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Table of Contents

BEST IMAGE
AVAILABLE

1	NOTICE OF HEARING CAUSE NO. 232 AND 1 DOCKET NO. 11-8
2	K.P. KAUFFMAN COMPANY, INC. APPLICATION - SUBMITTED BY GORDON L. ALLOTT, JR., #3786
3	SUPPLEMENTAL APPLICATION INFORMATION LEASEHOLD INTEREST IN ADJACENT AND ADJOINING TRACTS OF LAND
4	OGCC PLAT MAP INDICATING THE LOCATION OF ALL WELLS IN THE AREA OF INTEREST
5	UPDATED SURVEY PERFORMED ON OCTOBER 26, 1993 BY GREAT PLAINS SURVEYING
6	LAND USE/TOPOGRAPHIC MAP OF AREA OF INTEREST
7	DATA TABLE OF THE WELLS IN THE AREA OF INTEREST (API, Status, Production, etc.)
8	DIAGRAMMATIC SKETCH OF A TYPICAL D & J SANDSTONE MULTIPLE ZONE COMPLETION
9	VOLUMETRIC CALCULATIONS OF THE D & J SANDSTONE
10	ECONOMIC PROFILE OF THE D & J SANDSTONE
11	DRILLING, COMPLETION AND OPERATING NARRATIVE OF A TYPICAL WELL
12	ESTIMATED WELL EXPENSES THAT SERVED AS A COST BASIS FOR THE MCCARTNEY ECONOMIC PROFILE
13	GEOLOGICAL NARRATIVE OF THE D & J SANDSTONE IN THE AREA OF INTEREST
14	GEOLOGICAL CROSS SECTION AND LOG PROFILES TRAVERSING THE AREA OF INTEREST
15	

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) CAUSE NOS. 232 and 1
OPERATIONS IN THE WATTENBERG FIELD,) DOCKET NO. 11-8
ADAMS COUNTY, COLORADO)

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. 232 AND 1
DRILLING AND SPACING UNITS FOR THE)
DEVELOPMENT AND PRODUCTION OF OIL) DOCKET NO. 11-B
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 Tippett #6-2 well located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 6, T1S, 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

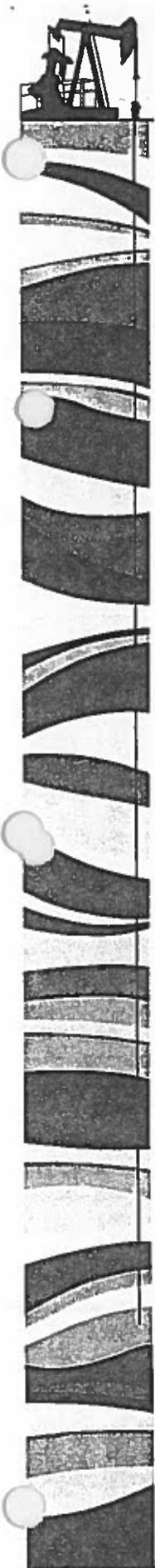
Union Pacific Resources Company
P.O. Box 7
MS 3802
Fort Worth, Texas 76101-0007

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

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

3

SUPPLEMENTAL APPLICATION INFORMATION
LEASEHOLD INTEREST IN ADJACENT AND
ADJOINING TRACTS OF LAND



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

BEFORE THE OIL AND GAS CONSERVATION COMMISSION OF

STATE OF COLORADO

IN THE MATTER OF THE APPLICATION)
OF K.P. KAUFFMAN COMPANY, INC.)
FOR AN ORDER ESTABLISHING 80-ACRE)
DRILLING AND SPACING UNITS FOR THE)
DEVELOPMENT AND PRODUCTION OF OIL)
AND ASSOCIATED HYDROCARBONS FROM)
BOTH THE "D" AND "J" SAND FORMATIONS)
WATTENBERG FIELD, ADAMS COUNTY,)
COLORADO)

CAUSE NO. _____

DOCKET NO. _____

AMENDMENT TO APPLICATION

The Applicant, on the 8th day of October, 1993, filed an application as entitled above. Paragraph III should be amended to include the following "Interested Parties", as that term is defined by the Commission's Rule 119:

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

Channel Petroleum Inc. &
Zoey Exploration, Ltd.
1616 17th Street, Suite 462
Denver, Colorado 80202

Scott W. Andrews & Debra Andrews
Dean R. Gackle & Margaret B. Gackle
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Connelly Exploration, Inc.
Vimco Exploration, Inc.
810 Midland Savings Building
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
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

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Roggen, Colorado 80652

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Denver, Colorado 80202

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2001 Black River Road
North Little Rock, Arkansas 72116

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Brighton, Colorado 80601

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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

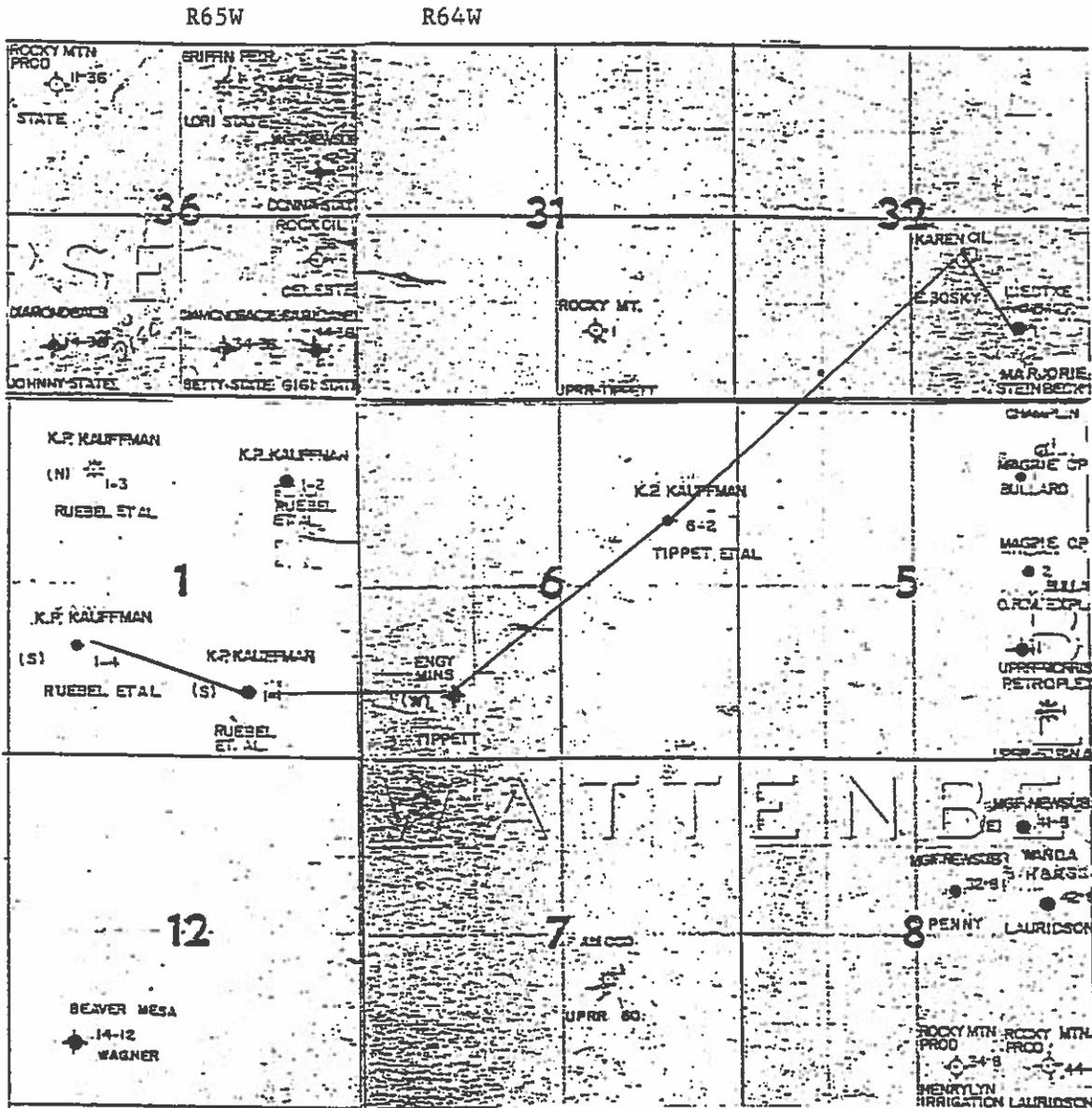
Respectfully submitted:

K.P. KAUFFMAN COMPANY, INC.

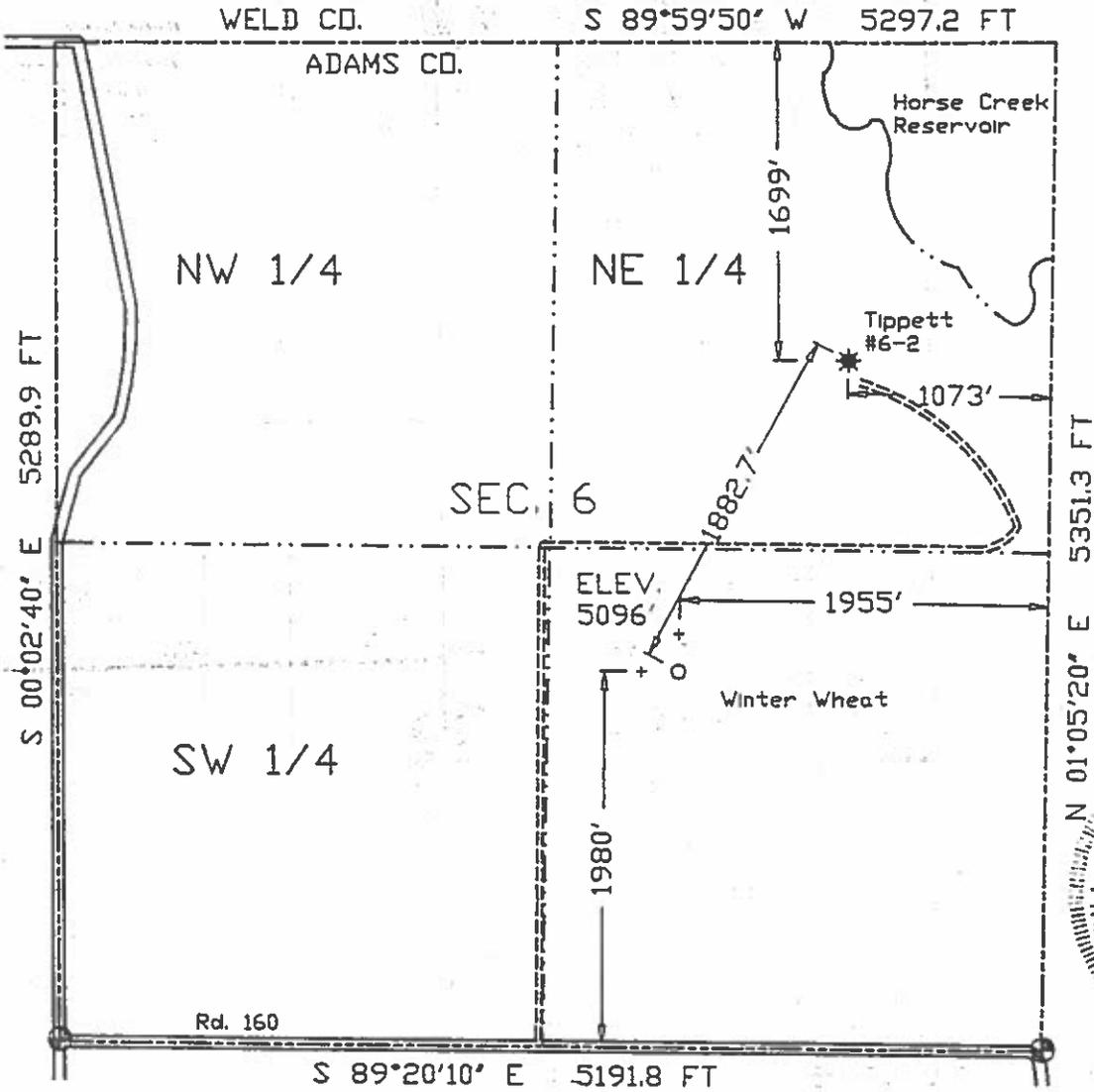
By:

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.



The accompanying plat is an accurate representation showing the location of a proposed well. This location may be described as a point 1980 feet North of the South line, and 1955 feet West of the East line of Section 6, Township 1 South, Range 64 West of the 6th P.M., Adams County, Colorado. The surface elevation at this point is 5096 feet above m.s.l.
 Note: This is not a land survey plat.
 There are no visible improvements within 200 feet of the location.



Basis of bearing is the south line of Sec. 6, T1S, R64W of the 6th P.M., Adams County, CO bears S 89°20'10" E

Basis of elevation is a spot elevation at the SE Corner of Sec. 6, T1S, R64W of the 6th P.M., Adams County, Colorado = 5087' m.s.l.



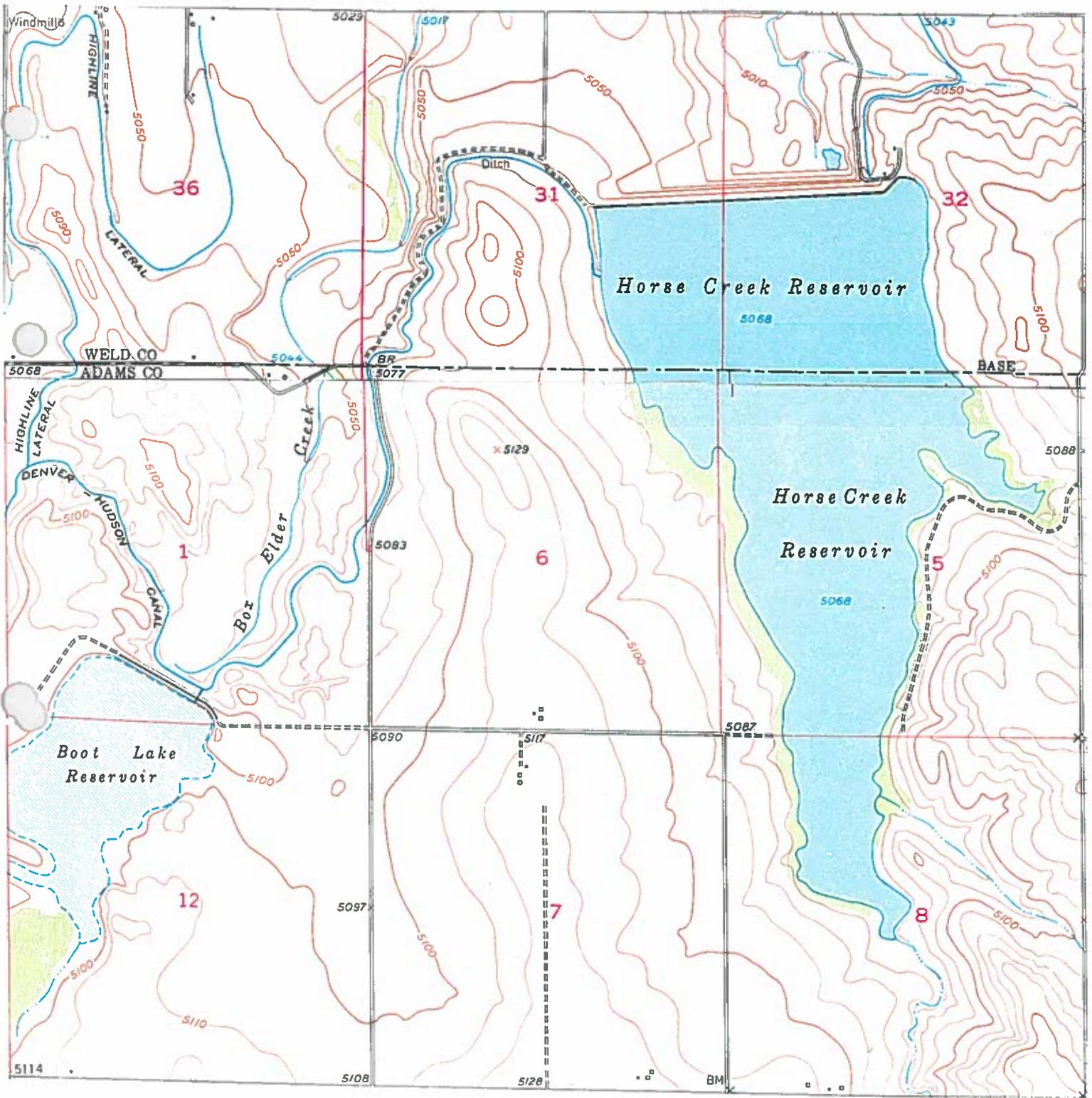
- Dual Producer
 - Oil well
 - Gas Well
 - Dry Hole
 - Location
 - Cancelled Loc.
 - Fence Line
 - Section Line
 - Road
 - Trail
 - Half-Sec. Line
 - Survey Monument
- Scale 1' = 1000'
- + Reference Stake (200' N, 200' W)



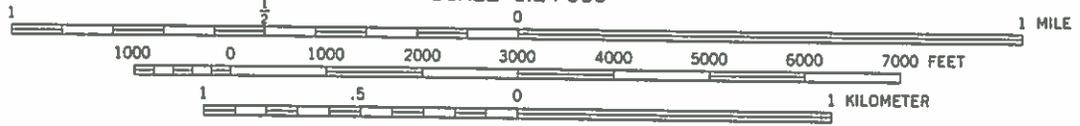
GREAT PLAINS SURVEYING

KPK HORTH #6-3
 NW 1/4 SE 1/4 SEC. 6, T1S, R64W
 K. P. KAUFFMAN COMPANY INC.
 ADAMS COUNTY, CO. 26 OCTOBER 1993

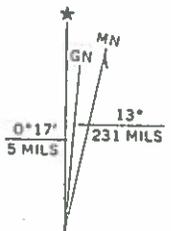
P.O. Box 296 Holyoke, CO 80734
 Phone 303-854-3602 Fax 303-854-2926



SCALE 1:24 000



CONTOUR INTERVAL 10 FEET



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 Number	API Number	Comp Date	Well Stat	Perforations		Total Depth	Dir	Type	Well
				Upper	Lower				
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 Number	API Number	Comp Date	Well Stat	Perforations		Total Depth	Dir	Type	Well
				Upper	Lower				
14	0500106647	197305	INAC	7856	-7895	7980	PLUGGED	AND	ABA
		Crude (BBLs)		Csghd (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)		Csghd (MCF)		Water(BBLs)	
	Mon			47		1388		0	
	Ytd			271		7311		0	
	Cum			25272		299100		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)		Cond (BBLs)		Water(BBLs)	
	Mon			528		13		0	
	Ytd			3513		91		0	
	Cum			84894		3617		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)		Cond (BBLs)		Water(BBLs)	
	Mon			137		0		0	
	Ytd			928		0		0	
	Cum			51607		2301		0	

WELL PRODUCTION DATA

Page 3

Entity: STATE 36-2 (48709)
 Operator: KAUFFMAN K P COMPANY INCO (73488)
 Field: WATTENBERG (90750)
 Formation: J SAND (602JSND)
 Location: T001N R065W 36 NWSW WELD, CO

Product: GAS
 Start Date: 198607
 Stop Date: 199006

Well Number	API Number	Comp Date	Well Stat	Perforations Upper Lower	Total Depth	Dir	Type	Well
2	0512313073	198607	INAC	7806 -7842	7920			

	Gas (MCF)	Cond (BBLs)	Water (BBLs)
Mon	0	0	0
Ytd	0	0	0
Cum	36888	1911	132

Entity: BULLARD 2 (44811)
 Operator: MAGPIE OPERATING INCORPOR (125787)
 Field: BANNER LAKES (5195)
 Formation: D SAND (602DSND)
 Location: T001S R064W 5 SENE ADAMS, CO

Product: CRUDE
 Start Date: 198504
 Stop Date: 199306

Well Number	API Number	Comp Date	Well Stat	Perforations Upper Lower	Total Depth	Dir	Type	Well
2	0500108684	198505	ACTI	7648 -7658	7812			

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

Entity: BULLARD 1 (44810)
 Operator: MAGPIE OPERATING INCORPOR (125787)
 Field: BANNER LAKES (5195)
 Formation: D SAND (602DSND)
 Location: T001S R064W 5 NENE ADAMS, CO

Product: CRUDE
 Start Date: 198504
 Stop Date: 199306

Well Number	API Number	Comp Date	Well Stat	Perforations Upper Lower	Total Depth	Dir	Type	Well
1	0500108678	198505	ACTI	7652 -7662	7808			

	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) Product: CRUDE
 Operator: O R M EXPLORATION COMPANY (73677) Start Date: 198210
 Field: BANNER LAKES (5195) Stop Date: 198704
 Formation: D SAND (602DSND)
 Location: T001S R064W 5 NESE ADAMS, CO

Well Number	API Number	Comp Date	Well Stat	Perforations		Total Depth	Dir	Type	Well
				Upper	Lower				
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) Product: CRUDE
 Operator: PETROPLEX EQUIPMENT INCOR (26279) Start Date: 198308
 Field: BANNER LAKES (5195) Stop Date: 198703
 Formation: D SAND (602DSND)
 Location: T001S R064W 5 SESE ADAMS, CO

Well Number	API Number	Comp Date	Well Stat	Perforations		Total Depth	Dir	Type	Well
				Upper	Lower				
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) Product: CRUDE
 Operator: KAUFFMAN K P COMPANY INCO (73488) Start Date: 198705
 Field: WATTENBERG (90750) Stop Date: 199306
 Formation: D & J SAND (602DJSND)
 Location: T001S R064W 6 SENE ADAMS, CO

Well Number	API Number	Comp Date	Well Stat	Perforations		Total Depth	Dir	Type	Well
				Upper	Lower				
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		Total Depth	Dir	Type	Well
				Upper	Lower				
1 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		Total Depth	Dir	Type	Well
				Upper	Lower				
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		Total Depth	Dir	Type	Well
				Upper	Lower				
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		Total Depth	Dir	Type	Well
				Upper	Lower				
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		Total Depth	Dir	Type	Well
				Upper	Lower				
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		Total Depth	Dir	Type	Well
				Upper	Lower				
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) Product: CRUDE
 Operator: KAUFFMAN K P COMPANY INCO (73488) Start Date: 198409
 Field: WATTENBERG (90750) Stop Date: 199307
 Formation: D & J SAND (602DJSND)
 Location: T001S R065W 1 SWSE ADAMS, CO

Well Number	API Number	Comp Date	Well Stat	Perforations		Total Depth	Dir	Type	Well
				Upper	Lower				
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) Product: GAS
 Operator: KAUFFMAN K P COMPANY INCO (73488) Start Date: 198505
 Field: WATTENBERG (90750) Stop Date: 199307
 Formation: D & J SAND (602DJSND)
 Location: T001S R065W 1 NENE ADAMS, CO

Well Number	API Number	Comp Date	Well Stat	Perforations		Total Depth	Dir	Type	Well
				Upper	Lower				
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) Product: GAS
 Operator: KAUFFMAN K P COMPANY INCO (73488) Start Date: 198511
 Field: WATTENBERG (90750) Stop Date: 199307
 Formation: D & J SAND (602DJSND)
 Location: T001S R065W 1 NWNW ADAMS, CO

Well Number	API Number	Comp Date	Well Stat	Perforations		Total Depth	Dir	Type	Well
				Upper	Lower				
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.

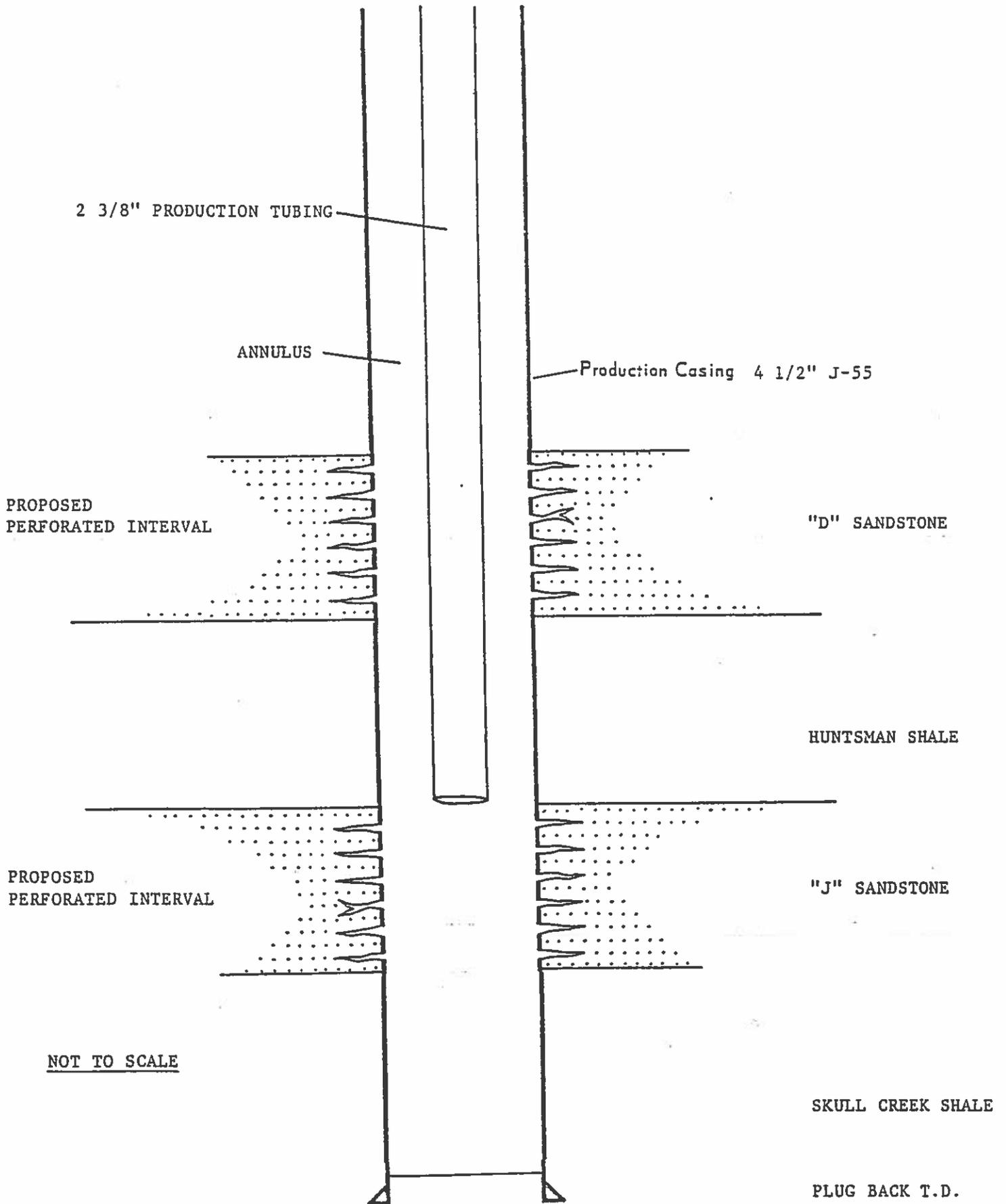


EXHIBIT I-9

PERFORMANCE AND VOLUMETRIC DATA
D & J Sand Formations

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

PERFORMANCE DATA

WELL NAME	CUMULATIVE PRODUCTION		REMAINING RESERVES		ULTIMATE RECOVERY	
	(BBLs)	(MCF)	(BBLs)	(MCF)	(BBLs)	(MCF)
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

WELL NAME	FORMATION THICKNESS	AVERAGE POROSITY	ESTIMATED WATER SAT	FORMATION VOLUME FCTR	IN-PLACE RESERVES (BBLs OR MCF)
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 FORMATIONS

WATTENBERG FIELD
ADAMS COUNTY, COLORADO

-PRESENT WORTH PROFILE-
DISC RATE P/W VALUE
0.100 144,648
0.150 102,503
0.200 70,519
0.250 45,391
0.300 25,094

WORKING INTEREST: 1.0000000
OIL PRICE: \$ 16.500/BBL
GAS PRICE: \$ 2.0000/MCF
OPERATING COSTS: \$ 800/WELL/MONTH
PRODUCTION TAXES: 8.5% OIL SALES
REMAINING WELL LIFE = 18.42 YEARS

NET INTEREST: 0.8000000
OIL ESCALATION: 0.0%/YR
GAS ESCALATION: 0.0%/YR
COST ESCALATION: 0.0%/YR
8.5% GAS SALES

YEAR	GROSS WELLS	GROSS OIL (BBL)	GROSS GAS (MCF)	NET OIL (BBL)	NET GAS (MCF)	REMOVAL OIL PRICE	OIL SALES (\$)	EFFECTIVE GAS PRICE	GAS SALES (\$)
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 SALES (\$)	OPERATING COSTS	PRODUCTION TAXES	WINDFALL PROFIT TAX	OTHER EXPENSE	NET REVENUE	CUM NET REVENUE	DISC P.W. AT 10.0%	CUM P.W. 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	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 ± 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 ± 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 CATG NBR	DESCRIPTION	ESTIMATED 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 CATG NBR	COST ACCTG CODE	DESCRIPTION	ESTIMATED EXPENDITURE

COMPLETION SERVICES			

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
CATEGORY SUBTOTAL			93,280.00

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

K. P. KAUFFMAN COMPANY, INC.

AFE CATG NBR	COST ACCTG CODE	DESCRIPTION	ESTIMATED EXPENDITURE
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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
1675 BROADWAY, SUITE 1970
DENVER, COLORADO 80202-4619

TELEPHONE (303) 825-4822
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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 Tippett #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 Tippett #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