

2 or 3 coat paint system:	C:\Users\Jeff\Desktop\Q1211-4 Stab.hsc			Design		Operating			Vapor			Liquid				Sizing	
Line Tag	Cold Insulation (C or F):			Pressure (psig)	Temp. (deg. F)	Temp. (deg. F)	Pressure (psia)	Flowrate (lb/hr)	Density (lb/ct)	Mol. Wt.	Viscosity (cP)	Flowrate (lb/hr)	Density (lb/ct)	Mol. Wt.	Viscosity (cP)	Basis	
	(F = Foam glass, C = Sealed Urethane)	FROM	TO													P,V,S	#
100-D1-CS-8"	Wet Gas	Customer	Line 101	1100	150	70	915	147,368	4.919	22.361	0.014					p	0.00
101-D1-CS-8"	Wet Gas	Line 100, 130	F-441	1100	150	77	915	169,513	4.773	22.360	0.014					p	0.00
102-D1-CS-8"	Wet Gas	F-441	Line 103	1100	150	76	910	169,513	4.747	22.360	0.014					p	0.00
103-D1-CS-8"	Wet Gas	Line 102	Line 104	1100	150	76	910	169,513	4.747	22.360	0.014					p	0.00
104-D1-CS-8" 3"H	Wet Gas	Line 103	V-442/3	1095	600	400	910	169,513	4.747	22.360	0.014					p	0.00
105-D1-CS-8" 3"H	Dry Gas	V-442/3	Line 106	1095	600	450	895	169,429	4.777	22.362	0.013					p	0.00
106-D1-CS-8"	Dry Gas	Line 105	Line 107	1100	150	70	895	169,429	4.777	22.362	0.013					p	0.00
107-D1-CS-8"	Dry Gas	Line 106	F-445/6	1100	150	70	895	169,429	4.777	22.362	0.013					p	0.00
108-D1-CS-8"	Dry Gas	F-445/6	Line 109, 123	1100	150	70	890	169,429	4.750	22.362	0.013					p	0.00
109-D1-CS-8"	Inlet Gas	Line 108	Line 150, 151	1100	150	76	885	136,309	4.574	22.360	0.013					p	0.00
110-D1-CS-2"	Dry Out	Line 109	Line 208	1100	150	76	885	4,000	4.574	22.360	0.013					s	2.00
123-D1-CS-4"	Regen Gas	Line 108	C-141	1100	150	70	890	22,100	4.750	22.362	0.013					p	0.00
124-D1-CS-4"	Regen Gas	C-141	H-741	1100	150	79	950	22,100	4.969	22.362	0.014					p	0.00
125-D1-CS-4" 3"H	Regen Gas	H-741	Line 126	1095	600	450	940	22,100	2.211	22.362	0.018					s	4.00
126-D1-CS-4" 3"H	Regen Gas	Line 125	Line 105	1095	600	450	940	22,100	2.211	22.362	0.018					s	4.00
127-D1-CS-4" 3"H	Regen Gas	Line 104	Line 128	1095	600	350	937	24,700	2.488	21.808	0.017					s	4.00
128-D1-CS-4" 3"H	Regen Gas	Line 127	A-341	1095	600	450	937	22,100	2.204	22.362	0.018					s	4.00
129-D2-CS-4"	Regen Gas	A-341	V-447	1100	150	125	932	22,146	4.081	22.351	0.014	2,554	61.747	18.018	0.529	p	0.00
130-D1-CS-4"	Regen Gas	V-447	Line 101	1100	150	125	932	22,146	4.081	22.351	0.014					p	0.00
150-D1-CS-8"	Inlet Gas	Line 109	E-201	1100	150	76	885	74,970	4.574	22.360	0.013					s	8.00
151-D1-CS-6"	Inlet Gas	Line 109	E-202	1100	150	76	885	65,428	4.574	22.360	0.013					p	0.00
152-D1-LT-6" 1.5"C	HC L/V	E-201	Line 156	1100	150	13	880	56,764	5.162	20.323	0.013	18,206	26.514	32.519	0.076	p	0.00
153-D1-CS-6"	HC L/V	E-202	E-204	1100	150	76	880	61,339	4.548	22.360	0.013					p	0.00
155-D1-LT-6" 1.5"C	HC L/V	E-205	Line 156	1100	150	37	870	54,182	4.894	21.304	0.013	7,157	27.352	35.775	0.081	p	0.00
156-D1-LT-8" 1.5"C	HC L/V	Line 152, 155	E-203	1100	150	23	870	110,979	4.994	20.743	0.013	25,330	26.950	33.953	0.079	p	0.00
157-D1-LT-8" 1.5"C	HC L/V	E-203	V-402	1100	150	0	865	94,316	5.155	19.840	0.012	41,992	26.389	31.285	0.075	p	0.00
158-D1-LT-8" 1.5"C	HC Vap	V-402	Line 159, 162, 164	1100	150	0	865	94,316	5.155	19.840	0.012					p	0.00
159-D1-LT-6" 1.5"C	HC Vap	Line 158, 173	E-206	1100	150	0	865	23,579	5.155	19.840	0.012					s	6.00
160-D0-304SS-4" 2.5"C	HC Liq	E-206	FCV-501	1100	150	-102	860					23,579	21.016	19.840	0.043	s	4.00
161-B0-304SS-3" 2.5"C	HC L/V	FCV-501	T-501	400	150	-160	220	8,083	1.438	16.857	0.007	15,496	28.013	21.857	0.093	v	0.00
162-D1-LT-6" 1.5"C	HC Vap	Line 158	EC-101	1100	150	0	865	61,306	5.155	19.840	0.012					p	0.00
163-D0-304SS-8" 2.5"C	HC L/V	EC-101	Line 166	1100	150	-86	220	50,978	1.150	18.313	0.008	10,328	33.658	33.722	0.152	p	0.00
164-D1-LT-8" 1.5"C	HC Vap	Line 158	PCV-402B	1100	150	0	865	61,306	5.155	19.840	0.012					s	8.00
165-B0-304SS-8" 2"C	HC L/V	PCV-402B	Line 166	400	150	-58	220	57,243	1.101	19.182	0.009	4,062	34.627	38.412	0.165	s	8.00
166-B0-304SS-10" 2.5"C	HC L/V	Line 163, 165	T-501	400	150	-83	220	59,803	1.144	18.422	0.009	10,934	33.777	34.263	0.154	s	10.00
170-D1-LT-4" 1.5"C	HC Liq	V-402	LCV-402	1100	150	-28	865					64,840	25.339	28.070	0.069	p	0.00
171-B0-304SS-4" 2"C	HC L/V	LCV-402	T-501	400	150	-88	190	17,961	0.975	18.188	0.008	43,638	35.008	36.155	0.178	s	4.00
172-D1-LT-2" 1.5"C	HC Liq	Line 170	FCV-402A	1100	150	-28	865					3,242	25.339	28.070	0.069	s	2.00
173-D1-LT-2" 1.5"C	HC L/V	FCV-402A	Line 159	1100	150	-28	863	5	5.519	18.870	0.012	3,237	25.378	28.092	0.069	s	2.00
175-B0-304SS-10" 3"C	Residue	T-501	E-206	400	150	-105	215	90,754	1.193	18.133	0.008					p	0.00
178-B1-CS-10"	Residue	E-201	Line 179, 700	400	150	73	175	76,059	0.529	16.822	0.012					p	0.00
179-B1-CS-10"	Residue	Line 178	EC-101	400	150	73	175	74,212	0.529	16.822	0.012					p	0.00
180-B1-CS-10" 1"B	Residue	EC-101	A-301	500	250	117	223	74,212	0.623	16.822	0.012					p	0.00
181-B1-CS-10"	Residue	A-301	Customer	500	150	125	218.15226	74,212	0.600	16.822	0.013					p	0.00
196-D1-CS-1" 1"H	Seal Gas	Customer	PCV-101	1100	150	125	915									s	1.00
197-D1-CS-1" 1"H	Seal Gas	PCV-101	Line 198, 199	1100	150	125	915									s	1.00
198-B1-CS-1" 1"H	Seal Gas	Line 197	Line 180	500	350	120	400									s	1.00
199-D1-CS-1" 1"H	Seal Gas	Line 197	EC-101	1100	350	120	515									s	1.00
201-B0-304SS-6" 2"C	HC Liq	T-501	E-205	400	150	26	218	0	1.587	30.780	0.009	71,353	30.640	37.835	0.100	s	6.00
202-B0-304SS-8" 1.5"C	HC L/V	E-205	T-501	400	150	-14	186	10,048	1.189	26.255	0.009	66,237	32.302	36.844	0.119	s	8.00
203-B1-LT-6" 1"C	HC Liq	T-501	Line 204	400	200	6	190	0	1.359	29.880	0.009	70,775	31.446	37.067	0.108	s	6.00
204-B1-LT-6" 1"C	HC Liq	Line 203	E-204	400	150	6	190	0	1.359	29.880	0.009	70,775	31.446	37.067	0.108	s	6.00
205-B1-LT-6"	HC Liq	Line 203	E-207	400	200	46	220	0	1.690	33.278	0.009	61,579	30.388	39.595	0.098	s	6.00
206-B1-LT-8" 1"U	HC L/V	E-204	Line 208	400	150	19	189	10,610	1.398	31.448	0.009	60,166	31.352	38.273	0.107	s	8.00
207-B1-LT-8"	HC L/V	E-207	Line 208	400	200	60	220	16,024	1.703	34.528	0.009	45,555	30.661	41.749	0.100	s	8.00

2 or 3 coat paint system: Line Tag	Pressure Drop		Velocity		Corr.	Vapor	Liquid	Bulk	Bulk	Bulk	Pipe	Nominal	Min	Max	Min	Max	
	Allow.	Calc.	Allow.	Calc.	(in)	Volume	Volume	Volume	Density	Viscosity							Thickness
	(psi/100ft)		(ft/sec)		(in)	(act/hr)	(act/hr)	(act/hr)	(lb/ft)	(cP)	Schedule	inch	Class	(F)	(F)	(psia)	(psia)
100-D1-CS-8"	1.36	0.82	45.1	26.2	0.0625	29,957	0	29,957	4.919	0.014	XH	0.5	600	70	70	915	915
101-D1-CS-8"	1.36	1.12	45.8	31.1	0.0625	35,517	0	35,517	4.773	0.014	XH	0.5	600	77	77	915	915
102-D1-CS-8"	1.36	1.12	45.9	31.3	0.0625	35,712	0	35,712	4.747	0.014	XH	0.5	600	76	76	910	910
103-D1-CS-8"	1.36	1.12	45.9	31.3	0.0625	35,712	0	35,712	4.747	0.014	XH	0.5	600	76	76	910	910
104-D1-CS-8" 3"H	1.36	1.12	45.9	31.3	0.0625	35,712	0	35,712	4.747	0.014	XH	0.5	600	400	400	910	910
105-D1-CS-8" 3"H	1.35	1.11	45.8	31.1	0.0625	35,470	0	35,470	4.777	0.013	XH	0.5	600	450	450	895	895
106-D1-CS-8"	1.35	1.11	45.8	31.1	0.0625	35,470	0	35,470	4.777	0.013	XH	0.5	600	70	70	895	895
107-D1-CS-8"	1.35	1.11	45.8	31.1	0.0625	35,470	0	35,470	4.777	0.013	XH	0.5	600	70	70	895	895
108-D1-CS-8"	1.34	1.12	45.9	31.2	0.0625	35,671	0	35,671	4.750	0.013	XH	0.5	600	70	70	890	890
109-D1-CS-8"	1.34	0.75	46.8	26.1	0.0625	29,800	0	29,800	4.574	0.013	XH	0.5	600	76	76	885	885
110-D1-CS-2"	1.34	0.84	46.8	11.8	0.0625	874	0	874	4.574	0.013	XH	0.218	600	76	76	885	885
123-D1-CS-4"	1.34	0.70	45.9	16.2	0.0625	4,653	0	4,653	4.750	0.013	XH	0.337	600	70	70	890	890
124-D1-CS-4"	1.39	0.67	44.9	15.5	0.0625	4,447	0	4,447	4.969	0.014	XH	0.337	600	79	79	950	950
125-D1-CS-4" 3"H	1.38	1.52	67.3	34.8	0.0625	9,997	0	9,997	2.211	0.018	XH	0.337	600	450	450	940	940
126-D1-CS-4" 3"H	1.38	1.52	67.3	34.8	0.0625	9,997	0	9,997	2.211	0.018	XH	0.337	600	450	450	940	940
127-D1-CS-4" 3"H	1.38	1.68	63.4	34.5	0.0625	9,926	0	9,926	2.488	0.017	XH	0.337	600	350	350	937	937
128-D1-CS-4" 3"H	1.38	1.52	67.4	34.9	0.0625	10,029	0	10,029	2.204	0.018	XH	0.337	600	350	450	937	937
129-D2-CS-4"	1.37	0.93	47.0	19.0	0.125	5,426	41	5,468	4.517	0.018	XH	0.337	600	125	125	932	932
130-D1-CS-4"	1.37	0.82	49.5	18.9	0.0625	5,426	0	5,426	4.081	0.014	XH	0.337	600	125	125	932	932
150-D1-CS-8"	1.34	0.22	46.8	14.4	0.0625	16,390	0	16,390	4.574	0.013	XH	0.5	600	76	76	885	885
151-D1-CS-6"	1.34	0.75	46.8	21.9	0.0625	14,304	0	14,304	4.574	0.013	XH	0.432	600	76	76	885	885
152-D1-LT-6" 1.5"C	1.33	0.71	39.5	17.9	0.0625	10,996	687	11,683	6.417	0.016	XH	0.432	600	7	13	880	880
153-D1-CS-6"	1.33	0.67	46.9	20.7	0.0625	13,487	0	13,487	4.548	0.013	XH	0.432	600	55	76	880	880
155-D1-LT-6" 1.5"C	1.33	0.56	43.0	17.4	0.0625	11,071	262	11,333	5.412	0.015	XH	0.432	600	-19	37	870	870
156-D1-LT-8" 1.5"C	1.33	0.59	41.2	20.3	0.0625	22,222	940	23,162	5.885	0.015	XH	0.5	600	-6	23	870	870
157-D1-LT-8" 1.5"C	1.32	0.50	38.2	17.4	0.0625	18,297	1,591	19,888	6.854	0.017	XH	0.5	600	-28	0	865	865
158-D1-LT-8" 1.5"C	1.32	0.34	44.0	16.0	0.0625	18,297	0	18,297	5.155	0.012	XH	0.5	600	-28	0	865	865
159-D1-LT-6" 1.5"C	1.32	0.09	44.0	7.0	0.0625	4,574	0	4,574	5.155	0.012	XH	0.432	600	-28	0	860	865
160-D0-304SS-4" 2.5"C	1.32	0.14	21.8	3.5	0	0	1,122	1,122	21.016	0.043	S/40S	0.237	600	-151	-102	855	860
161-B0-304SS-3" 2.5"C	0.67	2.32	51.2	29.6	0	5,620	553	6,173	3.820	0.015	S/10S	0.12	300	-176	-160	190	220
162-D1-LT-6" 1.5"C	1.32	0.59	44.0	18.2	0.0625	11,893	0	11,893	5.155	0.012	XH	0.432	600	-28	0	865	865
163-D0-304SS-8" 2.5"C	0.67	0.51	85.3	39.1	0	44,312	307	44,619	1.374	0.009	S/80S	0.5	600	-122	-86	190	220
164-D1-LT-8" 1.5"C	1.32	0.13	44.0	10.4	0.0625	11,893	0	11,893	5.155	0.012	XH	0.5	600	-28	0	865	865
165-B0-304SS-8" 2"C	0.67	0.47	92.2	41.7	0	52,012	117	52,129	1.176	0.009	S/40S	0.322	300	-92	-58	190	220
166-B0-304SS-10" 2.5"C	0.67	0.17	86.2	26.7	0	52,298	324	52,621	1.344	0.009	S/40S	0.365	300	-122	-58	190	220
170-D1-LT-4" 1.5"C	1.32	1.14	19.9	8.9	0.0625	0	2,559	2,559	25.339	0.069	XH	0.337	600	-28	0	865	865
171-B0-304SS-4" 2"C	0.62	4.76	56.5	55.2	0	18,429	1,246	19,675	3.131	0.019	S/10S	0.12	300	-88	-50	190	220
172-D1-LT-2" 1.5"C	1.32	0.11	19.9	1.7	0.0625	0	128	128	25.339	0.069	XH	0.218	600	-28	-28	865	865
173-D1-LT-2" 1.5"C	1.32	0.11	19.9	1.7	0.0625	1	128	129	25.229	0.068	XH	0.218	600	-28	-28	863	863
175-B0-304SS-10" 3"C	0.66	0.31	91.6	38.6	0	76,091	0	76,091	1.193	0.008	S/40S	0.365	300	-154	-105	185	215
178-B1-CS-10"	0.60	0.50	137.5	72.9	0.0625	143,796	0	143,796	0.529	0.012	STD	0.365	300	73	73	175	205
179-B1-CS-10"	0.60	0.48	137.5	71.2	0.0625	140,304	0	140,304	0.529	0.012	STD	0.365	300	73	73	175	205
180-B1-CS-10" 1"B	0.67	0.41	126.7	60.4	0.0625	119,110	0	119,110	0.623	0.012	STD	0.365	300	117	118	223	266
181-B1-CS-10"	0.66	0.42	129.2	62.8	0.0625	123,786	0	123,786	0.600	0.013	STD	0.365	300	125	125	218	261
196-D1-CS-1" 1"H	1.36	#DIV/0!	#DIV/0!	0.0	0.0625	0	0	0	#DIV/0!	#DIV/0!	S/160	0.25	600	125	125	915	915
197-D1-CS-1" 1"H	1.36	#DIV/0!	#DIV/0!	0.0	0.0625	0	0	0	#DIV/0!	#DIV/0!	S/160	0.25	600	125	125	915	915
198-B1-CS-1" 1"H	0.90	#DIV/0!	#DIV/0!	0.0	0.0625	0	0	0	#DIV/0!	#DIV/0!	XH	0.179	300	120	120	400	400
199-D1-CS-1" 1"H	1.02	#DIV/0!	#DIV/0!	0.0	0.0625	0	0	0	#DIV/0!	#DIV/0!	S/160	0.25	600	120	120	515	515
201-B0-304SS-6" 2"C	0.67	0.11	18.1	3.2	0	0	2,329	2,329	30.638	0.100	S/40S	0.28	300	-51	26	188	218
202-B0-304SS-8" 1.5"C	0.61	0.12	37.1	8.4	0	8,449	2,051	10,500	7.265	0.031	S/40S	0.322	300	-14	37	186	216
203-B1-LT-6" 1"C	0.62	0.10	17.8	3.1	0.0625	0	2,251	2,251	31.443	0.108	STD	0.28	300	6	46	190	220
204-B1-LT-6" 1"C	0.62	0.10	17.8	3.1	0.0625	0	2,251	2,251	31.443	0.108	STD	0.28	300	6	6	190	190
205-B1-LT-6"	0.67	0.08	18.1	2.8	0.0625	0	2,026	2,027	30.387	0.098	STD	0.28	300	46	46	220	220
206-B1-LT-8" 1"U	0.62	0.10	36.7	7.6	0.0625	7,590	1,919	9,509	7.443	0.029	STD	0.322	300	19	19	189	189
207-B1-LT-8"	0.67	0.10	42.1	8.7	0.0625	9,411	1,486	10,897	5.651	0.022	STD	0.322	300	60	60	220	220

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2 or 3 coat paint system:																			
Line Tag	C			Design				Operating				Vapor			Liquid			Sizing	
	(F = Foam glass, C = Sealed Urethane)			Pressure	Temp.	Temp.	Pressure	Flowrate	Density	Mol. Wt.	Viscosity	Flowrate	Density	Mol. Wt.	Viscosity	Basis	#		
	FLUID	FROM	TO	(psig)	(deg. F)	(deg. F)	(psia)	(lb/hr)	(lb/ct)		(cP)	(lb/hr)	(lb/ct)		(cP)	P,V,S			
208-B1-LT-8" 1"U	HC LV	Line 207	T-501	400	200	60	220	16,024	1.703	34.528	0.009	45,555	30.661	41.749	0.100	s	8.00		
211-B1-LT-6" 1"U	NGL	T-501	V-404	400	200	19	190					60,249	31.330	38.262	0.107	p	0.10		
212-B1-CS-6" 1"U	Equalization	T-501	V-404	400	200	60	220									s	6.00		
213-B1-CS-6" 1"U	NGL	V-404	P-601/2	400	200	19	190					60,249	31.330	38.262	0.107	p	0.10		
214-B1-CS-6" 1"U	NGL	P-601/2	Customer	400	200	19	215					60,250	31.317	38.262	0.106	s	6.00		
215-E1-CS-4" 1"U	NGL	Customer	E-202	1440	200	27	740					60,249	31.425	38.262	0.103	p	0.00		
216-E1-CS-4"	NGL	E-202	Customer	1440	200	56	735					60249	29.779	38.262	0.088	p	0.00		
235-E1-CS-3" 1"U	NGL	Line 215	LCV-404	1440	200	27	740					30125	31.425	38.262	0.103	p	0.00		
237-B1-CS-3" 1"U	HC LV	LCV-404	V-404	400	200	23	195	599	1.451	31.694	0.009	29526	31.207	38.423	0.105	s	3.00		
241-E1-CS-3" 1"U	NGL	Line 215	A-302	1440	200	140	1000									s	3.00		
242-E1-CS-3"	NGL	A-302	Line 215	1440	200	125	1000									s	3.00		
250-A0-LT-10" 1.5"C	Propane	V-461	Line 251	270	140	-23	15	23,457	0.148	44.352	0.007					s	10.00		
251-A0-LT-8" 1.5"C	Propane	Line 250	C-161/2	270	140	-23	15	11,729	0.148	44.352	0.007					p	0.00		
252-B0-CS-6" 1"U	Propane	C-161/2	Line 253	325	250	190	276	21,441	2.180	43.957	0.011					p	0.00		
253-B0-CS-6" 1"U	Propane	Line 252	A-361	325	250	190	276	48,000	2.180	43.957	0.011					s	6.00		
256-B0-CS-4"	Propane	A-361	V-463	325	150	125	271	1	2.623	43.287	0.010	47,999	27.737	43.957	0.076	p	0.00		
257-B0-CS-4"	Propane	V-463	LCV-462	325	150	125	271	1	2.623	43.287	0.010	42,880	27.737	43.957	0.076	p	0.00		
260-A0-CS-6" 1"U	Propane	LCV-462	V-462	270	140	11	48	19,424	0.454	43.489	0.007	23,457	34.058	44.352	0.144	v	0.00		
261-A0-CS-8" 1"U	Propane	V-462	Line 262	270	140	11	48	19,424	0.454	43.489	0.007					p	0.00		
262-A0-CS-6" 1"U	Propane	Line 261	C-161/2	270	140	11	48	9,712	0.454	43.489	0.007					p	0.00		
263-A0-CS-4" 1"U	Propane	V-462	LCV-203	270	140	30	68					23,692	33.165	44.294	0.130	p	0.00		
264-A0-LT-8" 1.5"C	Propane	LCV-203	E-203	270	140	-35	18	3,336	0.181	43.627	0.006	20,120	36.074	44.474	0.191	p	0.00		
265-A0-LT-10" 2"C	Propane	E-203	V-461	270	140	-33	17	23,457	0.173	44.352	0.006					p	0.00		
266-A0-LT-1" 1"U	Propane	E-203	V-464	270	140	-23	15									s	1.00		
267-A0-LT-1" 1"U	Propane	V-464	Line 265	270	140	-23	15									s	1.00		
271-B0-CS-1" 1"U	Propane	Line 275	V-461	325	250	190	276									s	1.00		
275-B0-CS-2" 1"U	Propane	Line 253	PCV-463	325	250	190	276	2,200	2.180	43.957	0.011					p	0.00		
276-B0-CS-2" 1"U	Propane	PCV-463	V-463	325	250	190	271	2,200	2.180	43.957	0.011					p	0.00		
280-B1-CS-3" 1"U	Lube Oil	C-161/2	A-161/2	400	250	182	273					24,210	61.900		26.400	s	3.00		
281-B1-CS-3" 1"U	Lube Oil	A-161/2	C-161/2	400	250	130	263					24,210	61.900		55.910	s	3.00		
291-A0-CS-1.5"	Propane MU	Customer	Line 264	270	140	-35	18									s	1.50		
611-A1-CS-6" 2"U	Therminol 55	H-781	E-207	150	400	300	50					103,416	49.000	320.000	1.311	p	0.00		
612-A1-CS-4" 2"U	Therminol 55	Line 611	Line 614	150	400	300	50					51,800	49.000	320.000	1.311	s	4.00		
614-A1-CS-6" 2"U	Therminol 55	E-207	H-781	150	400	200	40					103,416	51.300	320.000	3.310	p	0.00		
700-B1-CS-3"	Fuel Gas	Line 178	PCV-481A	400	150	73	175	1,847	0.529	16.822	0.012					p	0.00		
702-A1-CS-3"	Fuel Gas	PCV-481A	V-481	150	150	69	100	1,847	0.302	16.822	0.011					p	0.00		
703-A1-CS-4"	Fuel Gas	V-481	Users	150	150	69	100	2,500	0.302	16.822	0.011					s	4.00		
704-A1-CS-3"	Fuel Gas	Line 703	Line 781, 741	150	150	66	100	1,991	0.328	18.133	0.011					s	3.00		
741-A1-CS-2"	Fuel Gas	Line 704	PCV-741	150	150	69	100									s	2.00		
771-A1-CS-3"	Fuel Gas	Line 703	Cust. Recom.	150	150	70	100									s	3.00		
781-A1-CS-2"	Fuel Gas	Line 704	PCV-781	150	150	69	100									s	2.00		
802-A0-304SS-1"	Cold Flare Gas	Line 170	Line 901	150	150	-35	50									s	1.00		
804-A0-304SS-2"	Cold Flare Gas	PSV-206	Line 901	150	150	-165	50	7,752	0.287	17.271	0.007					s	2.00		
814-A0-304SS-2"	Cold Flare Gas	V-404	Line 914	150	150	40	50									s	2.00		
841-D2-CS-1" 1"U	Waste	F-441	LCV-441A	1100	150	76	910									s	1.00		
842-D2-CS-1" 1"U	Waste	F-441	LCV-441B	1100	150	76	910									s	1.00		
843-D2-CS-1" 1"U	Waste	LCV-441A/B	CD	1100	150	76	910									s	1.00		
847-D2-CS-1" 1"U	Waste	V-447	LCV-447	1100	150	125	932					2,554	61.747	18.018	0.529	s	1.00		
848-D2-CS-1" 1"U	Waste	LCV-447	CD	1100	150	127	35	0	0.144	25.745	0.016	2,554	61.554	18.018	0.518	s	1.00		
875-A2-CS-1"	Cold Waste	V-461	Line 877	150	150	-10	30									s	1.00		
876-A2-CS-1"	Cold Waste	E-203	Line 877	150	150	-10	30									s	1.00		
877-A2-LT-2"	Cold Waste	Line 875, 876	Line 989	150	150	-10	30									s	2.00		
901-A0-304SS-8"	Cold Flare Gas	PSV-501	Line 901	150	150	-117	50	272,029	0.258	18.300	0.008					s	8.00		
902-A0-304SS-4"	Cold Flare Gas	PSV-402	Line 901	150	150	27	50	42,947	0.231	18.329	0.010					s	4.00		

2 or 3 coat paint system: Line Tag	Pressure Drop		Velocity		Corr. Allow.	Vapor Volume	Liquid Volume	Bulk Volume	Bulk Density	Bulk Viscosity	Pipe Schedule	Nominal Thickness	Flange Class	Min Oper Temp	Max Oper Temp	Min Oper Press.	Max Oper Press.
	Allow.	Calc.	Allow.	Calc.													
208-B1-LT-8" 1"U	0.67	0.10	42.1	8.7	0.0625	9,411	1,486	10,897	5.651	0.022	STD	0.322	300	19	60	189	220
211-B1-LT-6" 1"C	0.10	0.08	17.9	2.7	0.0625	0	1,923	1,923	31.330	0.107	STD	0.28	300	19	60	190	220
212-B1-CS-6" 1"C	0.67	#DIV/0!	#DIV/0!	0.0	0.0625	0	0	0	#DIV/0!	#DIV/0!	STD	0.28	300	60	60	220	220
213-B1-CS-6" 1"C	0.10	0.08	17.9	2.7	0.0625	0	1,923	1,923	31.330	0.107	STD	0.28	300	19	60	190	220
214-B1-CS-6" 1"C	0.66	0.08	17.9	2.7	0.0625	0	1,924	1,924	31.317	0.106	STD	0.28	300	19	60	215	245
215-E1-CS-4" 1"C	1.22	0.81	17.8	6.7	0.0625	0	1,917	1,917	31.425	0.103	XH	0.337	900	27	69	740	740
216-E1-CS-4"	1.22	0.85	18.3	7.0	0.0625	0	2,023	2,023	29.779	0.088	XH	0.337	900	56	69	735	735
235-E1-CS-3" 1"C	1.22	0.86	17.8	5.8	0.0625	0	959	959	31.425	0.103	XH	0.3	900	27	69	740	740
237-B1-CS-3" 1"C	0.63	0.91	21.2	7.4	0.0625	413	946	1,359	22.165	0.076	STD	0.216	300	23	63	195	225
241-E1-CS-3" 1"B	1.42	#DIV/0!	#DIV/0!	0.0	0.0625	0	0	0	#DIV/0!	#DIV/0!	XH	0.3	900	140	140	1,000	1,000
242-E1-CS-3"	1.42	#DIV/0!	#DIV/0!	0.0	0.0625	0	0	0	#DIV/0!	#DIV/0!	XH	0.3	900	125	125	1,000	1,000
250-A0-LT-10" 1.5"C	0.18	0.17	259.5	80.1	0	158,010	0	158,010	0.148	0.007	STD	0.365	150	-23	0	15	27
251-A0-LT-8" 1.5"C	0.18	0.14	259.5	63.2	0	79,009	0	79,009	0.148	0.007	STD	0.322	150	-23	0	15	27
252-B0-CS-6" 1"B	0.75	0.13	67.7	13.6	0	9,838	0	9,838	2.180	0.011	STD	0.28	300	190	190	276	276
253-B0-CS-6" 1"B	0.75	0.66	67.7	30.5	0	22,023	0	22,023	2.180	0.011	STD	0.28	300	190	198	276	276
256-B0-CS-4"	0.74	0.45	19.0	5.4	0	0	1,731	1,731	27.734	0.076	STD	0.237	300	125	125	271	271
257-B0-CS-4"	0.74	0.36	19.0	4.9	0	0	1,546	1,546	27.734	0.076	STD	0.237	300	125	125	271	271
260-A0-CS-6" 1"C	0.31	1.16	100.7	60.2	0	42,830	689	43,518	0.985	0.009	STD	0.28	150	11	30	48	68
261-A0-CS-8" 1"C	0.31	0.13	148.5	34.2	0	42,830	0	42,830	0.454	0.007	STD	0.322	150	11	30	48	68
262-A0-CS-6" 1"C	0.31	0.13	148.5	29.6	0	21,415	0	21,415	0.454	0.007	STD	0.28	150	11	30	48	68
263-A0-CS-4" 1"C	0.37	0.10	17.4	2.2	0	0	714	714	33.165	0.130	STD	0.237	150	11	30	48	68
264-A0-LT-8" 1.5"C	0.19	0.07	89.9	15.1	0	18,392	558	18,950	1.238	0.012	STD	0.322	150	-35	-13	18	30
265-A0-LT-10" 2"C	0.19	0.15	240.4	68.8	0	135,550	0	135,550	0.173	0.006	STD	0.365	150	-33	-10	17	29
266-A0-LT-1" 1"C	0.17	#DIV/0!	#DIV/0!	0.0	0	0	0	0	#DIV/0!	#DIV/0!	XH	0.179	150	-23	-23	15	15
267-A0-LT-1" 1"C	0.17	#DIV/0!	#DIV/0!	0.0	0	0	0	0	#DIV/0!	#DIV/0!	XH	0.179	150	-23	-23	15	15
271-B0-CS-1" 1"B	0.75	#DIV/0!	#DIV/0!	0.0	0	0	0	0	#DIV/0!	#DIV/0!	XH	0.179	300	190	190	276	276
275-B0-CS-2" 1"H	0.75	0.54	67.7	13.7	0	1,009	0	1,009	2.180	0.011	XH	0.218	300	190	190	276	276
276-B0-CS-2" 1"H	0.74	0.54	67.7	13.7	0	1,009	0	1,009	2.180	0.011	XH	0.218	300	190	190	271	271
280-B1-CS-3" 1"H	0.74	0.58	12.7	2.1	0.0625	0	391	391	61.900	26.400	STD	0.216	300	182	182	273	273
281-B1-CS-3" 1"H	0.73	0.75	12.7	2.1	0.0625	0	391	391	61.900	55.910	STD	0.216	300	130	130	263	263
291-A0-CS-1.5"	0.19	#DIV/0!	#DIV/0!	0.0	0	0	0	0	#DIV/0!	#DIV/0!	XH	0.2	150	-35	-35	18	18
611-A1-CS-6" 2"H	0.32	0.18	14.3	2.9	0.0625	0	2,111	2,111	49.000	1.311	STD	0.28	150	300	300	50	50
612-A1-CS-4" 2"H	0.32	0.37	14.3	3.3	0.0625	0	1,057	1,057	49.000	1.311	STD	0.237	150	300	300	50	50
614-A1-CS-6" 2"H	0.28	0.20	14.0	2.8	0.0625	0	2,016	2,016	51.300	3.310	STD	0.28	150	200	200	40	40
700-B1-CS-3"	0.60	0.15	137.5	18.9	0.0625	3,492	0	3,492	0.529	0.012	STD	0.216	300	73	73	175	205
702-A1-CS-3"	0.45	0.26	182.1	33.1	0.0625	6,126	0	6,126	0.302	0.011	STD	0.216	150	66	69	100	100
703-A1-CS-4"	0.45	0.12	182.1	26.0	0.0625	8,291	0	8,291	0.302	0.011	STD	0.237	150	69	69	100	100
704-A1-CS-3"	0.45	0.28	174.7	32.9	0.0625	6,074	0	6,074	0.328	0.011	STD	0.216	150	66	66	100	100
741-A1-CS-2"	0.45	#DIV/0!	#DIV/0!	0.0	0.0625	0	0	0	#DIV/0!	#DIV/0!	XH	0.218	150	69	69	100	100
771-A1-CS-3"	0.45	#DIV/0!	#DIV/0!	0.0	0.0625	0	0	0	#DIV/0!	#DIV/0!	STD	0.216	150	70	70	100	100
781-A1-CS-2"	0.45	#DIV/0!	#DIV/0!	0.0	0.0625	0	0	0	#DIV/0!	#DIV/0!	XH	0.218	150	69	69	100	100
802-A0-304SS-1"	0.32	#DIV/0!	#DIV/0!	0.0	0	0	0	0	#DIV/0!	#DIV/0!	S/80S	0.179	150	-35	-35	50	50
804-A0-304SS-2"	0.32	28.77	186.7	295.7	0	27,018	0	27,018	0.287	0.007	S/10S	0.109	150	-206	-165	50	50
814-A0-304SS-2"	0.32	#DIV/0!	#DIV/0!	0.0	0	0	0	0	#DIV/0!	#DIV/0!	S/10S	0.109	150	40	40	50	50
841-D2-CS-1" 1"H	1.36	#DIV/0!	#DIV/0!	0.0	0.125	0	0	0	#DIV/0!	#DIV/0!	S/160	0.25	600	76	76	910	910
842-D2-CS-1" 1"H	1.36	#DIV/0!	#DIV/0!	0.0	0.125	0	0	0	#DIV/0!	#DIV/0!	S/160	0.25	600	76	76	910	910
843-D2-CS-1" 1"H	1.36	#DIV/0!	#DIV/0!	0.0	0.125	0	0	0	#DIV/0!	#DIV/0!	S/160	0.25	600	76	76	910	910
847-D2-CS-1" 1"H	1.37	2.79	12.7	3.2	0.125	0	41	41	61.747	0.529	S/160	0.25	600	125	125	932	932
848-D2-CS-1" 1"H	0.27	2.79	12.8	3.2	0.125	0	41	42	61.448	0.517	S/160	0.25	600	127	127	35	35
875-A2-CS-1"	0.25	#DIV/0!	#DIV/0!	0.0	0.125	0	0	0	#DIV/0!	#DIV/0!	XH	0.179	150	-10	-10	30	30
876-A2-CS-1"	0.25	#DIV/0!	#DIV/0!	0.0	0.125	0	0	0	#DIV/0!	#DIV/0!	XH	0.179	150	-10	-10	30	30
877-A2-LT-2"	0.25	#DIV/0!	#DIV/0!	0.0	0.125	0	0	0	#DIV/0!	#DIV/0!	XH	0.218	150	-10	-10	30	30
901-A0-304SS-8"	0.32	33.81	196.9	774.3	0	1,054,785	0	1,054,785	0.258	0.008	S/10S	0.148	150	-117	-83	50	50
902-A0-304SS-4"	0.32	31.36	208.2	522.4	0	186,154	0	186,154	0.231	0.010	S/10S	0.12	150	-30	33	50	50

C:\Users\Jeff\Desktop\Q1211-4 Stab.hsc																	
2 or 3 coat paint system:																	
Line Tag	Cold Insulation (C or F): (F = Foam glass, C = Sealed Urethane)			Design		Operating		Vapor				Liquid				Sizing	
	FLUID	FROM	TO	Pressure (psig)	Temp. (deg. F)	Temp. (deg. F)	Pressure (psia)	Flowrate (lb/hr)	Density (lb/ct)	Mol. Wt.	Viscosity (cP)	Flowrate (lb/hr)	Density (lb/ct)	Mol. Wt.	Viscosity (cP)	Basis P,V,S	#
903-A0-304SS-6"	Cold Flare Gas	PSV-203	Line 989	150	150	-80	50	75,630	0.259	20.433	0.008	13,371	39.012	47.917	0.296	s	6.00
904-A2-CS-3"	Warm Flare Gas	PSV-202B	Line 907	150	150	212	50	19,706	0.364	50.392	0.010					s	3.00
905-A2-CS-3"	Warm Flare Gas	PSV-463	Line 964	150	150	163	50	23,230	0.392	43.682	0.009					s	3.00
907-A2-CS-6"	Warm Flare Gas	PSV-207	Line 920	150	150	172	50	64,239	0.316	41.482	0.011					s	6.00
911-A2-CS-1"	Cold Flare Gas	P-601/2	Line 901	150	150	20	50									s	1.00
912-A0-304SS-2"	Cold Flare Gas	PSV-202A	Line 901	150	150	-41	50	14,685	0.385	32.320	0.007	29,277	35.730	42.150	0.181	s	2.00
914-A0-304SS-6"	Cold Flare Gas	PSV-404	Line 901	150	150	121	50	153,303	0.360	42.898	0.009					s	6.00
917-A2-CS-3"	Warm Flare Gas	PSV-302	Line 920	150	150	88	50	33,136	0.373	41.750	0.009					s	3.00
920-A2-CS-8"	Warm Flare Gas	PSV's	Cust Flare KO	150	150	68	50	129,393	0.387	39.638	0.008					s	8.00
961-A2-CS-4"	Warm Flare Gas	PSV-161A	Line 920	150	150	138	50	42,880	0.358	43.957	0.009					s	4.00
962-A2-CS-4"	Warm Flare Gas	PSV-162A	Line 920	150	150	138	50	42,880	0.358	43.957	0.009					s	4.00
964-A2-CS-6"	Warm Flare Gas	PSV's	Line 920	150	150	91	50	155,386	0.393	43.957	0.009					s	6.00
965-A2-CS-3"	Warm Flare Gas	PSV-462	Line 964	150	150	90	50	12,352	0.395	43.999	0.009					s	3.00
979-A0-304SS-10"	Cold Flare Gas	Cryo Cold PSVs	Line 989	150	150	-117	50	272,029	0.258	18.300	0.008					s	10.00
980-A2-CS-4"	HC VAP	PSV's to Vent	ATMO	150	150	160	50	19,078	0.161	22.362	0.013					s	4.00
981-A2-CS-3"	HC LIQ/VAP	PSV-441	Line 980	150	150	63	50	12,664	0.413	39.676	0.009	3,289	39.551	73.635	0.259	s	3.00
982-A2-CS-2"	HC VAP	PSV-445	Line 980	150	150	206	50	2,425	0.132	18.741	0.014					s	2.00
983-A2-CS-2"	HC VAP	PSV-446	Line 980	150	150	206	50	2,425	0.132	18.741	0.014					s	2.00
984-A2-CS-2"	HC LIQ/VAP	PSV-447	Line 980	150	150	50	10	6,520	0.253	20.077	0.008	792	39.668	50.443	0.323	s	2.00
985-A2-CS-4"	HC VAP	PSV-442	Vent	150	150	39	50	3,447	0.163	17.303	0.011					s	4.00
986-A2-CS-4"	HC VAP	PSV-443	Vent	150	150	202	50	33,084	0.133	18.741	0.014					s	4.00
987-A2-CS-2"	HC VAP	PSV-741	Vent	150	150	202	50	33,084	0.133	18.741	0.014					s	2.00
988-A2-CS-2"	HC VAP	PSV-481	Vent	150	150	57	50	6,742	0.153	16.820	0.011					s	2.00
989-A0-304SS-12"	Cold Flare Gas	Cold PSVs	V-492	150	150	-117	50	272,029	0.258	18.300	0.008					s	12.00
990-A0-304SS-12"	Cold Flare Gas	V-492	Cust Cold Flare	150	150	-117	50	272,029	0.258	18.300	0.008					s	12.00

2 or 3 coat paint system: Line Tag	Pressure Drop		Velocity		Corr. Allow.	Vapor Volume	Liquid Volume	Bulk Volume	Bulk Density	Bulk Viscosity	Pipe Schedule	Nominal Thickness	Flange Class	Min Oper Temp	Max Oper Temp	Min Oper Press.	Max Oper Press.
	Allow.	Calc.	Allow.	Calc.													
903-A0-304SS-6"	0.32	12.60	181.2	368.1	0	291,740	343	292,082	0.305	0.008	S/10S	0.134	150	-102	-80	50	50
904-A2-CS-3"	0.32	23.29	165.8	293.1	0.125	54,179	0	54,179	0.364	0.010	STD	0.216	150	23	212	50	50
905-A2-CS-3"	0.32	29.99	159.8	320.7	0.125	59,287	0	59,287	0.392	0.009	STD	0.216	150	91	163	50	50
907-A2-CS-6"	0.32	8.12	178.0	281.7	0.125	203,452	0	203,452	0.316	0.011	STD	0.28	150	6	172	50	50
911-A2-CS-1"	0.32	#DIV/0!	#DIV/0!	0.0	0.125	0	0	0	#DIV/0!	#DIV/0!	XH	0.179	150	20	20	50	50
912-A0-304SS-2"	0.32	234.49	94.2	426.5	0	38,153	819	38,972	1.128	0.011	S/10S	0.109	150	-41	194	50	50
914-A0-304SS-6"	0.32	31.59	166.7	536.7	0	425,889	0	425,889	0.360	0.009	S/10S	0.134	150	21	121	50	50
917-A2-CS-3"	0.32	63.96	163.6	480.1	0.125	88,741	0	88,741	0.373	0.009	STD	0.216	150	88	88	50	50
920-A2-CS-8"	0.32	6.38	160.7	267.3	0.125	334,349	0	334,349	0.387	0.008	STD	0.322	150	68	68	50	50
961-A2-CS-4"	0.32	27.02	167.2	376.6	0.125	119,882	0	119,882	0.358	0.009	STD	0.237	150	138	149	50	50
962-A2-CS-4"	0.32	27.02	167.2	376.6	0.125	119,882	0	119,882	0.358	0.009	STD	0.237	150	138	149	50	50
964-A2-CS-6"	0.32	38.01	159.5	547.5	0.125	395,514	0	395,514	0.393	0.009	STD	0.28	150	91	139	50	50
965-A2-CS-3"	0.32	8.45	159.2	169.3	0.125	31,298	0	31,298	0.395	0.009	STD	0.216	150	89	93	50	50
979-A0-304SS-10"	0.32	10.54	196.9	494.7	0	1,054,785	0	1,054,785	0.258	0.008	S/10S	0.165	150	-117	-117	50	50
980-A2-CS-4"	0.32	12.02	249.5	373.0	0.125	118,731	0	118,731	0.161	0.013	STD	0.237	150	160	160	50	50
981-A2-CS-3"	0.32	10.71	138.8	166.3	0.125	30,659	83	30,742	0.519	0.010	STD	0.216	150	63	63	50	50
982-A2-CS-2"	0.32	10.84	275.4	249.0	0.125	18,386	0	18,386	0.132	0.014	XH	0.218	150	193	206	50	50
983-A2-CS-2"	0.32	10.84	275.4	249.0	0.125	18,386	0	18,386	0.132	0.014	XH	0.218	150	193	206	50	50
984-A2-CS-2"	0.14	44.81	187.7	348.9	0.125	25,744	20	25,763	0.284	0.008	XH	0.218	150	50	50	10	10
985-A2-CS-4"	0.32	0.40	247.4	66.3	0.125	21,101	0	21,101	0.163	0.011	STD	0.237	150	19	80	50	50
986-A2-CS-4"	0.32	43.56	274.6	783.9	0.125	249,519	0	249,519	0.133	0.014	STD	0.237	150	190	202	50	50
987-A2-CS-2"	0.32	1955.80	274.6	3379.6	0.125	249,519	0	249,519	0.133	0.014	XH	0.218	150	190	202	50	50
988-A2-CS-2"	0.32	70.80	255.6	596.5	0.125	44,039	0	44,039	0.153	0.011	XH	0.218	150	32	64	50	50
989-A0-304SS-12"	0.32	4.29	196.9	349.9	0	1,054,785	0	1,054,785	0.258	0.008	S/10S	0.18	150	-117	179	50	50
990-A0-304SS-12"	0.32	4.29	196.9	349.9	0	1,054,785	0	1,054,785	0.258	0.008	S/10S	0.18	150	-117	-117	50	50