

Adopted 9-1-65

DATE 4/4/89

COMPANY Yates Petroleum Corporation LEASE Huckaby TJ Federal WELL NO. 4

LOCATION: Unit E Section 20 Township 8S Range 26E

L 4155.0 H 4155.0 L/H 1.000 G .662 %CO2 .05 %N2 7.68 %H2S 0.00

d 1.995 Fr .017777 GH 2750.6 Pcr 657.2 Tcr 354.9

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	.528	.578	.768	1.217	0.000
2 Tw(W.H.°R)	522.0	522.0	522.0	522.0	0.0
3 Ts(E.H.°R)	564.0	564.0	564.0	564.0	0.0
4 T=(Tw+Ts)/2	543.0	543.0	543.0	543.0	0.0
5 Z(Est.)	.883	.888	.896	.938	0.000
6 TZ	479.3	482.2	486.5	509.4	0.0
7 GH/TZ	5.739	5.705	5.654	5.400	0.000
8 e ^s (Table XIV)	1.240	1.239	1.236	1.224	0.000
9 1-e ^{-s} (Table XIV)	.193	.193	.191	.183	0.000
10 Pt	827.2	786.2	725.2	413.2	0.0
11 Pt ² /1000	684.3	618.1	525.9	170.7	0.0
12 Fr(Table XV)	.017777	.017777	.017777	.017777	0.000000
13 Fc=FrTZ	8.527	8.571	8.652	9.056	0.000
14 FcQm	4.501	4.958	6.644	11.019	0.000
15 L/H(FcQm) ²	20.261	24.582	44.137	121.425	0.000
16 Fw=L/H(FcQm) ² (1-e ^{-s})	3.920	4.734	8.429	22.257	0.000
17 Pw ² =Pt ² +Fw	688.2	622.8	534.3	193.0	0.0
18 Ps ² =e ^s Pw ²	853.3	771.4	660.5	236.3	0.0
19 Ps	923.7	878.3	812.7	486.1	0.0
20 P=(Pt+Ps)/2	875.5	832.3	768.9	449.7	0.0
21 Pr=(P/Pcr)	1.33	1.27	1.17	.68	0.00
22 Tr=(T/Tcr)	1.53	1.53	1.53	1.53	0.00
23 Z(Table XI)	.883	.888	.896	.938	0.000