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BEFORE THE OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF COLORADO

IN THE MATTER OF THE PROMULGATION AND )  
ESTABLISHMENT OF FIELD RULES TO GOVERN )  
OPERATIONS IN THE WATTENBERG FIELD, )  
ADAMS COUNTY, COLORADO )

CAUSE NOS. 232 and 1  
DOCKET NO. 11-8

NOTICE OF HEARING

TO ALL INTERESTED PARTIES AND TO WHOM IT MAY CONCERN:

In Cause No. 232, the Commission established 320-acre drilling and spacing units for the production of gas from the "J" Sand Formation in the Wattenberg Field with one well allowed for each unit to be located in the NE1/4 and SW1/4 and no closer than 990 feet to the boundaries of the quarter section. On August 21, 1979, the Commission issued Order No. 232-20 which allowed a second well to be drilled on each 320-acre unit, including Section 6, Township 1 South, Range 64 West, 6th P.M.

Rule 316. of the Rules and Regulations of the Colorado Oil and Gas Conservation Commission requires that wells drilled to a depth of 2500 feet or deeper be located no closer than 600 feet from any lease line, and not less than 1,200 feet from any other producible or drilling oil or gas well drilling to the same common source of supply, unless authorized by an order of the Commission or unless waivers are obtained from those parties who will be affected by the exception location.

Rule 320. of the Rules and Regulations of the Colorado Oil and Gas Conservation Commission requires that an application be submitted for approval for the multiple zone completion or commingling in one well bore.

On October 8, 1993, K.P. Kauffman Company, Inc., by its attorney, filed with the Commission, an application for an order to establish 80-acre drilling and spacing units in Section 6, Township 1 South, Range 64 West, 6th P.M., for production from the "D" and "J" Sand Formations, with the 80-acre units consisting of the E1/2 and W1/2 or N1/2 and S1/2 of each quarter section. The permitted wells should be located in the center of the NW1/4 and the SE1/4 of each quarter section, with a tolerance of 200 feet in any direction. The applicant has drilled and completed the Tippet No. 6-2 Well in the SE1/4 NE1/4 of said Section 6 and requests that the well be designated as a permitted exception location for the 80-acre drilling and spacing unit consisting of the E1/2 NE1/4. In addition, the order should allow the completion or recompletion of all wells drilled in said Section 6 for production of oil and associated hydrocarbons from the "D" and "J" Sand Formations, either by multiple completion or downhole commingling within the wellbore without segregation.

NOTICE IS HEREBY GIVEN, that the Oil and Gas Conservation Commission of the State of Colorado, pursuant to the above, has scheduled the above-entitled matter for hearing on:

Date: Monday, November 15, 1993  
Time: 8:30 a.m.  
Place: Room 318, State Centennial Building  
1313 Sherman Street  
Denver, Colorado 80203

In accordance with the Americans with Disabilities Act, if any party requires special accommodations for this hearing, please contact Mara Jauch 894-2100 ext. 469, prior to the hearing and arrangements will be made.

Pursuant to said hearing in the above-entitled matter at the time and place aforesaid, or at any adjourned meeting, the Commission will enter such orders as it deems appropriate to prevent the waste of oil and gas, either or both, in the operations of said field, and to carry out the purposes of the statute.

BEFORE THE OIL AND GAS CONSERVATION COMMISSION OF  
THE STATE OF COLORADO

|                                      |   |                            |
|--------------------------------------|---|----------------------------|
| IN THE MATTER OF THE APPLICATION     | } |                            |
| OF K.P. KAUFFMAN COMPANY, INC.       | } |                            |
| FOR AN ORDER ESTABLISHING 80-ACRE    | } | CAUSE NO. <u>232 AND 1</u> |
| DRILLING AND SPACING UNITS FOR THE   | } |                            |
| DEVELOPMENT AND PRODUCTION OF OIL    | } | DOCKET NO. <u>11-B</u>     |
| AND ASSOCIATED HYDROCARBONS FROM     | } |                            |
| BOTH THE "D" AND "J" SAND FORMATIONS | } |                            |
| WATTENBERG FIELD, ADAMS COUNTY,      | } |                            |
| COLORADO                             | } |                            |

A P P L I C A T I O N

COMES NOW Applicant, K.P. Kauffman Company, Inc., by their attorney, Gordon L. Allott, Jr., and respectfully presents this Application to the Colorado Oil and Gas Conservation Commission, and in support of their application shows:

I.

K.P. Kauffman Company, Inc. is an independent oil operator whose address is 1675 Broadway, Suite 1970, Denver, Colorado 80202-4630.

II.

Applicant is the operator and owner of oil and gas working interests within the following described lands:

Township 1 South, Range 64 West, 6th P.M.

Section 6: All

all of which lands are situated in Adams County, Colorado, and constitute the one-section area for which applicant requests that drilling and spacing units be established.

III.

A list of the names of the adjacent owners and producers within one-half (1/2) mile of the Section in which the applicant intends to respace and commingle the "D" Sandstone and "J" Sandstone production, as to the above described lands are as follows:

Amoco Production Company  
1670 Broadway  
Denver, Colorado 80202

Union Pacific Resources  
801 Cherry St.  
Ft. Worth, Texas 76102-6803

Kaiser-Francis Oil Co.  
P.O. Box 21468  
Tulsa, Oklahoma 74121

#### IV.

Within the area proposed for spacing, K.P. Kauffman Company, Inc. operates the successfully completed Tippet #6-2 Well located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 6, T1S, R64W as a well producing both from the "D" Sandstone and "J" Sandstone formations.

The Tippet #6-2 Well was drilled on a 320 acre "J" Sandstone spacing pattern, and applicant hereby requests that the Tippet #6-2 Well be considered as a permitted exception well under the spacing pattern herein proposed as to the E $\frac{1}{4}$ NE $\frac{1}{4}$  of said Section 6.

In applicant's opinion, the lands above described include all of the lands which, upon the information now available, are believed to be underlaid by the common source of supply from which oil and associated hydrocarbons can be produced from both the "D" Sandstone and "J" Sandstone formations.

#### V.

In order to provide for the orderly and uniform development of the common source of supply of oil and associated hydrocarbons in both the "D" Sandstone and "J" Sandstone formations underlying the above described lands, to prevent waste, protect correlative rights, and to avoid the drilling of unnecessary wells, the Commission is requested to establish 80-acre drilling and spacing units for the drilling for and production of oil and associated hydrocarbons from both the "D" Sandstone and "J" Sandstone formations within the above described lands, each drilling unit to consist of two quarter-quarter sections comprising 80 acres, more or less (or lots and/or quarter-quarter sections comprising approximately 80 acres), located in either (a) a North-South or vertical direction, or (b) East-West or horizontal direction, with permitted well for each drilling and spacing unit to be located in the approximate center of the northwest quarter and the approximate center of the southeast quarter of each approximate 160-acre quarter-section, with a tolerance of 200 feet in any direction from the center location when geological or surface conditions make such tolerance necessary, the Tippet #6-2 to be considered as a permitted exception well to said pattern.

VI.

Applicant further requests that the Commission by its Order permit the completion or recompletion of all wells drilled or permitted in the future for the production of oil and oil associated hydrocarbons from both the "D" Sand and also the "J" Sand formations, either by multiple zone completion or commingling of said production in the well bore without segregation, all without further application for such rights by any owner pursuant to Commission Rule 320 without further approval thereof by the Director of the Commission, and without further hearings in respect thereto.

VII.

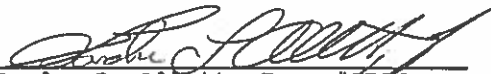
One well will efficiently drain all of the recoverable oil and associated hydrocarbons from either the "D" Sandstone formation or the "J" Sandstone formation, or if commingled, in the same well bore, both of said formations underlying the approximate 80 surface acres, and 80 acres is not smaller than the maximum area that can be efficiently and economically drained by one well producing oil and associated hydrocarbons from either the "D" Sandstone formation or the "J" Sandstone formation or, if commingled, in the same well bore, underlying the above described lands.

WHEREFORE, Applicant respectfully requests that this matter be set for hearing in the next regular hearing date of the Commission on November 15, 1993; that notice thereof be given as required by law; and that upon such hearing this Commission, in its Order, establish 80-acre drilling and spacing units for the development and production of oil and associated hydrocarbons from both the "D" Sand formation and also the "J" Sand formation, or if commingled, in the same well bore, underlying the lands described in Paragraph II of the application, with the permitted well to be granted up to 200 feet of tolerance in any direction from the above stated center location, the Order should also provide that the Tippet #6-2 well located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$  of Section 6, T15, R64W be designated as a permitted exception location well, and that said Order also provide for the above requested commingling in one bore

hole of the oil and oil associated hydrocarbons production for both the "D" Sandstone and "J" Sandstone formations without further application for such rights under Rule 320, and without further approval thereof by the Commission Director and without further hearings in respect thereof; and that the Order contain such other provisions as the Commission may find to be necessary from the evidence presented at the hearing, in order to prevent waste, protect correlative rights, and avoid the drilling of unnecessary wells.

Respectfully submitted,

K.P. KAUFFMAN COMPANY, INC.

By   
Gordon L. Allott, Jr., #3786  
Their Attorney  
1600 Broadway, Suite 400  
Denver, Colorado 80202  
Telephone: (303) 831-6068

EXHIBITS THAT ARE AN INTEGRAL PART OF THIS APPLICATION

- EXHIBIT I.1 Map indicating the location of all offset wells (abandoned or producing) and Operators for a distance of one (1) mile from the outer boundary of Section 6, T1S, R64W, 6th P.M., Adams County, Colorado. Data source: Petroleum Information and the Colorado Oil and Gas Conservation Commission records.
- EXHIBIT I.2 Data table providing the following well information of all offset wells (abandoned or producing) for a distance of one (1) mile from the outer boundary of Section 6, T1S, R64W, 6th. P.M., Adams County, Colorado: Well name; operator; field; formation; location; the first month of production; the last date of production; API number; well status; perforation intervals; total depth; and the most recent month, year and cumulative production volumes.
- EXHIBIT I.3 Diagrammatic sketch of the mechanical installation for the multiple zone completion.



# Colorado Land Services

October 26, 1993

KEVIN P. KAUFFMAN  
K. P. KAUFFMAN COMPANY, INC.  
1675 Broadway  
Suite No. 1970  
Denver, Colorado 80202-4619

**RECEIVED**

**OCT 27 1993**

**K.P. KAUFFMAN COMPANY, INC.**

Re: OGCC APPLICATION: "HORTH" PROJECT  
80-acre Units for 'D' & 'J' SAND  
Sec. 6-T1S-R64W-6th P.M.  
Wattenberg Field  
Adams County, State of Colorado

Dear Kevin,

Pursuant to the request of Gordon L. Allott, Jr., I have researched the records in both Adams and Weld Counties, State of Colorado, in order to best determine the current leasehold interest owners of record adjacent to and adjoining Section 6 in Township 1 South, Range 64 West of the 6th P.M., Adams County, State of Colorado.

The following parties appear to have a leasehold interest in said adjacent and adjoining tracts of land, to-wit:


S31-T1N-R65W: Pozo Resources, Inc.  
500 Main Street, Suite 201  
Fort Worth, Texas 76102

Amoco Production Company  
P.O. Box 800  
Denver, Colorado 80201

Union Pacific Resources Company  
P.O. Box 7  
MS 3802  
Fort Worth, Texas 76101-0007

S32-T1N-R64W: Channel Petroleum, Inc. & Zoey Exploration, Ltd.  
1616 17th Street, Suite 462  
Denver, Colorado 80202

Scott W. Andrews & Debra Andrews  
Dean R. Gackie & Margaret B. Gackie  
C/O: Karen Oil Company  
410 17th Street, Suite 300  
Denver, Colorado 80202



OGCC APPLICATION: "HORTH" PROJECT  
K. P. KAUFFMAN COMPANY, INC.  
October 26, 1993

Page 2

Thomas Connelly  
Connelly Exploration, Inc.  
Vimco Exploration, Inc.  
810 Midland Savings Bldg.  
Denver, Colorado 80202

R.D. Gasch & Co.  
566 Denver Club Building  
Denver, Colorado 80202

Carl A. Houy  
1122 Security Life Building  
Denver, Colorado 80202

Fred A. Hubbs & Nancy J. Hubbs  
Route 1, Box 50  
Bennett, Colorado 80102

William H. Jolley  
Post Office Box 130  
Baggs, Wyoming 82321

Harold Klausner  
6858 Weld County Road No. 79  
Roggen, Colorado 80652

Jim Smith  
Kopko Drilling Company  
260 Denver Club Building  
Denver, Colorado 80202


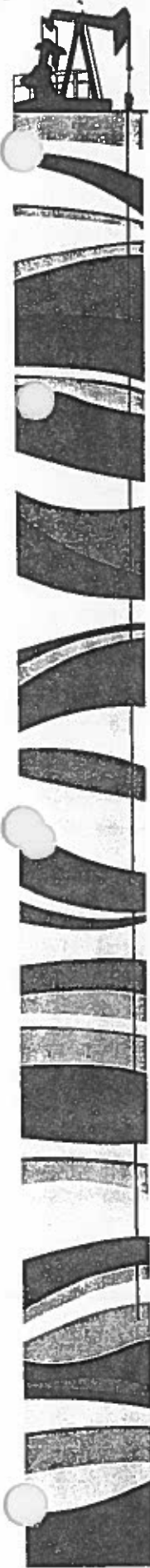
Oscar R. Lee  
P.O. Box 840  
Denver, Colorado 80202

Richard W. Munn & Lauren M. Munn  
3061 Ursula Cr., #102  
Aurora, Colorado 80014

Isamu Okada  
P.O. Box 156  
Keenesburg, Colorado 80643

Albert R. Sirios  
6500 Weld County Road No. 79  
Roggen, Colorado 80652





OGCC APPLICATION: "HORTH" PROJECT  
K. P. KAUFFMAN COMPANY, INC.  
October 26, 1993

Page 3

Suex Corp.  
410 17th Street, Suite 1870  
Denver, Colorado 80202

Walter Swink & Esther Swink  
2510 W. 144th Avenue  
Broomfield, Colorado 80020

A. C. Toney & Mary C. Toney  
4445 Teller Street  
Wheatridge, Colorado 80033

Robert J. Whitlock & Jean L. Whitlock  
2001 Black River Road  
North Little Rock, Arkansas 72116

Zimbelman Corp., Ltd.  
P.O. Box 535  
Hudson, Colorado 80642

S36-T1N-R65W: K. P. Kauffman Company, Inc.  
1675 Broadway, Suite 1970  
Denver, Colorado 80202

Sierra Energy Company  
P.O. BOX 20200  
Reno, Nevada 89520

Lloyd Land Farms  
14021 County Hills Drive  
Brighton, Colorado 80601

Oscar F. Haake, Jr. & Mazell Ann Haake  
12711 East 160th Avenue  
Brighton, Colorado 80601

S 5-T1S-R64W: Union Pacific Resources Company

Amoco Production Company

S 6-T1S-R64W: K. P. Kauffman Company, Inc.

S 7-T1S-R64W: Amoco Production Company

Union Pacific Resources Company

OGCC APPLICATION: "NORTH" PROJECT  
K. P. KAUFFMAN COMPANY, INC.  
October 26, 1993

Page 4

S 8-T1S-R64W: Griffin Petroleum Corporation  
15290 East 6th Avenue, Suite 200  
Englewood, Colorado 80011

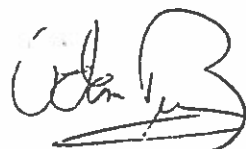
Mormac Oil & Gas Company  
Mormac Energy Corporation  
321 Texas Trail, Suite 100  
Corpus Christi, Texas 78411

S 1-T1S-R65W: K. P. Kauffman Company, Inc.

S12-T1S-R65W: Marion Henkel  
1700 Highway #95, RR2  
Parma, Idaho 83660

Kevin, please let me know if you require any further research.

Yours very truly,  
COLORADO LAND SERVICES



Adam C. Buna

ACB

CC: Gordon L. Allott, Jr.

KPK#3/L-KPK2.001

## STATE OF COLORADO

DOCKET NO. \_\_\_\_\_

R. D. Gasch & Co.  
566 Denver Club Building  
Denver, Colorado 80202

Carl A. Houy  
1122 Security Life Building  
Denver, Colorado 80202

Fred A. Hubbs & Nancy J. Hubbs  
Route 1, Box 50  
Bennett, Colorado 80102

William H. Jolley  
P. O. Box 130  
Baggs, Wyoming 82321

Harold Klausner  
6858 Weld County Road No. 79  
Roggen, Colorado 80652

Jim Smith  
Kopko Drilling Company  
260 Denver Club Building  
Denver, Colorado 80202

Oscar R. Lee  
P. O. Box 840  
Denver, Colorado 80202

Richard W. Munn & Lauren M. Munn  
3061 Ursula Circle, #102  
Aurora, Colorado 80014

Isamu Okada  
P. O. Box 156  
Keenesburg, Colorado 80643

Albert R. Sirios  
6500 Weld County Road No. 79  
Roggen, Colorado 80652

Suex Corp.  
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Denver, Colorado 80202

Walter Swink & Esther Swink  
2510 West 144th Avenue  
Broomfield, Colorado 80020

A. C. Toney & Mary C. Toney  
4445 Teller Street  
Wheatridge, Colorado 80033

Robert J. Whitlock & Jean L. Whitlock  
2001 Black River Road  
North Little Rock, Arkansas 72116

Zimbelman Corp., Ltd.  
P. O. Box 535  
Hudson, Colorado 80642

K.P. Kauffman Company, Inc.  
1675 Broadway, Suite 1970  
Denver, Colorado 80202-4619

Sierra Energy Company  
P. O. Box 20200  
Reno, Nevada 89520

Lloyd Land Farms  
14021 County Hills Drive  
Brighton, Colorado 80601

Oscar F. Haake, Jr. & Mazell Ann Haake  
12711 East 160th Avenue  
Brighton, Colorado 80601

Griffin Petroleum Corporation  
15290 East 6th Avenue, Suite 200  
Aurora, Colorado 80011

Mormac Oil & Gas Company  
Mormac Energy Corporation  
321 Texas Trail, Suite 100  
Corpus Christi, Texas 78411

Marion Henkel  
1700 Highway #95, RR2  
Parma, Idaho 83660

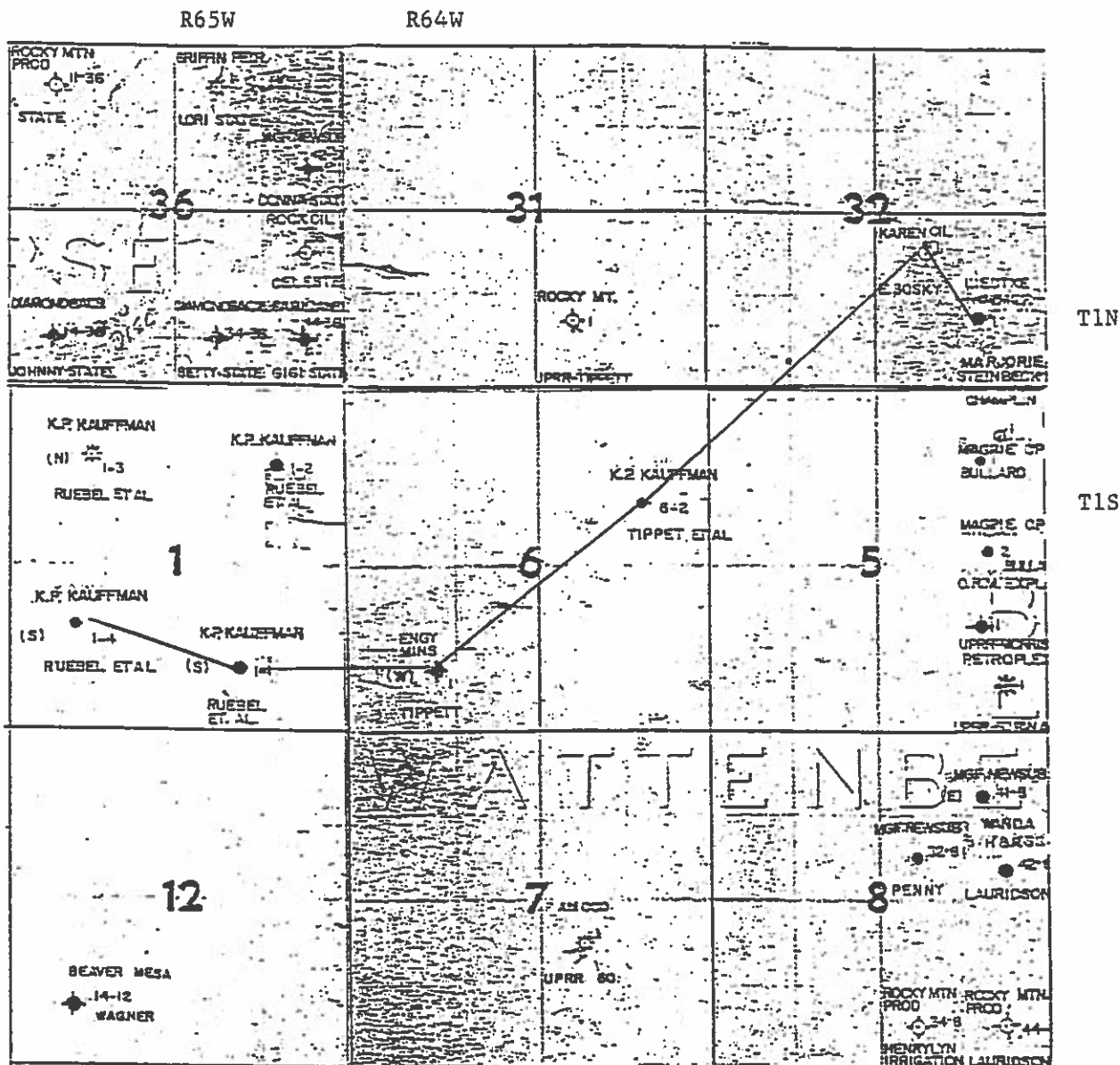
Respectfully submitted:

K.P. KAUFFMAN COMPANY, INC.

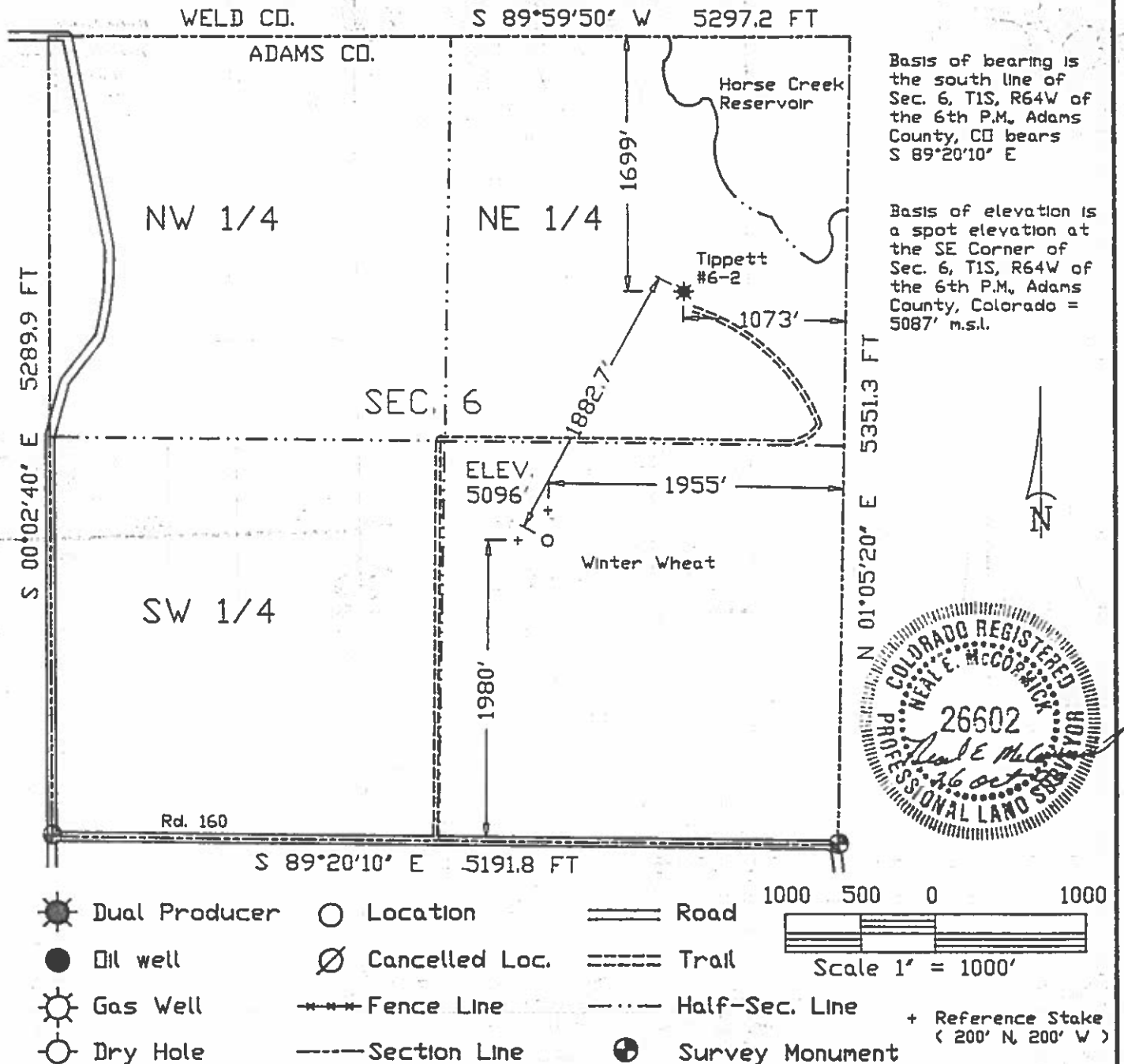
By:

Gordon L. Allott, Jr. #3786  
Their Attorney  
1600 Broadway, Suite 400  
Denver, Colorado 80202  
Telephone (303) 831-6068

Map indicating the location of all offset wells (abandoned or producing) and Operators for a distance of one(1) mile from the outer boundary of Section 6, T1S, R64W 6th. P.M., Adams County, Colorado. Data source: Petroleum Information and the Colorado Oil and Gas Conservation Commission records.



There are no visible improvements within 200 feet of the location.

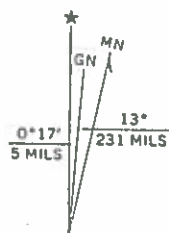
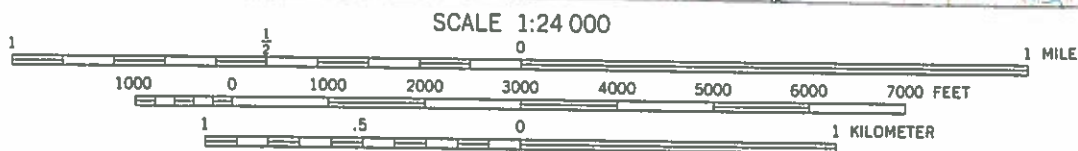
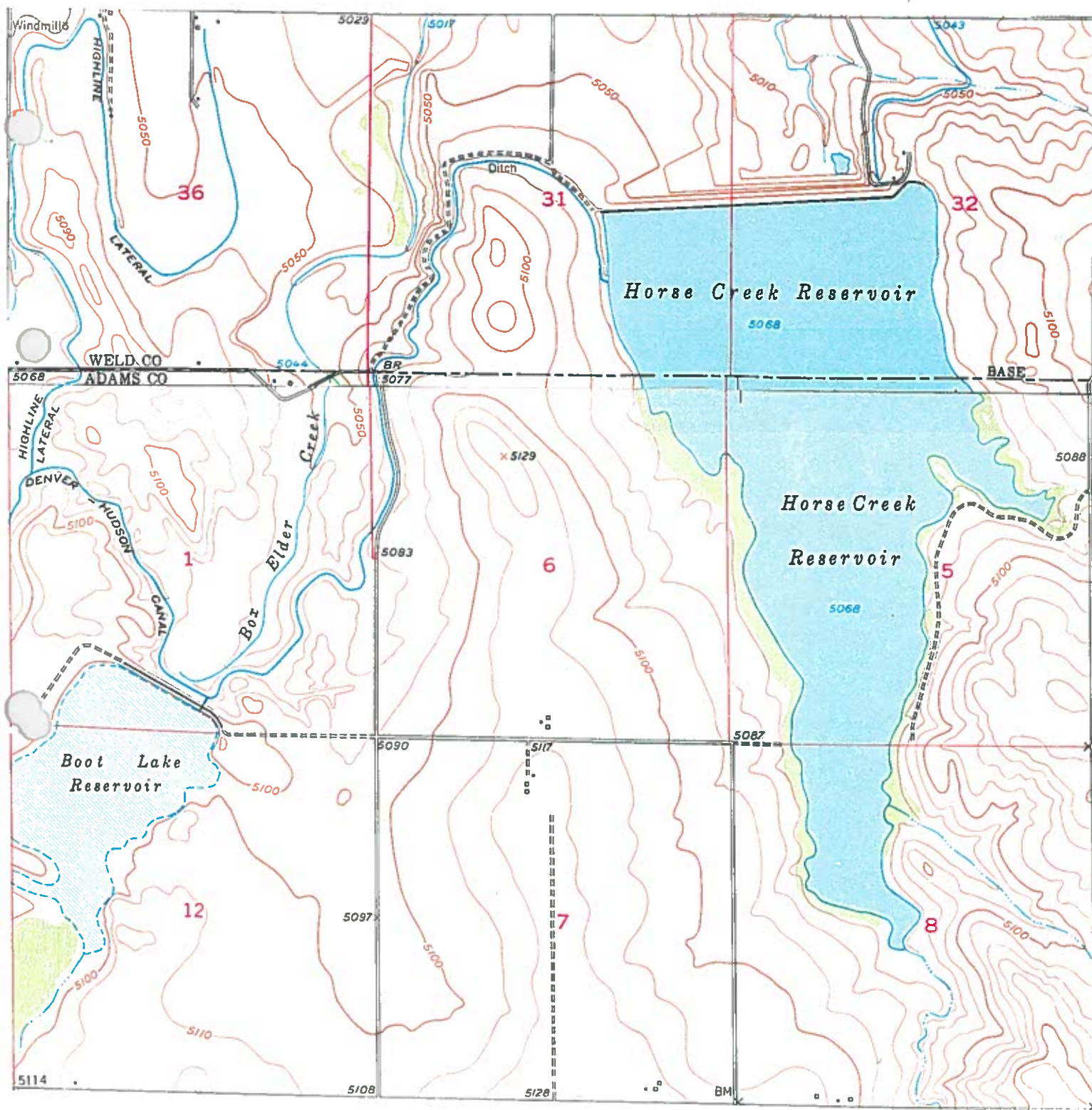


# GREAT PLAINS SURVEYING

26 OCTOBER 1993

P.O. Box 296 Phone 303-854-3602  
Holyoke, CO 80734 Fax 303-854-2926





UTM GRID AND 1971 MAGNETIC NORTH  
DECLINATION AT CENTER OF SHEET

6

LAND USE/TOPOGRAPHIC MAP OF AREA OF  
INTEREST



## WELL PRODUCTION DATA

Township 1 North, Range 64 West, 6th P.M.  
Section 31 and 32: All

Township 1 South, Range 64 West, 6th P.M.  
Sections 5, 6, 7 and 8: All

Township 1 North, Range 65 West, 6th P.M.  
Section 36: All

Township 1 South, Range 65 West, 6th P.M.  
Sections 1 and 12: All

Entity: LEWIS 14-11 (35454)  
Operator: M G F OIL CORPORATION (20742)  
Field: WATTENBERG (90750)  
Formation: J SAND (602JSND)  
Location: T001S R065W 11 SWSW ADAMS, CO

Product: GAS  
Start Date: 198206  
Stop Date: 199306

| Well<br>Number | API<br>Number | Comp<br>Date | Well<br>Stat | Perforations<br>Upper Lower | Total<br>Depth | Dir | Type        | Well |
|----------------|---------------|--------------|--------------|-----------------------------|----------------|-----|-------------|------|
| 14             | 0500107960    | 198206       | ACTI         | 7912 -7920                  | 7995           |     |             |      |
|                |               | Gas (MCF)    |              | Cond (BBLs)                 |                |     | Water(BBLS) |      |
|                | Mon           | 1336         |              | 40                          |                |     | 42          |      |
|                | Ytd           | 7116         |              | 174                         |                |     | 116         |      |
|                | Cum           | 243964       |              | 7031                        |                |     | 1229        |      |

Entity: WAGNER 14-12 (8402)  
Operator: BEAVER MESA EXPLORATION (76618)  
Field: WATTENBERG (90750)  
Formation: J SAND (602JSND)  
Location: T001S R065W 12 SWSW ADAMS, CO

Product: CRUDE  
Start Date: 197310  
Stop Date: 000000

| Well<br>Number | API<br>Number | Comp<br>Date | Well<br>Stat | Perforations<br>Upper Lower | Total<br>Depth | Dir | Type            | Well |
|----------------|---------------|--------------|--------------|-----------------------------|----------------|-----|-----------------|------|
| 14             | 0500106647    | 197305       | INAC         | 7856 -7895                  | 7980           |     | PLUGGED AND ABA |      |
|                |               | Crude (BBLs) |              | Csgd (MCF)                  |                |     | Water(BBLS)     |      |
|                | Mon           | 0            |              | 0                           |                |     | 0               |      |
|                | Ytd           | 0            |              | 0                           |                |     | 0               |      |
|                | Cum           | 766          |              | 470                         |                |     | 0               |      |

## WELL PRODUCTION DATA

Page 2

Entity: STEINBECK M 1 (36064) Product: CRUDE  
 Operator: LIEDTKE OPERATING CORPORA (83295) Start Date: 198208  
 Field: BANNER LAKES (5195) Stop Date: 199306  
 Formation: D SAND (602DSND)  
 Location: T001N R064W 32 SESE WELD, CO

| Well Number | API Number | Comp Date | Well Stat | Perforations Upper | Perforations Lower | Total Depth | Dir | Type | Well        |
|-------------|------------|-----------|-----------|--------------------|--------------------|-------------|-----|------|-------------|
| 1           | 0512310760 | 198208    | ACTI      | 7659               | -7671              | 7847        |     |      |             |
|             |            |           |           | Crude (BBLS)       |                    |             |     |      |             |
|             | Mon        |           |           | 47                 |                    |             |     |      |             |
|             | Ytd        |           |           | 271                |                    |             |     |      |             |
|             | Cum        |           |           | 25272              |                    |             |     |      |             |
|             |            |           |           | Csghd (MCF)        |                    |             |     |      |             |
|             |            |           |           | 1388               |                    |             |     |      |             |
|             |            |           |           | 7311               |                    |             |     |      |             |
|             |            |           |           | 299100             |                    |             |     |      |             |
|             |            |           |           |                    |                    |             |     |      | Water(BBLS) |
|             |            |           |           |                    |                    |             |     |      | 0           |
|             |            |           |           |                    |                    |             |     |      | 0           |
|             |            |           |           |                    |                    |             |     |      | 95          |

Entity: RUEBEL ETAL 36-1 (47921) Product: GAS  
 Operator: KAUFFMAN K P COMPANY INCO (73488) Start Date: 198604  
 Field: WATTENBERG (90750) Stop Date: 199306  
 Formation: J SAND (602JSND)  
 Location: T001N R065W 36 SESE WELD, CO

| Well Number | API Number | Comp Date | Well Stat | Perforations Upper | Perforations Lower | Total Depth | Dir | Type | Well        |
|-------------|------------|-----------|-----------|--------------------|--------------------|-------------|-----|------|-------------|
| 1           | 0512312426 | 198510    | ACTI      | 7748               | -7787              | 7860        |     |      |             |
|             |            |           |           | Gas (MCF)          |                    |             |     |      |             |
|             | Mon        |           |           | 528                |                    |             |     |      |             |
|             | Ytd        |           |           | 3513               |                    |             |     |      |             |
|             | Cum        |           |           | 84894              |                    |             |     |      |             |
|             |            |           |           | Cond (BBLS)        |                    |             |     |      |             |
|             |            |           |           | 13                 |                    |             |     |      |             |
|             |            |           |           | 91                 |                    |             |     |      |             |
|             |            |           |           | 3617               |                    |             |     |      |             |
|             |            |           |           |                    |                    |             |     |      | Water(BBLS) |
|             |            |           |           |                    |                    |             |     |      | 0           |
|             |            |           |           |                    |                    |             |     |      | 0           |
|             |            |           |           |                    |                    |             |     |      | 245         |

Entity: STATE 41 (8440) Product: GAS  
 Operator: GERRITY OIL & GAS CORPORA (97833) Start Date: 197401  
 Field: WATTENBERG (90750) Stop Date: 199306  
 Formation: J SAND (602JSND)  
 Location: T001N R065W 36 NWNE WELD, CO

| Well Number | API Number | Comp Date | Well Stat | Perforations Upper | Perforations Lower | Total Depth | Dir | Type | Well        |
|-------------|------------|-----------|-----------|--------------------|--------------------|-------------|-----|------|-------------|
| 41          | 0512307837 | 197310    | ACTI      | 7799               | -7805              | 7915        |     |      |             |
|             |            |           |           | Gas (MCF)          |                    |             |     |      |             |
|             | Mon        |           |           | 137                |                    |             |     |      |             |
|             | Ytd        |           |           | 928                |                    |             |     |      |             |
|             | Cum        |           |           | 51607              |                    |             |     |      |             |
|             |            |           |           | Cond (BBLS)        |                    |             |     |      |             |
|             |            |           |           | 0                  |                    |             |     |      |             |
|             |            |           |           | 0                  |                    |             |     |      |             |
|             |            |           |           | 2301               |                    |             |     |      |             |
|             |            |           |           |                    |                    |             |     |      | Water(BBLS) |
|             |            |           |           |                    |                    |             |     |      | 0           |
|             |            |           |           |                    |                    |             |     |      | 0           |
|             |            |           |           |                    |                    |             |     |      | 0           |

## Page 3

Product: GAS  
Start Date: 198607  
Stop Date: 199006

|     | Gas (MCF) | Cond (BBLS) | Water(BBLS) |
|-----|-----------|-------------|-------------|
| Mon | 0         | 0           | 0           |
| Ytd | 0         | 0           | 0           |
| Cum | 36888     | 1911        | 132         |

Product: CRUDE  
Start Date: 198504  
Stop Date: 199306

|     | Crude (BBLS) | Csghd (MCF) | Water(BBLS) |
|-----|--------------|-------------|-------------|
| Mon | 0            | 492         | 0           |
| Ytd | 186          | 4846        | 0           |
| Cum | 8024         | 113234      | 178         |

Product: CRUDE  
Start Date: 198504.  
Stop Date: 199306

|     | Crude (BBLS) | Csghd (MCF) | Water(BBLS) |
|-----|--------------|-------------|-------------|
| Mon | 17           | 996         | 0           |
| Ytd | 177          | 9294        | 0           |
| Cum | 6555         | 95932       | 276         |

## WELL PRODUCTION DATA

Page 4

Entity: UPRR MORRIS 1 (36508)  
 Operator: O R M EXPLORATION COMPANY (73677)  
 Field: BANNER LAKES (5195)  
 Formation: D SAND (602DSND)  
 Location: T001S R064W 5 NESE ADAMS, CO

Product: CRUDE  
 Start Date: 198210  
 Stop Date: 198704

| Well Number | API Number | Comp Date    | Well Stat | Perforations Upper Lower | Total Depth | Dir | Type            | Well |
|-------------|------------|--------------|-----------|--------------------------|-------------|-----|-----------------|------|
| 1           | 0500108161 | 198208       | INAC      | 7718 -7723               | 7904        |     | PLUGGED AND ABA |      |
|             |            | Crude (BBLs) |           | Csghd (MCF)              |             |     | Water (BBLs)    |      |
|             | Mon        | 0            |           | 0                        |             |     | 0               |      |
|             | Ytd        | 0            |           | 0                        |             |     | 0               |      |
|             | Cum        | 4928         |           | 25134                    |             |     | 0               |      |

Entity: UPRR 60 PAN AM L 1 (38803)  
 Operator: PETROPLEX EQUIPMENT INCOR (26279)  
 Field: BANNER LAKES (5195)  
 Formation: D SAND (602DSND)  
 Location: T001S R064W 5 SESE ADAMS, CO

Product: CRUDE  
 Start Date: 198308  
 Stop Date: 198703

| Well Number | API Number | Comp Date    | Well Stat | Perforations Upper Lower | Total Depth | Dir | Type            | Well |
|-------------|------------|--------------|-----------|--------------------------|-------------|-----|-----------------|------|
| 1           | 0500108242 | 198309       | INAC      | 7702 -7712               | 7854        |     | PLUGGED AND ABA |      |
|             |            | Crude (BBLs) |           | Csghd (MCF)              |             |     | Water (BBLs)    |      |
|             | Mon        | 0            |           | 0                        |             |     | 0               |      |
|             | Ytd        | 0            |           | 0                        |             |     | 0               |      |
|             | Cum        | 3097         |           | 23836                    |             |     | 71              |      |

Entity: TIPPETT ETAL 6-2 (49852)  
 Operator: KAUFFMAN K P COMPANY INCO (73488)  
 Field: WATTENBERG (90750)  
 Formation: D & J SAND (602DJSND)  
 Location: T001S R064W 6 SENE ADAMS, CO

Product: CRUDE  
 Start Date: 198705  
 Stop Date: 199306

| Well Number | API Number | Comp Date    | Well Stat | Perforations Upper Lower | Total Depth | Dir | Type         | Well |
|-------------|------------|--------------|-----------|--------------------------|-------------|-----|--------------|------|
| 2           | 0500108811 | 198705       | ACTI      | 7756 -7791               | 7857        |     |              |      |
|             |            | Crude (BBLs) |           | Csghd (MCF)              |             |     | Water (BBLs) |      |
|             | Mon        | 121          |           | 1845                     |             |     | 0            |      |
|             | Ytd        | 753          |           | 9859                     |             |     | 0            |      |
|             | Cum        | 19501        |           | 169176                   |             |     | 346          |      |

## WELL PRODUCTION DATA

Page 5

Entity: TIPPETT 1 (46242)  
 Operator: ENERGY MINERALS CORPORATI (10591)  
 Field: WATTENBERG (90750)  
 Formation: D SAND (602DSND)  
 Location: T001S R064W 6 SWSW ADAMS, CO

Product: CRUDE  
 Start Date: 198511  
 Stop Date: 198512

| Well Number | API Number | Comp Date | Well Stat | Perforations Upper Lower | Total Depth | Dir | Type        | Well |
|-------------|------------|-----------|-----------|--------------------------|-------------|-----|-------------|------|
| 1<br>ABA    | 0500108747 | 198512    | INAC      | 7728 -7738               | 7881        |     | PLUGGED AND |      |

|     | Crude (BBLs) | Csghd (MCF) | Water(BBLS) |
|-----|--------------|-------------|-------------|
| Mon | 0            | 0           | 0           |
| Ytd | 0            | 0           | 0           |
| Cum | 117          | 0           | 0           |

Entity: UPRR 60 PAN AM (8059)  
 Operator: AMOCO PRODUCTION COMPANY (1085)  
 Field: WATTENBERG (90750)  
 Formation: J SAND (602JSND)  
 Location: T001S R064W 7 NWSE ADAMS, CO

Product: GAS  
 Start Date: 197407  
 Stop Date: 199306

| Well Number | API Number | Comp Date | Well Stat | Perforations Upper Lower | Total Depth | Dir | Type | Well |
|-------------|------------|-----------|-----------|--------------------------|-------------|-----|------|------|
| 1           | 0500106250 | 197103    | ACTI      | 7780 -7818               | 7940        |     |      |      |

|     | Gas (MCF) | Cond (BBLS) | Water(BBLS) |
|-----|-----------|-------------|-------------|
| Mon | 251       | 9           | 15          |
| Ytd | 2700      | 46          | 46          |
| Cum | 128560    | 3546        | 1209        |

Entity: WANDA 1 41-8 (32164)  
 Operator: M G F OIL CORPORATION (20742)  
 Field: BANNER LAKES (5195)  
 Formation: D SAND (602DSND)  
 Location: T001S R064W 8 NENE ADAMS, CO

Product: CRUDE  
 Start Date: 198110  
 Stop Date: 199306

| Well Number | API Number | Comp Date | Well Stat | Perforations Upper Lower | Total Depth | Dir | Type | Well |
|-------------|------------|-----------|-----------|--------------------------|-------------|-----|------|------|
| 1           | 0500107967 | 198110    | ACTI      | 7671 -7680               | 7834        |     |      |      |

|     | Crude (BBLs) | Csghd (MCF) | Water(BBLS) |
|-----|--------------|-------------|-------------|
| Mon | 15           | 426         | 4           |
| Ytd | 75           | 2632        | 18          |
| Cum | 33987        | 265072      | 103         |

## WELL PRODUCTION DATA

Page 6

Entity: PENNY 1 32-8 (33159)  
 Operator: M G F OIL CORPORATION (20742)  
 Field: BANNER LAKES (5195)  
 Formation: D SAND (602DSND)  
 Location: T001S R064W 8 SWNE ADAMS, CO

Product: CRUDE  
 Start Date: 198201  
 Stop Date: 199306

| Well Number | API Number | Comp Date    | Well Stat | Perforations Upper | Perforations Lower | Total Depth  | Dir | Type | Well |
|-------------|------------|--------------|-----------|--------------------|--------------------|--------------|-----|------|------|
| 1           | 0500107996 | 198201       | ACTI      | 7665               | -7676              | 7825         |     |      |      |
|             |            | Crude (BBLs) |           | Csghd (MCF)        |                    | Water (BBLs) |     |      |      |
|             | Mon        | 30           |           | 564                |                    | 7            |     |      |      |
|             | Ytd        | 253          |           | 3389               |                    | 37           |     |      |      |
|             | Cum        | 18711        |           | 163451             |                    | 214          |     |      |      |

Entity: LAURIDSON 42-8 (40854)  
 Operator: H & R WELL SERVICES INCOR (76042)  
 Field: BANNER LAKES (5195)  
 Formation: D SAND (602DSND)  
 Location: T001S R064W 8 SENE ADAMS, CO

Product: CRUDE  
 Start Date: 198403  
 Stop Date: 199306

| Well Number | API Number | Comp Date    | Well Stat | Perforations Upper | Perforations Lower | Total Depth  | Dir | Type | Well |
|-------------|------------|--------------|-----------|--------------------|--------------------|--------------|-----|------|------|
| 42          | 0500108378 | 198403       | ACTI      | 7672               | -7678              | 7850         |     |      |      |
|             |            | Crude (BBLs) |           | Csghd (MCF)        |                    | Water (BBLs) |     |      |      |
|             | Mon        | 21           |           | 292                |                    | 0            |     |      |      |
|             | Ytd        | 86           |           | 1962               |                    | 0            |     |      |      |
|             | Cum        | 2696         |           | 104013             |                    | 1123         |     |      |      |

Entity: RUEBEL ETAL 1-4 (47909)  
 Operator: KAUFFMAN K P COMPANY INCO (73488)  
 Field: WATTENBERG (90750)  
 Formation: D & J SAND (602DJSND)  
 Location: T001S R065W 1 NWSW ADAMS, CO

Product: CRUDE  
 Start Date: 198604  
 Stop Date: 199307

| Well Number | API Number | Comp Date    | Well Stat | Perforations Upper | Perforations Lower | Total Depth  | Dir | Type | Well |
|-------------|------------|--------------|-----------|--------------------|--------------------|--------------|-----|------|------|
| 4           | 0500108755 | 198604       | ACTI      | 7774               | -7785              | 7942         |     |      |      |
|             |            | Crude (BBLs) |           | Csghd (MCF)        |                    | Water (BBLs) |     |      |      |
|             | Mon        | 93           |           | 825                |                    | 0            |     |      |      |
|             | Ytd        | 267          |           | 4425               |                    | 0            |     |      |      |
|             | Cum        | 10808        |           | 130816             |                    | 255          |     |      |      |

## WELL PRODUCTION DATA

Page 7

Entity: RUEBEL ET AL 1-1 (41356)  
 Operator: KAUFFMAN K P COMPANY INCO (73488)  
 Field: WATTENBERG (90750)  
 Formation: D & J SAND (602DJSND)  
 Location: T001S R065W 1 SWSE ADAMS, CO

Product: CRUDE  
 Start Date: 198409  
 Stop Date: 199307

| Well Number | API Number | Comp Date    | Well Stat | Perforations Upper | Perforations Lower | Total Depth | Dir | Type | Well |
|-------------|------------|--------------|-----------|--------------------|--------------------|-------------|-----|------|------|
| 1-1         | 0500108449 | 198411       | ACTI      | 7767               | -7797              | 7888        |     |      |      |
|             |            | Crude (BBLS) |           | Csghd (MCF)        |                    | Water(BBLS) |     |      |      |
|             | Mon        | 45           |           | 593                |                    | 0           |     |      |      |
|             | Ytd        | 328          |           | 5022               |                    | 0           |     |      |      |
|             | Cum        | 8105         |           | 80245              |                    | 1242        |     |      |      |

Entity: RUEBEL ETAL 1-2 (44825)  
 Operator: KAUFFMAN K P COMPANY INCO (73488)  
 Field: WATTENBERG (90750)  
 Formation: D & J SAND (602DJSND)  
 Location: T001S R065W 1 NENE ADAMS, CO

Product: GAS  
 Start Date: 198505  
 Stop Date: 199307

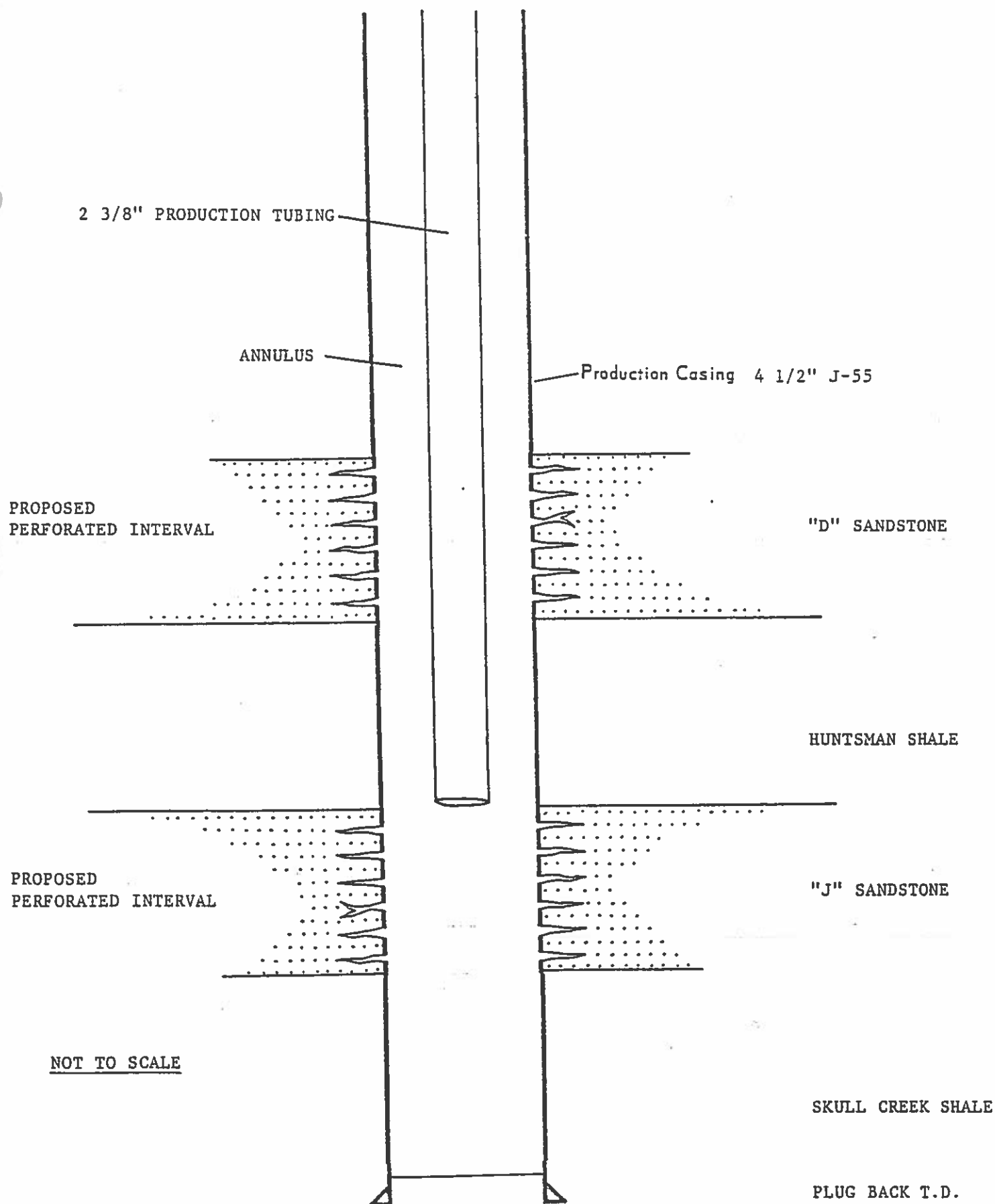
| Well Number | API Number | Comp Date | Well Stat | Perforations Upper | Perforations Lower | Total Depth | Dir | Type | Well |
|-------------|------------|-----------|-----------|--------------------|--------------------|-------------|-----|------|------|
| 2           | 0500108664 | 198510    | ACTI      | 7768               | -7807              | 7901        |     |      |      |
|             |            | Gas (MCF) |           | Cond (BBLS)        |                    | Water(BBLS) |     |      |      |
|             | Mon        | 215       |           | 24                 |                    | 0           |     |      |      |
|             | Ytd        | 1404      |           | 137                |                    | 0           |     |      |      |
|             | Cum        | 41549     |           | 5568               |                    | 374         |     |      |      |

Entity: RUEBEL ETAL 1-3 (46243)  
 Operator: KAUFFMAN K P COMPANY INCO (73488)  
 Field: WATTENBERG (90750)  
 Formation: D & J SAND (602DJSND)  
 Location: T001S R065W 1 NWNW ADAMS, CO

Product: GAS  
 Start Date: 198511  
 Stop Date: 199307

| Well Number | API Number | Comp Date | Well Stat | Perforations Upper | Perforations Lower | Total Depth | Dir | Type | Well |
|-------------|------------|-----------|-----------|--------------------|--------------------|-------------|-----|------|------|
| 3           | 0500108732 | 198512    | ACTI      | 7759               | -7763              | 7942        |     |      |      |
|             |            | Gas (MCF) |           | Cond (BBLS)        |                    | Water(BBLS) |     |      |      |
|             | Mon        | 322       |           | 17                 |                    | 0           |     |      |      |
|             | Ytd        | 3154      |           | 196                |                    | 0           |     |      |      |
|             | Cum        | 73655     |           | 4811               |                    | 448         |     |      |      |

Diagrammatic sketch of the mechanical installation  
for the multiple zone completion.





# EXHIBIT I-9

## PERFORMANCE AND VOLUMETRIC DATA D & J Sand Formations

Cause No. 232 and 1    Docket No. 11-8    November 15, 1993

### PERFORMANCE DATA

| <u>WELL NAME</u> | <u>CUMULATIVE PRODUCTION</u> |              | <u>REMAINING RESERVES</u> |              | <u>ULTIMATE RECOVERY</u> |              |
|------------------|------------------------------|--------------|---------------------------|--------------|--------------------------|--------------|
|                  | <u>(BBLs)</u>                | <u>(MCF)</u> | <u>(BBLs)</u>             | <u>(MCF)</u> | <u>(BBLs)</u>            | <u>(MCF)</u> |
| Tippett #6-2     | 19,501                       | 169,176      | 10,918                    | 153,419      | 30,419                   | 322,595      |
| Ruebel #1-1      | 8,060                        | 79,652       | 3,269                     | 51,165       | 11,329                   | 130,918      |
| Ruebel #1-2      | 5,544                        | 41,334       | 0                         | 0            | 5,544                    | 41,334       |

### VOLUMETRIC DATA

| <u>WELL NAME</u> | <u>FORMATION THICKNESS</u> | <u>AVERAGE POROSITY</u> | <u>ESTIMATED WATER SAT</u> | <u>FORMATION VOLUME FCTR</u> | <u>IN-PLACE RESERVES (BBLs OR MCF)</u> |
|------------------|----------------------------|-------------------------|----------------------------|------------------------------|--|
|                  |                            |                         |                            |                              |  |
| Tippett #6-2 (D) | 6.0'                       | 7.40%                   | 40%                        | 1.35 BBL/STB                 | 122,473 BBL                            |
| Tippett #6-2 (J) | 13.0'                      | 11.11%                  | 40%                        | 146 SCF/CUFT                 | 441,097 MCF                            |
| Ruebel #1-1 (D)  | 2.0'                       | 6.00%                   | 40%                        | 1.35 BBL/STB                 | 33,100 BBL                             |
| Ruebel #1-1 (J)  | 6.0'                       | 14.33%                  | 40%                        | 146 SCF/CUFT                 | 262,470 MCF                            |
| Ruebel #1-2 (D)  | 5.0'                       | 6.70%                   | 40%                        | 1.35 BBL/STB                 | 92,406 BBL                             |
| Ruebel #1-2 (J)  | 16.0'                      | 12.81%                  | 40%                        | 146 SCF/CUFT                 | 625,678 MCF                            |

### RECOVERY FACTORS

ESTIMATED 80 ACRE RECOVERY FACTOR:    15.9% OOIP, AND 32.9% OGIP

## EXHIBIT I-10

ECONOMIC DATA  
D & J Sand Formations

Cause No. 232 and 1    Docket No. 11-8    November 15, 1993

K.P. KAUFFMAN COMPANY  
TYPICAL WELL ECONOMICS  
SECTION 6-15-64W  
D & J SAND FORMATIONSWATTENBERG FIELD  
ADAMS COUNTY, COLORADO

## -PRESENT WORTH PROFILE-

WORKING INTEREST: 1.0000000

NET INTEREST: 0.8000000

OIL PRICE: \$ 16.500/BBL

OIL ESCALATION: 0.0%/YR

GAS PRICE: \$ 2.0000/MCF

GAS ESCALATION: 0.0%/YR

OPERATING COSTS: \$ 800/WELL/MONTH

COST ESCALATION: 0.0%/YR

PRODUCTION TAXES: 8.5% OIL SALES

8.5% GAS SALES

REMAINING WELL LIFE = 18.42 YEARS

| DISC RATE | P/V VALUE |
|-----------|-----------|
| 0.100     | 144,648   |
| 0.150     | 102,503   |
| 0.200     | 70,519    |
| 0.250     | 45,391    |
| 0.300     | 25,094    |

| YEAR  | GROSS<br>WELLS | GROSS OIL<br>(BBL) | GROSS GAS<br>(MCF) | NET OIL<br>(BBL) | NET GAS<br>(MCF) | REMOVAL<br>OIL PRICE | OIL SALES<br>(\$) | EFFECTIVE<br>GAS PRICE | GAS SALES<br>(\$) |
|-------|----------------|--------------------|--------------------|------------------|------------------|----------------------|-------------------|------------------------|-------------------|
| 1993  | 1.00           | 3740               | 37410              | 2992             | 29928            | 16.50                | 49368             | 2.000                  | 59856             |
| 1994  | 1.00           | 4524               | 45246              | 3619             | 36197            | 16.50                | 59714             | 2.000                  | 72394             |
| 1995  | 1.00           | 2983               | 29827              | 2386             | 23862            | 16.50                | 39369             | 2.000                  | 47724             |
| 1996  | 1.00           | 2259               | 22602              | 1807             | 18082            | 16.50                | 29816             | 2.000                  | 36164             |
| 1997  | 1.00           | 1836               | 18339              | 1469             | 14671            | 16.50                | 24239             | 2.000                  | 29342             |
| 1998  | 1.00           | 1552               | 15506              | 1242             | 12405            | 16.50                | 20493             | 2.000                  | 24810             |
| 1999  | 1.00           | 1348               | 13476              | 1078             | 10781            | 16.50                | 17787             | 2.000                  | 21562             |
| 2000  | 1.00           | 1195               | 11947              | 956              | 9558             | 16.50                | 15774             | 2.000                  | 19116             |
| 2001  | 1.00           | 1073               | 10726              | 858              | 8581             | 16.50                | 14157             | 2.000                  | 17162             |
| 2002  | 1.00           | 965                | 9656               | 772              | 7725             | 16.50                | 12738             | 2.000                  | 15450             |
| 2003  | 1.00           | 869                | 8690               | 695              | 6952             | 16.50                | 11468             | 2.000                  | 13904             |
| 2004  | 1.00           | 782                | 7822               | 626              | 6258             | 16.50                | 10329             | 2.000                  | 12516             |
| 2005  | 1.00           | 703                | 7040               | 562              | 5632             | 16.50                | 9273              | 2.000                  | 11264             |
| 2006  | 1.00           | 633                | 6335               | 506              | 5068             | 16.50                | 8349              | 2.000                  | 10136             |
| 2007+ | 1.00           | 2304               | 23049              | 1843             | 18439            | 16.50                | 30410             | 2.000                  | 36878             |
|       |                | 26766              | 267671             | 21411            | 214139           | 16.50                | 353284            | 2.000                  | 428278            |

| YEAR  | TOTAL<br>SALES (\$) | OPERATING<br>COSTS | PRODUCTION<br>TAXES | WINDFALL<br>PROFIT TAX | OTHER<br>EXPENSE | NET<br>REVENUE | CUM NET<br>REVENUE | DISC P.W.<br>AT 10.0% | CUM P.W.<br>AT 10.0% |
|-------|---------------------|--------------------|---------------------|------------------------|------------------|----------------|--------------------|-----------------------|----------------------|
| 1993  | 109224              | 4800               | 9284                | 0                      | 252000           | -156860        | -156860            | -159100               | -159100              |
| 1994  | 132108              | 9600               | 11229               | 0                      | 0                | 111279         | -45581             | 101163                | -57937               |
| 1995  | 87093               | 9600               | 7403                | 0                      | 0                | 70090          | 24509              | 57926                 | -11                  |
| 1996  | 65980               | 9600               | 5608                | 0                      | 0                | 50772          | 75281              | 38146                 | 38135                |
| 1997  | 53581               | 9600               | 4554                | 0                      | 0                | 39427          | 114708             | 26929                 | 65064                |
| 1998  | 45303               | 9600               | 3851                | 0                      | 0                | 31852          | 146560             | 19778                 | 84842                |
| 1999  | 39349               | 9600               | 3345                | 0                      | 0                | 26404          | 172964             | 14904                 | 99746                |
| 2000  | 34890               | 9600               | 2966                | 0                      | 0                | 22324          | 195288             | 11456                 | 111202               |
| 2001  | 31319               | 9600               | 2662                | 0                      | 0                | 19057          | 214345             | 8890                  | 120092               |
| 2002  | 28188               | 9600               | 2396                | 0                      | 0                | 16192          | 230537             | 6867                  | 126959               |
| 2003  | 25372               | 9600               | 2157                | 0                      | 0                | 13615          | 244152             | 5249                  | 132208               |
| 2004  | 22845               | 9600               | 1942                | 0                      | 0                | 11303          | 255455             | 3962                  | 136170               |
| 2005  | 20537               | 9600               | 1746                | 0                      | 0                | 9191           | 264646             | 2929                  | 139099               |
| 2006  | 18485               | 9600               | 1571                | 0                      | 0                | 7314           | 271960             | 2119                  | 141218               |
| 2007+ | 67288               | 47199              | 5720                | 0                      | 0                | 14369          | 286329             | 3430                  | 144648               |
|       |                     | 781562             | 176799              | 66434                  | 0                | 252000         | 286329             | 144648                | 144648               |

HORTH - TIPPETT  
Drilling and Completion Engineering Prognosis

1. Spud 12-1/4" surface hole with drilling fluid to a depth of approximately 260' to be able to run a least 6 full joints of casing.
2. Set 6 joints  $\pm$  250' K.B. of 8-5/8" 24#/ft J-55 surface casing with casing shoe and cement with  $\pm$  250 sacks of Class G cement, 3% CaCl and 1/4 lb/sk. Floccel.
3. Wait on cement at least 6 hours before dressing and drilling cement plug. Nipple up the Shaffer 11" 3000 psi double gate hydraulic preventer with a 3 station Payne Closing unit.
4. Drill out with a 7-7/8" bit and fresh water and natural clays to mud up depth of 6,600' ( $\pm$  200 ft. above Niobrara). Drill cutting samples are not required through the upper hole interval.
5. To reduce fresh water requirements flocculate and recirculate the reserve pit.
6. Mud up at 6,900' per the drilling fluid engineers recommendation with mud weight of 8.7-9.0 ppg (10 cc water loss, 30-34 cp viscosity) to 7,600'. Historically, small flows from the Niobrara have been encountered in the area. Therefor, closely monitor returns to ensure that the flow is not blowing over the BOP stack.

At 7,600' alter mud properties to: (mud weight 8.8-9.0 ppg, viscosity 30-34 cp, water loss 6 cc, and bring the potassium level up to 1% KCl) to total depth.

The shall be 100+ cp during logging. Daily mud checks are to be done by 8:00 a.m. every day, and 3 hours prior to logging and or conducting drill stem tests.

7. The potential to conduct a conventional drill stem test in the "J" sand is excellent. Do not drill below the prognosis "D" sand top without contacting Kevin Kauffman or Paul Gagnon personally to receive instructions. If instructed to do so, circulate above the "D" sand until they can arrive on location. Note the extra circulating time in the books.
8. Maintain fluid hydraulics in laminar flow to prevent rugose hole conditions that could compromise packer seating and log quality.

9. Circulate for samples and the condition hole 1.0 hour prior to tripping for bits below the Niobrara and again circulate off bottom 30 minutes before drilling ahead to condition the drilling fluid. Monitor trip gas contamination of the drilling fluids

Chain out of the hole from 2000' to surface on last trip out for logs at  $\pm 8,000'$ . Note additional trip time on books.

11. Open hole log program shall include a logarithmical presented dual induction focused log with gamma ray; a compensated formation density with high resolution; compensated neutron log with high resolution and gamma ray; minilog for fracture and permeability inference; and sidewall cores of the "D" and "J" sandstones.
12. After casing point election, obtain two containers of API Modified high pressure/high temperature/high torque thread dope and two new and clean application brushes. Refer to the API makeup torque tables for the proper torque settings. Inspect tongs and test torque.
13. Off load the selected tubulars with a fork lift only! Remove thread protectors and clean tubes with the pressure washer and biodegradable soap... do not use flammable solvents to clean the casing. Visually inspect and verify each tube on the rack prior to strapping with a white steel tape.
14. Pick up and run in with 8200 feet of used, exteriorized, yellow banded, tested and drifted 4-1/2", 11.6 #/ft, J-55, LTC, 8 rd production casing. Set DC tool across the Fox Hills aquifer at  $\pm 1800$  feet. Cement with neat and nitrogen as noted in the expanded two stage pumping schedule.
15. Let cement cure for 96 hours while drilling rig is moved off and preliminary rehab is conducted.
16. Rig up pulling unit. Pick up mill tooth (3-7/8"), change over, miked scraper, seat nipple and tubing to tag cement plug at  $\pm 1,600$  ft.
17. Drill out cement and DV tool. Pressure test DV with Gibson's pump  $\pm 1500$  psi.
18. Trip to bottom with drill out assembly and used J-55 2-3/8" PBTD of  $\pm 7,875$  ft.
19. Circulate hole clean with Clay fix and LoSurf fluid.

20. Trip out of the hole to run wireline logs. Lay down drill collars on the way out. Strip on a Gibson 3000 psi BOP.
21. Run in Brande-X Gamma Ray/CBL/CCL and verify PBTD sufficiency to perf. Include Fox Hills CBL and DV tool location on prints. Temperature log may be run to determine Fox Hills cement top.
22. Flange a pack off to the BOP stack. Pick up Brande-X perforating gun with CCL. Perf the indicated interval in a slightly under balanced ClayFix - LoSurf fluid.
23. Pick up and hydrotest in the 2 7/8" N-80 frac string with the RTTS packer.
24. Pump the BJ acid and balls to breakdown the perforations.
25. Frac down the 2 7/8" frac string as per design.
26. Leave the well shut in overnight to allow the gel to break.
27. Pick up an open ended tail joint, seat nipple five joints of tubing, one tubing anchor and enough tubing to land the seat nipple  $\pm$  10 ft. above the top perf.
28. Strip off the BOP and build wellhead.
29. Swab through double valves, positive choke manifolds and secured hard line to the swab tank.
30. Attempt to swab to flow for 2-3 hours. Check for sand in the swab fluid.

HORTH #6-3 AUTHORITY FOR EXPENDITURE  
DRILLING AND COMPLETION AFE Number: 93741

K. P. KAUFFMAN COMPANY, INC.

| AFE<br>CATG<br>NBR | DESCRIPTION | ESTIMATED<br>EXPENDITURE |
|--------------------|-------------|--------------------------|
|--------------------|-------------|--------------------------|

LEASEHOLD COSTS

|   |   |           |
|---|---|-----------|
| 1 | ESTIMATED PROFESSIONAL LEGAL SERVICE      | 1,500.00  |
| 2 | ESTIMATED PROFESSIONAL LAND SERVICE       | 1,000.00  |
| 3 | ESTIMATED LEASE BONUS                     | 0.00      |
| 4 | ESTIMATED ACREAGE (160 ACRES @ \$100 PER) | 16,000.00 |

|                   |           |
|-------------------|-----------|
| CATEGORY SUBTOTAL | 18,500.00 |
|-------------------|-----------|

EXPLOITATION - DRILLING

|    |  |           |
|----|--|-----------|
| 5  | ESTIMATED SEISMIC - VSP - AVO                    | 0.00      |
| 6  | ESTIMATED GEOLOGY & GEOPHYSICAL                  | 1,900.00  |
| 7  | ESTIMATED DRILLING OVERHEAD & ADMIN.             | 2,500.00  |
| 8  | ESTIMATED TURNKEY DRILLING CONTRACT(and extra)   | 67,000.00 |
| 9  | ESTIMATED DAYWORK OVER CONTRACT                  | 1,000.00  |
| 10 | ESTIMATED ENVIRONMENTAL - ARCHEOLOGY             | 0.00      |
| 11 | ESTIMATED ENVIRONMENTAL - COMPLIANCE             | 900.00    |
| 12 | ESTIMATED SURVEY & STAKE LOCATION                | 250.00    |
| 13 | ESTIMATED SURFACE DAMAGES & ROW                  | 1,500.00  |
| 14 | ESTIMATED ROAD, LOCATION & MAINTENANCE(included) | 0.00      |
| 15 | ESTIMATED RESERVE PIT(included)                  | 0.00      |
| 16 | ESTIMATED STATE PERMITS                          | 200.00    |
| 17 | ESTIMATED BACKFILL & REHABILITATION              | 1,200.00  |
| 18 | ESTIMATED CEMENT & EQUIPMENT SURFACE(included)   | 0.00      |
| 19 | ESTIMATED WATER HAULING(included)                | 0.00      |
| 20 | ESTIMATED CORING / TESTING                       | 0.00      |
| 21 | ESTIMATED OPEN HOLE WIRELINE LOGS                | 4,800.00  |
| 22 | ESTIMATED HAUL & DISPOSE OF MUD                  | 0.00      |
| 23 | ESTIMATED DRILLING FLUID AND CHEMICALS           | 3,200.00  |
| 24 | ESTIMATED SUPERVISION - ENGINEERING              | 2,500.00  |
| 25 | ESTIMATED SUPERVISION - GEOLOGICAL               | 2,200.00  |
| 26 | ESTIMATED MUD/HYDROCARBON LOGGING                | 300.00    |
| 27 | ESTIMATED LOCATION LIVING QUARTERS               | 300.00    |
| 28 | ESTIMATED MISCELLANEOUS SERVICES                 | 0.00      |
| 29 | ESTIMATED MISCELLANEOUS SUPPLIES                 | 0.00      |

|                   |           |
|-------------------|-----------|
| CATEGORY SUBTOTAL | 89,750.00 |
|-------------------|-----------|

**HORTH #6-3 AUTHORITY FOR EXPENDITURE**  
**DRILLING AND COMPLETION AFE Number: 93741**

| AFE<br>CATG<br>NBR         | COST<br>ACCTG<br>CODE | DESCRIPTION                             | ESTIMATED<br>EXPENDITURE |
|----------------------------|-----------------------|---|--------------------------|
| <b>COMPLETION SERVICES</b> |                       |   |                          |
| 30                         | ESTIMATED             | COMPLETION OVERHEAD & ADMIN.            | 2,500.00                 |
| 31                         | ESTIMATED             | COMPLETION ENGINEERING                  | 5,400.00                 |
| 32                         | ESTIMATED             | RUN CASING LABOR                        | 1,700.00                 |
| 33                         | ESTIMATED             | CEMENTING CSG. ( 2 STAGE UPPER & LOWER) | 9,800.00                 |
| 34                         | ESTIMATED             | WELL SERV RIG(INCL CIRC PUMP)           | 8,000.00                 |
| 35                         | ESTIMATED             | CEMENT BOND LOGGING                     | 1,050.00                 |
| 36                         | ESTIMATED             | PERFORATING                             | 1,050.00                 |
| 37                         | ESTIMATED             | COMPLETION RENTAL TOOLS                 | 1,300.00                 |
| 38                         | ESTIMATED             | HYDRAULIC FRACTURING                    | 26,500.00                |
| 39                         | ESTIMATED             | HYDRAULIC FRACTURING                    | 19,400.00                |
| 40                         | ESTIMATED             | FRAC STRING RENTAL (2 7/8")             | 3,200.00                 |
| 41                         | ESTIMATED             | FLOWLINE LABOR                          | 1,400.00                 |
| 42                         | ESTIMATED             | COMPLETION WATER DISPOSAL               | 0.00                     |
| 43                         | ESTIMATED             | FRAC TANK RENTAL (filled)               | 3,400.00                 |
| 44                         | ESTIMATED             | SWAB TANK RENTAL (1-500B)               | 350.00                   |
| 45                         | ESTIMATED             | TRUCKING SERVICES                       | 700.00                   |
| 46                         | ESTIMATED             | FLOWBACK MONITORING                     | 900.00                   |
| 47                         | ESTIMATED             | PRE-HEAT FLUID                          | 1,350.00                 |
| 48                         | ESTIMATED             | DIRTWORK                                | 1,600.00                 |
| 49                         | ESTIMATED             | PRODUCTION INSTALLATION LABOR           | 3,000.00                 |
| 50                         | ESTIMATED             | PAINT SURFACE EQUIPMENT                 | 680.00                   |
| <b>CATEGORY SUBTOTAL</b>   |                       |   | <b>93,280.00</b>         |

**HORTH #6-3 AUTHORITY FOR EXPENDITURE**  
**DRILLING AND COMPLETION AFE Number: 93741**

**K. P. KAUFFMAN COMPANY, INC.**

| AFE<br>CATG<br>NBR | COST<br>ACCTG<br>CODE | DESCRIPTION | ESTIMATED<br>EXPENDITURE |
|--------------------|-----------------------|-------------|--------------------------|
|--------------------|-----------------------|-------------|--------------------------|

**COMPLETION EQUIPMENT**

|    |           |                                 |           |
|----|-----------|---------------------------------|-----------|
| 51 | ESTIMATED | CASING (USED) (7850' @ \$3.50)  | 27,475.00 |
| 52 | ESTIMATED | PRODUCTION CASING (NEW)         | 0.00      |
| 53 | ESTIMATED | TUBING (USED) (7850' @ \$1.25)  | 9,812.00  |
| 54 | ESTIMATED | PRODUCTION TUBING (NEW)         | 0.00      |
| 55 | ESTIMATED | FLOAT & CENTRALIZER EQUIPMENT   | 700.00    |
| 56 | ESTIMATED | CASING HEAD & TUBING HEAD       | 1,100.00  |
| 57 | ESTIMATED | PUMPING UNIT WITH ENGINE        | 0.00      |
| 58 | ESTIMATED | PUMPING RODS                    | 0.00      |
| 59 | ESTIMATED | PIPELINE HOT TAP                | 0.00      |
| 60 | ESTIMATED | GAS METER, HOUSE & INSTALLATION | 2,890.00  |
| 61 | ESTIMATED | FLOWLINE MATERIAL               | 1,870.00  |
| 62 | ESTIMATED | COFFIN PIT                      | 700.00    |
| 63 | ESTIMATED | WELL HEAD SHELTER               | 0.00      |
| 64 | ESTIMATED | CONTROLLER W/ MOTOR VALVE       | 1,300.00  |
| 65 | ESTIMATED | SEPARATOR/TREATER               | 4,500.00  |
| 66 | ESTIMATED | TANKAGE, 2-300 BBL-DELIVERED    | 3,200.00  |
| 67 | ESTIMATED | MISC. VALVES AND FITTINGS, USED | 1,100.00  |
| 68 | ESTIMATED | GRAVEL & ROAD BASE              | 1,100.00  |
| 69 | ESTIMATED | MISC. VALVES AND FITTINGS, NEW  | 2,600.00  |

|                   |           |
|-------------------|-----------|
| CATEGORY SUBTOTAL | 58,347.00 |
|-------------------|-----------|

**WELL COST SUMMARY**

|                         |           |
|-------------------------|-----------|
| LEASEHOLD COSTS         | 18,500.00 |
| EXPLOITATION - DRILLING | 89,750.00 |
| COMPLETION SERVICES     | 93,280.00 |
| COMPLETION EQUIPMENT    | 58,347.00 |

|                 |            |
|-----------------|------------|
| TOTAL WELL COST | 259,877.00 |
|-----------------|------------|

APPROVED AND ACCEPTED BY: \_\_\_\_\_

DATE: \_\_\_\_\_



K. P. KAUFFMAN COMPANY, INC.

BANK WESTERN TOWER  
WORLD TRADE CENTER  
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PETROLEUM MANAGEMENT  
AND ACQUISITIONS

HORTH #6-3

13

GEOLOGICAL NARRATIVE OF THE D & J  
SANDSTONE IN THE AREA OF INTEREST

Elevation: 5085' GL, 5095' KB

Estimated Tops:

| <u>Formation</u> | <u>Drill Depth</u> |
|------------------|--------------------|
| Fox Hills        | 1015'              |
| Sussex           | 4733'              |
| Niobrara         | 6890'              |
| Ft. Hays         | 7293'              |
| Codell           | 7317'              |
| Greenhorn Ls.    | 7393'              |
| "X" Marker       | 7599'              |
| "D" SS           | 7703'              |
| "J" Silt         | 7761'              |
| "J-1" SS         | 7769'              |
| "J-2" SS         | 7777'              |
| "J-3" SS         | 7799'              |
| Skull Creek      | 7841'              |
| T.D.             | 7870'              |

Geologic Discussion:

"J" Sand As discussed in previous well site reports, the "J" sand was deposited in a complex of delta front and delta plain environments. These regressive sands are part of the Wattenberg lobe, which progrades southwestly from the major northwest trending distributary system. The "J-3" sand, or delta front deposit, is fairly consistent over the Horth acreage. Based on the isopach, a bar like structure might exist in the area and could influence "J-3" sand development on the lease. The thick, low permeability delta front sands produce the bulk of Wattenberg gas.

The overlying delta plain deposits, or "J-2", contain coarse grained facies of limited areal extent. East of the lease, the "J-2" thickens rapidly, scouring into the "J-3". The isopach does not support it, but this prolific channel sand trend could extend into the lease area.

Upper delta plain deposits of the "J-1" thicken locally within the Horth lease. This reservoir quality sand is productive in the Tippet #6-2 and in wells to the west and south.

"D" Sand The "D" sand in this area is typically described as a "splay" type deposit that developed from one or more local major deltaic channel systems such as that found in the Jordan

or Banner Lake fields. A careful review of surrounding well logs revealed sharp porosity and Gamma Ray breaks in the upper "D". The upward coarsening of the splay sand is broken by a sharp porosity change, while the Gamma suddenly cleans up or becomes "dirty". In addition, the producing "D" sands in the Tippet #6-2 and to the southeast of it, have done much better than the typical "D" splay well. One explanation might be a younger "D" facies (deltaic channel related) which scoured into the "D" splay deposits. (Griffith, RMAG 1963, notes this occurring in the S.W. Roggin "D" field). Based on log characteristics, these thin "channel" type sands (noted in yellow on the base map and x-sec) probably are low energy deposits (little scour) and interbedded with finer-grained sediments. The thicker this younger "D" unit, the more scour and hence, the greater the channel potential. With reference to the "D" scour map, the orange channel trend mapped represents this "D" sand possibility. The channel trend noted in green represents the more typical "D" channel development with scour into the Huntsman Shale, previous to or contemporaneously with the upper "D" facies.

The structure map indicates several noses around the lease area, however, the only real significance of structure is that any folding will increase the chance of natural fracturing and formation production potential. Secondary silica cementing and clay filling throughout the "D" and "J" sands create numerous up-dip permeability traps.

Prepared by Mark A. Scanniello, 10/89