

TABLE 1 - VAPOR CONTROL SYSTEM CALCULATIONS

CHRIS CODE	NAME	COMP GROUP	SUB CHAP	GRADE	HULL TYPE	VCS CAT	REST.	LIQ SG	VAPOR PRESS	VAPOR SG	VAPOR AIR WEIGHT DENSITY	VAPOR GROWTH RATE	VAPOR FLOW RATE (bbbl/hr)	AIR EQUIV FLOW RATE (bbbl/hr)	PRESSURE DROP TO PV VALVE IN VCS (LOADING) (psid)	PRESSURE DROP TO SHORE CONN IN VCS (LOADING) (psid)
1	Ammonium bisulfite solution (70% or less)	43	O	NA	III	N/A	.50-73, .56-1(a), (b), (c)	0.880	0.330	4.480	0.089	1.007	3523	3638	0.012	0.024
2	Acrylonitrile	15	O	C	II	4	.50-70(a), .55-1(e)	0.810	5.000	1.800	0.102	1.100	3850	4266	0.016	0.032
3	Adiponitrile	37	O	E	II	1	No	0.950	0.010	3.730	0.083	1.000	3501	3506	0.011	0.022
4	Aminoethylethanolamine	8	O	E	III	1	.55-1(b)	1.030	0.010	3.590	0.083	1.000	3501	3506	0.011	0.022
5	Anthrane oil (Coal tar fraction)	33	O	NA	II	N/A	No	1.030	0.010	3.590	0.083	1.000	3501	3506	0.011	0.022
6	Ammonium hydroxide (28% or less NH3)	6	O	NA	III	N/A	.56-1(a), (b), (c), (f), (g)	0.940	10.600	2.640	0.165	1.212	4242	4977	0.031	0.064
7	Acetonitrile	37	O	C	III	3	No	0.780	0.030	1.410	0.083	1.001	3502	3506	0.011	0.022
8	Butyraldehyde (all isomers)	19	O	C	III	1	.55-1(b)	0.790	8.000	2.480	0.139	1.160	4060	5249	0.024	0.049
9	Butyl acrylate (all isomers)	14	O	D	III	2	.50-70(a), .50-81(a), (b)	0.880	0.600	4.420	0.093	1.012	3542	3745	0.012	0.025
10	Benzene or hydrocarbon mixtures (containing Acetylene and 10% Benzene or more)	32	O	NA	III	1	.50-60, .56-1(b), (d), (f), (g)	0.880	0.800	4.000	0.094	1.250	4375	4666	0.019	0.039
11	Benzene or hydrocarbon mixtures (having 10% Benzene or more)	32	O	NA	III	1	.50-60	0.880	0.800	4.000	0.094	1.250	4375	4666	0.019	0.039
12	Butyl Methacrylate	14	O	D	III	2	.50-70(a), .50-81(a), (b)	0.880	0.290	4.900	0.089	1.006	3520	3634	0.012	0.024
13	Benzene	32	O	C	III	1	.50-60	0.880	4.500	2.800	0.121	1.250	4375	5286	0.024	0.050
14	Benzene, Toluene, Xylene mixtures (10% Benzene or more)	32	O	B/C	III	1	.50-60	0.840	7.300	2.800	0.145	1.250	4375	5779	0.029	0.060
15	Carbon tetrachloride	36	O	NA	III	N/A	No	1.590	5.400	5.490	0.197	1.108	3878	5975	0.031	0.064
16	Cyclohexanone	18	O	D	III	1	.56-1(a), (b)	0.950	0.200	3.400	0.085	1.004	3514	3564	0.011	0.023
17	Creosote	21	O	E	III	1	No	0.950	0.200	3.400	0.085	1.004	3514	3564	0.011	0.023
18	Cyclohexylamine	7	O	D	III	1	.56-1(a), (b), (c), (g)	0.870	0.620	3.420	0.090	1.012	3543	3693	0.012	0.024
19	Caustic soda solution	5	O	NA	III	1	.50-73, .55-1(f)	1.340	0.029	1.330	0.083	1.001	3502	3506	0.011	0.022
20	Dichloromethane	36	O	NA	III	5	No	1.400	19.000	3.000	0.233	1.250	4375	8622	0.065	0.133
21	2,2-Dichloroethyl ether	41	O	D	II	1	.55-1(f)	1.220	0.040	4.900	0.084	1.001	3503	3521	0.011	0.022
22	Diethylamine	7	O	C	III	3	.55-1(e)	0.710	1.000	2.500	0.090	1.020	3570	3721	0.012	0.025
23	Diethylenetriamine	7	O	E	III	1	.55-1(e)	0.950	0.040	3.480	0.084	1.001	3503	3515	0.011	0.022
24	Diisopropylamine	7	O	C	II	3	.55-1(e)	0.720	3.700	3.500	0.127	1.074	3759	4642	0.019	0.038
25	Diisopropanolamine	8	O	E	III	1	.55-1(e)	0.980	0.010	4.590	0.083	1.000	3501	3507	0.011	0.022
26	Dimethyl/ethanolamine	8	O	D	III	1	.56-1(b), (c)	0.890	0.516	3.030	0.088	1.010	3536	3642	0.012	0.024
27	Dimethylformamide	10	O	D	III	1	.55-1(e)	0.950	0.300	2.510	0.085	1.006	3521	3569	0.011	0.023
28	Dichloropropane, Dichloropropane mixtures.	15	O	NA	II	1	No	0.892	9.200	1.550	0.107	1.184	4144	4703	0.019	0.039
29	Di-n-propylamine	7	O	C	II	3	.55-1(e)	0.740	1.450	3.500	0.100	1.029	3602	3956	0.014	0.028
30	DOT	7	O	E	III	N/A	.56-1(b)	0.990	0.010	13.450	0.084	1.000	3501	3516	0.011	0.022
31	1,1-Dichloropropane	36	O	C	III	3	No	1.040	1.800	3.000	0.100	1.036	3626	3981	0.014	0.028
32	1,3-Dichloropropane	36	O	C	III	3	No	1.040	1.800	3.000	0.100	1.036	3626	3981	0.014	0.028
33	1,2-Dichloropropane	36	O	C	III	3	No	1.160	2.500	3.890	0.117	1.050	3675	4364	0.017	0.034
34	1,3-Dichloropropane	15	O	D	II	4	No	1.230	5.500	3.840	0.157	1.110	3885	5335	0.025	0.051
35	2,4-Dichlorophenoxyacetic acid, trisopropanolamine salt solution.	43	O	NA	III	N/A	.56-1(a), (b), (c), (g)	1.180	0.010	5.300	0.083	1.000	3501	3508	0.011	0.022
36	Ethyl acrylate	14	O	C	III	2	.50-70(a), .50-81(a), (b)	0.930	2.000	3.500	0.107	1.040	3640	4125	0.015	0.030
37	2-Ethylhexyl acrylate	14	O	E	III	2	.50-70(a), .50-81(a), (b)	0.890	0.015	6.350	0.084	1.000	3501	3512	0.011	0.022
38	Ethylamine solution (72% or less)	7	O	A	II	6	.55-1(b)	0.800	15.500	1.560	0.137	1.250	4375	5616	0.028	0.056
39	N-Ethylbutylamine	7	O	D	III	3	.55-1(b)	0.719	1.598	0.286	0.078	1.032	3612	3496	0.011	0.022
40	N-Ethylcyclohexylamine	7	O	D	III	1	.55-1(b)	0.850	0.585	4.400	0.093	1.012	3541	3738	0.012	0.025
41	Ethylendiamine	7	O	D	III	1	.55-1(e)	0.910	0.900	2.100	0.088	1.018	3563	3664	0.012	0.024
42	Ethylene dichloride	36	O	C	III	1	No	1.260	4.000	3.420	0.129	1.080	3780	4705	0.019	0.040
43	Ethylene glycol monoalkyl ethers	40	O	D/E	III	1	No	0.970	0.200	4.720	0.085	1.004	3514	3590	0.011	0.023
44	Ethylene glycol hexyl ether	40	O	E	III	N/A	No	0.930	0.170	3.100	0.087	1.003	3512	3550	0.011	0.022
45	Ethylene glycol propyl ether	40	O	E	III	1	No	0.908	0.025	3.600	0.083	1.001	3502	3511	0.011	0.022
46	2-Ethyl-1,3-propylacrolein	19	O	E	III	1	No	0.850	0.120	4.350	0.085	1.002	3508	3551	0.011	0.023
47	Ethylene cyanohydrin	20	O	E	III	1	No	1.040	0.010	2.450	0.083	1.000	3501	3505	0.011	0.022
48	Ethyl methacrylate	14	O	D/E	III	2	.50-70(a)	0.920	1.000	3.940	0.097	1.020	3570	3858	0.013	0.027

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49	Furfural	19	O	E	III	1	.55-1(b)	1.200	0.150	3.310	0.085	1.003	3511	3547	0.011	0.022
50	Formaldehyde solution (37% to 50%)	19	O	D/E	III	1	.55-1(b)	1.130	0.150	1.030	0.083	1.003	3511	3511	0.011	0.022
51	Glutaraldehyde solution (50% or less)	19	O	NA	III	N/A	No	1.124	0.010	3.400	0.083	1.000	3501	3506	0.011	0.022
52	Hexamethylenediamine solution	7	O	E	III	1	.55-1(c)	1.210	10.500	1.260	0.096	1.210	4235	4553	0.018	0.037
53	Hexamethylenimine	7	O	C	II	1	.56-1(b), (c)	0.880	5.600	0.104	0.060	1.112	3892	3297	0.010	0.019
54	iso-Decyl acrylate	14	O	E	III	2	.50-70(a), .50-81(a), (b), .55-1(c)	0.890	0.010	7.300	0.083	1.000	3501	3510	0.011	0.022
55	iso-Propylamine	7	O	A	II	5	.55-1(c)	0.690	23.100	2.030	0.265	1.250	4375	7820	0.053	0.109
56	Isoprene	30	O	A	III	7	.50-70(a), .50-81(a), (b)	0.672	11.300	1.772	0.124	1.226	4291	5247	0.024	0.049
57	Kraft pulping liquors (free alkali content 3% or more) (including: Black, Green, or White liquor)	5	O	NA	III	N/A	.50-73, .56-1(a), (c), (g)	0.800	10.060	2.960	0.176	1.201	4204	6118	0.033	0.067
58	Methyl acrylate	14	O	C	III	2	.50-70(a), .50-81(a), (b)	0.950	4.100	3.000	0.122	1.082	3787	4585	0.018	0.038
59	Methylcyclopentadiene dimer	30	O	C	III	1	No	0.941	0.040	0.930	0.083	1.001	3503	3505	0.011	0.022
60	Methyl diethanolamine	8	O	E	III	1	.56-1(b), (c)	1.043	0.000	4.120	0.083	1.000	3500	3503	0.011	0.022
61	Ethanolamine	8	O	E	III	1	.55-1(c)	1.020	0.030	2.100	0.083	1.001	3502	3508	0.011	0.022
62	2-Methyl-5-ethylpyridine	9	O	E	III	1	.55-1(c)	0.920	0.160	4.180	0.086	1.003	3511	3564	0.011	0.023
63	Methyl methacrylate	14	O	C	III	2	.50-70(a), .50-81(a), (b)	0.940	2.020	3.450	0.106	1.040	3641	4122	0.015	0.030
64	iso-Propanolamine	8	O	E	III	1	.55-1(c)	0.960	0.080	2.590	0.084	1.002	3506	3521	0.011	0.022
65	Morpholine	7	O	D	III	1	.55-1(c)	1.000	0.800	3.000	0.091	1.016	3716	3716	0.012	0.025
66	2-Methylpyridine	9	O	D	III	3	.55-1(c)	0.940	2.065	3.200	0.105	1.041	3645	4089	0.015	0.030
67	Mesityl oxide	18	O	D	III	1	No	0.860	0.670	3.500	0.091	1.013	3547	3714	0.012	0.025
68	alpha-Methylstyrene	30	O	D	III	2	.50-70(a), .50-81(a), (b)	0.890	0.400	4.080	0.089	1.008	3528	3652	0.012	0.024
69	Coal tar naphtha solvent	33	O	D	III	1	.50-73	1.410	3.600	2.170	0.103	1.072	4178	4785	0.015	0.031
70	1- or 2-Nitropropane	42	O	D	III	1	.50-81	0.990	1.050	3.060	0.093	1.021	3574	3789	0.013	0.026
71	Phthalic anhydride (molten)	11	O	E	III	1	No	1.203	0.056	0.207	0.083	1.001	3504	3502	0.011	0.022
72	Propanolamine (iso-, n-)	8	O	E	III	1	.56-1(b), (c)	0.870	1.900	3.520	0.106	1.038	3633	4098	0.015	0.030
73	Penta-chloroethane	36	O	NA	III	1	No	1.670	0.010	7.000	0.083	1.000	3501	3509	0.011	0.022
74	1,3-Pentadiene	30	O	A	III	7	.50-70(a), .50-81	0.680	17.060	2.360	0.228	1.250	4375	7246	0.046	0.094
75	Polyethylene polyamines	7	O	E	III	1	.55-1(c)	0.994	8.300	4.550	0.222	1.166	4081	6667	0.039	0.079
76	Perchloroethylene	36	O	NA	III	N/A	No	1.620	1.230	5.830	0.111	1.025	3586	4148	0.015	0.031
77	Pyridine	9	O	C	III	1	.55-1(c)	0.980	1.300	2.720	0.094	1.026	3591	3814	0.013	0.026
78	Sodium aluminate solution (45% or less)	5	O	NA	III	N/A	.50-73, .56-1(a), (b), (c)	0.850	0.010	0.010	0.083	1.000	3501	3502	0.011	0.022
79	Sodium chlorate solution (50% or less)	0	O	NA	III	N/A	.50-73	0.850	0.010	0.010	0.083	1.000	3501	3502	0.011	0.022
80	Sodium sulfide, hydrosulfide solution (H2S 15 ppm or less)	0	O	NA	III	1	.50-73, .55-1(b)	1.280	1.510	1.170	0.084	1.030	3606	3635	0.012	0.024
81	Sodium sulfide, hydrosulfide solution (H2S greater than 15 ppm but less than 200 ppm)	0	O	NA	III	N/A	.50-73, .55-1(b)	1.280	1.510	1.170	0.084	1.030	3606	3635	0.012	0.024
82	Sodium sulfide, hydrosulfidesolutions (H2S greater than200ppm)	0	O	NA	II	N/A	.50-73, .55-1(b)	1.280	1.510	1.170	0.084	1.030	3606	3635	0.012	0.024
83	Styrene monomer	30	O	D	III	2	.50-70(a), .50-81(a), (b)	0.920	0.400	3.600	0.088	1.008	3528	3633	0.012	0.024
84	1,2,4-Trichlorobenzene	36	O	E	III	1	No	1.450	0.010	6.260	0.083	1.000	3501	3509	0.011	0.022
85	Trichloroethylene	36	O	NA	III	1	No	1.470	3.300	4.540	0.141	1.070	3745	4887	0.021	0.043
86	1,1,2-Trichloroethane	36	O	NA	III	1	.50-73, .56-1(a)	1.430	0.010	4.550	0.083	1.000	3501	3507	0.011	0.022
87	1,2,3-Trichloropropane	36	O	E	II	3	.50-73, .56-1(a)	1.390	0.150	5.600	0.086	1.003	3511	3581	0.011	0.023
88	Toluenediamine	9	O	E	II	N/A	.50-73, .56-1(a), (b), (c), (g)	1.170	0.010	12.700	0.084	1.000	3501	3515	0.011	0.022
89	Triethanolamine	8	O	E	III	1	.55-1(b)	1.130	0.010	5.140	0.083	1.000	3501	3508	0.011	0.022
90	1,1,2,2-Tetrachloroethane	36	O	NA	III	N/A	No	1.600	1.000	5.800	0.106	1.020	3570	4028	0.014	0.029
91	Triethylamine	7	O	C	II	3	.55-1(c)	0.730	2.500	3.490	0.112	1.050	3675	4276	0.016	0.033
92	Triethylenetetramine	41	O	E	III	1	.55-1(b)	0.980	0.010	5.040	0.083	1.000	3501	3502	0.011	0.022
93	Tetrahydrofuran	7	O	C	III	1	.50-70(b)	0.890	8.500	1.350	0.097	1.170	4095	4429	0.017	0.035
94	Triphenylborane (10% or less), caustic soda solution	5	O	NA	III	N/A	.56-1(a), (b), (c)	0.870	1.500	3.140	0.098	1.030	3605	3921	0.013	0.027
95	Tetraethylenepentamine	1	O	E	III	1	.55-1(c)	0.998	0.000	6.530	0.083	1.000	3500	3503	0.011	0.022

OWNER: Arcosa Marine Products, Inc

DESCRIPTION: Double Skin Trunked Deck, Single Rake Tank Barge

SIZE: 200'-0" x 35'-0" x 12'-6"

HULL/NAME: 5490 - 5492/CTC 11000 - 11002

CONTRACT: 96314

BY: MEC

DATE: 29-Jun-2021

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96	Urea, Ammonium nitrate solution (containing more than 2% NH3)	6	O	NA	III	N/A	.56-1(b)	1.000	0.010	6.800	0.083	1.000	3501	3509	0.011	0.022
97	Vinyl acetate	13	O	C	III	2	.50-70(a), .50-81(a), (b), .50-70(a), .50-81, .50-1(a), (b), (c), (g)	0.940	5.800	2.970	0.137	1.116	3906	5014	0.022	0.045
98	Vinyltoluene	13	O	D	III	2		0.900	0.120	4.080	0.085	1.002	3508	3548	0.011	0.022
99	Acetophenone	18	D	E	NA	1		1.030	0.600	4.140	0.092	1.012	3542	3729	0.012	0.025
100	Acetone	18	D	C	NA	1		0.790	10.000	2.000	0.130	1.200	4200	5258	0.024	0.049
101	Benzyl alcohol	21	D	E	NA	1		1.050	0.100	3.730	0.084	1.002	3507	3537	0.011	0.022
102	Butyl alcohol (n-)	0	D	D	NA	1		0.810	0.500	2.600	0.087	1.010	3535	3617	0.011	0.023
103	Butyl alcohol (sec-)	0	D	C	NA	1		0.810	1.300	2.600	0.093	1.026	3591	3799	0.013	0.026
104	Butyl alcohol (tert-)	0	D	C	NA	1		0.780	2.800	2.600	0.104	1.056	3696	4141	0.015	0.031
105	BAX	34	D	D	NA	1		0.870	0.600	4.000	0.092	1.012	3542	3721	0.012	0.025
106	Butyl benzyl phthalate	34	D	E	NA	1		1.120	0.010	10.800	0.084	1.000	3501	3513	0.011	0.022
107	BUE	32	D	D	NA	1		0.850	0.100	5.110	0.085	1.002	3507	3550	0.011	0.022
108	Cyclohexanol	20	D	E	NA	1		0.940	0.200	3.500	0.086	1.004	3514	3566	0.011	0.023
109	CHX	31	D	C	NA	1		0.780	4.500	2.900	0.123	1.090	3815	4650	0.019	0.039
110	CLS	22	D	E	NA	1		1.060	0.700	3.900	0.093	1.014	3549	3750	0.012	0.025
111	CMP	32	D	D	NA	1		0.860	0.460	4.620	0.091	1.009	3532	3698	0.012	0.024
112	CPD	30	D	D/E	NA	2		0.690	0.250	4.550	0.087	1.005	3518	3607	0.011	0.022
113	DAA	20	D	E	NA	1		0.940	0.100	4.000	0.085	1.002	3507	3539	0.011	0.022
114	DAX	20	D	E	NA	1		0.830	5.800	2.970	0.137	1.116	3906	5014	0.022	0.045
115	DBL	30	D	C	NA	1		0.720	2.200	3.970	0.114	1.044	3654	4279	0.016	0.033
116	DCE	30	D	D	NA	1		0.740	0.120	5.300	0.086	1.002	3508	3562	0.011	0.023
117	DDB	32	D	E	NA	1		0.860	4.700	8.400	0.247	1.094	3829	6598	0.038	0.078
118	DDO	33	D	E	NA	1		1.070	0.010	5.870	0.083	1.000	3501	3508	0.011	0.022
119	DEB	32	D	D	NA	1		0.870	0.080	4.620	0.085	1.002	3506	3537	0.011	0.022
120	DEG	40	D	E	NA	1		1.120	0.010	3.660	0.083	1.000	3501	3506	0.011	0.022
121	DIK	18	D	D	NA	1		0.810	0.480	4.900	0.092	1.010	3534	3719	0.012	0.025
122	DOP	34	D	E	NA	1		0.990	0.010	13.450	0.084	1.000	3501	3516	0.011	0.022
123	DPG	40	D	E	NA	1		1.030	0.070	4.630	0.084	1.001	3505	3533	0.011	0.022
124	EAL	20	D	C	NA	1		0.790	3.500	1.600	0.093	1.070	3745	3964	0.014	0.028
125	EBT	20	D	D	NA	1		0.830	0.140	3.400	0.085	1.003	3510	3546	0.011	0.022
126	EGJ	20	D	E	NA	1		1.130	0.010	2.210	0.083	1.000	3501	3505	0.011	0.022
127	EGY	34	D	E	NA	1		1.130	0.010	1.000	0.083	1.000	3501	3503	0.011	0.022
128	EHX	20	D	E	NA	1		0.830	0.015	4.500	0.083	1.000	3501	3509	0.011	0.022
129	ETA	34	D	C	NA	1		0.900	4.500	3.040	0.126	1.090	3815	4705	0.019	0.040
130	ETB	32	D	C	NA	1		0.870	0.600	3.660	0.091	1.012	3542	3701	0.012	0.024
131	ETG	40	D	E	NA	1		1.020	0.010	6.140	0.083	1.000	3501	3509	0.011	0.022
132	FAL	20	D	E	NA	1		1.290	0.100	3.370	0.084	1.002	3507	3533	0.011	0.022
133	GAT	33	D	C	NA	1		0.760	12.500	3.400	0.224	1.250	4375	7188	0.045	0.092
134	GCR	20	D	E	NA	1		1.260	0.010	3.170	0.083	1.000	3501	3506	0.011	0.022
135	HMX	31	D	C	NA	1		0.680	2.500	3.450	0.112	1.050	3675	4267	0.016	0.033
136	HPX	30	D	C	NA	2		0.700	2.900	3.400	0.116	1.058	3703	4374	0.017	0.034
137	HXG	20	D	E	NA	1		0.920	0.010	4.000	0.083	1.000	3501	3506	0.011	0.022
138	HXN	20	D	D	NA	1		0.820	1.000	3.520	0.095	1.020	3570	3819	0.013	0.026
139	IAC	34	D	C	NA	1		0.880	3.100	3.520	0.120	1.062	3717	4466	0.017	0.036
140	IAL	20	D	D	NA	1		0.810	0.900	2.600	0.090	1.018	3563	3708	0.012	0.025
141	IDA	19	D	E	NA	1		0.830	0.060	5.380	0.084	1.001	3504	3533	0.011	0.022
142	IPA	20	D	C	NA	1		0.790	3.000	2.070	0.098	1.060	3710	4036	0.014	0.029
143	IPH	18	D	E	NA	1		0.930	0.010	4.750	0.083	1.000	3501	3507	0.011	0.022
144	KRS	33	D	D	NA	1		0.810	0.150	4.500	0.086	1.003	3511	3565	0.011	0.023
145	MAC	34	D	D	NA	1		0.860	0.340	5.000	0.090	1.007	3524	3660	0.012	0.024

OWNER: Arcosa Marine Products, Inc

DESCRIPTION: Double Skin Trunked Deck, Single Rake Tank Barge

SIZE: 200'-0" x 35'-0" x 12'-6"

HULL/NAME: 5490 - 5492/CTC 11000 - 11002

CONTRACT: 96314

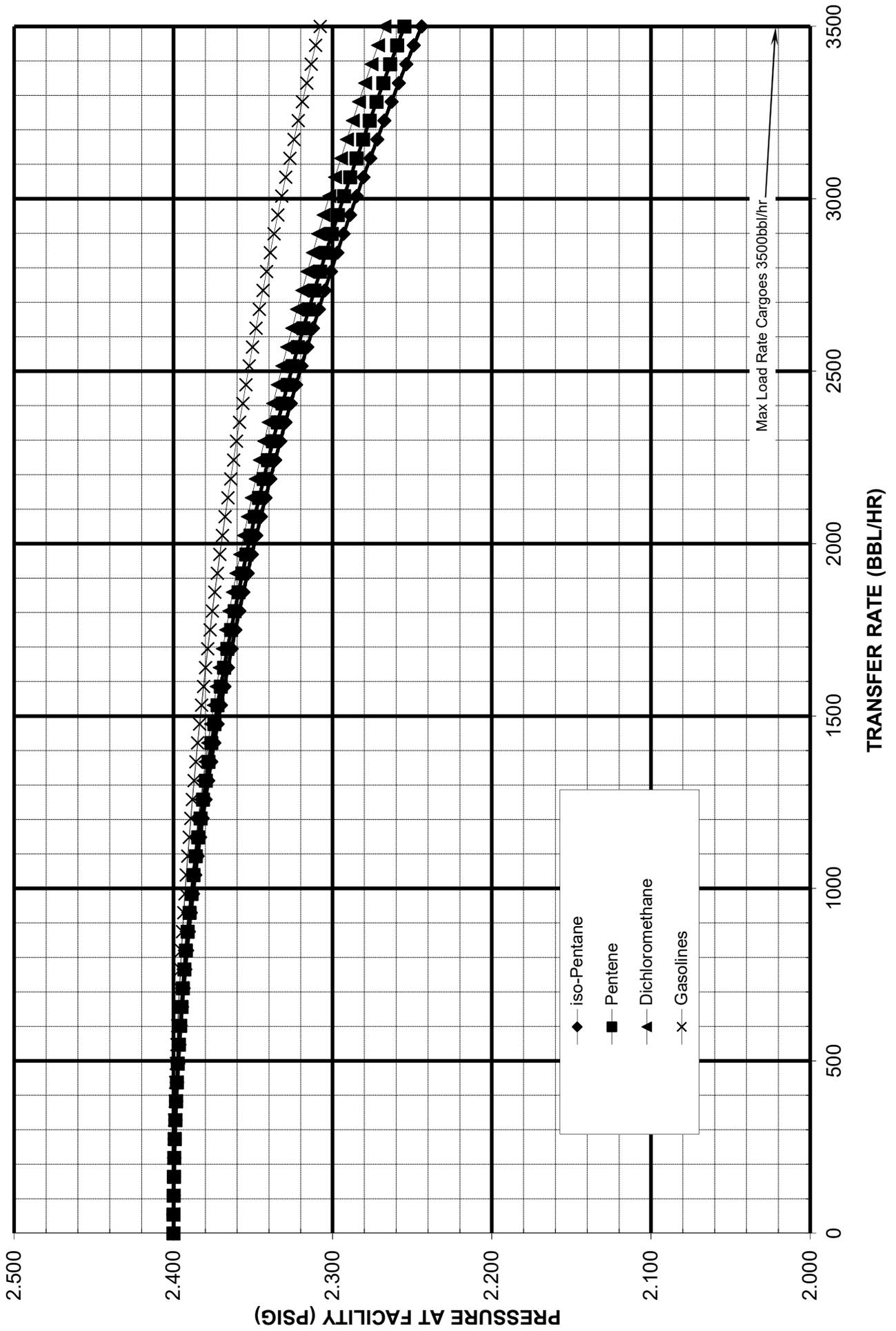
BY: MEC

DATE: 29-Jun-2021

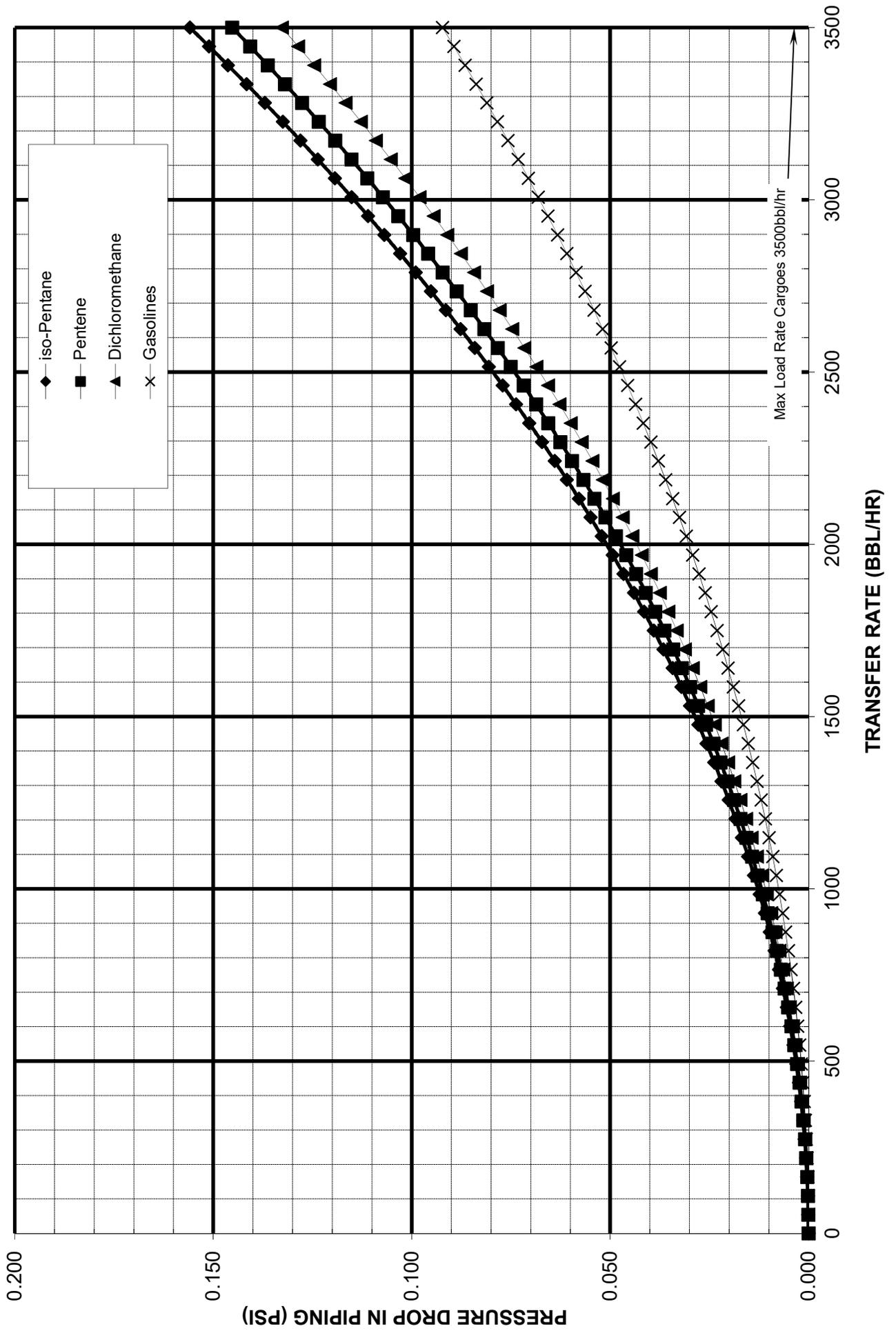
TABLE 1 - VAPOR CONTROL SYSTEM CALCULATIONS

CHRIS CODE	NAME	COMP GROUP	SUB CHAP	GRADE	HULL TYPE	VCS CAT	REST.	LIQ SG	VAPOR PRESS	VAPOR SG	VAPOR AIR WEIGHT DENSITY	VAPOR GROWTH RATE	VAPOR FLOW RATE (bbbl/h)	AIR EQUIV FLOW RATE (bbbl/hr)	PRESSURE DROP TO PV VALVE IN VCS (LOADING) (psid)	PRESSURE DROP TO SHORE CONN IN VCS (LOADING) (psid)
146	Methyl alcohol	20	D	C	NA	1	NA	0.790	7.000	1.100	0.086	1.140	3990	4071	0.014	0.030
147	Methyl tert-butyl ether	41	D	C	NA	1	NA	0.740	0.040	3.100	0.084	1.001	3503	3514	0.011	0.022
148	Methyl ethyl ketone	18	D	C	NA	1	NA	0.800	4.500	2.500	0.115	1.090	3815	4487	0.018	0.036
149	Methyl isobutyl ketone	18	D	C	NA	1	NA	0.800	1.200	3.450	0.097	1.024	3584	3873	0.013	0.027
150	Mineral spirits	33	D	D	NA	1	NA	0.750	0.200	4.300	0.086	1.004	3514	3582	0.011	0.023
151	Methyl acetate	34	D	D	NA	1	NA	0.920	6.100	2.600	0.129	1.122	3927	4895	0.021	0.043
152	Nonyl phenol	21	D	E	NA	1	NA	0.940	0.010	7.590	0.083	1.000	3510	3510	0.011	0.022
153	Naphtha: Stoddard solvent	33	D	D	NA	1	NA	0.780	0.200	0.010	0.082	1.004	3514	3497	0.011	0.022
154	Naphtha: Solvent	33	D	D	NA	1	NA	0.870	0.200	3.500	0.086	1.004	3514	3566	0.011	0.023
155	NVM	33	D	C	NA	1	NA	0.770	0.190	0.010	0.082	1.004	3513	3497	0.011	0.022
156	Naphtha: Varnish makers and painters (75%)	33	D	C	NA	1	NA	0.900	5.800	2.970	0.137	1.116	3906	5014	0.022	0.045
157	Oil, misc: Diesel	33	D	D/E	NA	1	NA	0.900	5.800	2.970	0.137	1.116	3906	5014	0.022	0.045
158	Oil, misc: Crude	33	D	C/D	NA	1	NA	0.950	0.149	2.970	0.085	1.003	3510	3542	0.011	0.022
159	Oil, fuel: No. 6	33	D	E	NA	1	NA	0.880	0.560	8.000	0.102	1.011	3539	3915	0.013	0.027
160	Oil, fuel: No. 2	33	D	D/E	NA	1	NA	0.880	0.560	8.000	0.102	1.011	3539	3915	0.013	0.027
161	n-Propyl alcohol	20	D	C	NA	1	NA	0.800	1.200	2.070	0.089	1.024	3584	3715	0.012	0.025
162	n-Propyl acetate	34	D	C	NA	1	NA	0.870	1.900	3.520	0.106	1.038	3633	4098	0.015	0.030
163	Propylbenzene (all isomers)	32	D	D	NA	1	NA	0.860	0.600	4.200	0.092	1.012	3542	3732	0.012	0.025
164	Polybutene	30	D	E	NA	1	NA	0.910	0.010	0.010	0.083	1.000	3501	3502	0.011	0.022
165	Pentene (all isomers)	31	D	A	III	5	NA	0.637	24.945	2.500	0.353	1.250	4375	9018	0.071	0.145
166	iso-Pentane	30	D	A	III	5	NA	0.620	27.000	2.480	0.379	1.250	4375	9345	0.076	0.156
167	Triethyl phosphate (less than 1% of the ortho isomer)	34	D	E	NA	1	NA	1.170	0.010	12.700	0.084	1.000	3501	3515	0.011	0.022
168	Triethylbenzene	32	D	E	NA	1	NA	0.860	0.050	5.600	0.084	1.001	3504	3529	0.011	0.022
169	Triethylene glycol	40	D	E	NA	1	NA	1.120	0.010	5.170	0.083	1.000	3501	3508	0.011	0.022
170	Tetrahydronaphthalene	32	D	E	NA	1	NA	0.980	0.040	4.550	0.084	1.001	3503	3520	0.011	0.022
171	Toluene	32	D	C	NA	1	NA	0.870	1.500	3.140	0.098	1.030	3605	3921	0.013	0.027
172	Tetraethylene glycol	40	D	E	NA	1	NA	1.130	0.010	6.700	0.083	1.000	3501	3509	0.011	0.022
Max Vapor Density Cargo	PTY iso-Pentane	30	D	A	III	5	NA	0.620	27.000	2.480	0.379	1.250	4375	9345	0.076	0.156
Max Pressure Drop Cargo	PTY iso-Pentane	30	D	A	III	5	NA	0.620	27.000	2.480	0.379	1.250	4375	9345	0.076	0.156

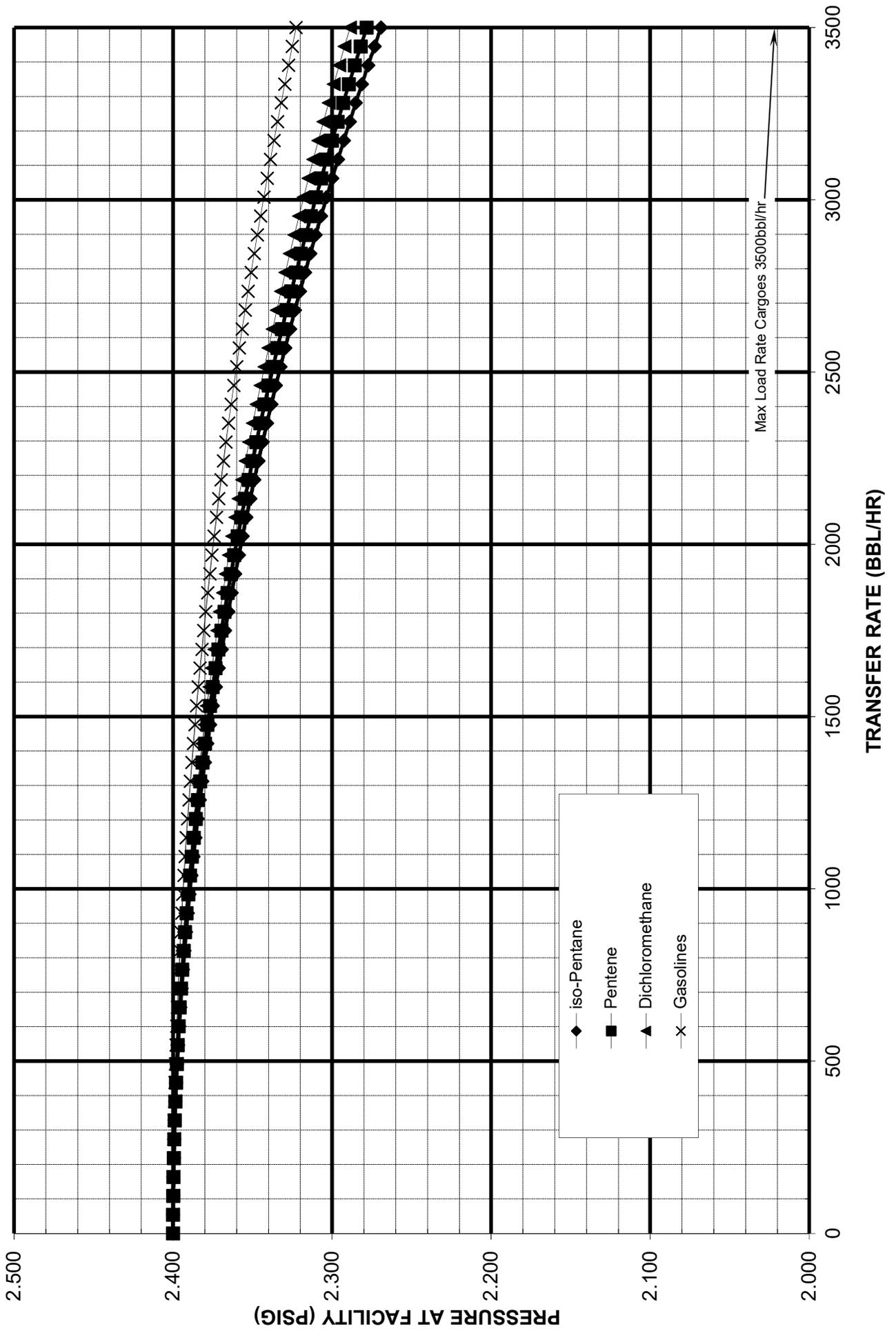
**LIQUID TRANSFER RATE vs FACILITY PRESSURE FOR TANDEM LOADING**  
**BASED ON PRESSURE DROP FROM CARGO TANK #3 TO FACILITY CONNECTION**



**LIQUID TRANSFER RATE vs PIPING PRESSURE DROP**  
**CARGO TANK #3 TO FACILITY CONNECTION**  
**TANDEM LOADING**



**LIQUID TRANSFER RATE vs FACILITY PRESSURE FOR SINGLE LOADING**  
**BASED ON PRESSURE DROP FROM CARGO TANK #3 TO FACILITY CONNECTION**



**LIQUID TRANSFER RATE vs PIPING PRESSURE DROP**  
**CARGO TANK #3 TO FACILITY CONNECTION**  
**SINGLE LOADING**

