

WORK SHEET FOR STEPWISE CALCULATION

(SURFACE)

PRESSURE
(P_c & P_w)

COMPANY Cortina Grace LEASE Humble-Grace WELL NO. 1 DATE 7/28/71

LOCATION: Unit P Section 2 Township 23 S Range 26 E

L 10,616 H 10,616 L/H 1.000 G .580 % CO₂ - % N₂ - % H₂S -

$P = \frac{692.694}{856.202} = 807.1$ $P_w = 3937.6 - 807.1 = 3130.5$
 $d = \frac{1.995}{F_1} \frac{Q_m}{Q_m} \frac{10.379}{M^2 cfd} (L/H) (F_1 Q_m)^2 = .035804$ $P_{cr} =$ TABLE IX & X $T_{cr} =$ TABLE IX & X

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		10616	5308		0						
2	GH		6157.28	3078.64		0						
3	37.5GH		230,898	115,449		0						
4	P_c or P_n		3937.6	3550.7	3542.8	3148.3	3128.1	3129.1				
5	P_r		5.86	5.28	5.27	4.68	4.65	4.66				
6	T		627	580.5	580.5	530	530	530				
7	T_r		1.79	1.66	1.66	1.51	1.51	1.51				
8	Z		.937	.876	.875	.801	.800	.800				
9	P/Z P/Z	$\bar{4} \div \bar{8}$	4202.3	4053.3	4048.9	3930.5	3910.1	3911.3				
10	P/TZ	$\bar{9} \div \bar{6}$	6.7022	6.9824	6.9748	7.4160	7.3775	7.3798				
11	$(P/TZ)^2/1000$	$(10) 2/1000$										
12	$L/H(F_1 Q_m)^2$											
13		$\bar{11} + \bar{12}$										
14	I_n	$\bar{10} \div \bar{13}$	149.205	143.217	143.373	134.844	135.547	135.505				
15	$M = P_n - P_{n-1}$			386.9	394.8	394.5	414.7	413.7				
16	$N = I_n + I_{n-1}$			292.422	292.578	278.217	278.920	278.878				
17	$M \times N$	$\bar{15} \times \bar{16}$			115,510			115,372				
18	$\Sigma (M \times N)$	$\Sigma \bar{17}$	230,898		115,388							