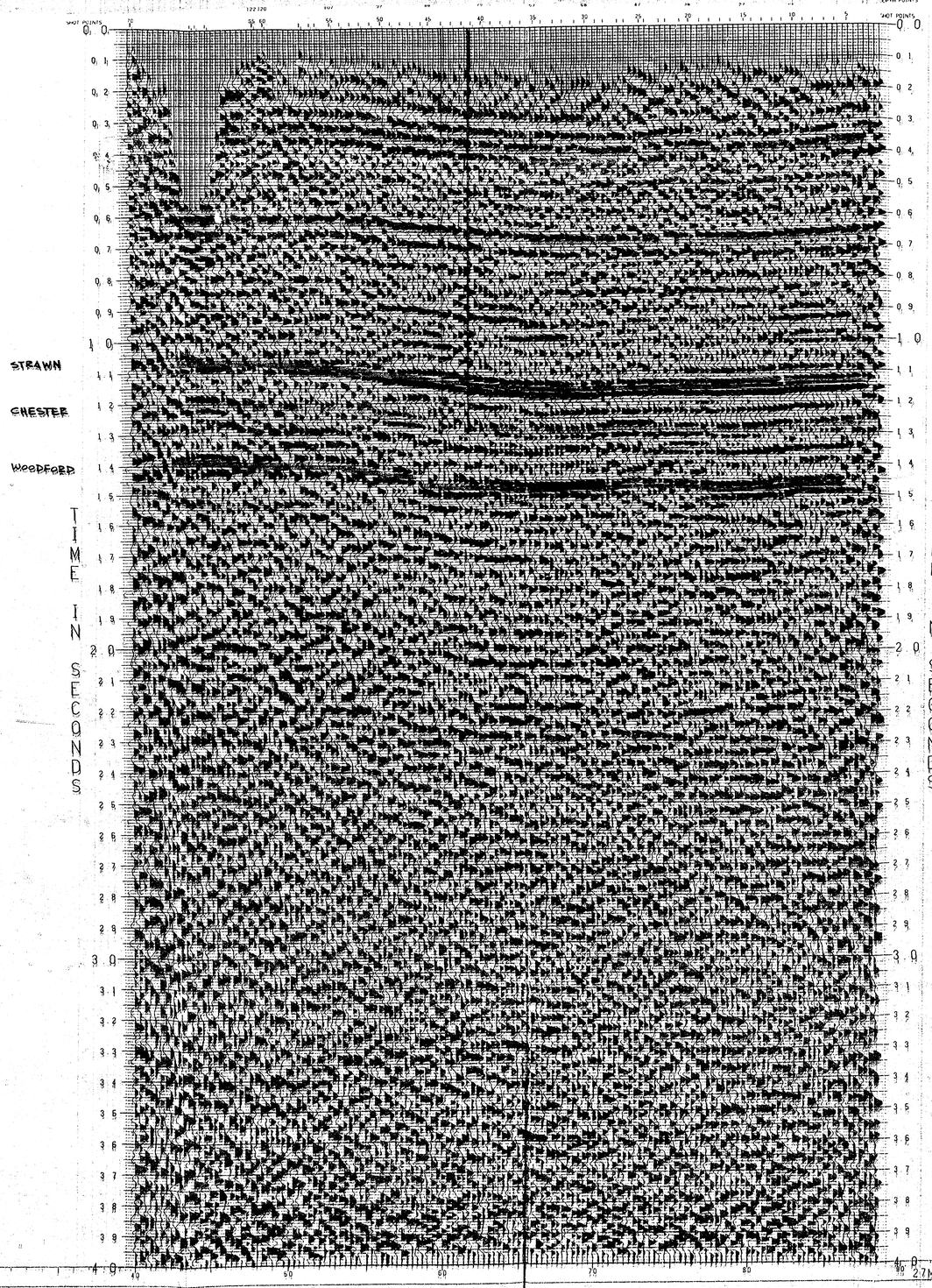
COMPUTING

DATUM ELEVATIONS 3600 FT DATUM VELOCITY 10000 FT-SEC

DISPLAY

POLARITY NORMAL
HORIZONTAL SCALE 8 TRACES-INCH VERTICAL SCALE 2 5 INCHES-SECOND

GEOPHYSICAL SERVICE INC
MIDLAND, TEXAS



BEFORE THE
OIL CONSERVATION COMMISSION
Case No. 6927 Exhibit No. 7
Submitted by: DOYLE HARTMAN
Hearing Date: 6-5-80

FIELD RECORDING PARAMETERS

ENERGY ARRAY

TYPE PATTERN	PARALLELOGRAM	SHOT INTERVAL	330 FT
DIMENSIONS	90 FT BROAD	NUMBER UNITS	4 VIBRATORS
INLINE OFFSET	825 FT	SWEEP SPECS	8-45 HZ IN 11 SEC
LATERAL OFFSET	195 FT	SWPS-PATTERN	20

GEOPHONE ARRAY

TYPE PATTERN	9 ARM STAR	GROUP INTERVAL	330 FT
DIMENSIONS	90 FT ACROSS	GEOPHONES-GROUP	36
SEISMOMETER SPACING	30 FT	GEOPHONE MODEL	GSI 20D 10 HZ

INSTRUMENTATION

TYPE INSTRUMENTS	DFS-4 CFS	NUMBER OF TRACES	24
FIELD FILTER	0-62 HZ	NOTCH FILTER	IN 60 HZ
RECORD LENGTH	15 SECS	SAMPLE RATE	4

TIMAP PROCESSING

DIVERSITY VERTICAL STACK
ZERO PHASE VIBROSEIS CORRELATION

TRUE AMPLITUDE RECOVERY
ALPHA= 4 5 DB PER SEC FROM 0 0 TO 3 9 SEC
TRACE EDIT

COMMON DEPTH POINT GATHER
TIME VARIANT DECONVOLUTION
FILTERS= 3 LENGTH=136 MSEC
PRE STACK EQUALIZATION

FIRST BREAK SUPPRESSION
TIME 0 440 550
TRACE 12&13 10&15 1&24
NORMAL MOVEOUT CORRECTION
AUTOMATED HIGH FREQUENCY STATICS

12 FOLD COMMON DEPTH POINT STACK

TIME INVARIANT FILTER
8 - 45 HZ 0 - 4000 MSEC

POST STACK EQUALIZATION

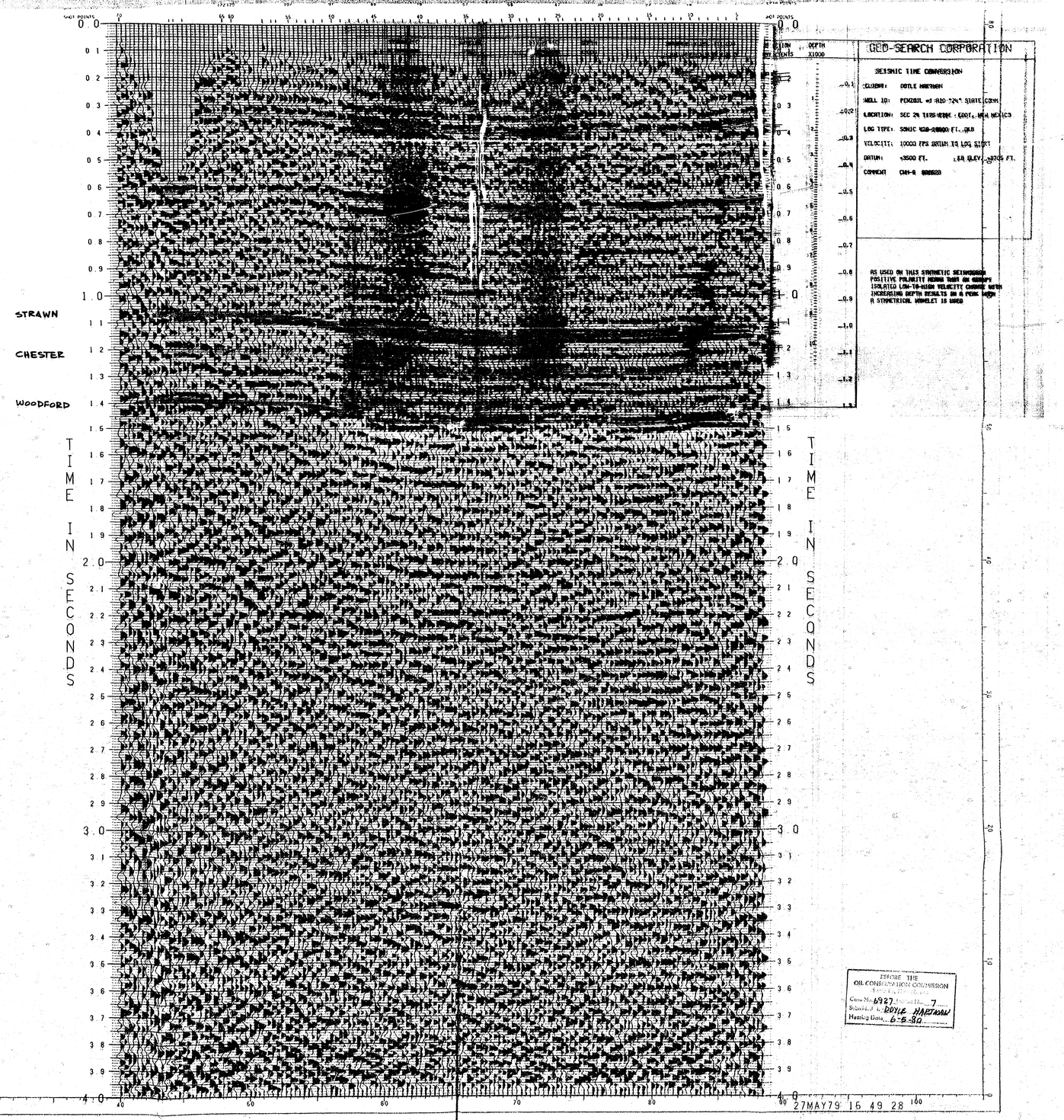
COMPUTING

DATUM ELEVATIONS 3500 FT DATUM VELOCITY 10000 FT-SEC

DISPLAY

POLARITY NORMAL
HORIZONTAL SCALE 8 TRACES/INCH VERTICAL SCALE 7 5 INCHES-SECOND

GEOPHYSICAL SERVICE INC
MIDLAND, TEXAS



BEFORE THE
OIL CONSERVATION COMMISSION
Case No. 6927 Exhibit No. 7
Submitted by: DOYLE HARTMAN
Hearing Date: 6-5-80

DOYLE HARTMAN

FINAL SECTION

ARTESIA AREA
EDDY COUNTY, NEW MEXICO
LINE 2
VP 1-74

RECORDED BY PARTY MANAGER DATE RECORDED	GSI PTY 1255 CURTIS ALLEN 5-8-80	PROCESSED BY PARTY CHIEF DATE PROCESSED	GSI PARTY 4218 CURT RUST 5-27-80

FIELD RECORDING PARAMETERS

ENERGY ARRAY

TYPE PATTERN	PARALLELOGRAM	SHOT INTERVAL	330 FT
DIMENSIONS	30 FT BROAD	NUMBER UNITS	4 VIBRATORS
IN-LINE OFFSET	525 FT	SWEEP-SPECS	8-48 HZ IN 11 SEC
LATERAL OFFSET	196 FT	SWPS-PATTERN	20

GEOPHONE ARRAY

TYPE PATTERN	9 ARM STAR	GROUP INTERVAL	330 FT
DIMENSIONS	90 FT ACROSS	GEOPHONES/GROUP	36
SEISMOMETER SPACING	30 FT	GEOPHONE MODEL	GSI 20D 10 HZ

INSTRUMENTATION

TYPE INSTRUMENTS	DFS-4 CFS	NUMBER OF TRACES	24
FIELD FILTER	8-82 HZ	NOTCH FILTER	IN 60 HZ
RECORD LENGTH	16 SECS	SAMPLE RATE	4

TIMAP PROCESSING

DIVERSITY VERTICAL STACK
ZERO PHASE VIBROSEIS CORRELATION
TRUE AMPLITUDE RECOVERY

STRAWN
CHESTER
WOODFORD

NORTHEAST

COP 146		
TIME MSEC	R M S VEL FT/SEC	INTER VEL FT/SEC
0	8000	8000
120	8000	8000
300	11400	13824
500	12618	14457
700	13500	15000
860	13870	15289
1050	14431	15934
1200	14800	16308
1500	15000	16098
2000	15000	15098

COP 1		
TIME MSEC	R M S VEL FT/SEC	INTER VEL FT/SEC
0	8000	8000
120	8000	8000
300	13430	16894
400	13870	16421
500	14030	16560
600	14210	16711
1050	14430	16698
1500	14703	16698
2000	14903	16698
3000	15053	16798

SURFACE ELEVATIONS 3591 3588590 3682 3686 3683 3693 3685 3671 3679 3677 3646 3624 3613 SURFACE ELEVATIONS
DATUM ELEVATIONS 3500 3500500 3500 3500 3500 3500 3500 3500 3500 3500 3500 3500 3500 DATUM ELEVATIONS

DOYLE HARTMAN
SO. EMPIRE ST.
PENNZOIL
I-24 AID

RECEIVER STATICS -9 -9 -9 -18 -19 -18 -19 -19 -17 -18 -18 -15 -13 -11 RECEIVER STATICS
SHOT STATICS -9 -9 -9 -18 -19 -18 -19 -19 -17 -18 -18 -15 -12 -11 SHOT STATICS
DEPTH POINTS 145 122120 107 97 88 78 67 58 47 38 27 18 7 DEPTH POINTS
SHOT POINTS 70 65 60 55 50 45 40 35 30 25 20 15 10 5 SHOT POINTS

GEO-SEARCH CORPORATION

SEISMIC TIME CONVERSION

CLIENT: DOYLE HARTMAN
WELL ID: PENZOIL W-I AID 12A1, STATE COM
LOCATION: SEC 24 T17S R28E, EDDY, NEW MEXICO
LOG TYPE: SONIC 400-15500 FT. OWP
VELOCITY: 10000 FPS BELOW 10 LOG START
DATUM: +3500 FT. EB ELEV. 3705 FT.
COMMENT: CAL-B

AS USED ON THIS SEISMOGRAM INFORMATION
POSITIVE POLARITY MEANS THAT THE PRIMARY
ISOLATED LOW-TO-HIGH VELOCITY CHANGE WITH
INCREASING DEPTH RESULTS IN A PEAK ON
A SYNTHETIC SEISMOGRAM IS USED

DOYLE HARTMAN

FINAL SECTION

ARTESIA AREA
EDDY COUNTY, NEW MEXICO
LINE 1
VP 1-64

RECORDED BY	GSI PTY 1255	PROCESSED BY	GSI PARTY 4218
PARTY MANAGER	CURTIS ALLEN	PARTY CHIEF	CURT RUST
DATE RECORDED	5-7-80	DATE PROCESSED	5-27-80

FIELD RECORDING PARAMETERS

ENERGY ARRAY

TYPE PATTERN	PARALLELOGRAM	SHOT INTERVAL	330 FT
DIMENSIONS	90 FT BROAD	NUMBER UNITS	4 VIBRATORS
IN-LINE OFFSET	825 FT	SWEEP SPECS	8-45 HZ IN 11 SEC
LATERAL OFFSET	195 FT	SWPS-PATTERN	20

GEOPHONE ARRAY

TYPE PATTERN	9 ARM STAR	GROUP INTERVAL	330 FT
DIMENSIONS	90 FT ACROSS	GEOPHONES-GROUP	36
SEISMOMETER SPACING	30 FT	GEOPHONE MODEL	GSI 20D 10 HZ

INSTRUMENTATION

TYPE INSTRUMENTS	DFS-4 CFS	NUMBER OF TRACES	24
FIELD FILTER	0-62 HZ	NOTCH FILTER	IN 60 HZ
RECORD LENGTH	15 SECS	SAMPLE RATE	4 MSEC

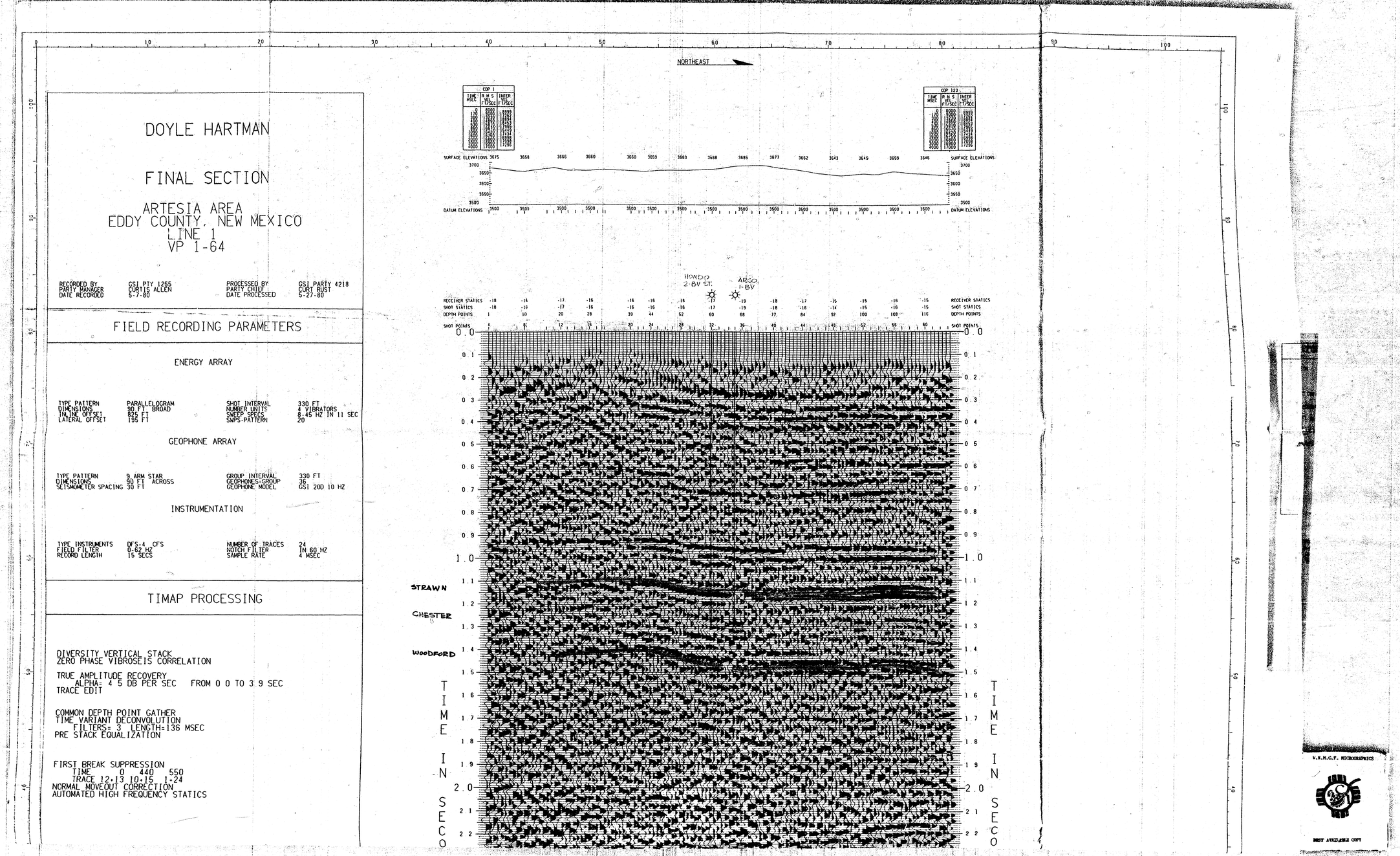
TIMAP PROCESSING

DIVERSITY VERTICAL STACK
ZERO PHASE VIBROSEIS CORRELATION

TRUE AMPLITUDE RECOVERY
ALPHA= 4 5 DB PER SEC FROM 0 0 TO 3 9 SEC
TRACE EDIT

COMMON DEPTH POINT GATHER
TIME VARIANT DECONVOLUTION
FILTERS= 3 LENGTH=136 MSEC
PRE STACK EQUALIZATION

FIRST BREAK SUPPRESSION
TIME 0 440 550
TRACE 12,13 10,15 1,24
NORMAL MOVEOUT CORRECTION
AUTOMATED HIGH FREQUENCY STATICS



W.H.N.C.P. MICROGRAPHICS
BEST AVAILABLE COPY

DOYLE HARTMAN

FINAL SECTION

ARTESIA AREA
EDDY COUNTY, NEW MEXICO
LINE 1
VP 1-64

RECORDED BY	GSI PTY 1255	PROCESSED BY	GSI PARTY 4218
PARTY MANAGER	CURTIS ALLEN	PARTY CHIEF	CURT RUST
DATE RECORDED	5-7-80	DATE PROCESSED	5-27-80

FIELD RECORDING PARAMETERS

ENERGY ARRAY

TYPE PATTERN	PARALLELOGRAM	SHOT INTERVAL	330 FT
DIMENSIONS	90 FT BROAD	NUMBER UNITS	4 VIBRATORS
INLINE OFFSET	825 FT	SWEEP SPECS	8-45 HZ IN 11 SEC
LATERAL OFFSET	195 FT	SWPS-PATTERN	20

GEOPHONE ARRAY

TYPE PATTERN	9 ARM STAR	GROUP INTERVAL	330 FT
DIMENSIONS	90 FT ACROSS	GEOPHONES/GROUP	36
SEISMOMETER SPACING	30 FT	GEOPHONE MODEL	GSI 20D 10 HZ

INSTRUMENTATION

TYPE INSTRUMENTS	DFS-4 CFS	NUMBER OF TRACES	24
FIELD FILTER	0-62 HZ	NOTCH FILTER	IN 60 HZ
RECORD LENGTH	15 SECS	SAMPLE RATE	4 MSEC

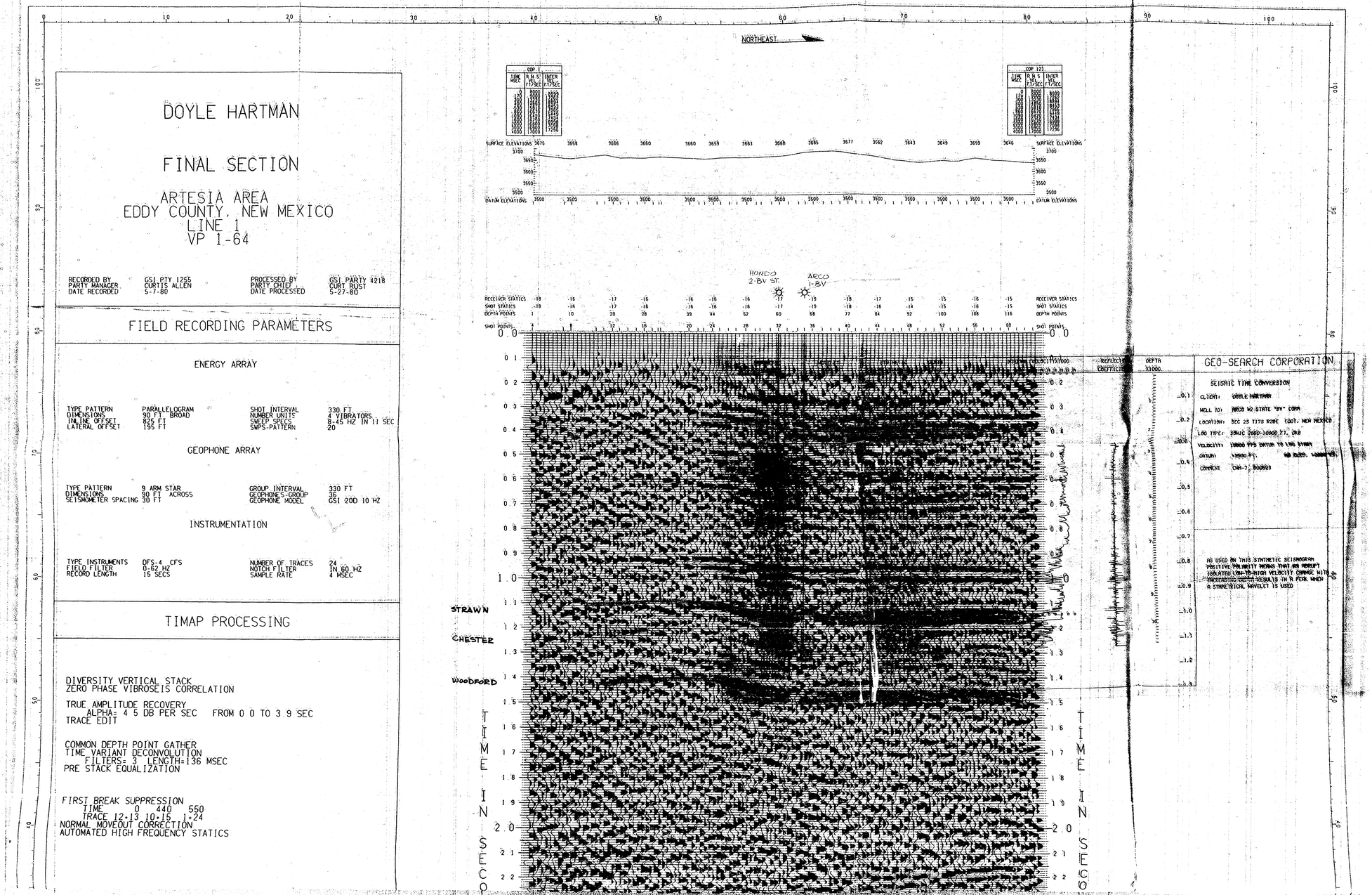
TIMAP PROCESSING

DIVERSITY VERTICAL STACK
ZERO PHASE VIBROSEIS CORRELATION

TRUE AMPLITUDE RECOVERY
ALPHA= 4 5 DB PER SEC FROM 0 0 TO 3 9 SEC
TRACE EDIT

COMMON DEPTH POINT GATHER
TIME VARIANT DECONVOLUTION
FILTERS= 3 LENGTH=136 MSEC
PRE STACK EQUALIZATION

FIRST BREAK SUPPRESSION
TIME 0 440 550
TRACE 12-13 10-15 1-24
NORMAL MOVEOUT CORRECTION
AUTOMATED HIGH FREQUENCY STATICS





LATERAL OFFSET 195 FT

GEOPHONE ARRAY

TYPE PATTERN	9 ARM STAR	GROUP INTERVAL	330 FT
DIMENSIONS	90 FT ACROSS	GEOPHONES/GROUP	36
SEISMOMETER SPACING	30 FT	GEOPHONE MODEL	GSI 20D 10 HZ

INSTRUMENTATION

TYPE INSTRUMENTS	DFS-4 CFS	NUMBER OF TRACES	24
FIELD FILTER	0-62 HZ	NOTCH FILTER	IN 60 HZ
RECORD LENGTH	15 SECS	SAMPLE RATE	4 MSEC

TIMAP PROCESSING

DIVERSITY VERTICAL STACK
ZERO PHASE VIBROSEIS CORRELATION

TRUE AMPLITUDE RECOVERY
ALPHA= 4 5 DB PER SEC FROM 0 0 TO 3 9 SEC
TRACE EDIT

COMMON DEPTH POINT GATHER
TIME VARIANT DECONVOLUTION
FILTERS= 3 LENGTH=136 MSEC
PRE STACK EQUALIZATION

FIRST BREAK SUPPRESSION
TIME 0 440 550
TRACE 12-13 10-15 1-24
NORMAL MOVEOUT CORRECTION
AUTOMATED HIGH FREQUENCY STATICS

12 FOLD COMMON DEPTH POINT STACK

TIME INVARIANT FILTER
8 - 45 HZ 0 - 4000 MSEC

POST STACK EQUALIZATION

COMPUTING

DATUM ELEVATIONS 3500 FT DATUM VELOCITY 10000 FT-SEC

DISPLAY

POLARITY NORMAL
HORIZONTAL SCALE 8 TRACES-INCH VERTICAL SCALE 7 5 INCHES-SECOND

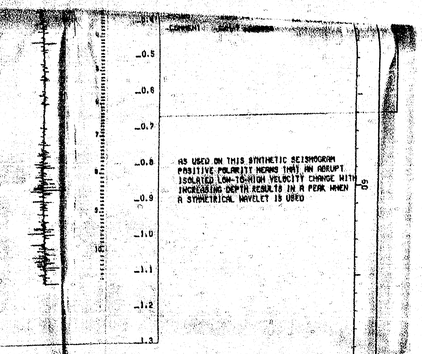
GEOPHYSICAL SERVICE INC
MIDLAND, TEXAS

STRAWN

CHESTER

WOODFORD

TIME IN SECONDS

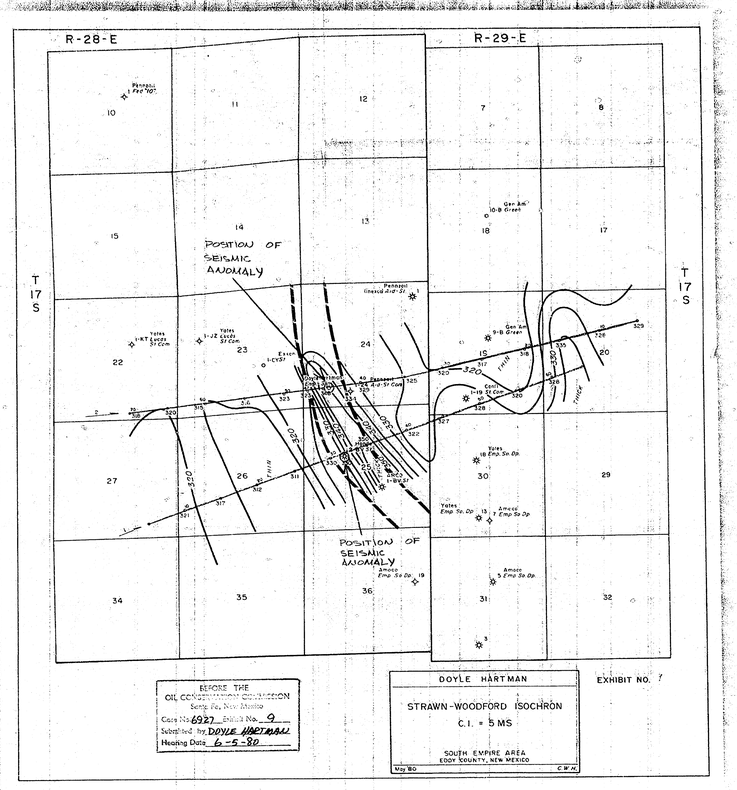


BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Case No. 6927 Exhibit No. 8
Submitted By DOYLE HARTMAN
Hearing Date 6-5-80

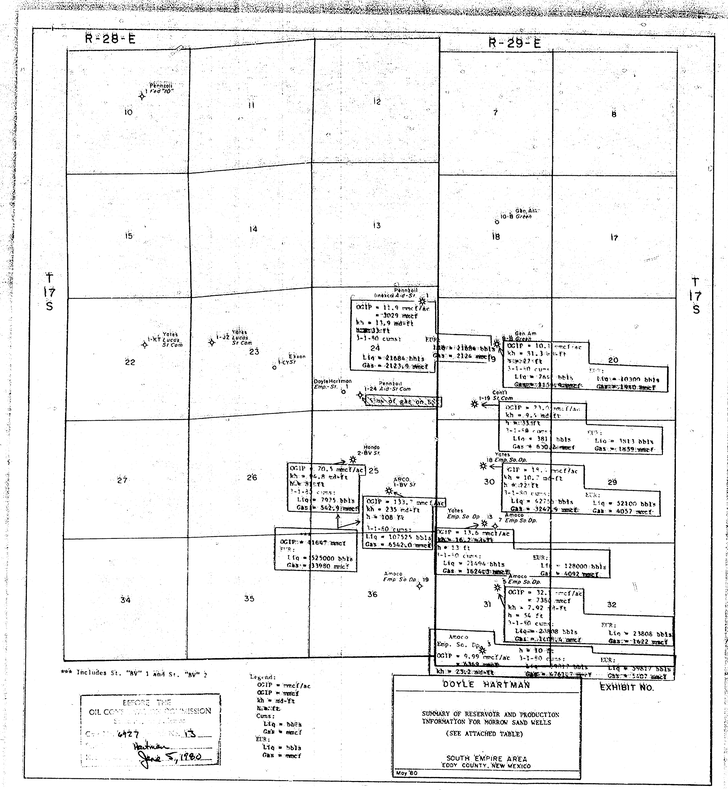
TDSP 01-001, HARTMAN1

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U.S.B.L.M. MICROGRAPHICS
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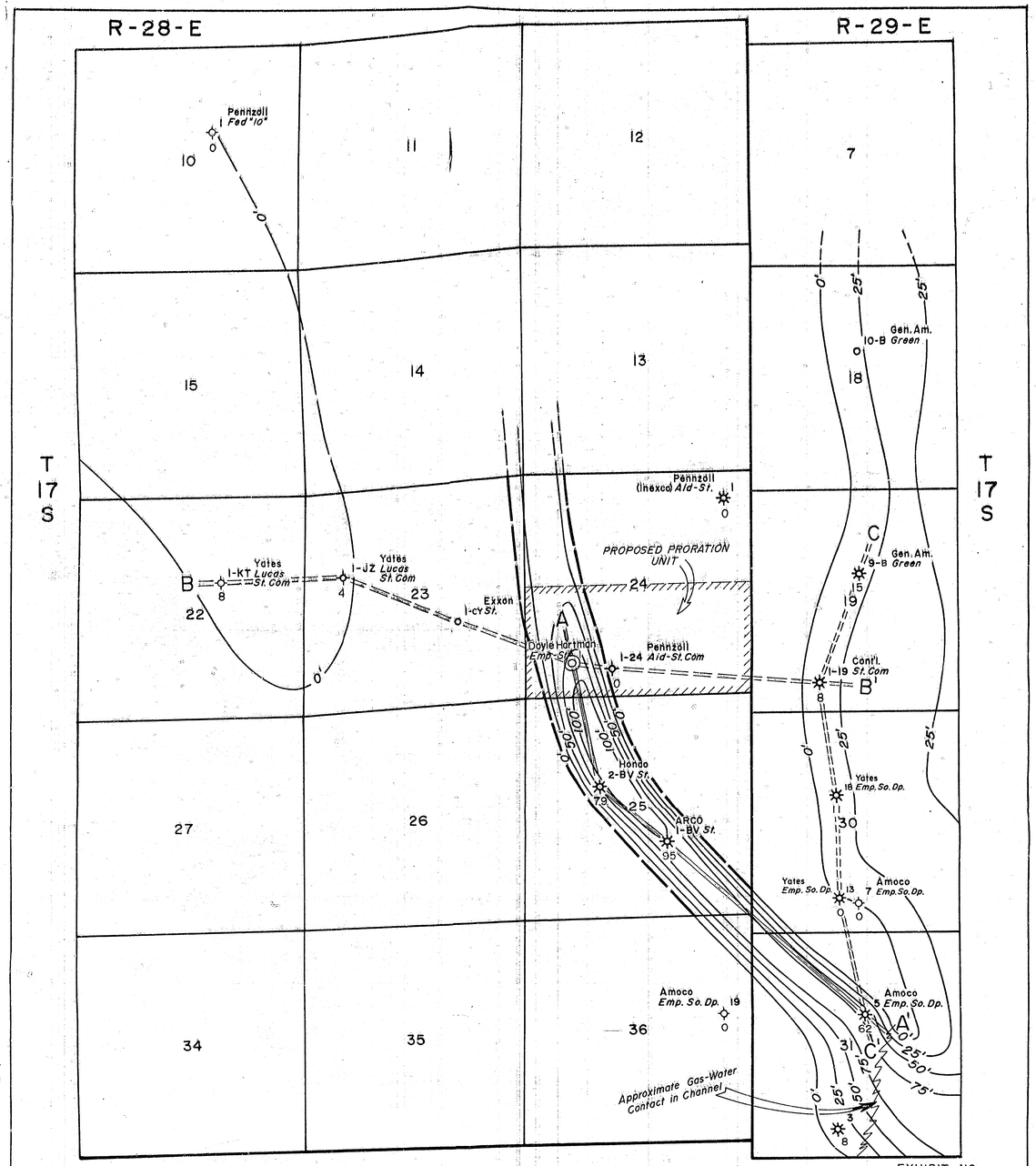


EXHIBIT NO.

BEFORE THE OIL CONSERVATION COMMISSION
Santa Fe, N.M.
Case No. 6937 Exhibit No. 2
Submitted by: Doyle Hartman
Hearing Date: 6/5/80

DOYLE HARTMAN

LOWER MORROW NET SAND POROSITY ISOPACH

C.I. = 25'

(35 API UNITS > 8% POROSITY)

SOUTH EMPIRE AREA
EDDY COUNTY, NEW MEXICO

May '80 D.C.W.

W.N.M.C.F. MICROGRAPHICS
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