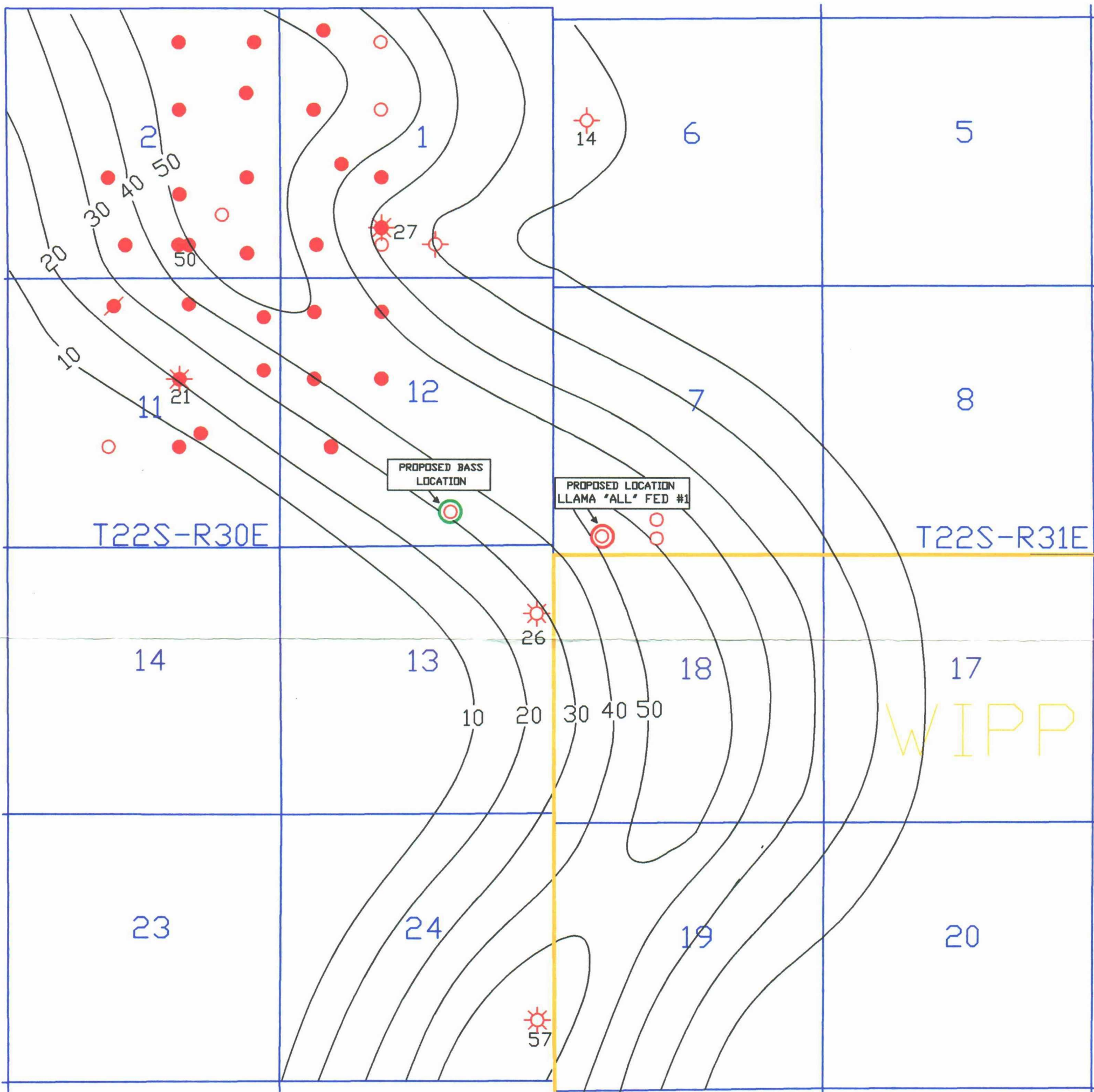


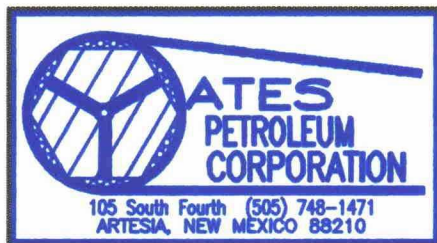
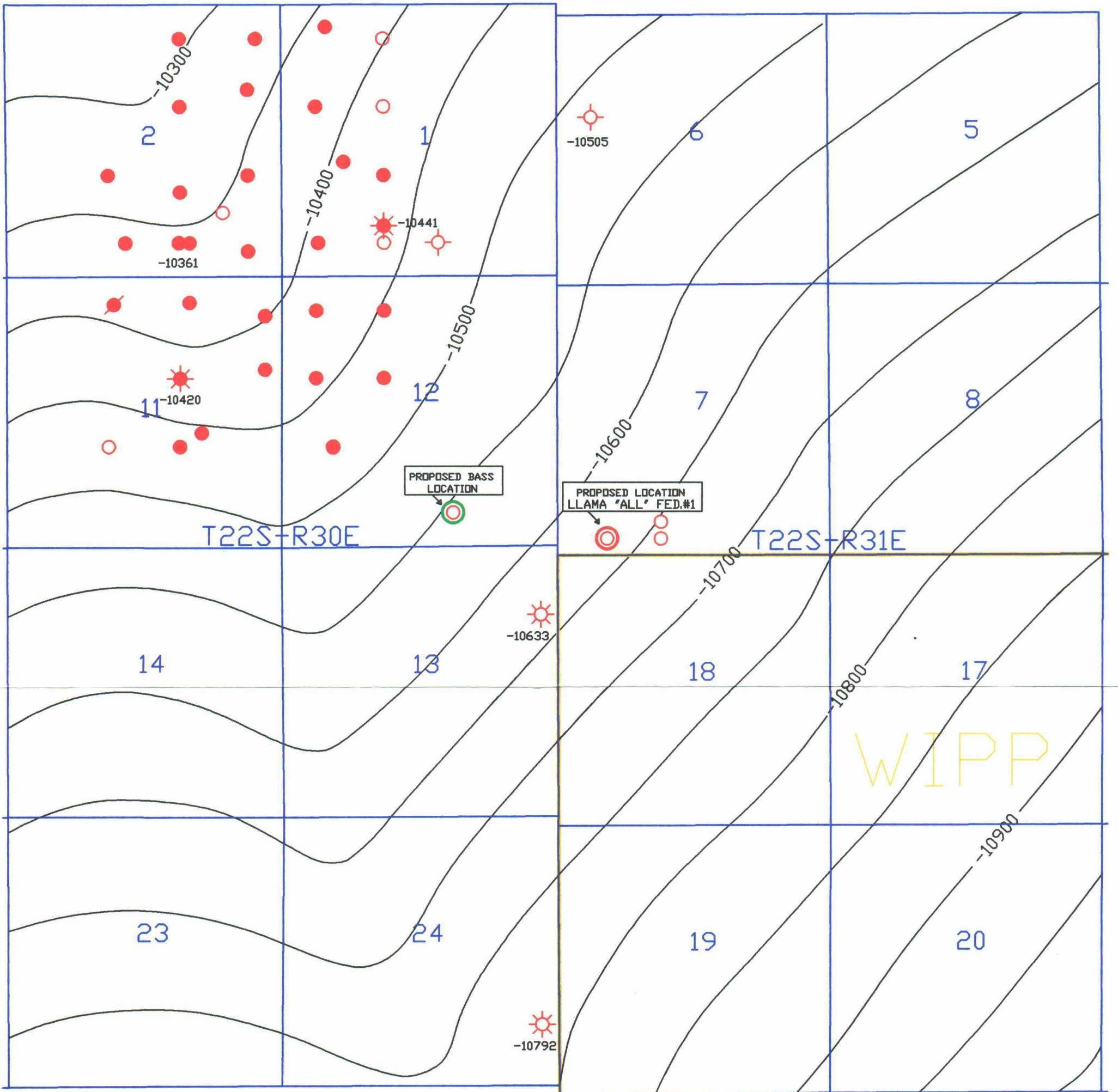
REV. 9/94 (TF)
DRAFT/94012C

LLAMA AREA
SAND ISOLITH
MORROW CLASTICS
GR $\leq$ 50 API

YATES PETROLEUM CORP.
BEFORE THE COMMISSION
NMOCD CASE NO. 11019
DATE: 09/22/94 DE NOVO
EXHIBIT NO. 8

GEO: BRENT MAY

C.I. = 10'
SCALE: 1"=2000'



REV. 9/94 (VM)
DRAFT\94012A

LLAMA AREA STRUCTURE MAP TOP OF LOWER MORROW

GEO: BRENT MAY

C.I. = 50'
SCALE: 1"=2000'

YATES PETROLEUM CORP.
BEFORE THE COMMISSION
NMOCD CASE NO. 11019
DATE: 09/22/94 DE NOVO
EXHIBIT NO. 7

Testimony of Robert S. Fant

- I. Reservoir History
- II. Model Description and History Matching
- III. Recovery Projections

Main Points:

- The Los Medanos (Atoka) reservoir is a complex system. The reservoir is composed of two large, relatively high permeability sand bodies. These pods are connected by narrow section of lower permeability. The complexity of this reservoir system requires the use of reservoir simulation for proper description of the reservoir and for the accurate prediction of wellbore recoveries.
- Moving the location of the Yates Petroleum Corporation Llama 'ALL' Federal #1 from an orthodox location to the proposed unorthodox location will have no impact on the recovery of the offset wells.
- The imposition of a penalty on the Yates Petroleum Corporation Llama 'ALL' Federal #1 would damage the correlative rights of Yates Petroleum Corporation to the advantage of offset operators.

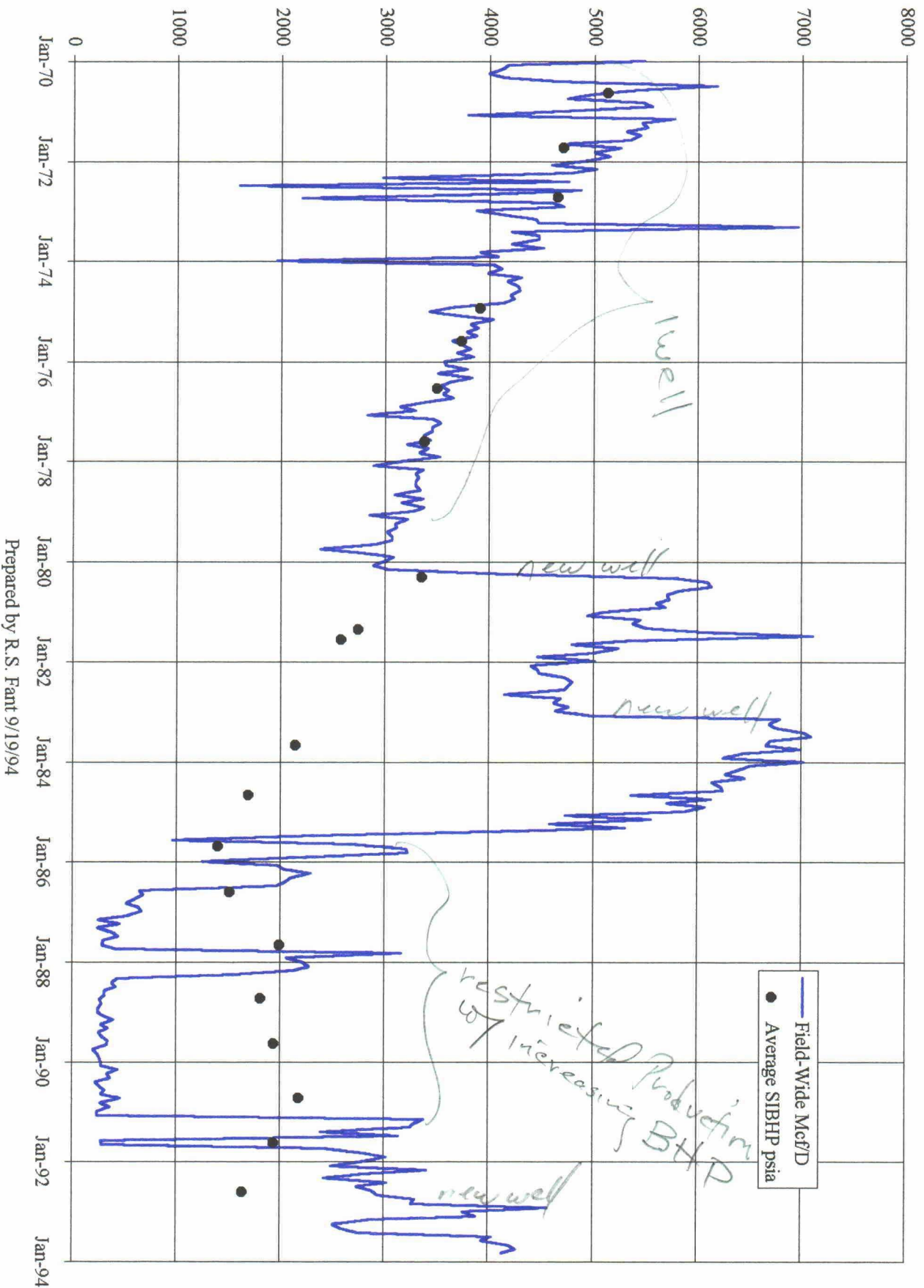
**YATES PETROLEUM CORP.
BEFORE THE COMMISSION
NMOCD CASE NO. 11019
DATE: 09/22/94 DE NOVO
EXHIBIT NO. 9**

Wells Which Have Produced From the Los Medanos (Atoka) Reservoir

<u>Well</u>	<u>Location</u>	<u>Date Completed</u>	<u>Assigned Pool</u>
James Ranch Unit #1	Unit O - Sec. 36 T22S - R30E	August, 1957	Los Medanos (Atoka)
James Ranch Unit #10	Unit H - Sec. 1 T23S - R30E	April, 1980	Los Medanos (Atoka)
James Ranch Unit #11	Unit E - Sec. 36 T22S - R30E	May, 1981	Los Medanos (Atoka)
James Ranch Unit #13	Unit L - Sec. 31 T22S - R31E	February, 1983	Los Medanos (Atoka)
Apache 25 Federal #1	Unit H - Sec. 25 T22S - R30E	April, 1994	Los Medanos (Atoka)
Apache 13 Federal #1	Unit H - Sec. 13 T22S - R30E	November, 1993	Livingston Ridge East (Atoka)

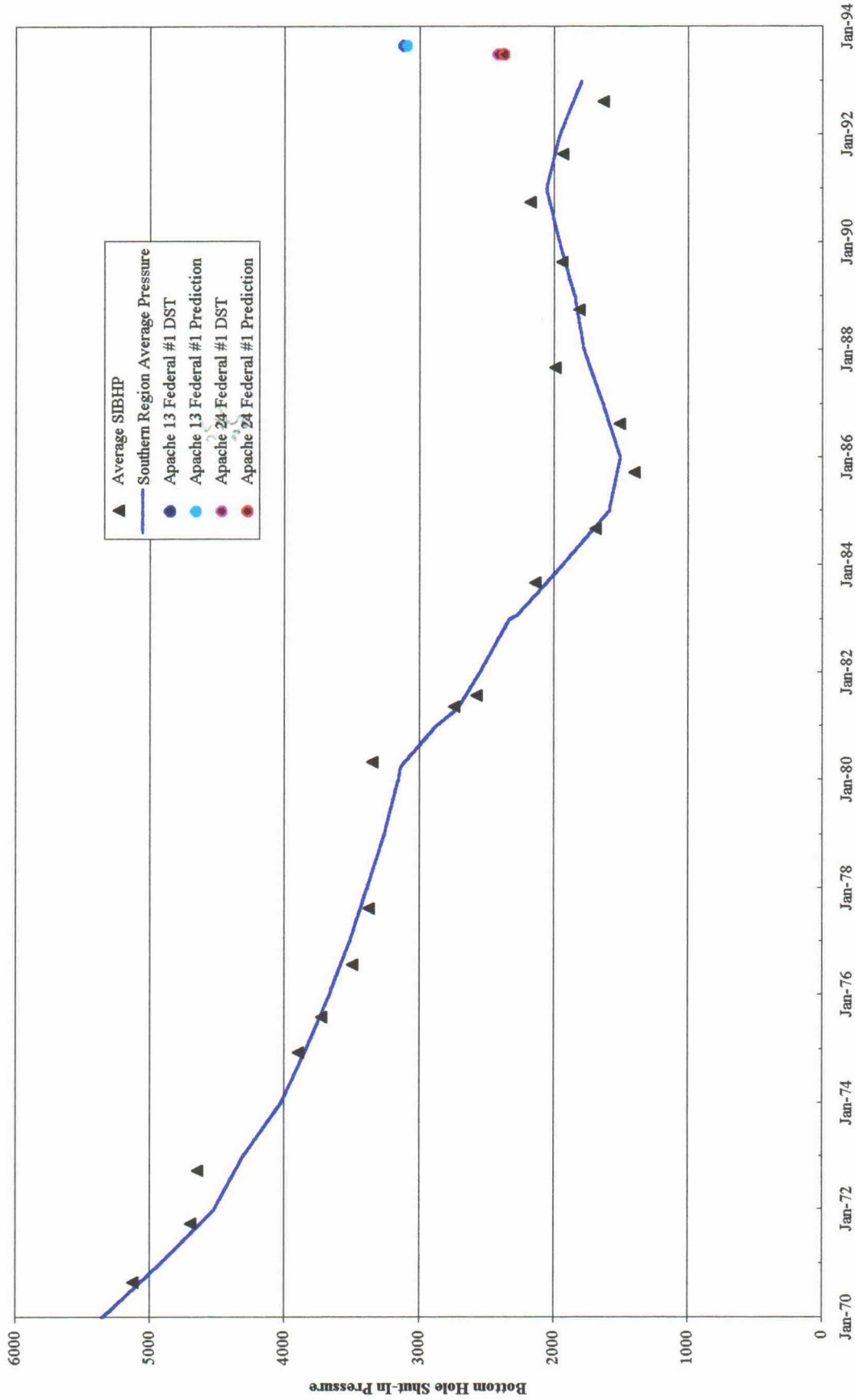
YATES PETROLEUM CORP.
BEFORE THE COMMISSION
NMOC CASE NO. 11019
DATE: 09/22/94 DE NOVO
EXHIBIT NO. 10

Los Medanos (Atoka Sand) Field Production

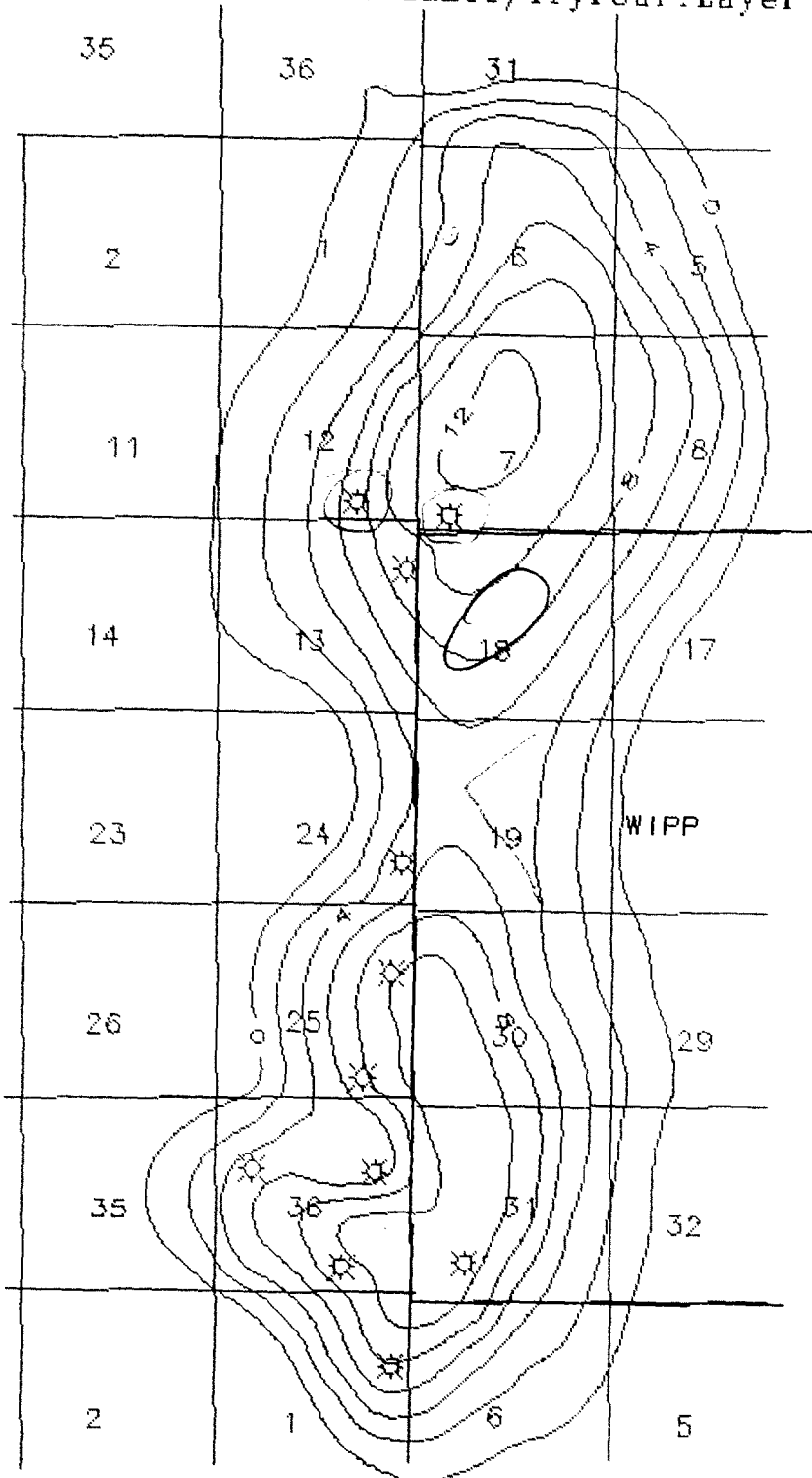


Prepared by R.S. Fant 9/19/94

Los Medanos Pressure Match

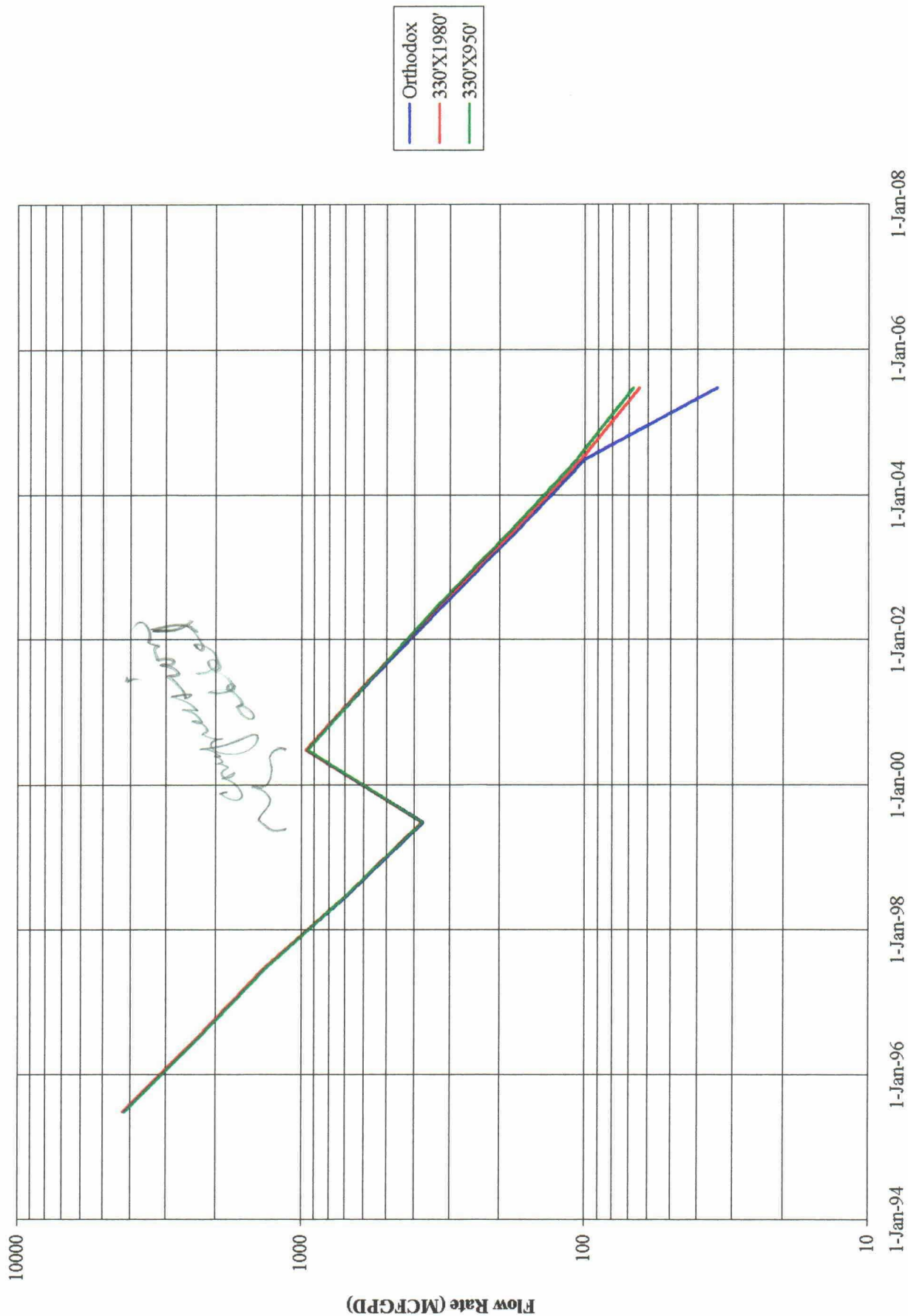


Los Medanos/Trifour:Layer 1/Vertical Net Thkn(FT)

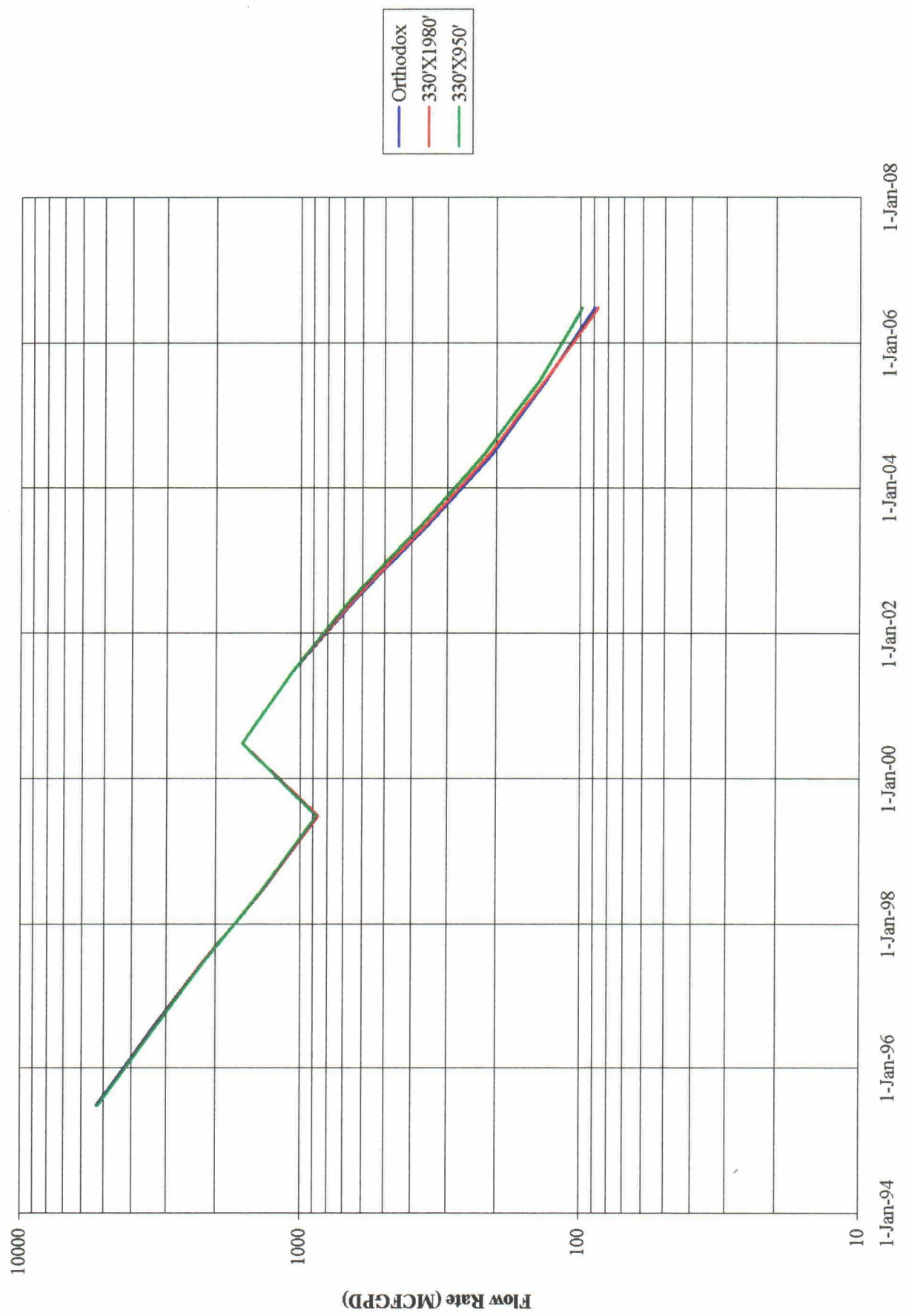


Orig. Gas in Place
 ~ 65 BCF
 Mat. Por. Good

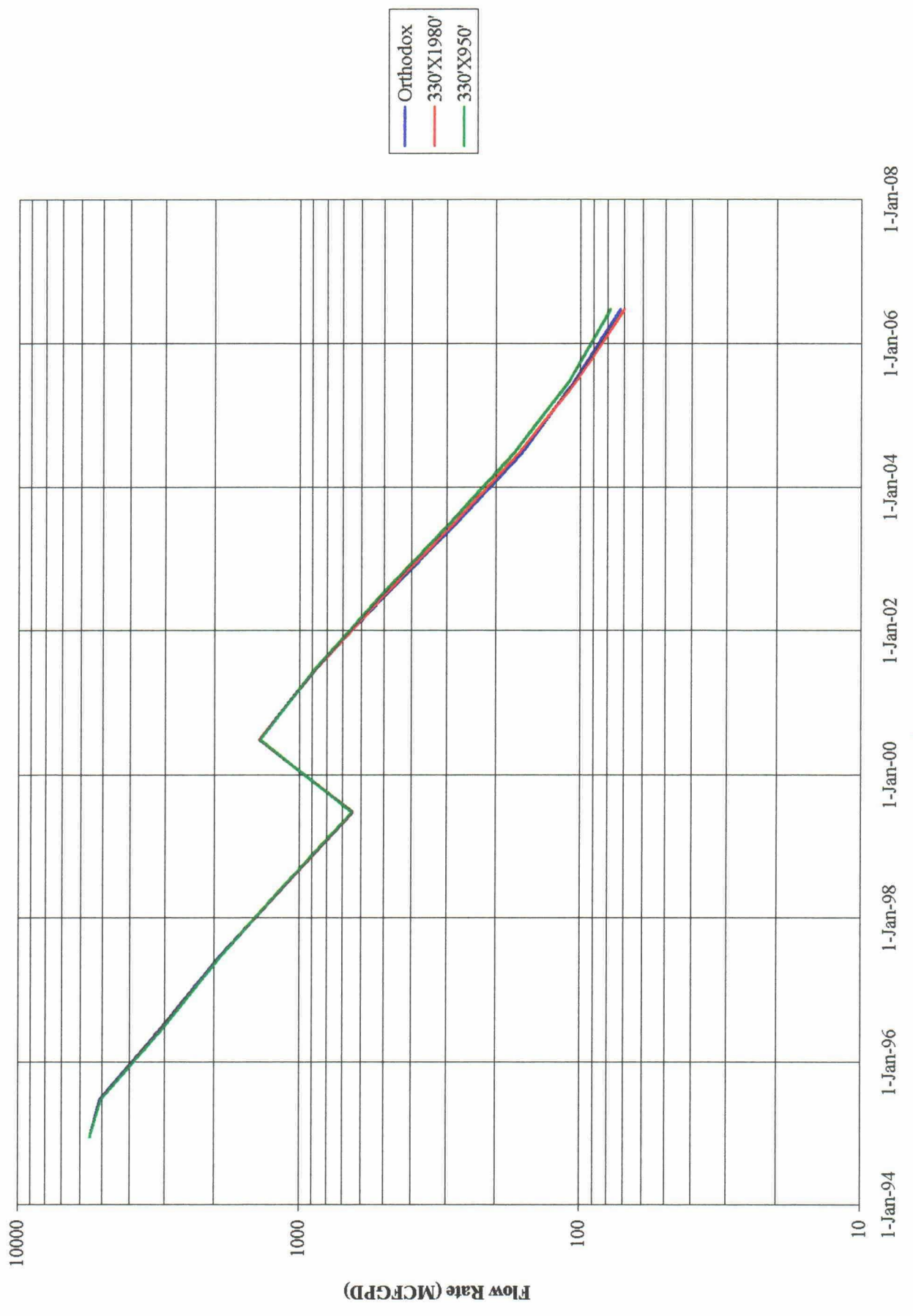
James Ranch Unit #70



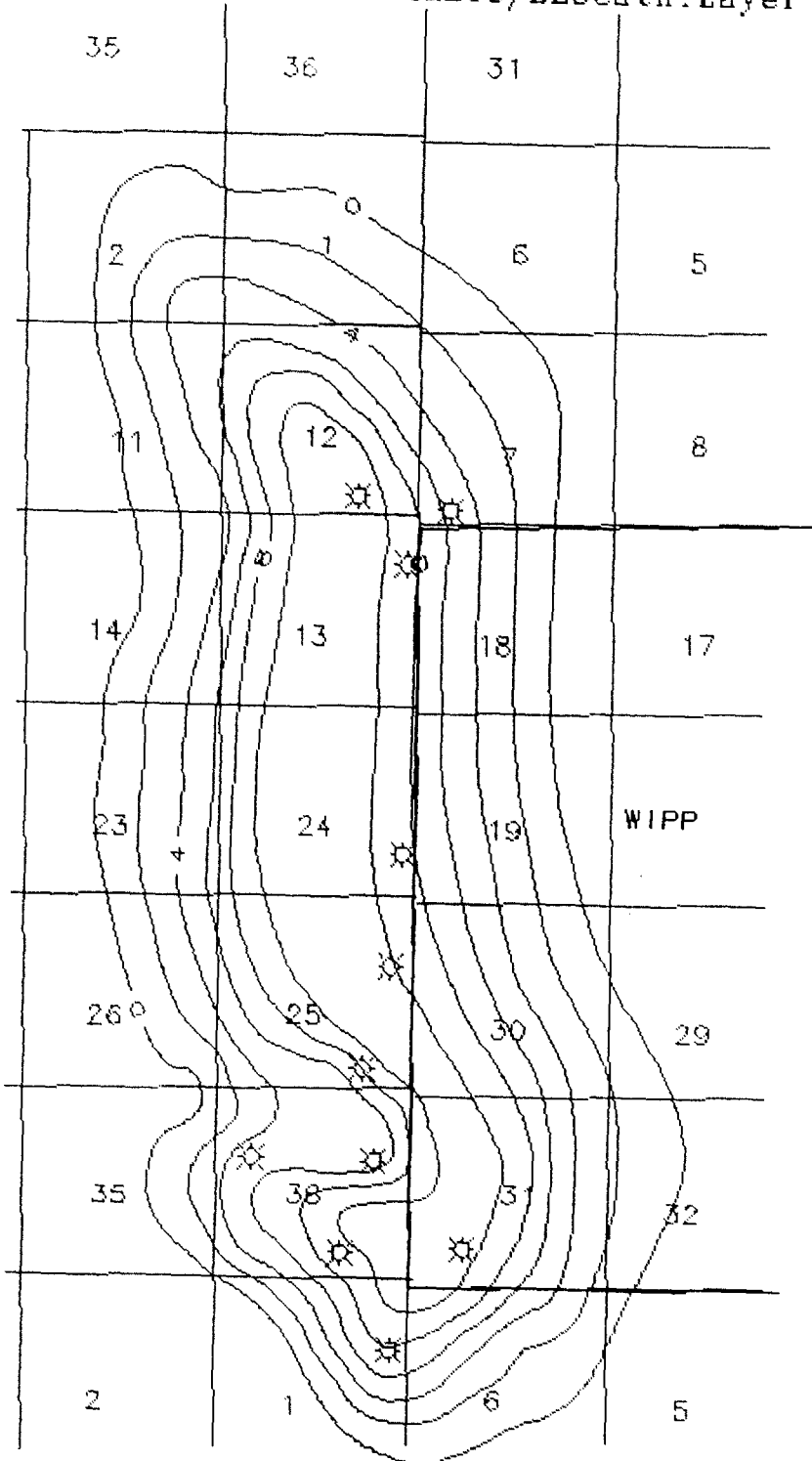
Llama ALL #1



Apache 13 Federal #1



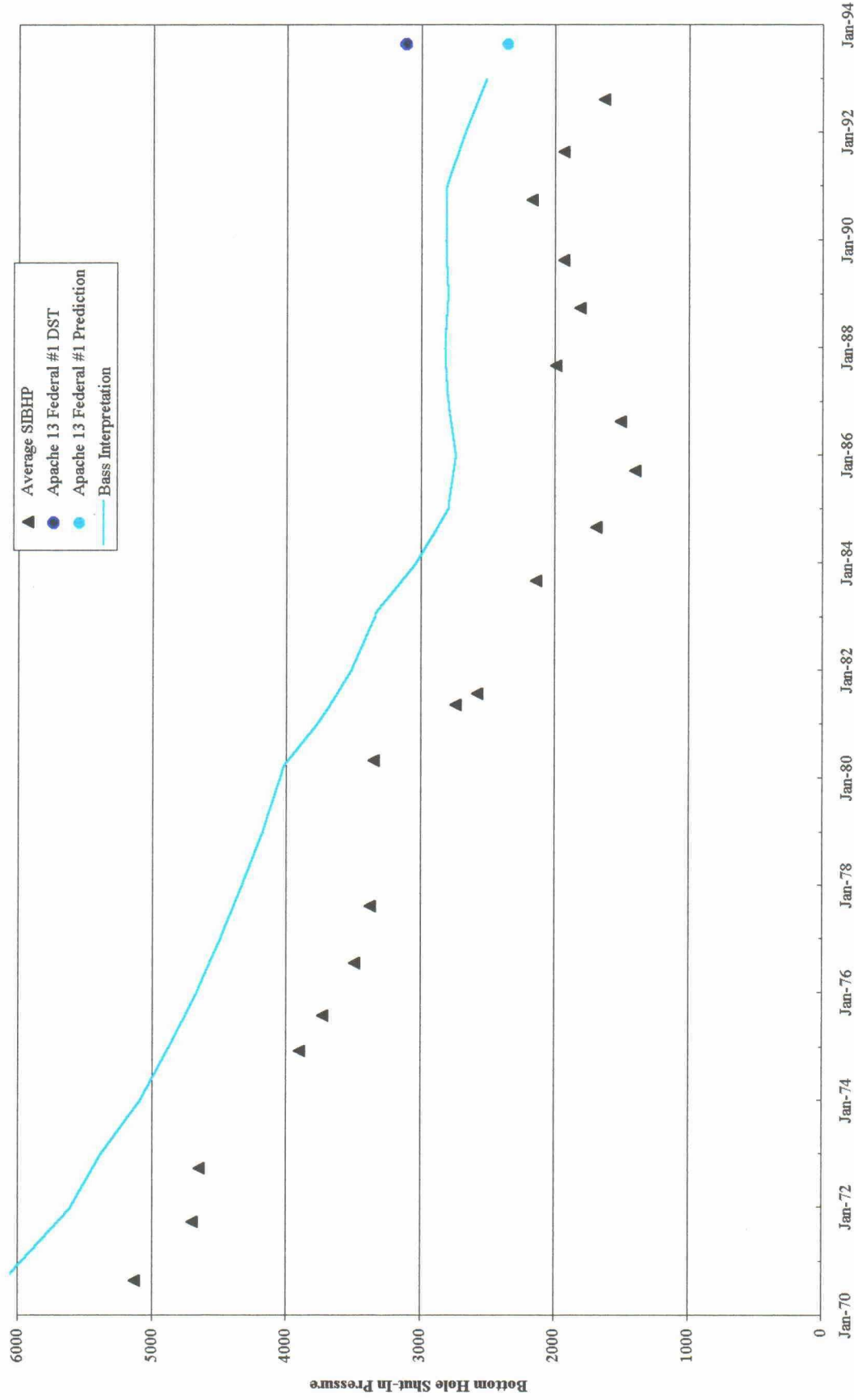
Los Medanos/BLocatn:Layer 1/Vertical Net Thkn(FT)



Orig. 6/1/94 Col. BSE

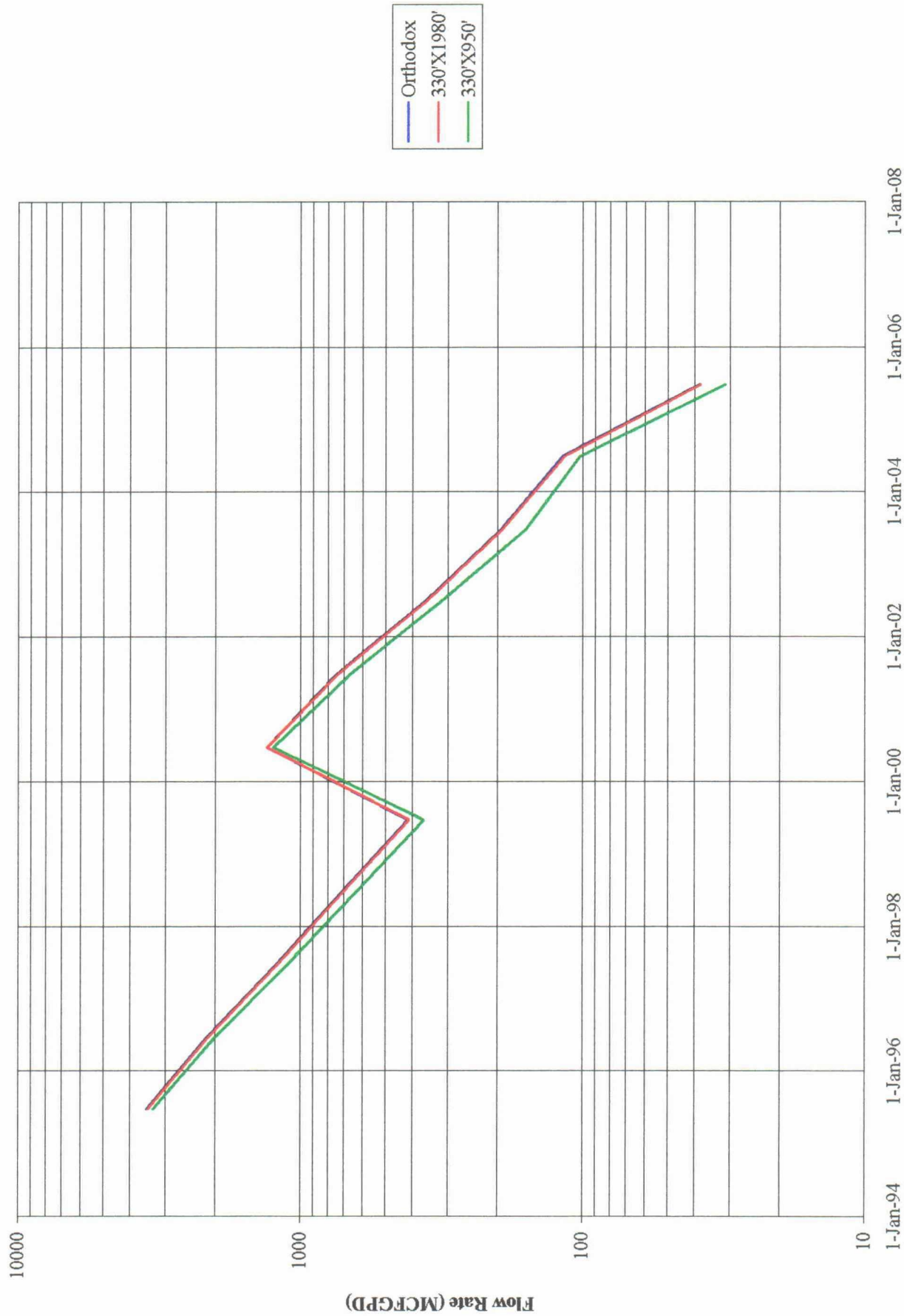
YATES PETROLEUM CORP.
BEFORE THE COMMISSION
NMOCD CASE NO. 11019
DATE: 09/22/94 DE NOVO
EXHIBIT NO. 15

Los Medanos Pressure Match



Bass Interpretation

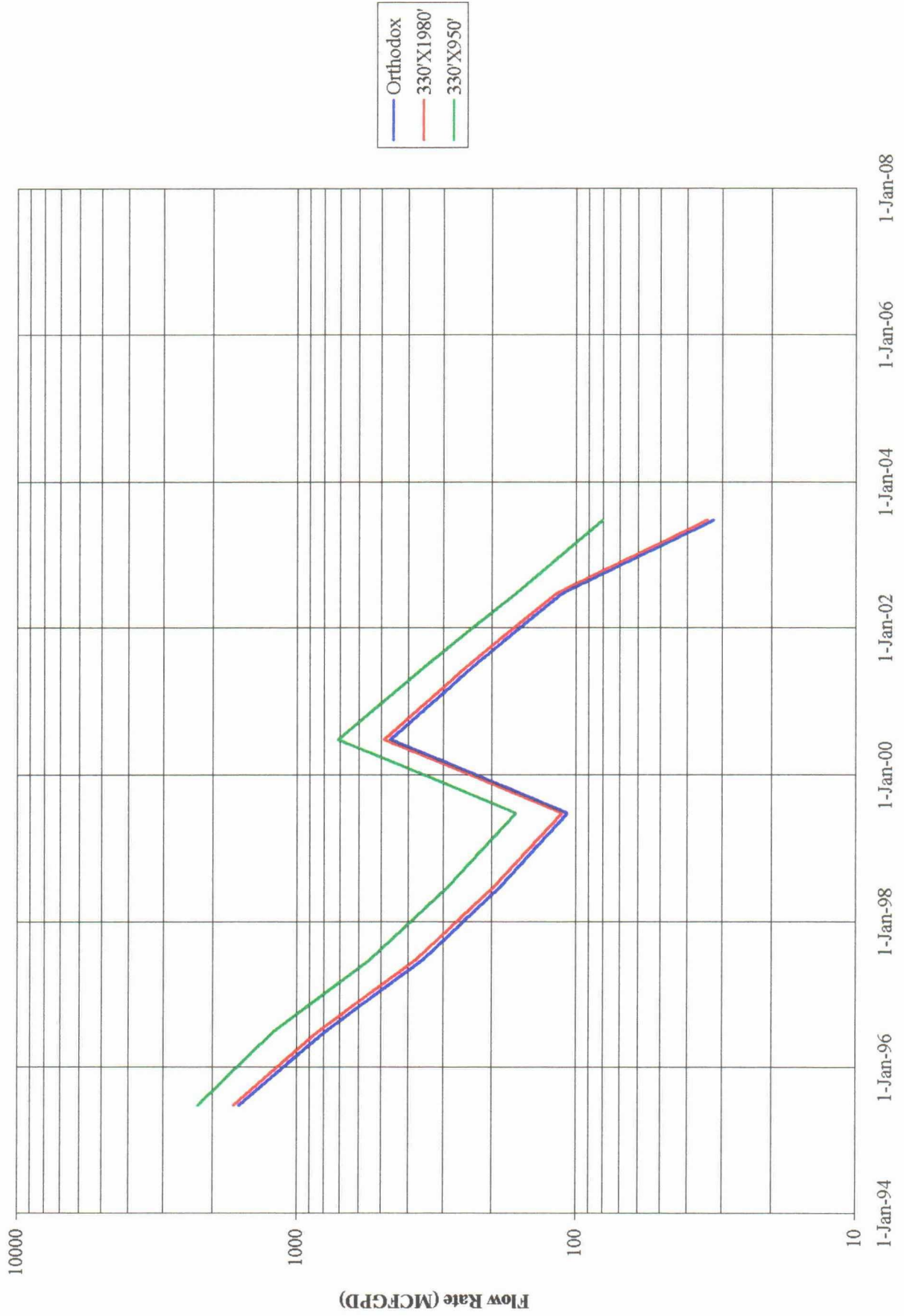
James Ranch Unit #70



Prepared by Robert S. Fant 9/21/94

YATES PETROLEUM CORP.
BEFORE THE COMMISSION
NMOCD CASE NO. 11019
DATE: 09/22/94 DE NOVO
EXHIBIT NO. 178

Bass Interpretation
Llama ALL #1

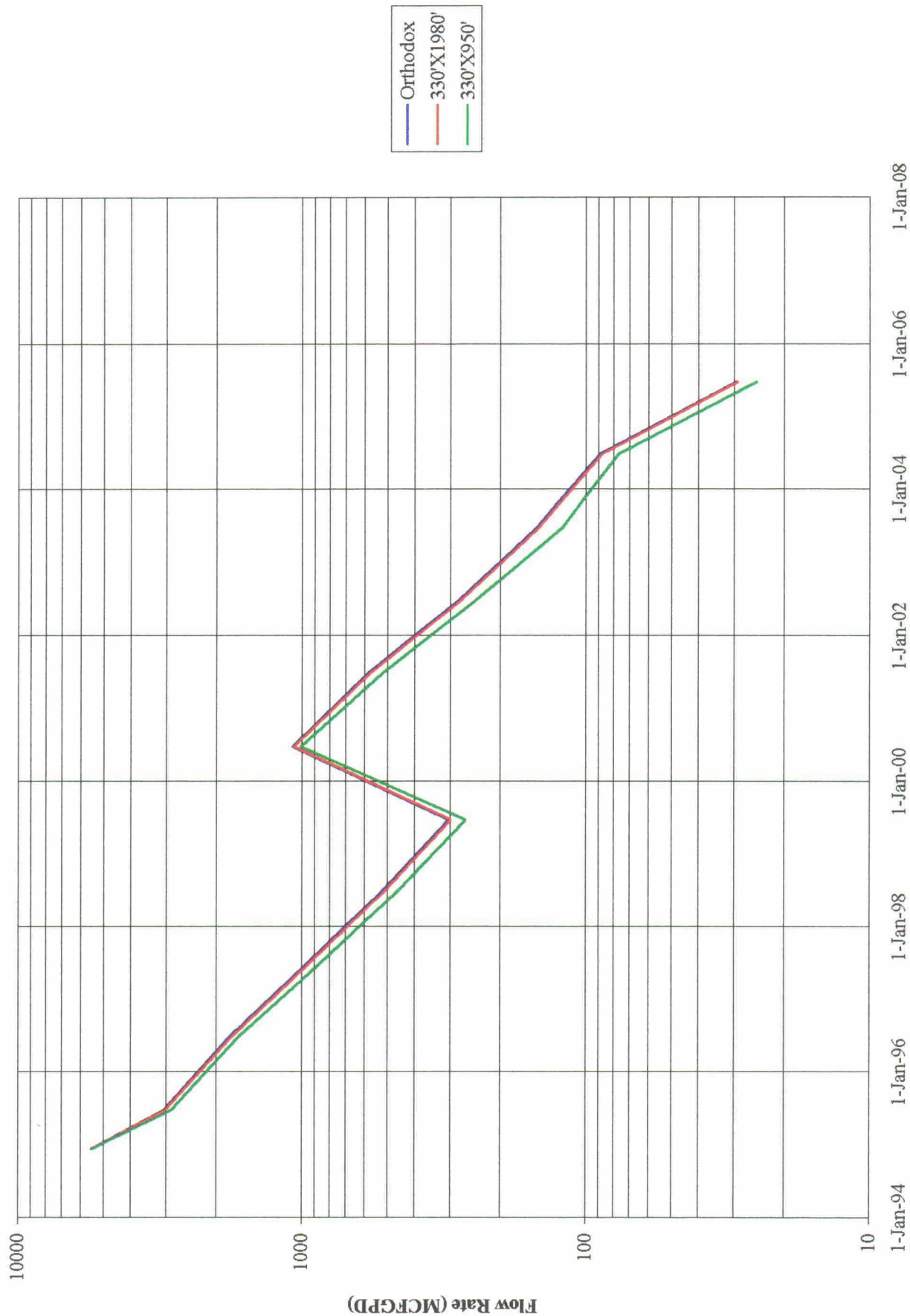


Prepared by Robert S. Fant 9/21/94

Bass Interpretation

Apache 13 Federal #1

YATES PETROLEUM CORP.
BEFORE THE COMMISSION
NMOCD CASE NO. 11019
DATE: 09/22/94 DE NOVO
EXHIBIT NO. 17c



Prepared by Robert S. Fant 9/21/94

Field and Lease Gas-In-Place and Recoveries

(All Volumes are in MMCFG)

Well	Yates Petroleum Corporation Interpretation				
	OGIP	GIP @ Completion	Orthodox Recovery	Unorthodox Recovery	50% Penalty Recovery
James Ranch Unit #70	2266	1051	4055	4048	5277
Apache 13 Federal #1	2111	1100	7334	7326	8919
Llama ALL Federal #1	5758	2682	6278	6313	3270
Llama Lease	13684	6498	6278	6313	3270
Field Total	64771		61360	61378	61351

Well	Bass Interpretation			
	OGIP	GIP @ Completion	Orthodox Recovery	Unorthodox Recovery
James Ranch Unit #70	4064	1376	3904	3615
Apache 13 Federal #1	3598	1445	5032	4767
Llama ALL Federal #1	1107	369	1414	2100
Llama Lease	1387	465	1414	2100
Field Total	61052		57254	57234

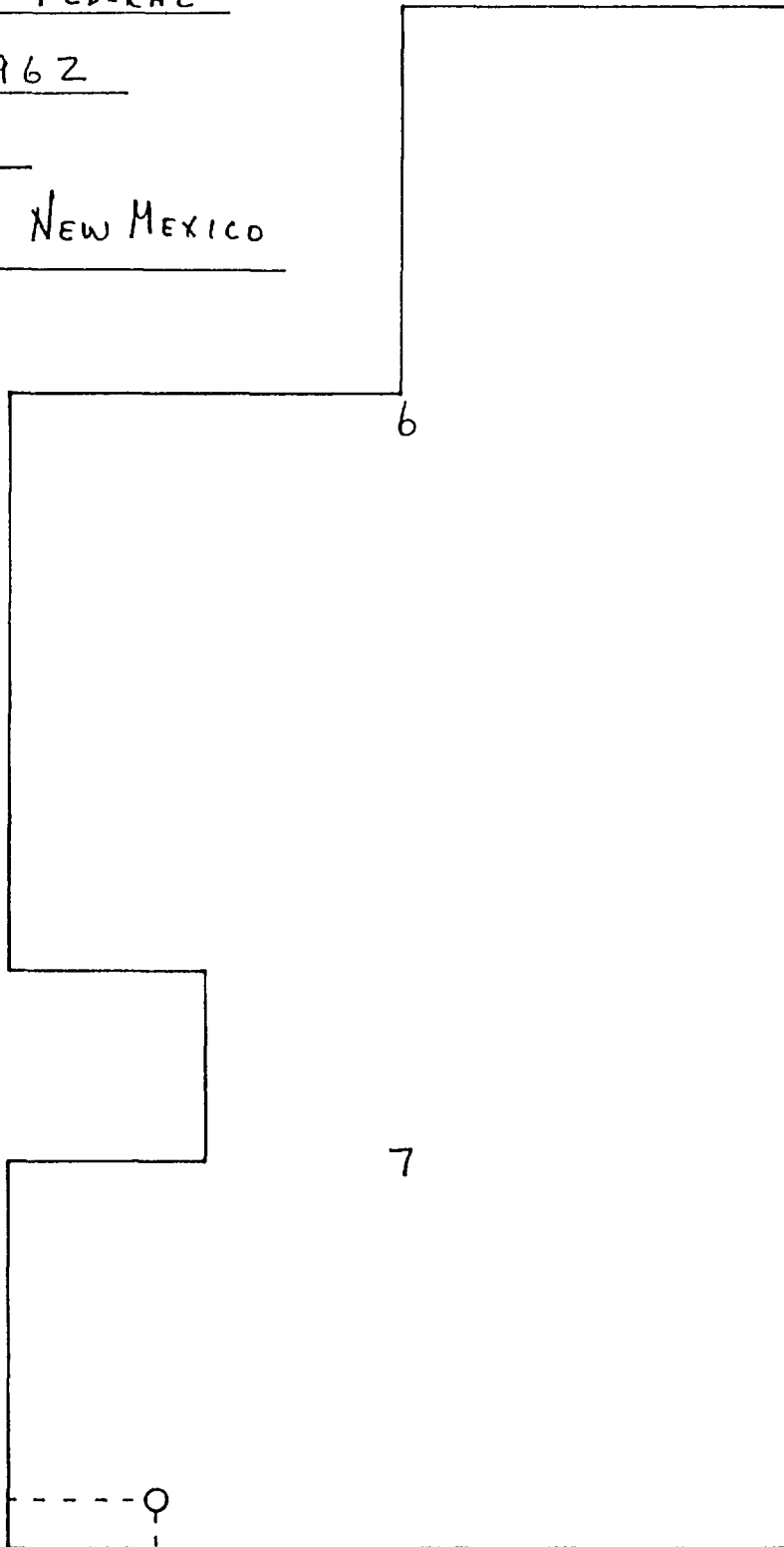
YATES PETROLEUM CORP.
BEFORE THE COMMISSION
NMOCD CASE NO. 11019
DATE: 09/22/94 DE NOVO
EXHIBIT NO. 18

LLAMA ALL FEDERAL

LEASE # 81962

22S-31E

EDDY COUNTY, NEW MEXICO



Area = 1080 $\pm$ Acres

YATES PETROLEUM CORP.
BEFORE THE COMMISSION
NMCD CASE NO. 11019
DATE: 09/22/94 DE NOVO
EXHIBIT NO. 19

Drainage Areas for Bass, Mitchell and Yates Wells -- No Penalty

Month	Apache 13 Federal 1			Yates Llama Well			Bass Proposed Well		
	MMcf	Cum MMcf	Acres	MMcf	Cum MMcf	Acres	MMcf	Cum MMcf	Acres
Jan-94									
Feb-94	140	140	24						
Mar-94	155	295	50						
Apr-94	150	445	75						
May-94	155	600	102						
Jun-94	150	750	127						
Jul-94	155	905	153						
Aug-94	155	1060	179						
Sep-94	150	1210	205						
Oct-94	155	1365	231						
Nov-94	150	1515	256	150	150	25			
Dec-94	155	1670	283	155	305	52			
Jan-95	155	1825	309	155	460	78	155	155	26
Feb-95	140	1965	333	140	600	102	140	295	50
Mar-95	155	2120	359	155	755	128	155	450	76
Apr-95	150	2270	384	150	905	153	150	600	102
May-95	155	2425	411	155	1060	179	155	755	128
Jun-95	150	2575	436	150	1210	205	150	905	153
Jul-95	155	2730	462	155	1365	231	155	1060	179
Aug-95	155	2885	488	155	1520	257	155	1215	206
Sep-95	150	3035	514	150	1670	283	150	1365	231
Oct-95	155	3190	540	155	1825	309	155	1520	257
Nov-95	150	3340	565	150	1975	334	150	1670	283
Dec-95	155	3495	592	155	2130	361	155	1825	309
Jan-96	155	3650	618	155	2285	387	155	1980	335
Feb-96	145	3795	642	145	2430	411	145	2125	360
Mar-96	155	3950	669	155	2585	438	155	2280	386
Apr-96	150	4100	694	150	2735	463	150	2430	411
May-96	155	4255	720	155	2890	489	155	2585	438
Jun-96	150	4405	746	150	3040	515	150	2735	463

YATES PETROLEUM CORP.
BEFORE THE COMMISSION
NMOCD CASE NO. 11019
DATE: 09/22/94 DE NOVO
EXHIBIT NO. 20

Drainage Areas for Bass, Mitchell and Yates Wells -- 50 % Penalty on Yates

Month	Apache 13 Federal 1			Yates Llama Well			Bass Proposed Well		
	MMcf	Cum MMcf	Acres	MMcf	Cum MMcf	Acres	MMcf	Cum MMcf	Acres
Jan-94									
Feb-94	140	140	24						
Mar-94	155	295	50						
Apr-94	150	445	75						
May-94	155	600	102						
Jun-94	150	750	127						
Jul-94	155	905	153						
Aug-94	155	1060	179						
Sep-94	150	1210	205						
Oct-94	155	1365	231						
Nov-94	150	1515	256	75	75	13			
Dec-94	155	1670	283	78	153	26			
Jan-95	155	1825	309	78	230	39	155	155	26
Feb-95	140	1965	333	70	300	51	140	295	50
Mar-95	155	2120	359	78	378	64	155	450	76
Apr-95	150	2270	384	75	453	77	150	600	102
May-95	155	2425	411	78	530	90	155	755	128
Jun-95	150	2575	436	75	605	102	150	905	153
Jul-95	155	2730	462	78	683	116	155	1060	179
Aug-95	155	2885	488	78	760	129	155	1215	206
Sep-95	150	3035	514	75	835	141	150	1365	231
Oct-95	155	3190	540	78	913	154	155	1520	257
Nov-95	150	3340	565	75	988	167	150	1670	283
Dec-95	155	3495	592	78	1065	180	155	1825	309
Jan-96	155	3650	618	78	1143	193	155	1980	335
Feb-96	145	3795	642	73	1215	206	145	2125	360
Mar-96	155	3950	669	78	1293	219	155	2280	386
Apr-96	150	4100	694	75	1368	232	150	2430	411
May-96	155	4255	720	78	1445	245	155	2585	438
Jun-96	150	4405	746	75	1520	257	150	2735	463

APACHE 13 FEDERAL #1

ANALYSIS of ATOKA SAND 12836-12844

Height $h = 8$ feet
Porosity = 0.11
Resistivity $R_T = 1100$ ohm-meter

Calculated Water Saturation $S_w = 0.1$

DST Data says Bottomhole Pressure = 3104 psi
 Gas Gravity = 0.666

Temperature = 188 degrees F = 648 degrees R

Gas Critical Pressure = 668 psia
Gas Critical Temperature = 369 degrees R

Gas Reduced Pressure = $3104\text{psi}/668\text{psi} = 4.65$
Gas Reduced Temperature = $648\text{ R}/369\text{ R} = 1.76$
Gas Deviation Factor $z = 0.89$

Gas Formation Volume Factor $B_g = 0.02829 \text{ zT/P cubic ft/SCF}$

$$B_g = 0.02829(0.89)(648\text{ R})/3104$$

$$B_g = 0.005256 \text{ cubic ft/SCF}$$

Gas Produced $G_p = (\text{Recovery Factor})(43560)Ah(\text{Porosity})(1-S_w)/B_g$

Use Recovery Factor = 0.9

Then Area Drained in Acres $A = G_p(B_g)/ (0.9)(43560)h(\text{Porosity})(1-S_w)$

$$A = G_p(0.005256)/ (0.9)(43560)(8)(0.11)(0.9)$$

$$A = 0.000000169 \text{ (Gp in SCF)}$$

$$A = 0.169 \text{ (Gp in MMcf) where Area is in Acres}$$

DRAINAGE AREAS ----- EAST LIVINGSTON RIDGE ATOKA

YATES PETROLEUM CORP.
BEFORE THE COMMISSION
NMOCD CASE NO. 11019
DATE: 09/22/94 DE NOVO
EXHIBIT NO. 21

12

7

Bass Location

Yates Llama ALL 1

Apache 13 Federal 1

179 A

13

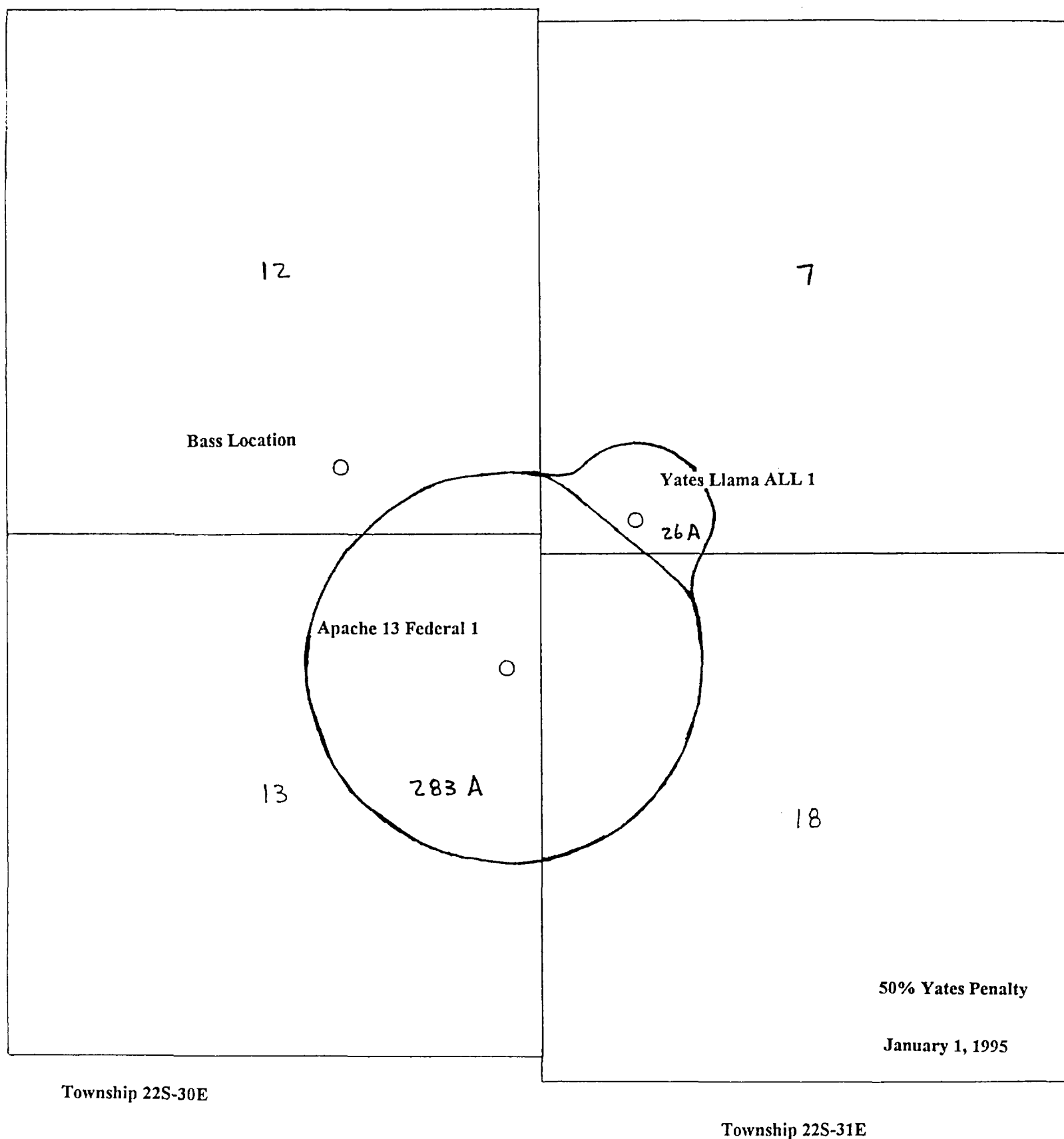
18

September 1, 1994

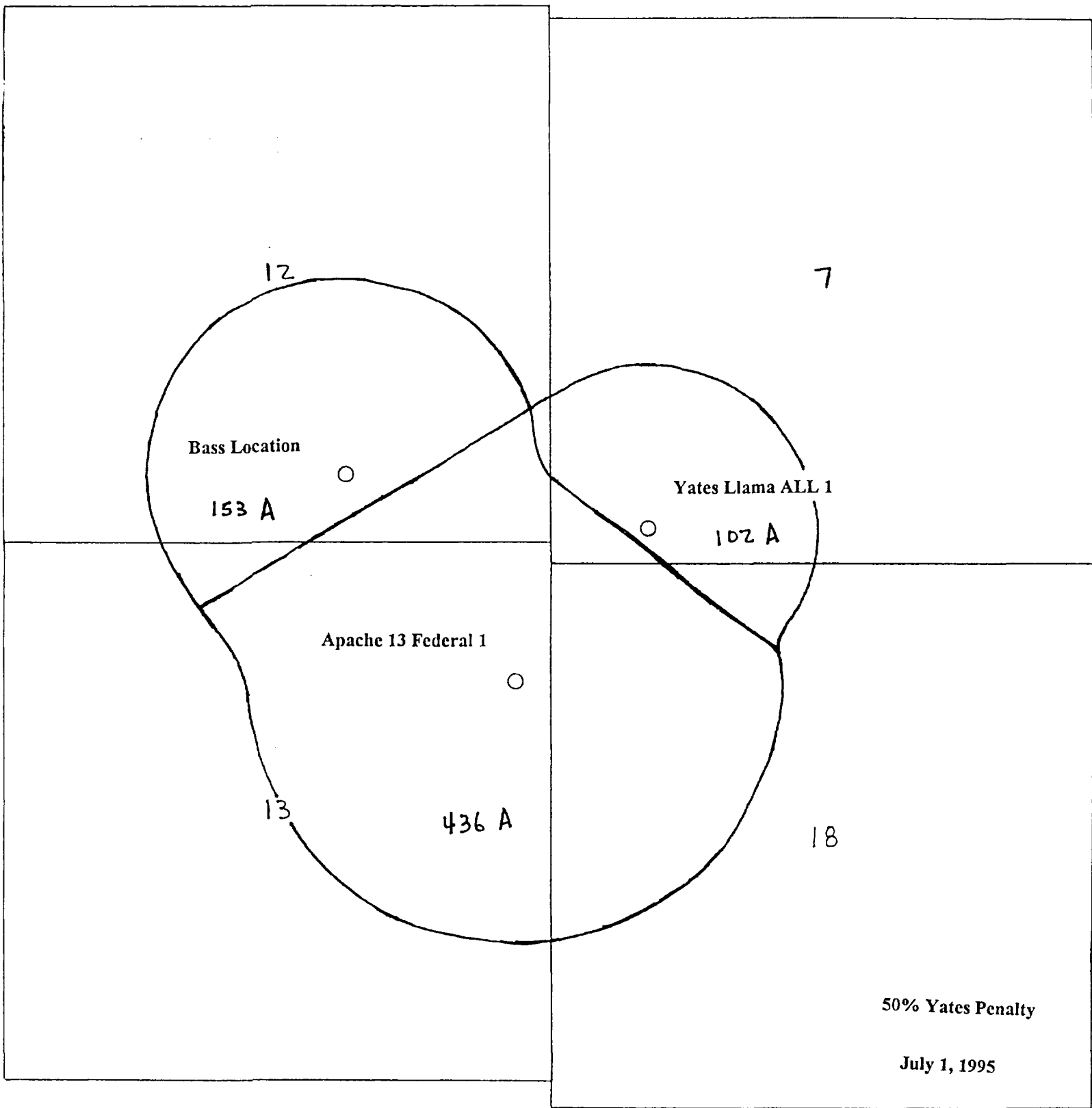
Township 22S-30E

Township 22S-31E

DRAINAGE AREAS ----- EAST LIVINGSTON RIDGE ATOKA



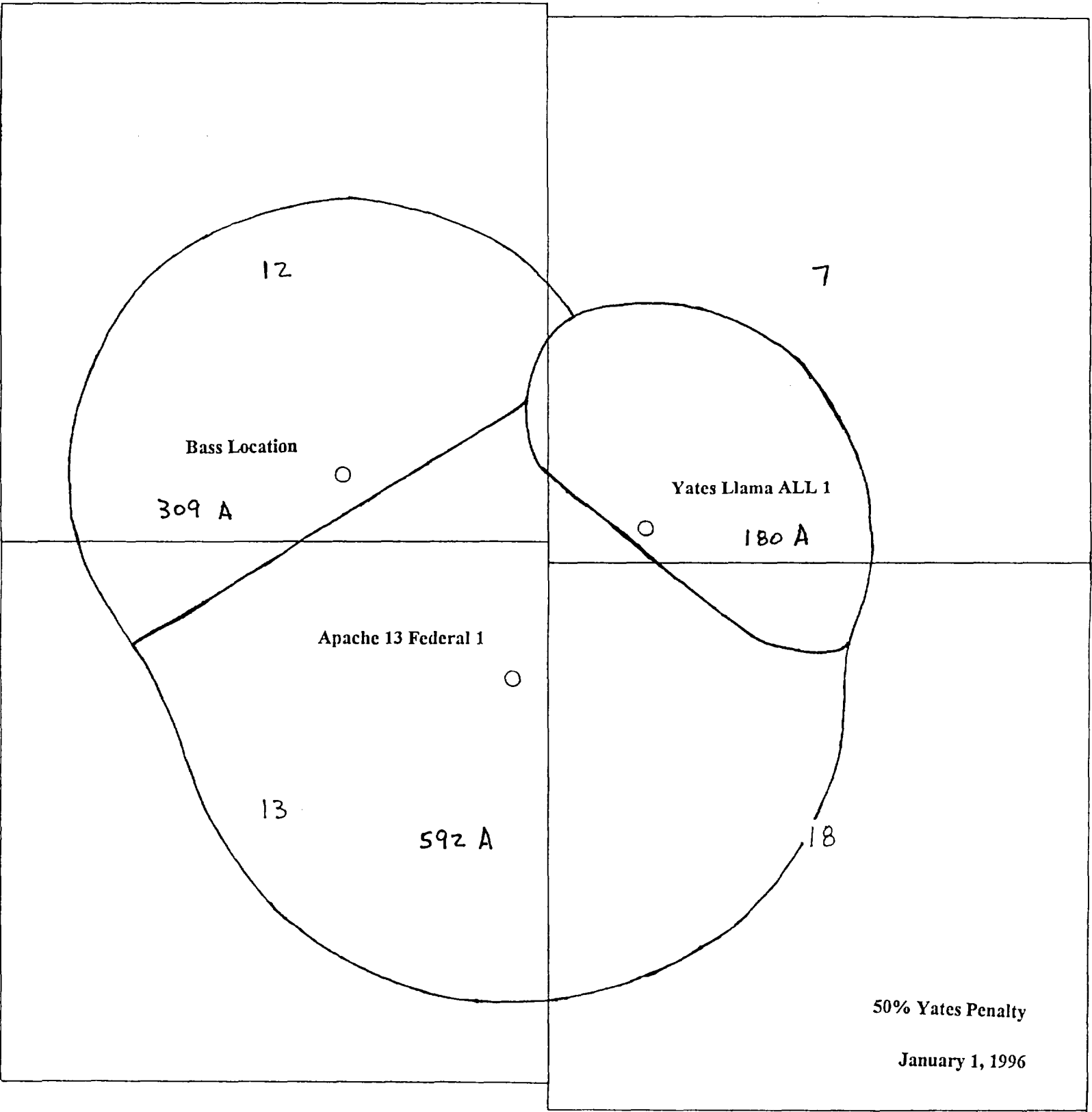
DRAINAGE AREAS ----- EAST LIVINGSTON RIDGE ATOKA



Township 22S-30E

Township 22S-31E

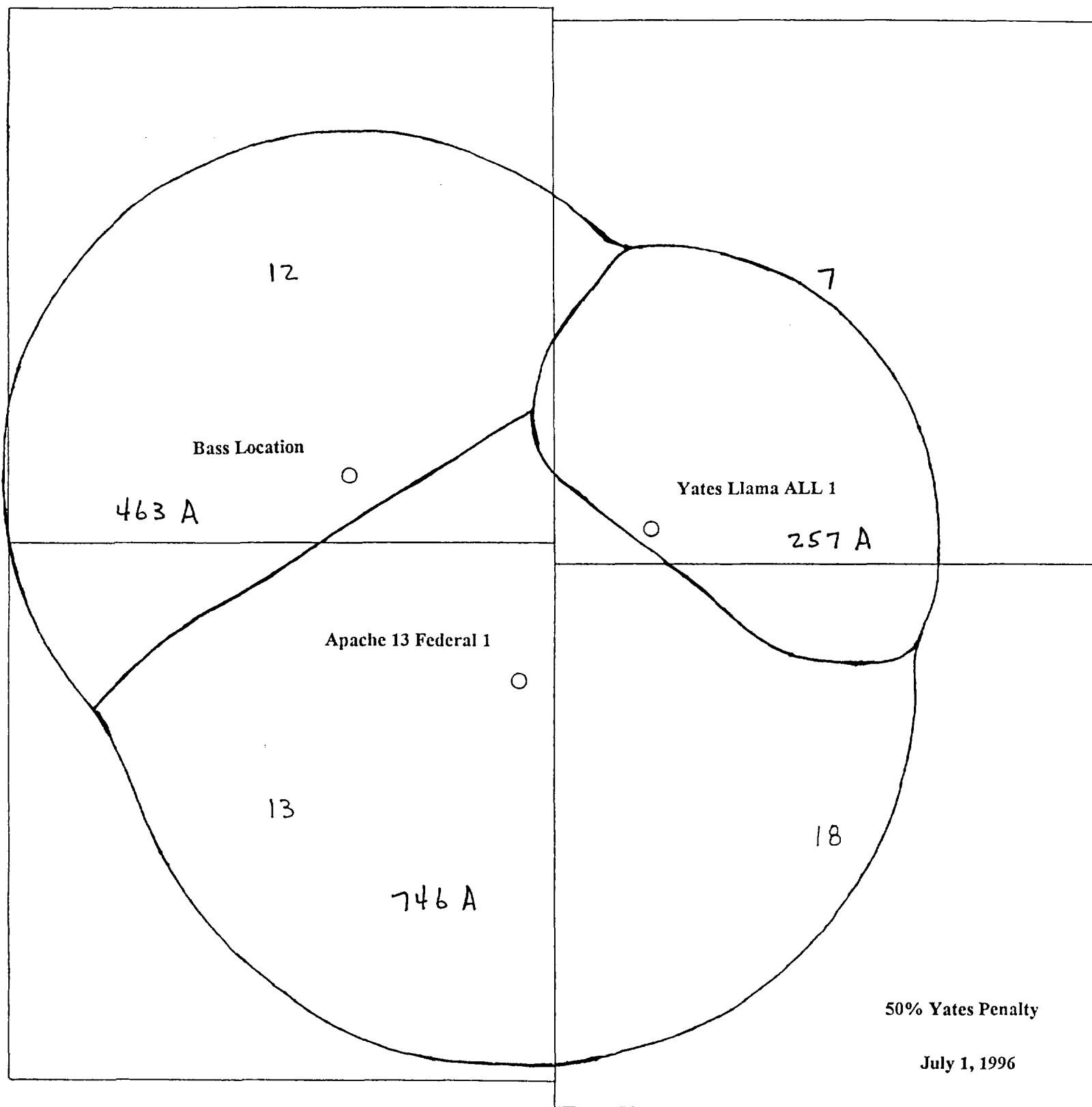
DRAINAGE AREAS ----- EAST LIVINGSTON RIDGE ATOKA



Township 22S-30E

Township 22S-31E

DRAINAGE AREAS ----- EAST LIVINGSTON RIDGE ATOKA

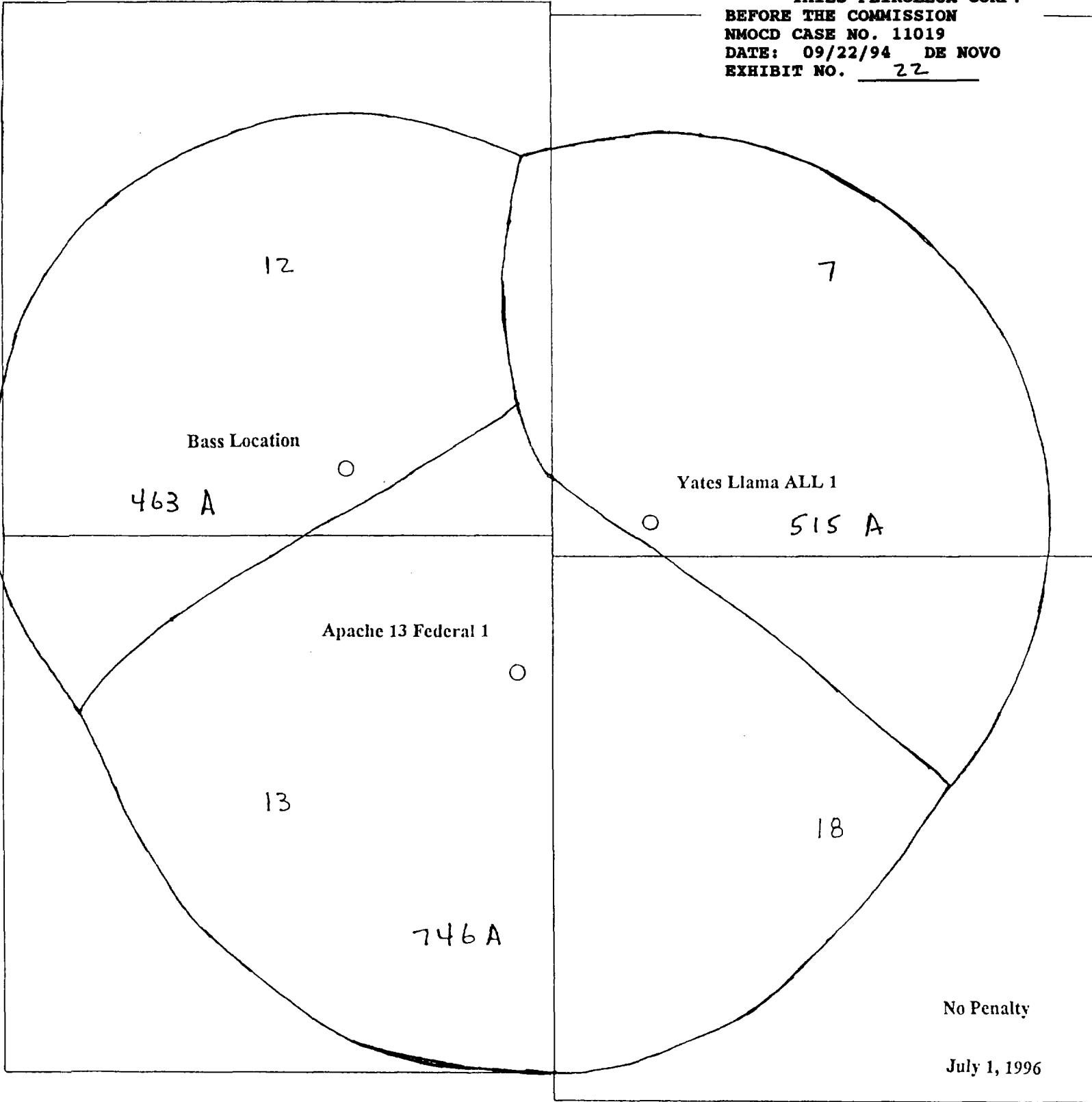


Township 22S-30E

Township 22S-31E

DRAINAGE AREAS ----- EAST LIVINGSTON RIDGE ATOKA

YATES PETROLEUM CORP.
BEFORE THE COMMISSION
NMOCD CASE NO. 11019
DATE: 09/22/94 DE NOVO
EXHIBIT NO. 22



Township 22S-30E

Township 22S-31E