

Document Produced Natively: WednesdayNightRush.xls

11456  
Exhibit No. \_\_\_\_\_  
Worldwide Court  
Reporters, Inc.

Inflow Data

Inflow (Stock Tank bbl) 0 bopd  
 Productivity Index 50 bopd/psid  
 Inflow Temperature 243 °F



Pipe Roughness 4.50E-05 m  
 Effective Pipe Length Factor 1 m/m

Heat Transfer

Isothermal? n  
 Overall Heat Transfer Coefficient 0 W/m².K  
 0 Btu/ft².R

Rupture Disk Data

No. Rupture Disks Open 0  
 Rupture Disk Elevation 1 2,607.56 m  
 Rupture Disk 1 Diam 0.003175 m  
 Rupture Disk Elevation 2 2,990.39 m  
 Rupture Disk 2 Diam 0.003175 m  
 Rupture Disk Elevation 3 3678.3264 m  
 Rupture Disk 3 Diam 0.003175 m  
 Reservoir M110 Pressure 5235 psia

Stock Tank Conditions

To 60 oF  
 Po 14.7 psia

node	x	Elev	Diam	Area
0	288.6456	288.6456	0.041275	0.0128656
1	410.57	410.57	0.041275	0.0128656
1	532.49	532.49	0.041275	0.0128656
2	654.41	654.41	0.041275	0.0128656
3	776.33	776.33	0.041275	0.0128656
4	918.06	918.06	0.0942594	0.0333036
5	1,039.98	1,039.98	0.0942594	0.0333036
6	1,161.90	1,161.90	0.0942594	0.0333036
7	1,283.82	1,283.82	0.0942594	0.0333036
8	1,405.74	1,405.74	0.0942594	0.0333036
9	1,514.86	1,514.86	0.0942594	0.0527688
10	1,636.78	1,636.78	0.0942594	0.0527688
11	1,715.11	1,715.11	0.136525	0.0281856
12	1,837.03	1,837.03	0.136525	0.0281856
13	1,990.34	1,990.34	0.155575	0.0623285
14	2,112.26	2,112.26	0.155575	0.0623285
15	2,234.18	2,234.18	0.155575	0.0623285
16	2,356.10	2,356.10	0.155575	0.0623285
17	2,478.02	2,478.02	0.155575	0.0623285
18	2,607.56	2,607.56	0.155575	0.0623285
19	2,729.48	2,729.48	0.155575	0.0623285
20	2,990.39	2,990.39	0.155575	0.0623285
21	3,010.01	3,112.31	0.155575	0.0623285

22	3,234	3234.2328	0.155575	0.0623285
23	3,356	3356.1528	0.155575	0.0623285
24	3,478	3478.0728	0.155575	0.0623285
25	3,600	3599.9928	0.155575	0.0623285
26	3678.3264	3678.3264	0.155575	0.0623285
27	3,844	3843.8328	0.155575	0.0623285
28	3,966	3,966	0.155575	0.0623285
29	3,977	3,977	0.155575	0.0623285

13047 12068  
9811  
8555

PI = 10.78 (35,000 bopd @ 4300 ML psia)

2532.105634	#NAME?	
	#NAME?	
	#NAME?	
3093.425179	#NAME?	
	#NAME?	
	#NAME?	
3399.045936	#NAME?	Turns
	#NAME?	18 (full open)
	#NAME?	12
		10
4072.458088	#NAME?	8
	#NAME?	
	#NAME?	

PI = 28 (50,000 bopd @ 4300 ML psia)

2783.868353	#NAME?	
	#NAME?	
	#NAME?	
3710.107227	#NAME?	
	#NAME?	
	#NAME?	
4171.341283	#NAME?	Turns
	#NAME?	18 (full open)
	#NAME?	12
	#NAME?	10
		8
5082.372205	#NAME?	
	#NAME?	
	#NAME?	



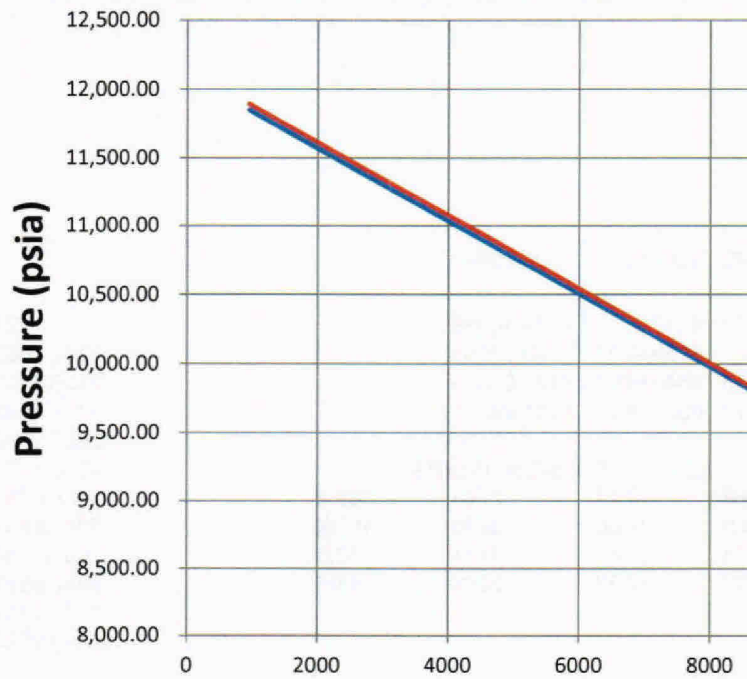
264.1721 gal/m<sup>3</sup>  
42 gal/bbl  
6.2898119 bbl/m3

50 8,653.71  
13 4799.1666  
12 4595.8978  
10.54430338 4237.3207  
10.79875935 4306.4015  
10.77517986 4.30E+03  
10.77474778

Reservoir Pressure  
Pressure at Depth

0 4.42E+07 #DIV/0!  
137.931034

Hex ID (m)	Pressure
0.219075	817.24
0.219075	809.8618
0.219075	802.4882
0.219075	795.1205
0.219075	787.7588
0.2720594	779.2085
0.2720594	771.8599
0.2720594	764.5174
0.2720594	757.1811
0.2720594	749.8510
0.314325	743.2959
0.314325	735.977
0.314325	731.2790
0.314325	723.9712
0.37719	714.7908
0.37719	707.4975
0.37719	700.2108
0.37719	692.9306
0.37719	685.6570
0.37719	677.9361
0.37719	670.6763
0.37719	655.1633
0.37719	647.9249





**Elevation above B**

0.37719	640.69354					
0.37719	633.46914					
0.37719	626.25184	377.900531	602.900501	0	0	605.202399
0.37719	619.04161	377.068427	602.369382	0	0	602.667898
0.37719	614.41282	376.752381	601.982977	0	0	602.176149
0.37719	604.64275	376.084155	601.159823	0	0	601.571259
0.37719	597.45423	375.591874	600.547176	0	0	600.853421
0.37719	596.80762	375.547593	600.491747	0	0	600.519461

3678.3264 11,850 215.985668  
 2990.3928 8,653.71  
 2607.564

0 8,653.71 8653.71047

3954.870373 596.80762 8653.71047

34060.81142 4442.9905 2531.61335 2250 35000  
 32087.5718 4741.7233 3093.37823 2979.307465 32500  
 30954.72773 4911.489 3399.12446 3648.375474 30000  
 28306.77896 5302.4537 4072.56954 4267.439815 27500  
 4842.505843 25000  
 5379.172362 22500  
 5873.869819 20000

Flow Rate	Mud Line Pt	Top BoP	Pres	P.bh
34061	4443	2532		8689
32088	4742	3093		8872
30955	4911	3399		8977
28307	5302	4073		9223

3954.870373 226.62373 3286.0441

47767.90731 4612.3817 2784.10999 2250 50,000.00  
 43502.34801 5159.9226 3709.52543 2732.466821 47,990.00  
 41171.43115 5446.6496 4171.08919 2733.730713 47,984.56  
 36128.99578 6032.8473 5081.96331 3397.148236 45,000.00  
 3607.274067 44,001.94  
 4392.777851 40,000.00  
 4958.065637 36,865.65  
 5267.536194 35,000.00  
 6028.48477 30,000.00  
 6692.861513 25,000.00  
 7263.874911 20,000.00  
 7743.902335 15,000.00

Flow Rate	Mud Line Pt	Top BoP	Pres	P.bh
47768	4612	2784		10895
43502	5160	3710		10980
41171	5447	4171		11027
36129	6033	5082		11127

$$\frac{\dot{Q}}{\dot{m}} = \frac{hA(T_b - T_r)}{\dot{m}} \left\langle \frac{J}{s \cdot m^2 \cdot K} \cdot K \cdot m^2 \cdot \frac{s}{kg} \right\rangle$$

$$\left\langle \frac{Btu}{h \cdot ft^2 \cdot R} \frac{1055.056 J}{Btu} \frac{1h}{3600s} \frac{10.76391 ft^2}{m^2} \frac{9R}{5K} \Rightarrow \frac{J}{s \cdot m^2 \cdot K} \right\rangle$$

$$\dot{Q}_{stb} = PI(11850 - P_{bh})$$

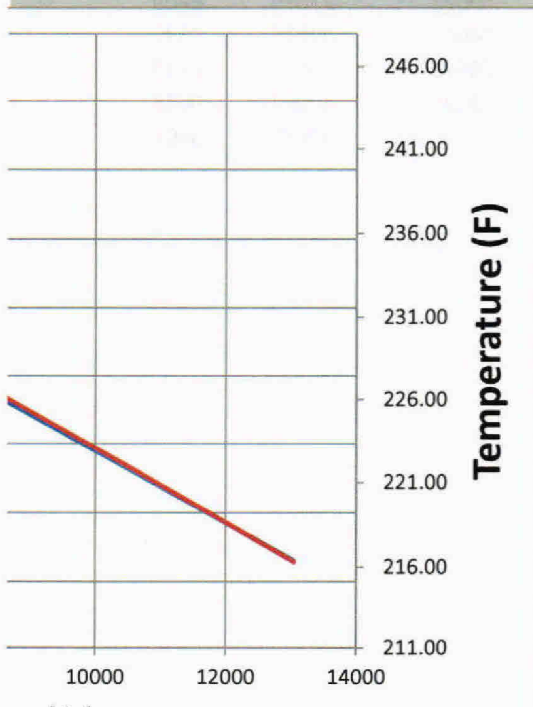
$$P_{bh} = 11850 - \frac{\dot{Q}_{stb}}{PI}$$

$$B_{bopd} = k(11850 - P_{bhp})$$

$$p = \frac{\left(11850 - \frac{B}{k}\right)}{14.5}$$

PI=50                      PI = 10.77 or 28

35	19953.96617	7885.9
50	5726.594065	3954.87



	Enthalpy (J/kg)	Enthalpy Test	Vmass
0	-2365999.007	677.5254166	1
0	-2367871.412	675.5381943	1
0	-2369741.806	673.5234835	1
0	-2371610.161	671.4810441	1
0	-2373779.661	778.0359464	1
0	-2375643.51	666.9667643	1
0	-2377505.229	664.8322246	1
0	-2379364.786	662.667451	1
0	-2381222.152	660.4715179	1
0	-2382882.54	589.2131097	1
0	-2384735.664	656.2219793	1
0	-2385924.923	420.3670663	1
0	-2387774.273	652.4418381	1
0	-2390096.741	817.1777041	1
0	-2391940.754	647.0941309	1
0	-2393782.342	644.6654364	1
0	-2395621.469	642.1996141	1
0	-2397458.096	639.6953123	1
0	-2399406.779	676.9007066	1
0	-2401238.125	634.4045651	1
0	-2405150.157	1349.178436	1
0	-2406973.126	626.0117483	1

**H (ft)**

0	0	7.217344	0	-2408793.33	623.2416505	1
0	0	7.210229	0	-2410610.727	620.4291247	1
0	0	7.210229	0	-2412425.27	617.5695653	1
0	0	7.210229	0	-2414236.91	614.6612265	1
0	0	4.628792	0	-2415399.162	393.3272618	1
0	0	9.770075	0	-2417851.469	827.1007722	1
0	0	7.188521	0	-2419654.094	605.6281564	1
0	0	0.646607	0	-2419816.108	54.33989896	1
0	0	220.4338				
		3196.29				

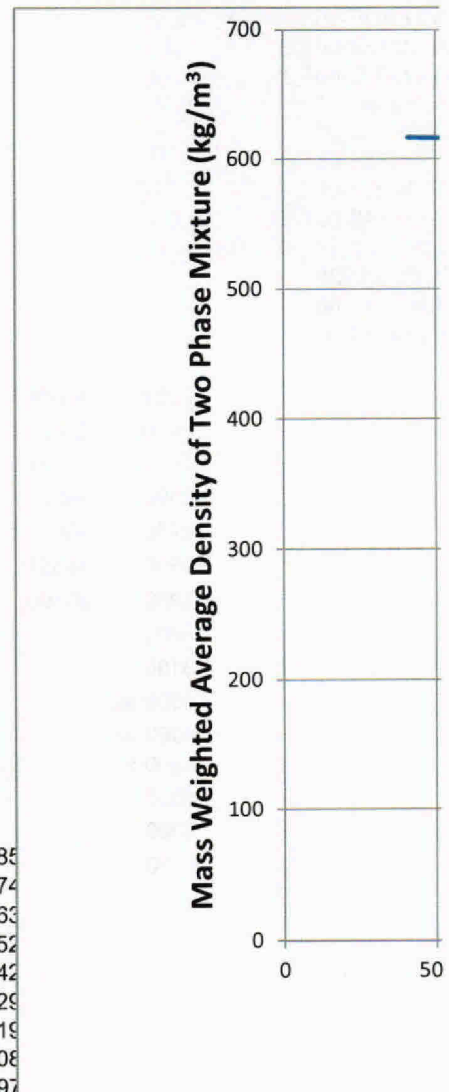
	Turns = 18	Turns = 12	Turns = 10	Turns = 8	Turns = 4
2300	13858	7307	5915		977
2400	24489	12843	10435		1724
2500	31937	16742	13607		2247
2600	38124	19988	16263		2682
2700	43577	22846	18570		3064
2800	48534	25445	20676		3411
2900	53100	27838	22627	16024	3730
3000		30092	24457	17318	4030
3100		32224	26200	18545	4313
3500		39870	32405	22945	5323
4000		48080	39073	27670	6400
4500			44930	31817	7342
5000			50189	35544	8183
6000			59434	42091	9645
7000				47616	10901

1 Methane	0.65918
2 Ethane	0.06374
3 Propane	0.04439
4 n-Butane	0.02083
5 n-Pentane	0.01024
6 n-Hexane	0.01341
7 n-Heptane	0.01934
8 n-Octane	0.02092
9 n-Nonane	0.01536
10 n-Decane	0.01285
12 n-Dodecane	0.02542
17 n-Heptadecane	0.02904
21 i-Butane/(2-Meth	0.0092
22 i-Pentane/(2-Me	0.00845
23 Crude Oil Pseud	0.01758
24 Crude Oil Pseud	0.01407
79 Nitrogen	0.00624
86 Carbon dioxide	0.00974

Ptest

-3.98856E-06  
-4.03197E-06  
-4.07624E-06  
-4.12139E-06  
-6.55748E-06  
-4.22218E-06  
-4.27031E-06  
-4.31944E-06  
-4.36959E-06  
-3.16597E-06  
-4.46759E-06  
-1.19464E-06  
-4.55579E-06  
-9.19404E-06  
-4.68229E-06  
-4.74038E-06  
-4.79979E-06  
-4.86057E-06  
-5.90878E-06  
-4.99044E-06  
-5.01978E-05  
-5.20066E-06

947	11,85	
1347	11,74	
1747	11,63	
2147	11,52	
2547	11,42	
3012	11,29	
3412	11,19	
3812	11,08	
4212	10,97	
4612	10,872.84	234.95
4970	10,777.79	234.16
5370	10,671.68	233.28
5627	10,603.55	232.71
6027	10,497.58	231.83
6530	10,364.47	230.72
6930	10,258.71	229.84
7330	10,153.06	228.96
7730	10,047.49	228.08
8130	9,942.03	227.19
8555	9,830.07	226.25
8955	9,724.81	225.37
9811	9,499.87	223.48
10211	9,394.91	222.59

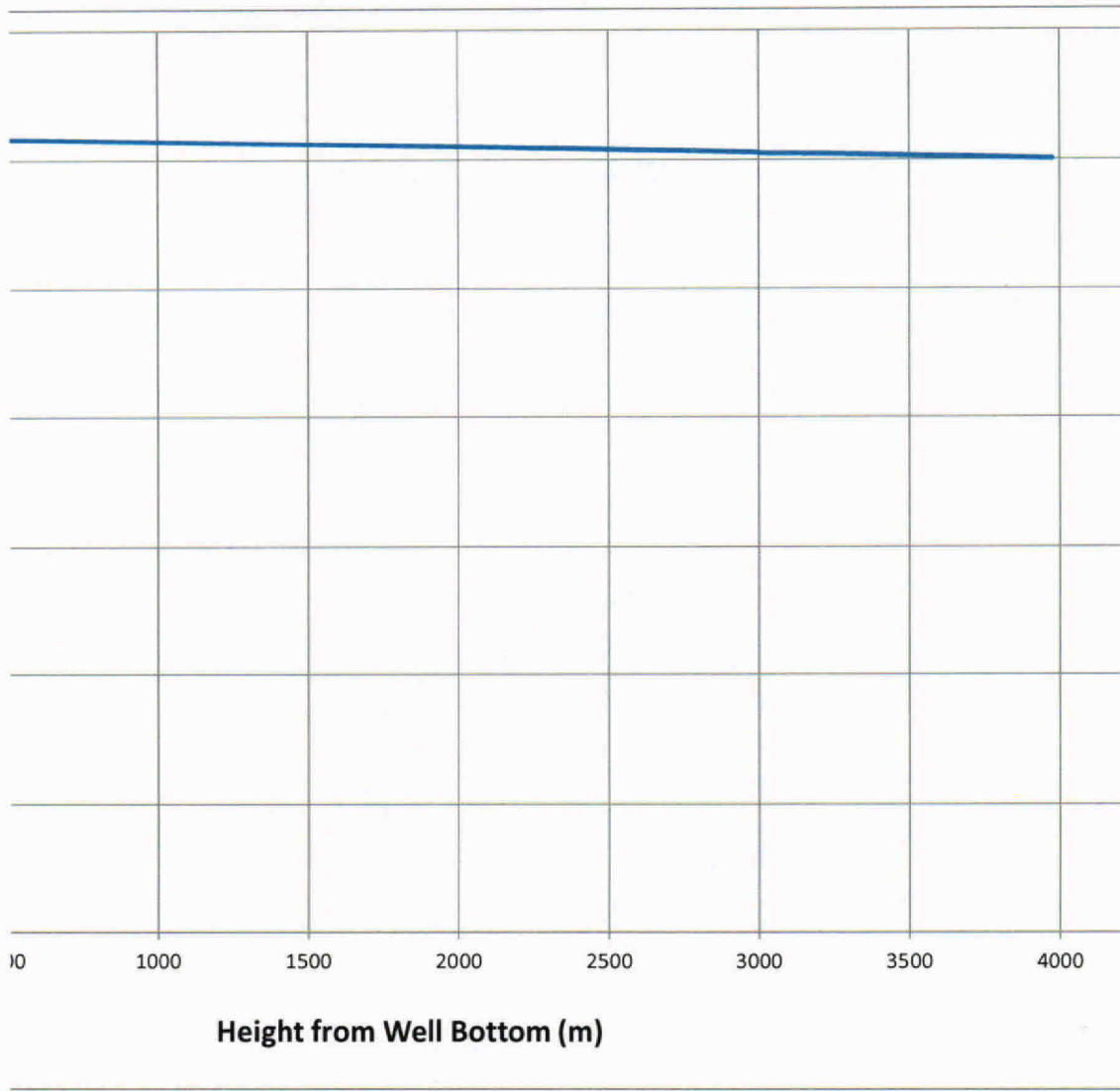


-5.27103E-06  
-5.34315E-06  
-5.41707E-06  
-5.49288E-06  
-1.47102E-06  
-1.41258E-05  
-5.73235E-06  
2.98414E-05

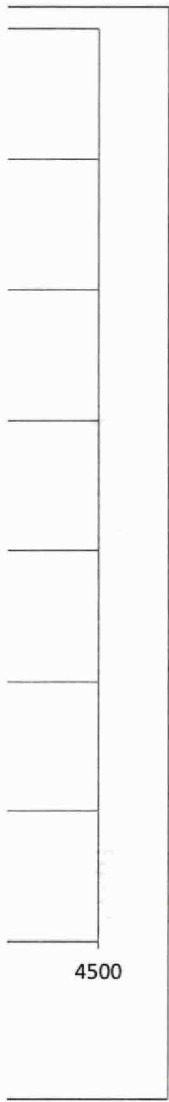
-0.000160928  
2.98414E-05  
-5.01978E-05

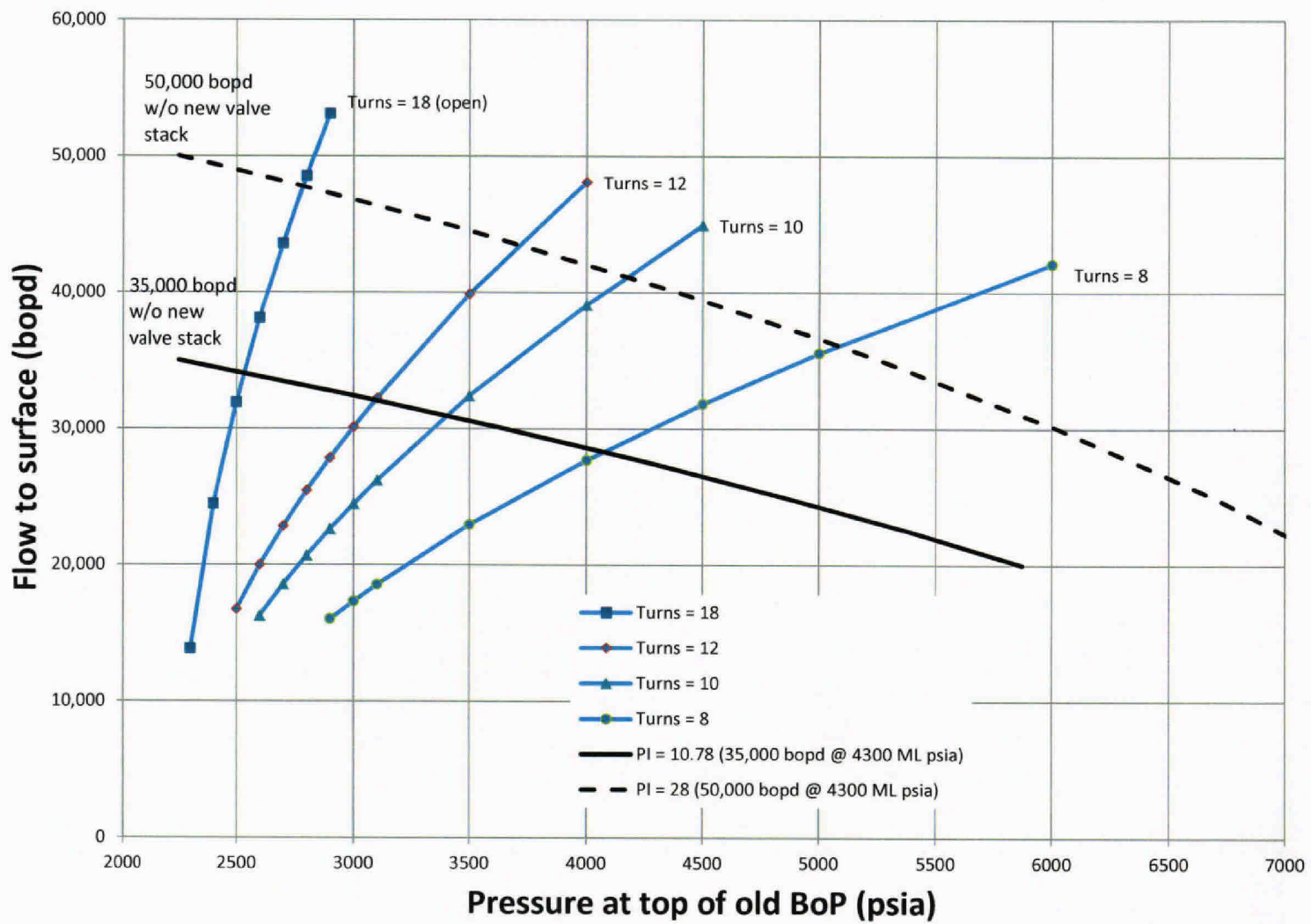
10611	9,290.06	221.71
11011	9,185.30	220.82
11411	9,080.65	219.94
11811	8,976.10	219.05
12068	8,908.99	218.48
12611	8,767.32	217.28
13011	8,663.09	216.40
13047	8,653.71	216.32

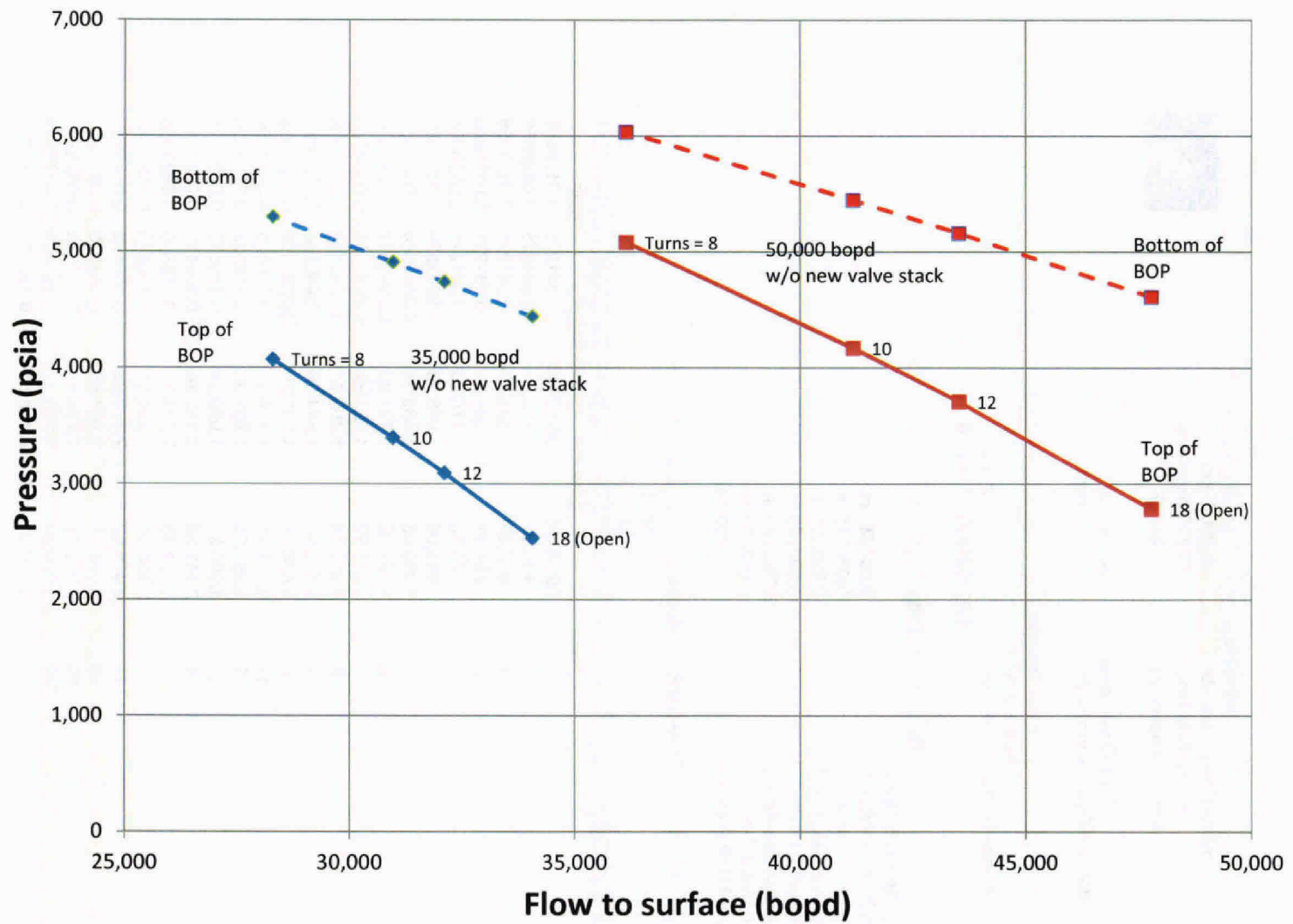
2300	13858	7307	5915	
2400	24489	12843	10435	
2500	31937	16742	13607	
2600	38124	19988	16263	
2700	43577	22846	18570	
2800	48534	25445	20676	
2900	53100	27838	22627	16024
3000		30092	24457	17318
3100		32224	26200	18545
3500 xx		39870	32405	22945
4000 xx		48080	39073	27670
4500 xx	xx		44930	31817
5000			50189	35544
6000			59434	42091
7000				47616











Inflow Data	
Inflow (Stock Tank bbl)	35,000 bopd
Productivity Index	10.775 bopd/psid
Inflow Temperature	243 °F
Pipe Roughness	4.50E-05 m
Effective Pipe Length Factor	1 m/m



Heat Transfer	
Isothermal? n	
Overall Heat Transfer Coefficient	6 W/m <sup>2</sup> .K 1.056660995 Btu/h.ft <sup>2</sup> .R

Rupture Disk Data	
No. Rupture Disks Open	0
Rupture Disk Elevation 1	2,607.56 m
Rupture Disk 1 Diam	0.003175 m
Rupture Disk Elevation 2	2,990.39 m
Rupture Disk 2 Diam	0.003175 m
Rupture Disk Elevation 3	3678.3264 m
Rupture Disk 3 Diam	0.003175 m
Reservoir M110 Pressure	5235 psia

Stock Tank Conditions	
To	60 oF
Po	14.7 psia

node	x	Elev	Diam	Area
0	288.6456	288.6456	0.041275	0.0128656
1	410.57	410.57	0.041275	0.0128656
1	532.49	532.49	0.041275	0.0128656
2	654.41	654.41	0.041275	0.0128656
3	776.33	776.33	0.041275	0.0128656
4	918.06	918.06	0.0942594	0.0333036
5	1,039.98	1,039.98	0.0942594	0.0333036
6	1,161.90	1,161.90	0.0942594	0.0333036
7	1,283.82	1,283.82	0.0942594	0.0333036
8	1,405.74	1,405.74	0.0942594	0.0333036
9	1,514.86	1,514.86	0.0942594	0.0527688
10	1,636.78	1,636.78	0.0942594	0.0527688
11	1,715.11	1,715.11	0.136525	0.0281856
12	1,837.03	1,837.03	0.136525	0.0281856
13	1,990.34	1,990.34	0.155575	0.0623285
14	2,112.26	2,112.26	0.155575	0.0623285
15	2,234.18	2,234.18	0.155575	0.0623285
16	2,356.10	2,356.10	0.155575	0.0623285
17	2,478.02	2,478.02	0.155575	0.0623285
18	2,607.56	2,607.56	0.155575	0.0623285
19	2,729.48	2,729.48	0.155575	0.0623285
20	2,990.39	2,990.39	0.155575	0.0623285
21	3,010.01	3,112.31	0.155575	0.0623285



264.1721 gal/m<sup>3</sup>  
 42 gal/bbl  
 6.2898119 bbl/m<sup>3</sup>

2210

1685.81102      1.38E+07      8168.863308  
 137.931034

Hex ID (m)	Pressure	T	r.i	V (m/s)	Vavg (m/s)	r.avg
0.219075	593.38	390.372222				
0.219075	565.10733	389.242438	584.951298	11.03895468	11.00690292	586.654657
0.219075	536.74954	388.113892	581.360802	11.10713148	11.07299061	583.153286
0.219075	508.3025	386.986843	577.570366	11.18002452	11.1435184	579.462485
0.219075	479.75893	385.861597	573.554712	11.25829973	11.21909386	575.559037
0.2720594	470.71503	384.577037	573.044067	4.353103495	4.351165242	573.299333
0.2720594	462.67427	383.453224	572.566776	4.356732232	4.354917486	572.805372
0.2720594	454.63824	382.329267	572.083167	4.360415184	4.358573319	572.324921
0.2720594	446.60698	381.205179	571.593044	4.364154101	4.362284242	571.838053
0.2720594	438.5803	380.080974	571.096149	4.367951232	4.366052254	571.344543
0.314325	432.07457	379.077034	570.772085	2.758278699	2.757496006	570.934094
0.314325	424.77273	377.952515	570.401518	2.760070644	2.759174526	570.586771
0.314325	419.66007	377.225811	570.082525	5.170270888	5.168824967	570.241999
0.314325	411.79122	376.101098	569.590577	5.174736382	5.172503153	569.836498
0.37719	403.07582	374.691778	565.437834	2.357256276	2.348647472	567.510407
0.37719	396.13004	373.569248	563.911633	2.363636082	2.360444024	564.674218
0.37719	389.20241	372.447208	562.304613	2.370391156	2.367011209	563.10755
0.37719	382.29392	371.325677	560.611185	2.377551355	2.373968556	561.457261
0.37719	375.40558	370.204667	558.825236	2.385149771	2.381347533	559.717498
0.37719	368.11008	369.014146	556.820369	2.393737653	2.389439854	557.821902
0.37719	361.26689	367.894249	554.822902	2.40235556	2.398042735	555.820738
0.37719	346.70466	365.497894	550.162333	2.422706541	2.412509591	552.487703
0.37719	340.10455	364.379701	547.882366	2.432788435	2.427742255	549.021166

22	3,234	3234.2328	0.155575	0.0623285
23	3,356	3356.1528	0.155575	0.0623285
24	3,478	3478.0728	0.155575	0.0623285
25	3,600	3599.9928	0.155575	0.0623285
26	3678.3264	3678.3264	0.155575	0.0623285
27	3,844	3843.8328	0.155575	0.0623285
28	3,966	3,966	0.155575	0.0623285
29	3,977	3,977	0.155575	0.0623285

		13047		12068
				9811
				8555

PI = 10.78 (35,000 bopd @ 4300 ML psia)

2532.105634	#NAME?	
	#NAME?	
	#NAME?	
3093.425179	#NAME?	
	#NAME?	
	#NAME?	
3399.045936	#NAME?	Turns
	#NAME?	18 (full open)
	#NAME?	12
		10
4072.458088	#NAME?	8
	#NAME?	
	#NAME?	

PI = 28 (50,000 bopd @ 4300 ML psia)

2783.868353	#NAME?	
	#NAME?	
	#NAME?	
3710.107227	#NAME?	
	#NAME?	
	#NAME?	
4171.341283	#NAME?	Turns
	#NAME?	18 (full open)
	#NAME?	12
		10
		8
5082.372205	#NAME?	
	#NAME?	
	#NAME?	



0.37719	333.20266	363.262	545.278553	2.44440548	2.43859004	546.578909
0.37719	326.49652	362.14485	542.629369	2.456339373	2.450365161	543.952348
0.37719	319.82171	361.028184	539.833648	2.4690604	2.462691672	541.229703
0.37719	313.17983	359.91197	536.885526	2.482618397	2.475830118	538.357569
0.37719	308.9306	359.195288	534.908145	2.491795824	2.487202877	535.895923
0.37719	300.00215	357.680395	530.513087	2.512439212	2.502096228	532.706084
0.37719	293.46996	356.565289	527.078607	2.52881044	2.520611535	528.793059
0.37719	292.88401	356.465067	526.760867	2.530335807	2.529573008	526.919713

3678.3264 8,604 181.63712  
2990.3928 4,246.82  
2607.564

35,000 4,246.82 2319.16829

7885.9 159.94264 2319.16829

34060.81142	4442.9905	2531.61335			2250	35000
32087.5718	4741.7233	3093.37823			2979.307465	32500
30954.72773	4911.489	3399.12446			3648.375474	30000
28306.77896	5302.4537	4072.56954			4267.439815	27500

4842.505843 25000  
5379.172362 22500  
5873.869819 20000

Flow Rate Mud Line Pi Top BoP Pres:P.bh

34061	4443	2532	8689
32088	4742	3093	8872
30955	4911	3399	8977
28307	5302	4073	9223

5150

3954.870373 226.62373 3286.0441

47767.90731	4612.3817	2784.10999			2250	50,000.00
43502.34801	5159.9226	3709.52543			2732.466821	47,990.00
41171.43115	5446.6496	4171.08919			2733.730713	47,984.56
36128.99578	6032.8473	5081.96331			3397.148236	45,000.00

3607.274067 44,001.94  
4392.777851 40,000.00  
4958.065637 36,865.65  
5267.536194 35,000.00  
6028.48477 30,000.00  
6692.861513 25,000.00  
7263.874911 20,000.00  
7743.902335 15,000.00

Flow Rate Mud Line Pi Top BoP Pres:P.bh

47768	4612	2784	7417
43502	5160	3710	7813
41171	5447	4171	8029
36129	6033	5082	8497

$$\frac{\dot{Q}}{\dot{m}} = \frac{hA(T_b - T_r)}{\dot{m}} \left\langle \frac{J}{s \cdot m^2 \cdot K} \cdot K \cdot m^2 \cdot \frac{s}{kg} \right\rangle$$

$$\left\langle \frac{Btu}{h \cdot ft^2 \cdot R} \frac{1055.056J}{Btu} \frac{1h}{3600s} \frac{10.76391ft^2}{m^2} \frac{9R}{5K} \Rightarrow \frac{J}{s \cdot m^2 \cdot K} \right\rangle$$

$$\dot{Q}_{stb} = PI(11850 - P_{bh})$$

$$P_{bh} = 11850 - \frac{\dot{Q}_{stb}}{PI}$$

$$B_{bepd} = k(11850 - P_{bhp})$$

$$p = \frac{(11850 - \frac{B}{k})}{14.5}$$

PI=50                      PI = 10.77 or 28  
 35    19953.96617      7885.9  
 50    5726.594065      3954.87

friction	Kinetic	Potential	Hex (J/kg)	Enthalpy (J/kg)	Enthalpy Test	Vmass
21.251949	0.004133332	7.018649	-1601.288466	-2388866.024	2284.779372	1
21.376631	0.004402368	6.976759	-1599.596974	-2393902.237	2235.793475	1
21.509723	0.004706912	6.932603	-1597.94765	-2398881.24	2179.945742	1
21.652611	0.005054457	6.885903	-1596.342372	-2403794.874	2115.856035	1
1.3794796	-0.309007775	7.973434	-1853.776292	-2407638.102	651.9586315	1
1.187707	9.05196E-05	6.852958	-1593.122222	-2411002.542	574.4185959	1
1.1887355	9.1872E-05	6.84721	-1591.628276	-2414360.164	569.0872834	1
1.1897761	9.32681E-05	6.841385	-1590.166544	-2417710.864	563.6192323	1
1.1911093	9.47202E-05	6.835481	-1588.737108	-2421054.551	558.0282714	1
0.4251092	-0.03274563	6.113361	-1420.812476	-2423987.069	446.3732721	0.49724
0.475398	2.82115E-05	6.826415	-1586.130047	-2427267.825	497.8476195	0.492976
0.6748454	0.054497204	4.383322	-1021.351198	-2429411.346	343.9509552	0.489465
1.0512763	0.00013162	6.817439	-1583.927136	-2432717.733	525.5357516	0.48229
0.2376813	-0.060216371	8.537935	-1989.816521	-2436833.3	626.4152238	0.09436
0.1900168	8.50353E-05	6.755678	-1581.124703	-2440059.925	447.4786257	0.108024
0.1906003	9.00373E-05	6.736935	-1579.932832	-2443266.877	428.9062685	0.119057
0.1912121	9.54371E-05	6.717191	-1578.77705	-2446461.878	418.0113788	0.128107
0.1918533	0.000101278	6.696377	-1577.657454	-2449639.824	401.9707376	0.135631
0.2045832	0.000114467	7.090804	-1675.039011	-2452997.5	409.1621512	0.142318
0.1933193	0.000114867	6.649757	-1575.462636	-2456138.616	367.0889677	0.147637
0.4168151	0.000271257	14.14514	-3366.945869	-2462799.534	722.7635937	0.156659
0.0315657	0.00013438	6.568407	-1572.408146	-2465872.679	301.8308935	0.159919

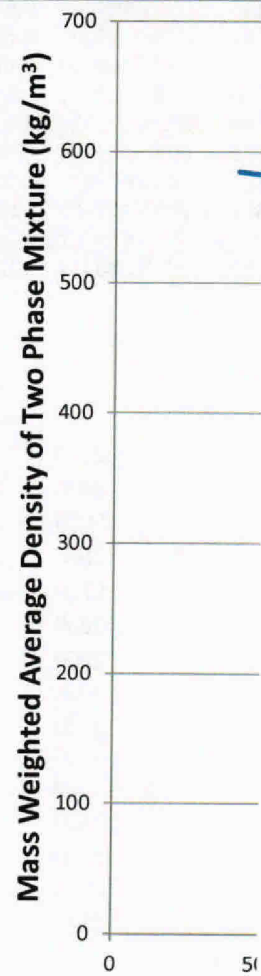
0.3625485	0.000154842	6.539189	-1571.513892	-2468939.271	295.8001659	0.163031
0.1982141	0.000159065	6.507765	-1570.655227	-2471977.23	267.9618483	0.165693
0.1994476	0.000169557	6.475192	-1569.83277	-2474993.584	246.9984756	0.16809
0.2008736	0.000180713	6.44083	-1569.046074	-2477988.252	225.909114	0.170271
0.129799	0.000122324	4.119311	-1007.799659	-2479899.698	133.5235456	0.171579
0.2765302	0.000275154	8.651641	-2127.988409	-2483909.733	251.1467999	0.174145
0.205571	0.00021821	6.326401	-1566.895946	-2486835.865	158.8987463	0.1759
0.01857	2.03313E-05	0.567359	-141.0697296	-2487097.572	12.96262651	0.176054
97.993552	-0.326338337	202.8308				

	Turns = 18	Turns = 12	Turns = 10	Turns = 8	Turns = 4
2300	13858		7307	5915	977
2400	24489		12843	10435	1724
2500	31937		16742	13607	2247
2600	38124		19988	16263	2682
2700	43577		22846	18570	3064
2800	48534		25445	20676	3411
2900	53100		27838	22627	3730
3000			30092	24457	4030
3100			32224	26200	4313
3500			39870	32405	5323
4000			48080	39073	6400
4500				44930	7342
5000				50189	8183
6000				59434	9645
7000					10901

1 Methane	0.65918
2 Ethane	0.06374
3 Propane	0.04439
4 n-Butane	0.02083
5 n-Pentane	0.01024
6 n-Hexane	0.01341
7 n-Heptane	0.01934
8 n-Octane	0.02092
9 n-Nonane	0.01536
10 n-Decane	0.01285
12 n-Dodecane	0.02542
17 n-Heptadecane	0.02904
21 i-Butane/(2-Meth	0.0092
22 i-Pentane/(2-Me	0.00845
23 Crude Oil Pseud	0.01758
24 Crude Oil Pseud	0.01407
79 Nitrogen	0.00624
86 Carbon dioxide	0.00974

Ptest

-7.65645E-05  
-8.67739E-05  
-9.91997E-05  
-0.000116485  
3.02377E-06  
1.59917E-06  
1.54243E-06  
1.48195E-06  
1.74132E-06  
-1.68336E-05  
-1.8974E-05  
0.000910753  
-3.44643E-05  
-8.28085E-05  
-1.89787E-05  
-2.13683E-05  
-2.34645E-05  
-2.6017E-05  
-4.24224E-05  
-3.83035E-05  
-0.000390051  
-4.99974E-05

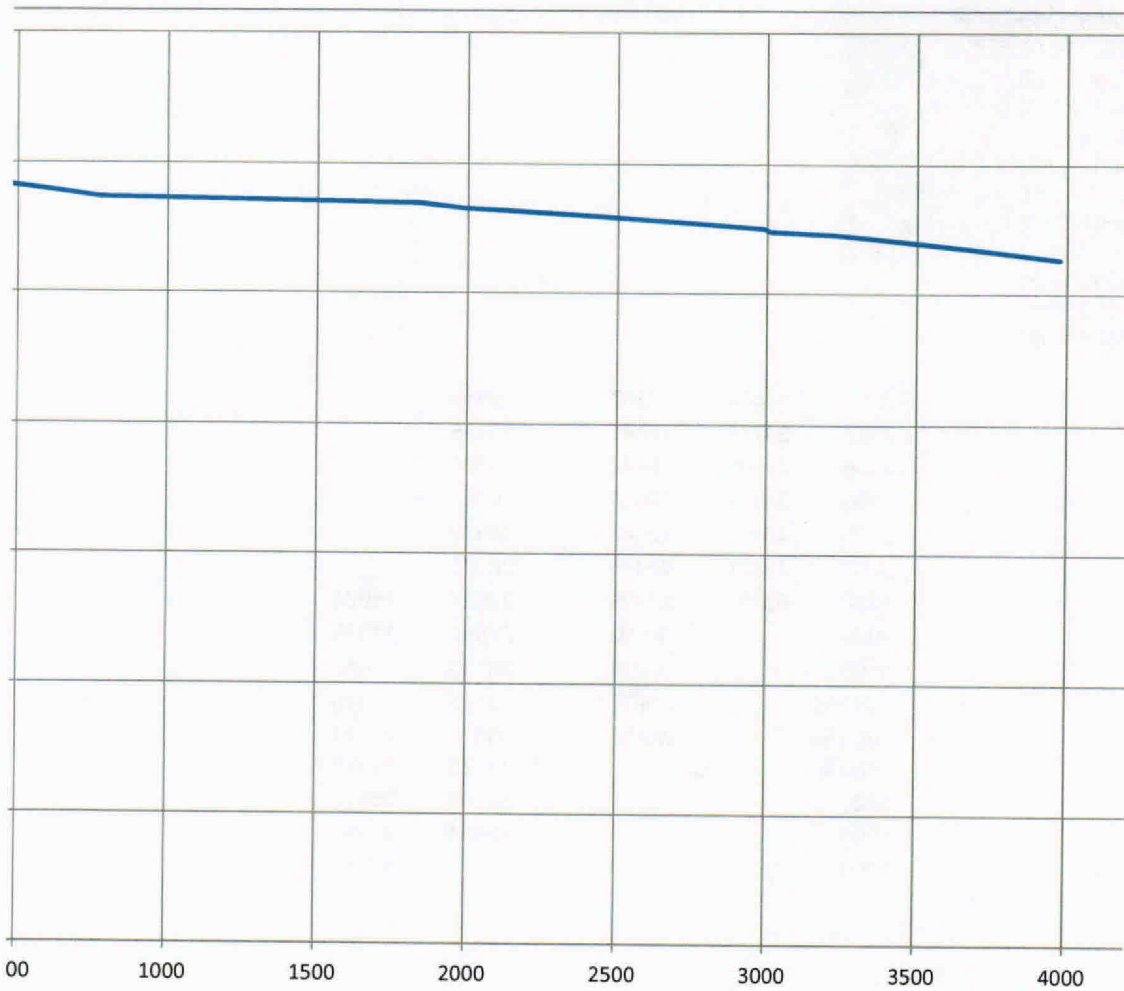




-5.34286E-05  
-5.58774E-05  
-6.08991E-05  
-7.06733E-05  
-1.83441E-05  
-0.000207663  
-9.17734E-05  
0.000142138

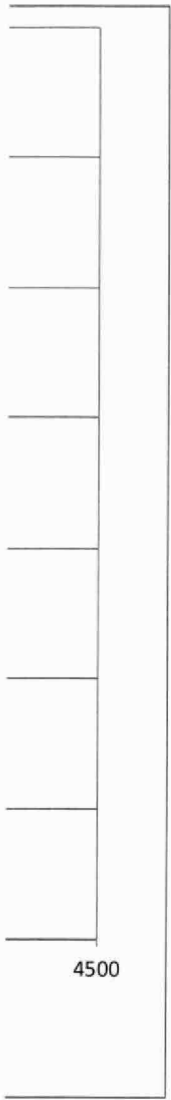
-0.000639085  
0.000910753  
-0.000390051

2300	13858	7307	5915	
2400	24489	12843	10435	
2500	31937	16742	13607	
2600	38124	19988	16263	
2700	43577	22846	18570	
2800	48534	25445	20676	
2900	53100	27838	22627	16024
3000		30092	24457	17318
3100		32224	26200	18545
3500 xx		39870	32405	22945
4000 xx		48080	39073	27670
4500 xx	xx		44930	31817
5000			50189	35544
6000			59434	42091
7000				47616



Height from Well Bottom (m)





4500

Inlet Conditions  
 Inlet Flow 55726.23 stbopd  
 132.2726 kg/s

Pressure 2900 psia  
 200 bar  
 Temperature 180 °F  
 355.9278 K

Outlet Conditions  
 Pressure 2210 psia  
 152.4138 bar  
 Temperature 180 °F  
 355.9278 K

Pipe & Valve  
 Outer Diameter 3.5 in  
 0.0889 m  
 Wall Thickness 0.21875 in  
 Inner Diameter 3.0625 in  
 0.077788 m  
 flow area 0.004752 m<sup>2</sup>  
 roughness 4.50E-05 m  
 Pipe Length 13 ft  
 3.9624 m  
 DeltaZ 10 ft  
 3.048 m  
 Choke Bean Setting 18 turns

Fluid Props

	Inlet	Outlet	Average
Viscosity	0.000249	0.000236	0.000242 N.s/m <sup>2</sup>
Density	423.4434	342.4268	380.7865 kg/m <sup>3</sup>
Velocity	65.73023	81.28169	73.09353 m/s
Re	8.70E+06	9.19E+06	8.94E+06
f	0.017314	0.017311	0.017313

Flow Loss Coefficient  
 Inlet 0.5  
 Pipe 0.881898  
 Valve #NAME?  
 Discharge 1  
 Total #NAME?

Pipe DP #NAME? bar  
 #NAME? psia  
 Head 0.113812 bar  
 1.650275 psia

Total #NAME? bar  
 #NAME? psid

Actual DP 690 bar  
 psid

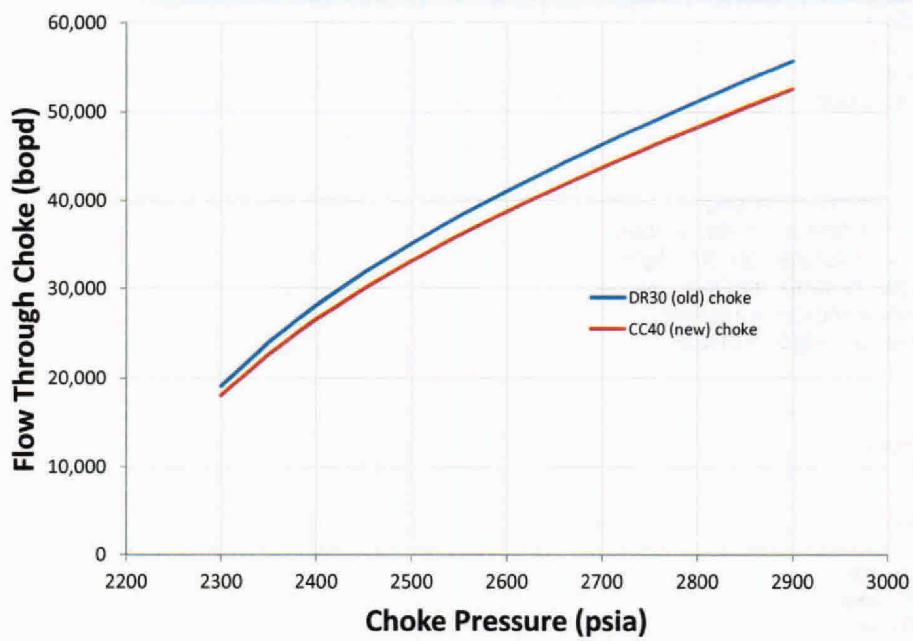
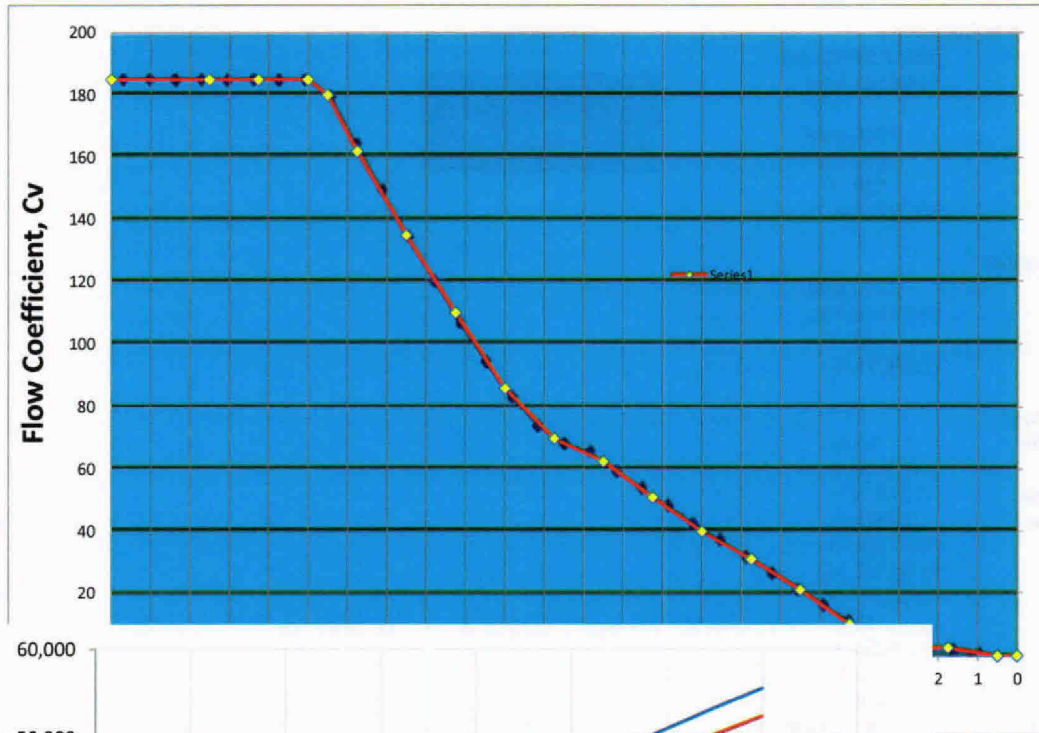
#NAME?



1 Methane	0.65918
2 Ethane	0.06374
3 Propane	0.04439
4 n-Butane	0.02083
5 n-Pentane	0.01024
6 n-Hexane	0.01341
7 n-Heptane	0.01934
8 n-Octane	0.02092
9 n-Nonane	0.01536
10 n-Decane	0.01285
12 n-Dodecan	0.02542
17 n-Heptade	0.02904
21 i-Butane/(2	0.0092
22 i-Pentane/(	0.00845
23 Crude Oil F	0.01758
24 Crude Oil F	0.01407
79 Nitrogen	0.00624
86 Carbon dio	0.00974

2900 55726.23

2300 19096.89  
2350 23999.62  
2400 28121.4  
2450 31765.42  
2500 35078.95  
2550 38146.57  
2600 41021.94  
2650 43741.62  
2700 46331.78  
2750 48811.91  
2800 51196.92  
2850 53498.55  
2900 55726.23



Inlet Conditions

Inlet Flow 52517.59 stbopd  
124.6566 kg/s

Pressure 2900 psia  
200 bar

Temperature 180 °F  
355.9278 K

#NAME?



Outlet Conditions

Pressure 2210 psia  
152.4138 bar

Temperature 180 °F  
355.9278 K

Pipe & Valve

Outer Diameter 3.5 in  
0.0889 m

Wall Thickness 0.21875 in

Inner Diameter 3.0625 in  
0.077788 m

flow area 0.004752 m<sup>2</sup>

roughness 4.50E-05 m

Pipe Length 13 ft  
3.9624 m

DeltaZ 10 ft  
3.048 m

Choke % Open 50 %Open

Choke CV #NAME?

Fluid Props

	Inlet	Outlet	Average
Viscosity	0.000249	0.000236	0.000242 N.s/m <sup>2</sup>
Density	423.4434	342.4268	380.7865 kg/m <sup>3</sup>
Velocity	61.94558	76.60161	68.88491 m/s
Re	8.20E+06	8.66E+06	8.43E+06
f	0.017318	0.017315	0.017316

Flow Loss Coefficient

Inlet 0.5

Pipe 0.882063

Valve #NAME?

Discharge 1

Total #NAME?

Pipe DP #NAME? bar  
#NAME? psia

Head 0.113812 bar  
1.650275 psia

Total #NAME? bar  
#NAME? psid

Actual DP 690 bar  
psid

		Travel (64tl % open	CV	
1 Methane	0.65918	0	0	0.0001
2 Ethane	0.06374	22	1	2
3 Propane	0.04439	33	2	5
4 n-Butane	0.02083	55	5	11
5 n-Pentane	0.01024	75	9	22
6 n-Hexane	0.01341	100	16	49
7 n-Heptane	0.01934	120	23	76
8 n-Octane	0.02092	139	32	103
9 n-Nonane	0.01536	158	41	133
10 n-Decane	0.01285	175	50	165
12 n-Dodecan	0.02542	191	59	195
17 n-Heptade	0.02904	206	69	220
21 i-Butane/(2	0.0092	219	78	240
22 i-Pentane/(	0.00845	230	86	250
23 Crude Oil F	0.01758	240	93	251
24 Crude Oil F	0.01407	246	99	256
79 Nitrogen	0.00624	248	100	256
86 Carbon dio	0.00974	248	100	256

2900 52517.59

2300 17997.87

2350 22618.25

2400 26502.64

2450 29936.79

2500 33059.48

2550 35950.42

2600 38660.19

2650 41223.23

2700 43664.22

2750 46001.5

2800 48249.14

2850 50418.22

2900 52517.59