



# BARGE "HFL 413"

## ULLAGE TRIM TABLE

	1 FT.		2 FT.		3 FT.		4 FT.		5 FT.		6 FT.	
	<u>BOW</u>	<u>STERN</u>	<u>BOW</u>	<u>STERN</u>	<u>BOW</u>	<u>STERN</u>	<u>BOW</u>	<u>STERN</u>	<u>BOW</u>	<u>STERN</u>	<u>BOW</u>	<u>STERN</u>
1 PORT	00-0/8	- 00-0/8	00-1/8	- 00-1/8	00-1/8	- 00-1/8	00-1/8	- 00-1/8	00-1/8	- 00-1/8	00-1/4	- 00-1/4
1 STBD	00-0/8	- 00-0/8	00-1/8	- 00-1/8	00-1/8	- 00-1/8	00-1/8	- 00-1/8	00-1/8	- 00-1/8	00-1/4	- 00-1/4
2 PORT	00-0/8	- 00-0/8	00-0/8	- 00-0/8	00-1/8	- 00-1/8	00-1/8	- 00-1/8	00-1/8	- 00-1/8	00-1/8	- 00-1/8
2 STBD	00-0/8	- 00-0/8	00-0/8	- 00-0/8	00-1/8	- 00-1/8	00-1/8	- 00-1/8	00-1/8	- 00-1/8	00-1/8	- 00-1/8
3 PORT	00-0/8	- 00-0/8	00-0/8	- 00-0/8	00-0/8	- 00-0/8	00-0/8	- 00-0/8	00-0/8	- 00-0/8	00-0/8	- 00-0/8
3 STBD	00-0/8	- 00-0/8	00-0/8	- 00-0/8	00-0/8	- 00-0/8	00-0/8	- 00-0/8	00-0/8	- 00-0/8	00-0/8	- 00-0/8

(ALL MEASUREMENTS ABOVE ARE IN INCHES)

EXAMPLE FOR ABOVE TRIM CORRECTIONS:

FWD. DRAFT = 1'-00"  
AFT DRAFT = 4'-00"  
DIFF. = 3'-00" (DOWN BY STERN)

THE CORRECTION FOR 3'-00" TRIM DOWN BY STERN FOR 1 PORT IS - 00-1/8"  
FOR A MEASURED ULLAGE GAUGE OF 4'-00" ON 1 PORT, THE TRIM CORRECTED ULLAGE IS 3'-11 7/8"

LENGTH BETWEEN DRAFT MARKS: 238'-06"

February 16, 2012

PRECISION MEASUREMENT  
& ANALYSIS, INC.

P.O. Box 2092  
Pearland, Texas 77588

<http://www.pmacorp.net>



# BARGE "HFL 413"

## 1 PORT ULLAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 15'-10 1/2"

IN	0 FT.	IN	1 FT.	IN	2 FT.	IN	3 FT.	IN	4 FT.	IN	5 FT.	IN	6 FT.	IN	7 FT.	IN	8 FT.	IN	9 FT.
0		0		0	206,209	0	191,285	0	176,319	0	161,312	0	146,302	0	131,291	0	116,281	0	101,268
1/4		1/4		1/4	205,900	1/4	190,973	1/4	176,007	1/4	160,999	1/4	145,989	1/4	130,979	1/4	115,968	1/4	100,955
1/2		1/2		1/2	205,590	1/2	190,661	1/2	175,695	1/2	160,686	1/2	145,676	1/2	130,666	1/2	115,655	1/2	100,642
3/4		3/4		3/4	205,281	3/4	190,350	3/4	175,383	3/4	160,374	3/4	145,363	3/4	130,353	3/4	115,343	3/4	100,329
1		1		1	204,971	1	190,038	1	175,070	1	160,061	1	145,051	1	130,040	1	115,030	1	100,016
1/4		1/4		1/4	204,661	1/4	189,726	1/4	174,758	1/4	159,748	1/4	144,738	1/4	129,728	1/4	114,717	1/4	99,704
1/2		1/2		1/2	204,352	1/2	189,414	1/2	174,446	1/2	159,436	1/2	144,425	1/2	129,415	1/2	114,405	1/2	99,391
3/4		3/4		3/4	204,042	3/4	189,102	3/4	174,133	3/4	159,123	3/4	144,113	3/4	129,102	3/4	114,092	3/4	99,078
2		2		2	203,732	2	188,791	2	173,820	2	158,810	2	143,800	2	128,790	2	113,779	2	98,765
1/4		1/4		1/4	203,422	1/4	188,479	1/4	173,508	1/4	158,497	1/4	143,487	1/4	128,477	1/4	113,466	1/4	98,452
1/2		1/2		1/2	203,112	1/2	188,167	1/2	173,195	1/2	158,185	1/2	143,174	1/2	128,164	1/2	113,154	1/2	98,139
3/4		3/4		3/4	202,803	3/4	187,855	3/4	172,882	3/4	157,872	3/4	142,862	3/4	127,851	3/4	112,841	3/4	97,827
3		3		3	202,493	3	187,543	3	172,570	3	157,559	3	142,549	3	127,539	3	112,528	3	97,514
1/4		1/4		1/4	202,183	1/4	187,232	1/4	172,257	1/4	157,247	1/4	142,236	1/4	127,226	1/4	112,216	1/4	97,201
1/2		1/2		1/2	201,874	1/2	186,920	1/2	171,944	1/2	156,934	1/2	141,924	1/2	126,913	1/2	111,903	1/2	96,888
3/4		3/4		3/4	201,564	3/4	186,608	3/4	171,631	3/4	156,621	3/4	141,611	3/4	126,601	3/4	111,590	3/4	96,575
4		4		4	201,254	4	186,296	4	171,319	4	156,308	4	141,298	4	126,288	4	111,277	4	96,262
1/4		1/4		1/4	200,945	1/4	185,984	1/4	171,006	1/4	155,996	1/4	140,985	1/4	125,975	1/4	110,965	1/4	95,949
1/2		1/2		1/2	200,635	1/2	185,673	1/2	170,693	1/2	155,683	1/2	140,673	1/2	125,662	1/2	110,652	1/2	95,637
3/4		3/4		3/4	200,324	3/4	185,361	3/4	170,381	3/4	155,370	3/4	140,360	3/4	125,350	3/4	110,339	3/4	95,324
5		5		5	200,013	5	185,049	5	170,068	5	155,058	5	140,047	5	125,037	5	110,027	5	95,011
1/4		1/4		1/4	199,703	1/4	184,737	1/4	169,755	1/4	154,745	1/4	139,735	1/4	124,724	1/4	109,714	1/4	94,698
1/2		1/2		1/2	199,392	1/2	184,425	1/2	169,442	1/2	154,432	1/2	139,422	1/2	124,411	1/2	109,401	1/2	94,385
3/4		3/4		3/4	199,080	3/4	184,114	3/4	169,130	3/4	154,119	3/4	139,109	3/4	124,099	3/4	109,088	3/4	94,072
6		6		6	198,768	6	183,802	6	168,817	6	153,807	6	138,796	6	123,786	6	108,776	6	93,759
1/4		1/4		1/4	198,457	1/4	183,490	1/4	168,504	1/4	153,494	1/4	138,484	1/4	123,473	1/4	108,463	1/4	93,447
1/2		1/2		1/2	198,145	1/2	183,178	1/2	168,192	1/2	153,181	1/2	138,171	1/2	123,161	1/2	108,150	1/2	93,134
3/4		3/4		3/4	197,833	3/4	182,866	3/4	167,879	3/4	152,869	3/4	137,858	3/4	122,848	3/4	107,838	3/4	92,821
7		7		7	197,521	7	182,555	7	167,566	7	152,556	7	137,546	7	122,535	7	107,525	7	92,508
1/4		1/4		1/4	197,209	1/4	182,243	1/4	167,253	1/4	152,243	1/4	137,233	1/4	122,222	1/4	107,212	1/4	92,195
1/2		1/2		1/2	210,814	1/2	196,898	1/2	181,931	1/2	166,941	1/2	151,930	1/2	136,920	1/2	121,910	1/2	106,899
3/4		3/4		3/4	210,635	3/4	196,586	3/4	181,619	3/4	166,628	3/4	151,618	3/4	136,607	3/4	121,597	3/4	106,586
8		8		8	210,455	8	196,274	8	181,307	8	166,315	8	151,305	8	136,295	8	121,284	8	106,273
1/4		1/4		1/4	210,276	1/4	195,962	1/4	180,996	1/4	166,003	1/4	150,992	1/4	135,982	1/4	120,972	1/4	105,961
1/2		1/2		1/2	210,096	1/2	195,650	1/2	180,684	1/2	165,690	1/2	150,680	1/2	135,669	1/2	120,659	1/2	105,648
3/4		3/4		3/4	209,865	3/4	195,339	3/4	180,372	3/4	165,377	3/4	150,367	3/4	135,357	3/4	120,346	3/4	105,335
9		9		9	209,633	9	195,027	9	180,060	9	165,064	9	150,054	9	135,044	9	120,033	9	105,022
1/4		1/4		1/4	209,402	1/4	194,715	1/4	179,748	1/4	164,752	1/4	149,741	1/4	134,731	1/4	119,721	1/4	104,709
1/2		1/2		1/2	209,170	1/2	194,403	1/2	179,437	1/2	164,439	1/2	149,429	1/2	134,418	1/2	119,408	1/2	104,396
3/4		3/4		3/4	208,890	3/4	194,091	3/4	179,125	3/4	164,126	3/4	149,116	3/4	134,106	3/4	119,095	3/4	104,084
10		10		10	208,610	10	193,780	10	178,813	10	163,814	10	148,803	10	133,793	10	118,783	10	103,771
1/4		1/4		1/4	208,330	1/4	193,468	1/4	178,501	1/4	163,501	1/4	148,491	1/4	133,480	1/4	118,470	1/4	103,458
1/2		1/2		1/2	208,050	1/2	193,156	1/2	178,189	1/2	163,188	1/2	148,178	1/2	133,168	1/2	118,157	1/2	103,145
3/4		3/4		3/4	207,745	3/4	192,844	3/4	177,878	3/4	162,875	3/4	147,865	3/4	132,855	3/4	117,844	3/4	102,832
11		11		11	207,439	11	192,532	11	177,566	11	162,563	11	147,552	11	132,542	11	117,532	11	102,519
1/4		1/4		1/4	207,133	1/4	192,220	1/4	177,254	1/4	162,250	1/4	147,240	1/4	132,229	1/4	117,219	1/4	102,206
1/2		1/2		1/2	206,828	1/2	191,909	1/2	176,942	1/2	161,937	1/2	146,927	1/2	131,917	1/2	116,906	1/2	101,894
3/4		3/4		3/4	206,518	3/4	191,597	3/4	176,630	3/4	161,625	3/4	146,614	3/4	131,604	3/4	116,594	3/4	101,581

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

BARGE STRAPPED AND COMPUTED IN ACCORDANCE WITH MPMS CHAPTER 2.7.

CAPACITY TABLE ONLY APPLIES WHEN BARGE IS ON EVEN KEEL.

CAPACITY TABLE EXTENDS TO EXTREME HEIGHT OF TANK.

CAPACITY TABLE ONLY APPLIES TO ULLAGE GAUGES TAKEN TO THREADS ON "MMC" VALVE.

GAUGE POINT: (MMC) LOCATED 12'-09" OFF CENTERLINE AND 43'-06" FORWARD OF AFT BULKHEAD.

PRECISION MEASUREMENT  
& ANALYSIS, INC.

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# BARGE "HFL 413"

## 1 PORT ULLAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 15'-10 1/2"

IN	10 FT.	IN	11 FT.	IN	12 FT.	IN	13 FT.	IN	14 FT.	IN	15 FT.	IN	16 FT.	IN	17 FT.	IN	18 FT.	IN	19 FT.
0	86,251	0	71,234	0	56,274	0	41,305	0	26,289	0	11,469	0		0		0		0	
1/4	85,938	1/4	70,921	1/4	55,964	1/4	40,993	1/4	25,976	1/4	11,175	1/4		1/4		1/4		1/4	
1/2	85,625	1/2	70,609	1/2	55,653	1/2	40,680	1/2	25,663	1/2	10,882	1/2		1/2		1/2		1/2	
3/4	85,312	3/4	70,296	3/4	55,343	3/4	40,367	3/4	25,351	3/4	10,592	3/4		3/4		3/4		3/4	
1	85,000	1	69,983	1	55,032	1	40,054	1	25,038	1	10,302	1		1		1		1	
1/4	84,687	1/4	69,670	1/4	54,722	1/4	39,741	1/4	24,725	1/4	10,013	1/4		1/4		1/4		1/4	
1/2	84,374	1/2	69,357	1/2	54,411	1/2	39,428	1/2	24,412	1/2	9,723	1/2		1/2		1/2		1/2	
3/4	84,061	3/4	69,044	3/4	54,101	3/4	39,116	3/4	24,099	3/4	9,437	3/4		3/4		3/4		3/4	
2	83,748	2	68,731	2	53,790	2	38,803	2	23,786	2	9,151	2		2		2		2	
1/4	83,435	1/4	68,419	1/4	53,480	1/4	38,490	1/4	23,473	1/4	8,865	1/4		1/4		1/4		1/4	
1/2	83,123	1/2	68,106	1/2	53,170	1/2	38,177	1/2	23,161	1/2	8,579	1/2		1/2		1/2		1/2	
3/4	82,810	3/4	67,793	3/4	52,859	3/4	37,864	3/4	22,848	3/4	8,297	3/4		3/4		3/4		3/4	
3	82,497	3	67,480	3	52,548	3	37,551	3	22,535	3	8,015	3		3		3		3	
1/4	82,184	1/4	67,167	1/4	52,237	1/4	37,238	1/4	22,222	1/4	7,733	1/4		1/4		1/4		1/4	
1/2	81,871	1/2	66,854	1/2	51,927	1/2	36,926	1/2	21,909	1/2	7,451	1/2		1/2		1/2		1/2	
3/4	81,558	3/4	66,541	3/4	51,616	3/4	36,613	3/4	21,596	3/4	7,173	3/4		3/4		3/4		3/4	
4	81,245	4	66,229	4	51,304	4	36,300	4	21,284	4	6,895	4		4		4		4	
1/4	80,933	1/4	65,916	1/4	50,993	1/4	35,987	1/4	20,971	1/4	6,617	1/4		1/4		1/4		1/4	
1/2	80,620	1/2	65,603	1/2	50,682	1/2	35,674	1/2	20,658	1/2	6,339	1/2		1/2		1/2		1/2	
3/4	80,307	3/4	65,290	3/4	50,371	3/4	35,361	3/4	20,345	3/4	6,064	3/4		3/4		3/4		3/4	
5	79,994	5	64,978	5	50,059	5	35,049	5	20,032	5	5,790	5		5		5		5	
1/4	79,681	1/4	64,665	1/4	49,748	1/4	34,736	1/4	19,719	1/4	5,516	1/4		1/4		1/4		1/4	
1/2	79,368	1/2	64,352	1/2	49,436	1/2	34,423	1/2	19,407	1/2	5,241	1/2		1/2		1/2		1/2	
3/4	79,055	3/4	64,041	3/4	49,124	3/4	34,110	3/4	19,094	3/4	4,971	3/4		3/4		3/4		3/4	
6	78,743	6	63,729	6	48,812	6	33,797	6	18,781	6	4,700	6		6		6		6	
1/4	78,430	1/4	63,417	1/4	48,500	1/4	33,484	1/4	18,468	1/4	4,430	1/4		1/4		1/4		1/4	
1/2	78,117	1/2	63,106	1/2	48,188	1/2	33,172	1/2	18,155	1/2	4,159	1/2		1/2		1/2		1/2	
3/4	77,804	3/4	62,795	3/4	47,875	3/4	32,859	3/4	17,843	3/4	3,893	3/4		3/4		3/4		3/4	
7	77,491	7	62,485	7	47,562	7	32,546	7	17,531	7	3,627	7		7		7		7	
1/4	77,178	1/4	62,174	1/4	47,249	1/4	32,233	1/4	17,220	1/4	3,360	1/4		1/4		1/4		1/4	
1/2	76,866	1/2	61,863	1/2	46,937	1/2	31,920	1/2	16,908	1/2	3,094	1/2		1/2		1/2		1/2	
3/4	76,553	3/4	61,553	3/4	46,624	3/4	31,607	3/4	16,599	3/4	2,832	3/4		3/4		3/4		3/4	
8	76,240	8	61,242	8	46,311	8	31,294	8	16,290	8	2,570	8		8		8		8	
1/4	75,927	1/4	60,932	1/4	45,998	1/4	30,982	1/4	15,981	1/4	2,309	1/4		1/4		1/4		1/4	
1/2	75,614	1/2	60,621	1/2	45,685	1/2	30,669	1/2	15,672	1/2	2,047	1/2		1/2		1/2		1/2	
3/4	75,301	3/4	60,311	3/4	45,372	3/4	30,356	3/4	15,367	3/4	1,808	3/4		3/4		3/4		3/4	
9	74,988	9	60,000	9	45,059	9	30,043	9	15,061	9	1,570	9		9		9		9	
1/4	74,676	1/4	59,690	1/4	44,747	1/4	29,730	1/4	14,756	1/4	1,331	1/4		1/4		1/4		1/4	
1/2	74,363	1/2	59,379	1/2	44,434	1/2	29,417	1/2	14,451	1/2	1,092	1/2		1/2		1/2		1/2	
3/4	74,050	3/4	59,069	3/4	44,121	3/4	29,105	3/4	14,150	3/4	916	3/4		3/4		3/4		3/4	
10	73,737	10	58,758	10	43,808	10	28,792	10	13,849	10	739	10		10		10		10	
1/4	73,424	1/4	58,448	1/4	43,495	1/4	28,479	1/4	13,547	1/4	562	1/4		1/4		1/4		1/4	
1/2	73,111	1/2	58,137	1/2	43,182	1/2	28,166	1/2	13,246	1/2	385	1/2		1/2		1/2		1/2	
3/4	72,798	3/4	57,827	3/4	42,870	3/4	27,853	3/4	12,949	3/4		3/4		3/4		3/4		3/4	
11	72,486	11	57,516	11	42,557	11	27,540	11	12,651	11		11		11		11		11	
1/4	72,173	1/4	57,206	1/4	42,244	1/4	27,228	1/4	12,354	1/4		1/4		1/4		1/4		1/4	
1/2	71,860	1/2	56,895	1/2	41,931	1/2	26,915	1/2	12,056	1/2		1/2		1/2		1/2		1/2	
3/4	71,547	3/4	56,585	3/4	41,618	3/4	26,602	3/4	11,763	3/4		3/4		3/4		3/4		3/4	

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

STRAPPED: 02/15/2012 CL - SW  
CALCULATED: 02/16/2012 CL  
PRINTED: 02/16/2012 CL

CANCELS AND SUPERCEDES  
ALL PRIOR TO 02/2012

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
Pearland, Texas 77588  
<http://www.pmacorp.net>



# BARGE "HFL 413"

1 STBD  
ULLAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 15'-10 3/4"

IN	0 FT.	IN	1 FT.	IN	2 FT.	IN	3 FT.	IN	4 FT.	IN	5 FT.	IN	6 FT.	IN	7 FT.	IN	8 FT.	IN	9 FT.
0		0		0	206,512	0	191,598	0	176,639	0	161,640	0	146,637	0	131,635	0	116,632	0	101,627
1/4		1/4		1/4	206,203	1/4	191,286	1/4	176,327	1/4	161,328	1/4	146,325	1/4	131,322	1/4	116,319	1/4	101,314
1/2		1/2		1/2	205,894	1/2	190,975	1/2	176,016	1/2	161,015	1/2	146,012	1/2	131,009	1/2	116,007	1/2	101,001
3/4		3/4		3/4	205,585	3/4	190,663	3/4	175,704	3/4	160,703	3/4	145,700	3/4	130,697	3/4	115,694	3/4	100,688
1		1		1	205,275	1	190,351	1	175,392	1	160,390	1	145,387	1	130,384	1	115,382	1	100,376
1/4		1/4		1/4	204,966	1/4	190,040	1/4	175,080	1/4	160,078	1/4	145,075	1/4	130,072	1/4	115,069	1/4	100,063
1/2		1/2		1/2	204,656	1/2	189,728	1/2	174,768	1/2	159,765	1/2	144,762	1/2	129,759	1/2	114,756	1/2	99,750
3/4		3/4		3/4	204,347	3/4	189,417	3/4	174,455	3/4	159,452	3/4	144,450	3/4	129,447	3/4	114,444	3/4	99,438
2		2		2	204,037	2	189,105	2	174,143	2	159,140	2	144,137	2	129,134	2	114,131	2	99,125
1/4		1/4		1/4	203,727	1/4	188,793	1/4	173,830	1/4	158,827	1/4	143,824	1/4	128,822	1/4	113,819	1/4	98,812
1/2		1/2		1/2	203,418	1/2	188,482	1/2	173,518	1/2	158,515	1/2	143,512	1/2	128,509	1/2	113,506	1/2	98,500
3/4		3/4		3/4	203,108	3/4	188,170	3/4	173,205	3/4	158,202	3/4	143,199	3/4	128,196	3/4	113,194	3/4	98,187
3		3		3	202,798	3	187,858	3	172,893	3	157,890	3	142,887	3	127,884	3	112,881	3	97,874
1/4		1/4		1/4	202,489	1/4	187,547	1/4	172,580	1/4	157,577	1/4	142,574	1/4	127,571	1/4	112,569	1/4	97,562
1/2		1/2		1/2	202,179	1/2	187,235	1/2	172,268	1/2	157,265	1/2	142,262	1/2	127,259	1/2	112,256	1/2	97,249
3/4		3/4		3/4	201,870	3/4	186,923	3/4	171,955	3/4	156,952	3/4	141,949	3/4	126,946	3/4	111,943	3/4	96,936
4		4		4	201,560	4	186,612	4	171,642	4	156,639	4	141,636	4	126,634	4	111,631	4	96,623
1/4		1/4		1/4	201,251	1/4	186,300	1/4	171,330	1/4	156,327	1/4	141,324	1/4	126,321	1/4	111,318	1/4	96,311
1/2		1/2		1/2	200,941	1/2	185,988	1/2	171,017	1/2	156,014	1/2	141,011	1/2	126,009	1/2	111,006	1/2	95,998
3/4		3/4		3/4	200,632	3/4	185,677	3/4	170,705	3/4	155,702	3/4	140,699	3/4	125,696	3/4	110,693	3/4	95,685
5		5		5	200,321	5	185,365	5	170,392	5	155,389	5	140,386	5	125,383	5	110,381	5	95,373
1/4		1/4		1/4	200,010	1/4	185,053	1/4	170,080	1/4	155,077	1/4	140,074	1/4	125,071	1/4	110,068	1/4	95,060
1/2		1/2		1/2	199,700	1/2	184,742	1/2	169,767	1/2	154,764	1/2	139,761	1/2	124,758	1/2	109,756	1/2	94,747
3/4		3/4		3/4	199,389	3/4	184,430	3/4	169,454	3/4	154,452	3/4	139,449	3/4	124,446	3/4	109,443	3/4	94,435
6		6		6	199,078	6	184,118	6	169,142	6	154,139	6	139,136	6	124,133	6	109,130	6	94,122
1/4		1/4		1/4	198,766	1/4	183,807	1/4	168,829	1/4	153,826	1/4	138,823	1/4	123,821	1/4	108,818	1/4	93,809
1/2		1/2		1/2	198,454	1/2	183,495	1/2	168,517	1/2	153,514	1/2	138,511	1/2	123,508	1/2	108,505	1/2	93,497
3/4		3/4		3/4	198,143	3/4	183,184	3/4	168,204	3/4	153,201	3/4	138,198	3/4	123,196	3/4	108,193	3/4	93,184
7		7		7	197,831	7	182,872	7	167,892	7	152,889	7	137,886	7	122,883	7	107,880	7	92,871
1/4		1/4		1/4	197,519	1/4	182,560	1/4	167,579	1/4	152,576	1/4	137,573	1/4	122,570	1/4	107,568	1/4	92,558
1/2		1/2		1/2	197,208	1/2	182,249	1/2	167,267	1/2	152,264	1/2	137,261	1/2	122,258	1/2	107,255	1/2	92,246
3/4		3/4		3/4	210,806	3/4	196,896	3/4	181,937	3/4	166,954	3/4	151,951	3/4	136,948	3/4	121,945	3/4	91,933
8		8		8	210,626	8	196,584	8	181,625	8	166,641	8	151,638	8	136,635	8	121,633	8	91,620
1/4		1/4		1/4	210,447	1/4	196,273	1/4	181,314	1/4	166,329	1/4	151,326	1/4	136,323	1/4	121,320	1/4	91,308
1/2		1/2		1/2	210,268	1/2	195,961	1/2	181,002	1/2	166,016	1/2	151,013	1/2	136,010	1/2	121,008	1/2	90,995
3/4		3/4		3/4	210,088	3/4	195,650	3/4	180,690	3/4	165,704	3/4	150,701	3/4	135,698	3/4	120,695	3/4	90,682
9		9		9	209,857	9	195,338	9	180,379	9	165,391	9	150,388	9	135,385	9	120,383	9	90,370
1/4		1/4		1/4	209,625	1/4	195,026	1/4	180,067	1/4	165,079	1/4	150,076	1/4	135,073	1/4	120,070	1/4	90,057
1/2		1/2		1/2	209,394	1/2	194,715	1/2	179,755	1/2	164,766	1/2	149,763	1/2	134,760	1/2	119,757	1/2	89,744
3/4		3/4		3/4	209,163	3/4	194,403	3/4	179,444	3/4	164,453	3/4	149,451	3/4	134,448	3/4	119,445	3/4	89,432
10		10		10	208,883	10	194,091	10	179,132	10	164,141	10	149,138	10	134,135	10	119,132	10	89,119
1/4		1/4		1/4	208,603	1/4	193,780	1/4	178,820	1/4	163,828	1/4	148,825	1/4	133,822	1/4	118,820	1/4	88,806
1/2		1/2		1/2	208,323	1/2	193,468	1/2	178,509	1/2	163,516	1/2	148,513	1/2	133,510	1/2	118,507	1/2	88,493
3/4		3/4		3/4	208,043	3/4	193,156	3/4	178,197	3/4	163,203	3/4	148,200	3/4	133,197	3/4	118,195	3/4	88,181
11		11		11	207,738	11	192,845	11	177,885	11	162,891	11	147,888	11	132,885	11	117,882	11	87,868
1/4		1/4		1/4	207,432	1/4	192,533	1/4	177,574	1/4	162,578	1/4	147,575	1/4	132,572	1/4	117,569	1/4	87,555
1/2		1/2		1/2	207,127	1/2	192,221	1/2	177,262	1/2	162,266	1/2	147,263	1/2	132,260	1/2	117,257	1/2	87,243
3/4		3/4		3/4	206,821	3/4	191,910	3/4	176,950	3/4	161,953	3/4	146,950	3/4	131,947	3/4	116,944	3/4	86,930

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

BARGE STRAPPED AND COMPUTED IN ACCORDANCE WITH MPMS CHAPTER 2.7.  
CAPACITY TABLE ONLY APPLIES WHEN BARGE IS ON EVEN KEEL.  
CAPACITY TABLE EXTENDS TO EXTREME HEIGHT OF TANK.  
CAPACITY TABLE ONLY APPLIES TO ULLAGE GAUGES TAKEN TO THREADS ON "MMC" VALVE.  
GAUGE POINT: (MMC) LOCATED 12'-09" OFF CENTERLINE AND 43'-06" FORWARD OF AFT BULKHEAD.

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
Pearland, Texas 77588  
<http://www.pmacorp.net>



# BARGE "HFL 413"

**1 STBD**  
**ULLAGE TABLE**

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 15'-10 3/4"

IN	10 FT.	IN	11 FT.	IN	12 FT.	IN	13 FT.	IN	14 FT.	IN	15 FT.	IN	16 FT.	IN	17 FT.	IN	18 FT.	IN	19 FT.
0	86,617	0	71,608	0	56,603	0	41,597	0	26,589	0	11,757	0		0		0		0	
1/4	86,305	1/4	71,295	1/4	56,290	1/4	41,285	1/4	26,276	1/4	11,463	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2	85,992	1/2	70,983	1/2	55,978	1/2	40,972	1/2	25,963	1/2	11,170	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
3/4	85,679	3/4	70,670	3/4	55,665	3/4	40,659	3/4	25,650	3/4	10,877	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
1	85,367	1	70,357	1	55,353	1	40,347	1	25,338	1	10,587	1	1	1	1	1	1	1	1
1/4	85,054	1/4	70,045	1/4	55,040	1/4	40,034	1/4	25,025	1/4	10,297	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2	84,741	1/2	69,732	1/2	54,728	1/2	39,721	1/2	24,712	1/2	10,008	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
3/4	84,428	3/4	69,419	3/4	54,416	3/4	39,409	3/4	24,400	3/4	9,718	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
2	84,116	2	69,107	2	54,103	2	39,096	2	24,087	2	9,432	2	2	2	2	2	2	2	2
1/4	83,803	1/4	68,794	1/4	53,791	1/4	38,783	1/4	23,774	1/4	9,147	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2	83,490	1/2	68,481	1/2	53,478	1/2	38,470	1/2	23,462	1/2	8,861	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
3/4	83,178	3/4	68,168	3/4	53,166	3/4	38,158	3/4	23,149	3/4	8,575	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
3	82,865	3	67,856	3	52,853	3	37,845	3	22,836	3	8,293	3	3	3	3	3	3	3	3
1/4	82,552	1/4	67,543	1/4	52,541	1/4	37,532	1/4	22,524	1/4	8,011	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2	82,240	1/2	67,230	1/2	52,228	1/2	37,220	1/2	22,211	1/2	7,730	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
3/4	81,927	3/4	66,918	3/4	51,916	3/4	36,907	3/4	21,898	3/4	7,448	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
4	81,614	4	66,605	4	51,603	4	36,594	4	21,586	4	7,170	4	4	4	4	4	4	4	4
1/4	81,302	1/4	66,292	1/4	51,290	1/4	36,282	1/4	21,273	1/4	6,892	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2	80,989	1/2	65,980	1/2	50,978	1/2	35,969	1/2	20,960	1/2	6,614	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
3/4	80,676	3/4	65,667	3/4	50,665	3/4	35,656	3/4	20,648	3/4	6,336	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
5	80,363	5	65,354	5	50,352	5	35,344	5	20,335	5	6,061	5	5	5	5	5	5	5	5
1/4	80,051	1/4	65,042	1/4	50,040	1/4	35,031	1/4	20,022	1/4	5,787	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2	79,738	1/2	64,729	1/2	49,727	1/2	34,718	1/2	19,710	1/2	5,513	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
3/4	79,425	3/4	64,416	3/4	49,414	3/4	34,406	3/4	19,397	3/4	5,239	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
6	79,113	6	64,103	6	49,102	6	34,093	6	19,084	6	4,968	6	6	6	6	6	6	6	6
1/4	78,800	1/4	63,791	1/4	48,789	1/4	33,780	1/4	18,771	1/4	4,698	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2	78,487	1/2	63,478	1/2	48,476	1/2	33,468	1/2	18,459	1/2	4,428	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
3/4	78,175	3/4	63,165	3/4	48,164	3/4	33,155	3/4	18,146	3/4	4,157	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
7	77,862	7	62,853	7	47,851	7	32,842	7	17,834	7	3,891	7	7	7	7	7	7	7	7
1/4	77,549	1/4	62,540	1/4	47,538	1/4	32,529	1/4	17,523	1/4	3,625	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2	77,237	1/2	62,227	1/2	47,226	1/2	32,217	1/2	17,211	1/2	3,359	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
3/4	76,924	3/4	61,915	3/4	46,913	3/4	31,904	3/4	16,899	3/4	3,093	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
8	76,611	8	61,602	8	46,600	8	31,591	8	16,590	8	2,831	8	8	8	8	8	8	8	8
1/4	76,298	1/4	61,290	1/4	46,288	1/4	31,279	1/4	16,282	1/4	2,569	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2	75,986	1/2	60,977	1/2	45,975	1/2	30,966	1/2	15,973	1/2	2,308	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
3/4	75,673	3/4	60,665	3/4	45,662	3/4	30,653	3/4	15,664	3/4	2,046	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
9	75,360	9	60,352	9	45,349	9	30,341	9	15,359	9	1,807	9	9	9	9	9	9	9	9
1/4	75,048	1/4	60,040	1/4	45,037	1/4	30,028	1/4	15,054	1/4	1,569	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2	74,735	1/2	59,727	1/2	44,724	1/2	29,715	1/2	14,749	1/2	1,330	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
3/4	74,422	3/4	59,415	3/4	44,411	3/4	29,403	3/4	14,444	3/4	1,092	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
10	74,110	10	59,102	10	44,099	10	29,090	10	14,143	10	915	10	10	10	10	10	10	10	10
1/4	73,797	1/4	58,790	1/4	43,786	1/4	28,777	1/4	13,842	1/4	738	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2	73,484	1/2	58,478	1/2	43,473	1/2	28,465	1/2	13,541	1/2	562	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
3/4	73,172	3/4	58,165	3/4	43,161	3/4	28,152	3/4	13,239	3/4	385	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
11	72,859	11	57,853	11	42,848	11	27,839	11	12,942	11		11	11	11	11	11	11	11	11
1/4	72,546	1/4	57,540	1/4	42,535	1/4	27,527	1/4	12,645	1/4		1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/2	72,233	1/2	57,228	1/2	42,223	1/2	27,214	1/2	12,348	1/2		1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
3/4	71,921	3/4	56,915	3/4	41,910	3/4	26,901	3/4	12,050	3/4		3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

STRAPPED: 02/15/2012 CL - SW  
CALCULATED: 02/16/2012 CL  
PRINTED: 02/16/2012 CL

CANCELS AND SUPERCEDES  
ALL PRIOR TO 02/2012

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
Pearland, Texas 77588  
<http://www.pmacorp.net>



# BARGE "HFL 413"

## 2 PORT ULLAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 15'-11"

IN	0 FT.	IN	1 FT.	IN	2 FT.	IN	3 FT.	IN	4 FT.	IN	5 FT.	IN	6 FT.	IN	7 FT.	IN	8 FT.	IN	9 FT.
0		0		0	208,879	0	193,942	0	178,936	0	163,886	0	148,829	0	133,773	0	118,716	0	103,656
1/4		1/4		1/4	208,570	1/4	193,629	1/4	178,624	1/4	163,572	1/4	148,516	1/4	133,459	1/4	118,402	1/4	103,343
1/2		1/2		1/2	208,261	1/2	193,316	1/2	178,311	1/2	163,258	1/2	148,202	1/2	133,145	1/2	118,089	1/2	103,029
3/4		3/4		3/4	207,951	3/4	193,004	3/4	177,998	3/4	162,945	3/4	147,888	3/4	132,832	3/4	117,775	3/4	102,715
1		1		1	207,642	1	192,691	1	177,686	1	162,631	1	147,574	1	132,518	1	117,461	1	102,401
1/4		1/4		1/4	207,333	1/4	192,379	1/4	177,373	1/4	162,317	1/4	147,261	1/4	132,204	1/4	117,147	1/4	102,087
1/2		1/2		1/2	207,023	1/2	192,066	1/2	177,059	1/2	162,004	1/2	146,947	1/2	131,890	1/2	116,834	1/2	101,773
3/4		3/4		3/4	206,713	3/4	191,753	3/4	176,746	3/4	161,690	3/4	146,633	3/4	131,577	3/4	116,520	3/4	101,460
2		2		2	206,404	2	191,441	2	176,433	2	161,376	2	146,320	2	131,263	2	116,206	2	101,146
1/4		1/4		1/4	206,094	1/4	191,128	1/4	176,119	1/4	161,063	1/4	146,006	1/4	130,949	1/4	115,893	1/4	100,832
1/2		1/2		1/2	205,785	1/2	190,816	1/2	175,806	1/2	160,749	1/2	145,692	1/2	130,636	1/2	115,579	1/2	100,518
3/4		3/4		3/4	205,475	3/4	190,503	3/4	175,492	3/4	160,435	3/4	145,379	3/4	130,322	3/4	115,265	3/4	100,204
3		3		3	205,165	3	190,190	3	175,178	3	160,122	3	145,065	3	130,008	3	114,952	3	99,890
1/4		1/4		1/4	204,856	1/4	189,878	1/4	174,865	1/4	159,808	1/4	144,751	1/4	129,695	1/4	114,638	1/4	99,577
1/2		1/2		1/2	204,546	1/2	189,565	1/2	174,551	1/2	159,494	1/2	144,438	1/2	129,381	1/2	114,324	1/2	99,263
3/4		3/4		3/4	204,236	3/4	189,252	3/4	174,237	3/4	159,181	3/4	144,124	3/4	129,067	3/4	114,011	3/4	98,949
4		4		4	203,927	4	188,940	4	173,924	4	158,867	4	143,810	4	128,754	4	113,697	4	98,635
1/4		1/4		1/4	203,617	1/4	188,627	1/4	173,610	1/4	158,553	1/4	143,497	1/4	128,440	1/4	113,383	1/4	98,321
1/2		1/2		1/2	203,308	1/2	188,315	1/2	173,296	1/2	158,240	1/2	143,183	1/2	128,126	1/2	113,070	1/2	98,007
3/4		3/4		3/4	202,998	3/4	188,002	3/4	172,983	3/4	157,926	3/4	142,869	3/4	127,813	3/4	112,756	3/4	97,693
5		5		5	202,689	5	187,689	5	172,669	5	157,612	5	142,556	5	127,499	5	112,442	5	97,380
1/4		1/4		1/4	202,378	1/4	187,377	1/4	172,355	1/4	157,299	1/4	142,242	1/4	127,185	1/4	112,129	1/4	97,066
1/2		1/2		1/2	202,067	1/2	187,064	1/2	172,042	1/2	156,985	1/2	141,928	1/2	126,872	1/2	111,815	1/2	96,752
3/4		3/4		3/4	201,756	3/4	186,752	3/4	171,728	3/4	156,671	3/4	141,615	3/4	126,558	3/4	111,501	3/4	96,438
6		6		6	201,444	6	186,439	6	171,414	6	156,358	6	141,301	6	126,244	6	111,188	6	96,124
1/4		1/4		1/4	201,132	1/4	186,126	1/4	171,101	1/4	156,044	1/4	140,987	1/4	125,931	1/4	110,874	1/4	95,810
1/2		1/2		1/2	200,819	1/2	185,814	1/2	170,787	1/2	155,730	1/2	140,674	1/2	125,617	1/2	110,560	1/2	95,497
3/4		3/4		3/4	200,507	3/4	185,501	3/4	170,473	3/4	155,416	3/4	140,360	3/4	125,303	3/4	110,247	3/4	95,183
7		7		7	200,194	7	185,188	7	170,159	7	155,103	7	140,046	7	124,989	7	109,933	7	94,869
1/4		1/4		1/4	199,881	1/4	184,876	1/4	169,846	1/4	154,789	1/4	139,732	1/4	124,676	1/4	109,619	1/4	94,555
1/2		1/2		1/2	199,569	1/2	184,563	1/2	169,532	1/2	154,475	1/2	139,419	1/2	124,362	1/2	109,305	1/2	94,241
3/4		3/4		3/4	199,256	3/4	184,251	3/4	169,218	3/4	154,162	3/4	139,105	3/4	124,048	3/4	108,992	3/4	93,927
8		8	212,860	8	198,944	8	183,938	8	168,905	8	153,848	8	138,791	8	123,735	8	108,678	8	93,614
1/4		1/4	212,681	1/4	198,631	1/4	183,625	1/4	168,591	1/4	153,534	1/4	138,478	1/4	123,421	1/4	108,364	1/4	93,300
1/2		1/2	212,502	1/2	198,318	1/2	183,313	1/2	168,277	1/2	153,221	1/2	138,164	1/2	123,107	1/2	108,050	1/2	92,986
3/4		3/4	212,324	3/4	198,006	3/4	183,000	3/4	167,964	3/4	152,907	3/4	137,850	3/4	122,794	3/4	107,736	3/4	92,672
9		9	212,145	9	197,693	9	182,688	9	167,650	9	152,593	9	137,537	9	122,480	9	107,422	9	92,358
1/4		1/4	211,913	1/4	197,380	1/4	182,375	1/4	167,336	1/4	152,280	1/4	137,223	1/4	122,166	1/4	107,109	1/4	92,044
1/2		1/2	211,682	1/2	197,068	1/2	182,062	1/2	167,023	1/2	151,966	1/2	136,909	1/2	121,853	1/2	106,795	1/2	91,731
3/4		3/4	211,451	3/4	196,755	3/4	181,750	3/4	166,709	3/4	151,652	3/4	136,596	3/4	121,539	3/4	106,481	3/4	91,417
10		10	211,220	10	196,443	10	181,437	10	166,395	10	151,339	10	136,282	10	121,225	10	106,167	10	91,103
1/4		1/4	210,940	1/4	196,130	1/4	181,124	1/4	166,082	1/4	151,025	1/4	135,968	1/4	120,912	1/4	105,853	1/4	90,789
1/2		1/2	210,660	1/2	195,817	1/2	180,812	1/2	165,768	1/2	150,711	1/2	135,655	1/2	120,598	1/2	105,539	1/2	90,475
3/4		3/4	210,381	3/4	195,505	3/4	180,499	3/4	165,454	3/4	150,398	3/4	135,341	3/4	120,284	3/4	105,226	3/4	90,161
11		11	210,101	11	195,192	11	180,187	11	165,141	11	150,084	11	135,027	11	119,971	11	104,912	11	89,848
1/4		1/4	209,795	1/4	194,880	1/4	179,874	1/4	164,827	1/4	149,770	1/4	134,714	1/4	119,657	1/4	104,598	1/4	89,534
1/2		1/2	209,490	1/2	194,567	1/2	179,561	1/2	164,513	1/2	149,457	1/2	134,400	1/2	119,343	1/2	104,284	1/2	89,220
3/4		3/4	209,184	3/4	194,254	3/4	179,249	3/4	164,200	3/4	149,143	3/4	134,086	3/4	119,030	3/4	103,970	3/4	88,906

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

BARGE STRAPPED AND COMPUTED IN ACCORDANCE WITH MPMS CHAPTER 2.7.

CAPACITY TABLE ONLY APPLIES WHEN BARGE IS ON EVEN KEEL.

CAPACITY TABLE EXTENDS TO EXTREME HEIGHT OF TANK.

CAPACITY TABLE ONLY APPLIES TO ULLAGE GAUGES TAKEN TO THREADS ON "MMC" VALVE.

GAUGE POINT: (MMC) LOCATED 12'-09" OFF CENTERLINE AND 43'-06" FORWARD OF AFT BULKHEAD.

PRECISION MEASUREMENT  
& ANALYSIS, INC.

P.O. Box 2092

Pearland, Texas 77588

<http://www.pmacorp.net>



# BARGE "HFL 413"

## 2 PORT ULLAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 15'-11"

IN	10 FT.	IN	11 FT.	IN	12 FT.	IN	13 FT.	IN	14 FT.	IN	15 FT.	IN	16 FT.	IN	17 FT.	IN	18 FT.	IN	19 FT.
0	88,592	0	73,528	0	58,723	0	44,242	0	29,501	0	14,439	0		0		0		0	
1/4	88,278	1/4	73,214	1/4	58,421	1/4	43,941	1/4	29,187	1/4	14,125	1/4		1/4		1/4		1/4	
1/2	87,965	1/2	72,900	1/2	58,118	1/2	43,640	1/2	28,874	1/2	13,812	1/2		1/2		1/2		1/2	
3/4	87,651	3/4	72,586	3/4	57,816	3/4	43,338	3/4	28,560	3/4	13,498	3/4		3/4		3/4		3/4	
1	87,337	1	72,273	1	57,514	1	43,037	1	28,247	1	13,184	1		1		1		1	
1/4	87,023	1/4	71,959	1/4	57,212	1/4	42,736	1/4	27,933	1/4	12,870	1/4		1/4		1/4		1/4	
1/2	86,709	1/2	71,645	1/2	56,910	1/2	42,435	1/2	27,619	1/2	12,556	1/2		1/2		1/2		1/2	
3/4	86,395	3/4	71,331	3/4	56,608	3/4	42,134	3/4	27,306	3/4	12,242	3/4		3/4		3/4		3/4	
2	86,081	2	71,017	2	56,306	2	41,833	2	26,992	2	11,929	2		2		2		2	
1/4	85,768	1/4	70,703	1/4	56,004	1/4	41,532	1/4	26,678	1/4	11,615	1/4		1/4		1/4		1/4	
1/2	85,454	1/2	70,390	1/2	55,702	1/2	41,231	1/2	26,365	1/2	11,301	1/2		1/2		1/2		1/2	
3/4	85,140	3/4	70,076	3/4	55,400	3/4	40,929	3/4	26,051	3/4	10,987	3/4		3/4		3/4		3/4	
3	84,826	3	69,762	3	55,098	3	40,628	3	25,737	3	10,673	3		3		3		3	
1/4	84,512	1/4	69,448	1/4	54,796	1/4	40,327	1/4	25,423	1/4	10,360	1/4		1/4		1/4		1/4	
1/2	84,198	1/2	69,134	1/2	54,494	1/2	40,026	1/2	25,109	1/2	10,046	1/2		1/2		1/2		1/2	
3/4	83,885	3/4	68,820	3/4	54,192	3/4	39,725	3/4	24,796	3/4	9,732	3/4		3/4		3/4		3/4	
4	83,571	4	68,507	4	53,889	4	39,424	4	24,482	4	9,418	4		4		4		4	
1/4	83,257	1/4	68,193	1/4	53,587	1/4	39,122	1/4	24,168	1/4	9,104	1/4		1/4		1/4		1/4	
1/2	82,943	1/2	67,879	1/2	53,285	1/2	38,821	1/2	23,854	1/2	8,790	1/2		1/2		1/2		1/2	
3/4	82,629	3/4	67,565	3/4	52,983	3/4	38,519	3/4	23,540	3/4	8,477	3/4		3/4		3/4		3/4	
5	82,315	5	67,251	5	52,681	5	38,217	5	23,226	5	8,163	5		5		5		5	
1/4	82,002	1/4	66,937	1/4	52,379	1/4	37,915	1/4	22,913	1/4	7,849	1/4		1/4		1/4		1/4	
1/2	81,688	1/2	66,624	1/2	52,077	1/2	37,613	1/2	22,599	1/2	7,535	1/2		1/2		1/2		1/2	
3/4	81,374	3/4	66,310	3/4	51,775	3/4	37,311	3/4	22,285	3/4	7,221	3/4		3/4		3/4		3/4	
6	81,060	6	65,996	6	51,473	6	37,009	6	21,971	6	6,907	6		6		6		6	
1/4	80,746	1/4	65,688	1/4	51,171	1/4	36,701	1/4	21,657	1/4	6,594	1/4		1/4		1/4		1/4	
1/2	80,432	1/2	65,380	1/2	50,869	1/2	36,393	1/2	21,344	1/2	6,280	1/2		1/2		1/2		1/2	
3/4	80,119	3/4	65,072	3/4	50,568	3/4	36,085	3/4	21,030	3/4	5,966	3/4		3/4		3/4		3/4	
7	79,805	7	64,764	7	50,266	7	35,777	7	20,716	7	5,652	7		7		7		7	
1/4	79,491	1/4	64,462	1/4	49,965	1/4	35,463	1/4	20,402	1/4	5,339	1/4		1/4		1/4		1/4	
1/2	79,177	1/2	64,160	1/2	49,663	1/2	35,150	1/2	20,088	1/2	5,025	1/2		1/2		1/2		1/2	
3/4	78,863	3/4	63,858	3/4	49,362	3/4	34,836	3/4	19,774	3/4	4,711	3/4		3/4		3/4		3/4	
8	78,549	8	63,556	8	49,061	8	34,522	8	19,461	8	4,398	8		8		8		8	
1/4	78,236	1/4	63,254	1/4	48,759	1/4	34,208	1/4	19,147	1/4	4,085	1/4		1/4		1/4		1/4	
1/2	77,922	1/2	62,952	1/2	48,458	1/2	33,894	1/2	18,833	1/2	3,772	1/2		1/2		1/2		1/2	
3/4	77,608	3/4	62,650	3/4	48,157	3/4	33,581	3/4	18,519	3/4	3,459	3/4		3/4		3/4		3/4	
9	77,294	9	62,347	9	47,856	9	33,267	9	18,205	9	3,147	9		9		9		9	
1/4	76,980	1/4	62,045	1/4	47,554	1/4	32,953	1/4	17,891	1/4	2,853	1/4		1/4		1/4		1/4	
1/2	76,666	1/2	61,743	1/2	47,253	1/2	32,639	1/2	17,578	1/2	2,560	1/2		1/2		1/2		1/2	
3/4	76,353	3/4	61,441	3/4	46,952	3/4	32,325	3/4	17,264	3/4	2,266	3/4		3/4		3/4		3/4	
10	76,039	10	61,139	10	46,651	10	32,011	10	16,950	10	1,973	10		10		10		10	
1/4	75,725	1/4	60,837	1/4	46,350	1/4	31,698	1/4	16,636	1/4	1,737	1/4		1/4		1/4		1/4	
1/2	75,411	1/2	60,535	1/2	46,049	1/2	31,384	1/2	16,322	1/2	1,502	1/2		1/2		1/2		1/2	
3/4	75,097	3/4	60,233	3/4	45,748	3/4	31,070	3/4	16,008	3/4	1,267	3/4		3/4		3/4		3/4	
11	74,783	11	59,931	11	45,446	11	30,756	11	15,695	11	1,031	11		11		11		11	
1/4	74,469	1/4	59,629	1/4	45,145	1/4	30,442	1/4	15,381	1/4		1/4		1/4		1/4		1/4	
1/2	74,156	1/2	59,327	1/2	44,844	1/2	30,129	1/2	15,067	1/2		1/2		1/2		1/2		1/2	
3/4	73,842	3/4	59,025	3/4	44,543	3/4	29,815	3/4	14,753	3/4		3/4		3/4		3/4		3/4	

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

STRAPPED: 02/15/2012 CL - SW  
CALCULATED: 02/16/2012 CL  
PRINTED: 02/16/2012 CL

CANCELS AND SUPERCEDES  
ALL PRIOR TO 02/2012

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
Pearland, Texas 77588  
<http://www.pmacorp.net>





# BARGE "HFL 413"

## 2 STBD ULLAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 15'-10 3/4"

IN	0 FT.	IN	1 FT.	IN	2 FT.	IN	3 FT.	IN	4 FT.	IN	5 FT.	IN	6 FT.	IN	7 FT.	IN	8 FT.	IN	9 FT.
0		0		0	209,853	0	194,902	0	179,885	0	164,823	0	149,755	0	134,688	0	119,620	0	104,549
1/4		1/4		1/4	209,544	1/4	194,589	1/4	179,572	1/4	164,509	1/4	149,441	1/4	134,374	1/4	119,306	1/4	104,235
1/2		1/2		1/2	209,234	1/2	194,276	1/2	179,259	1/2	164,195	1/2	149,127	1/2	134,060	1/2	118,992	1/2	103,921
3/4		3/4		3/4	208,925	3/4	193,963	3/4	178,947	3/4	163,881	3/4	148,814	3/4	133,746	3/4	118,678	3/4	103,607
1		1		1	208,615	1	193,650	1	178,633	1	163,567	1	148,500	1	133,432	1	118,364	1	103,293
1/4		1/4		1/4	208,305	1/4	193,337	1/4	178,320	1/4	163,253	1/4	148,186	1/4	133,118	1/4	118,051	1/4	102,979
1/2		1/2		1/2	207,996	1/2	193,025	1/2	178,006	1/2	162,939	1/2	147,872	1/2	132,804	1/2	117,737	1/2	102,665
3/4		3/4		3/4	207,686	3/4	192,712	3/4	177,693	3/4	162,626	3/4	147,558	3/4	132,490	3/4	117,423	3/4	102,351
2		2		2	207,376	2	192,399	2	177,379	2	162,312	2	147,244	2	132,176	2	117,109	2	102,037
1/4		1/4		1/4	207,066	1/4	192,086	1/4	177,065	1/4	161,998	1/4	146,930	1/4	131,862	1/4	116,795	1/4	101,723
1/2		1/2		1/2	206,756	1/2	191,773	1/2	176,751	1/2	161,684	1/2	146,616	1/2	131,549	1/2	116,481	1/2	101,409
3/4		3/4		3/4	206,446	3/4	191,460	3/4	176,437	3/4	161,370	3/4	146,302	3/4	131,235	3/4	116,167	3/4	101,095
3		3		3	206,136	3	191,148	3	176,124	3	161,056	3	145,988	3	130,921	3	115,853	3	100,781
1/4		1/4		1/4	205,827	1/4	190,835	1/4	175,810	1/4	160,742	1/4	145,674	1/4	130,607	1/4	115,539	1/4	100,467
1/2		1/2		1/2	205,517	1/2	190,522	1/2	175,496	1/2	160,428	1/2	145,361	1/2	130,293	1/2	115,225	1/2	100,153
3/4		3/4		3/4	205,207	3/4	190,209	3/4	175,182	3/4	160,114	3/4	145,047	3/4	129,979	3/4	114,911	3/4	99,838
4		4		4	204,897	4	189,896	4	174,868	4	159,800	4	144,733	4	129,665	4	114,598	4	99,524
1/4		1/4		1/4	204,587	1/4	189,583	1/4	174,554	1/4	159,486	1/4	144,419	1/4	129,351	1/4	114,284	1/4	99,210
1/2		1/2		1/2	204,278	1/2	189,270	1/2	174,240	1/2	159,173	1/2	144,105	1/2	129,037	1/2	113,970	1/2	98,896
3/4		3/4		3/4	203,968	3/4	188,958	3/4	173,926	3/4	158,859	3/4	143,791	3/4	128,723	3/4	113,656	3/4	98,582
5		5		5	203,657	5	188,645	5	173,612	5	158,545	5	143,477	5	128,409	5	113,342	5	98,268
1/4		1/4		1/4	203,345	1/4	188,332	1/4	173,298	1/4	158,231	1/4	143,163	1/4	128,096	1/4	113,028	1/4	97,954
1/2		1/2		1/2	203,034	1/2	188,019	1/2	172,984	1/2	157,917	1/2	142,849	1/2	127,782	1/2	112,714	1/2	97,640
3/4		3/4		3/4	202,723	3/4	187,706	3/4	172,671	3/4	157,603	3/4	142,535	3/4	127,468	3/4	112,400	3/4	97,326
6		6		6	202,410	6	187,393	6	172,357	6	157,289	6	142,221	6	127,154	6	112,086	6	97,012
1/4		1/4		1/4	202,097	1/4	187,081	1/4	172,043	1/4	156,975	1/4	141,908	1/4	126,840	1/4	111,772	1/4	96,698
1/2		1/2		1/2	201,784	1/2	186,768	1/2	171,729	1/2	156,661	1/2	141,594	1/2	126,526	1/2	111,458	1/2	96,384
3/4		3/4		3/4	201,471	3/4	186,455	3/4	171,415	3/4	156,347	3/4	141,280	3/4	126,212	3/4	111,145	3/4	96,070
7		7		7	201,158	7	186,142	7	171,101	7	156,033	7	140,966	7	125,898	7	110,831	7	95,756
1/4		1/4		1/4	200,846	1/4	185,829	1/4	170,787	1/4	155,720	1/4	140,652	1/4	125,584	1/4	110,517	1/4	95,442
1/2		1/2		1/2	200,533	1/2	185,516	1/2	170,473	1/2	155,406	1/2	140,338	1/2	125,270	1/2	110,203	1/2	95,127
3/4		3/4		3/4	200,220	3/4	185,203	3/4	170,159	3/4	155,092	3/4	140,024	3/4	124,957	3/4	109,889	3/4	94,813
8		8	213,968	8	199,907	8	184,891	8	169,845	8	154,778	8	139,710	8	124,643	8	109,575	8	94,499
1/4		1/4	213,789	1/4	199,594	1/4	184,578	1/4	169,531	1/4	154,464	1/4	139,396	1/4	124,329	1/4	109,260	1/4	94,185
1/2		1/2	213,610	1/2	199,281	1/2	184,265	1/2	169,218	1/2	154,150	1/2	139,082	1/2	124,015	1/2	108,946	1/2	93,871
3/4		3/4	213,431	3/4	198,969	3/4	183,952	3/4	168,904	3/4	153,836	3/4	138,768	3/4	123,701	3/4	108,632	3/4	93,557
9		9	213,199	9	198,656	9	183,639	9	168,590	9	153,522	9	138,455	9	123,387	9	108,318	9	93,243
1/4		1/4	212,968	1/4	198,343	1/4	183,326	1/4	168,276	1/4	153,208	1/4	138,141	1/4	123,073	1/4	108,004	1/4	92,929
1/2		1/2	212,737	1/2	198,030	1/2	183,014	1/2	167,962	1/2	152,894	1/2	137,827	1/2	122,759	1/2	107,690	1/2	92,615
3/4		3/4	212,505	3/4	197,717	3/4	182,701	3/4	167,648	3/4	152,580	3/4	137,513	3/4	122,445	3/4	107,376	3/4	92,301
10		10	212,225	10	197,404	10	182,388	10	167,334	10	152,267	10	137,199	10	122,131	10	107,062	10	91,987
1/4		1/4	211,945	1/4	197,092	1/4	182,075	1/4	167,020	1/4	151,953	1/4	136,885	1/4	121,817	1/4	106,748	1/4	91,673
1/2		1/2	211,665	1/2	196,779	1/2	181,762	1/2	166,706	1/2	151,639	1/2	136,571	1/2	121,504	1/2	106,434	1/2	91,359
3/4		3/4	211,385	3/4	196,466	3/4	181,449	3/4	166,392	3/4	151,325	3/4	136,257	3/4	121,190	3/4	106,120	3/4	91,045
11		11	211,080	11	196,153	11	181,137	11	166,079	11	151,011	11	135,943	11	120,876	11	105,806	11	90,731
1/4		1/4	210,774	1/4	195,840	1/4	180,824	1/4	165,765	1/4	150,697	1/4	135,629	1/4	120,562	1/4	105,492	1/4	90,416
1/2		1/2	210,468	1/2	195,527	1/2	180,511	1/2	165,451	1/2	150,383	1/2	135,315	1/2	120,248	1/2	105,178	1/2	90,102
3/4		3/4	210,163	3/4	195,214	3/4	180,198	3/4	165,137	3/4	150,069	3/4	135,002	3/4	119,934	3/4	104,864	3/4	89,788

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

BARGE STRAPPED AND COMPUTED IN ACCORDANCE WITH MPMS CHAPTER 2.7.  
CAPACITY TABLE ONLY APPLIES WHEN BARGE IS ON EVEN KEEL.  
CAPACITY TABLE EXTENDS TO EXTREME HEIGHT OF TANK.  
CAPACITY TABLE ONLY APPLIES TO ULLAGE GAUGES TAKEN TO THREADS ON "MMC" VALVE.  
GAUGE POINT: (MMC) LOCATED 12'-09" OFF CENTERLINE AND 43'-06" FORWARD OF AFT BULKHEAD.

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
Pearland, Texas 77588  
<http://www.pmacorp.net>





# BARGE "HFL 413"

**2 STBD**  
**ULLAGE TABLE**

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 15'-10 3/4"

IN	10 FT.	IN	11 FT.	IN	12 FT.	IN	13 FT.	IN	14 FT.	IN	15 FT.	IN	16 FT.	IN	17 FT.	IN	18 FT.	IN	19 FT.
0	89,474	0	74,399	0	59,324	0	44,268	0	29,210	0	14,136	0		0		0		0	
1/4	89,160	1/4	74,085	1/4	59,010	1/4	43,955	1/4	28,896	1/4	13,822	1/4		1/4		1/4		1/4	
1/2	88,846	1/2	73,771	1/2	58,696	1/2	43,642	1/2	28,582	1/2	13,508	1/2		1/2		1/2		1/2	
3/4	88,532	3/4	73,457	3/4	58,382	3/4	43,329	3/4	28,268	3/4	13,194	3/4		3/4		3/4		3/4	
1	88,218	1	73,143	1	58,068	1	43,016	1	27,954	1	12,880	1		1		1		1	
1/4	87,904	1/4	72,829	1/4	57,754	1/4	42,703	1/4	27,640	1/4	12,566	1/4		1/4		1/4		1/4	
1/2	87,590	1/2	72,515	1/2	57,440	1/2	42,390	1/2	27,326	1/2	12,252	1/2		1/2		1/2		1/2	
3/4	87,276	3/4	72,201	3/4	57,126	3/4	42,076	3/4	27,013	3/4	11,938	3/4		3/4		3/4		3/4	
2	86,962	2	71,887	2	56,811	2	41,763	2	26,699	2	11,624	2		2		2		2	
1/4	86,648	1/4	71,573	1/4	56,497	1/4	41,450	1/4	26,385	1/4	11,310	1/4		1/4		1/4		1/4	
1/2	86,334	1/2	71,258	1/2	56,183	1/2	41,137	1/2	26,071	1/2	10,996	1/2		1/2		1/2		1/2	
3/4	86,020	3/4	70,944	3/4	55,869	3/4	40,824	3/4	25,757	3/4	10,682	3/4		3/4		3/4		3/4	
3	85,706	3	70,630	3	55,555	3	40,511	3	25,443	3	10,367	3		3		3		3	
1/4	85,391	1/4	70,316	1/4	55,241	1/4	40,198	1/4	25,129	1/4	10,053	1/4		1/4		1/4		1/4	
1/2	85,077	1/2	70,002	1/2	54,927	1/2	39,885	1/2	24,814	1/2	9,739	1/2		1/2		1/2		1/2	
3/4	84,763	3/4	69,688	3/4	54,613	3/4	39,571	3/4	24,500	3/4	9,425	3/4		3/4		3/4		3/4	
4	84,449	4	69,374	4	54,299	4	39,258	4	24,186	4	9,111	4		4		4		4	
1/4	84,135	1/4	69,060	1/4	53,985	1/4	38,944	1/4	23,872	1/4	8,797	1/4		1/4		1/4		1/4	
1/2	83,821	1/2	68,746	1/2	53,671	1/2	38,631	1/2	23,558	1/2	8,483	1/2		1/2		1/2		1/2	
3/4	83,507	3/4	68,432	3/4	53,357	3/4	38,317	3/4	23,244	3/4	8,169	3/4		3/4		3/4		3/4	
5	83,193	5	68,118	5	53,043	5	38,003	5	22,930	5	7,855	5		5		5		5	
1/4	82,879	1/4	67,804	1/4	52,729	1/4	37,689	1/4	22,616	1/4	7,541	1/4		1/4		1/4		1/4	
1/2	82,565	1/2	67,490	1/2	52,415	1/2	37,375	1/2	22,302	1/2	7,227	1/2		1/2		1/2		1/2	
3/4	82,251	3/4	67,176	3/4	52,100	3/4	37,061	3/4	21,988	3/4	6,913	3/4		3/4		3/4		3/4	
6	81,937	6	66,862	6	51,787	6	36,747	6	21,674	6	6,599	6		6		6		6	
1/4	81,623	1/4	66,547	1/4	51,473	1/4	36,433	1/4	21,360	1/4	6,285	1/4		1/4		1/4		1/4	
1/2	81,309	1/2	66,233	1/2	51,159	1/2	36,119	1/2	21,046	1/2	5,971	1/2		1/2		1/2		1/2	
3/4	80,995	3/4	65,919	3/4	50,846	3/4	35,804	3/4	20,732	3/4	5,657	3/4		3/4		3/4		3/4	
7	80,680	7	65,605	7	50,532	7	35,490	7	20,418	7	5,343	7		7		7		7	
1/4	80,366	1/4	65,291	1/4	50,219	1/4	35,176	1/4	20,103	1/4	5,029	1/4		1/4		1/4		1/4	
1/2	80,052	1/2	64,977	1/2	49,906	1/2	34,862	1/2	19,789	1/2	4,715	1/2		1/2		1/2		1/2	
3/4	79,738	3/4	64,663	3/4	49,592	3/4	34,548	3/4	19,475	3/4	4,401	3/4		3/4		3/4		3/4	
8	79,424	8	64,349	8	49,279	8	34,234	8	19,161	8	4,088	8		8		8		8	
1/4	79,110	1/4	64,035	1/4	48,966	1/4	33,920	1/4	18,847	1/4	3,775	1/4		1/4		1/4		1/4	
1/2	78,796	1/2	63,721	1/2	48,652	1/2	33,606	1/2	18,533	1/2	3,462	1/2		1/2		1/2		1/2	
3/4	78,482	3/4	63,407	3/4	48,339	3/4	33,292	3/4	18,219	3/4	3,149	3/4		3/4		3/4		3/4	
9	78,168	9	63,093	9	48,026	9	32,978	9	17,905	9	2,855	9		9		9		9	
1/4	77,854	1/4	62,779	1/4	47,713	1/4	32,664	1/4	17,591	1/4	2,562	1/4		1/4		1/4		1/4	
1/2	77,540	1/2	62,465	1/2	47,400	1/2	32,350	1/2	17,277	1/2	2,268	1/2		1/2		1/2		1/2	
3/4	77,226	3/4	62,151	3/4	47,087	3/4	32,036	3/4	16,963	3/4	1,974	3/4		3/4		3/4		3/4	
10	76,912	10	61,837	10	46,774	10	31,722	10	16,649	10	1,739	10		10		10		10	
1/4	76,598	1/4	61,522	1/4	46,460	1/4	31,408	1/4	16,335	1/4	1,503	1/4		1/4		1/4		1/4	
1/2	76,284	1/2	61,208	1/2	46,147	1/2	31,093	1/2	16,021	1/2	1,268	1/2		1/2		1/2		1/2	
3/4	75,969	3/4	60,894	3/4	45,834	3/4	30,779	3/4	15,707	3/4	1,032	3/4		3/4		3/4		3/4	
11	75,655	11	60,580	11	45,521	11	30,465	11	15,393	11		11		11		11		11	
1/4	75,341	1/4	60,266	1/4	45,208	1/4	30,151	1/4	15,078	1/4		1/4		1/4		1/4		1/4	
1/2	75,027	1/2	59,952	1/2	44,895	1/2	29,837	1/2	14,764	1/2		1/2		1/2		1/2		1/2	
3/4	74,713	3/4	59,638	3/4	44,582	3/4	29,523	3/4	14,450	3/4		3/4		3/4		3/4		3/4	

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

STRAPPED: 02/15/2012 CL - SW  
CALCULATED: 02/16/2012 CL  
PRINTED: 02/16/2012 CL

CANCELS AND SUPERCEDES  
ALL PRIOR TO 02/2012

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
Pearland, Texas 77588  
<http://www.pmacorp.net>



# BARGE "HFL 413"

## 3 PORT ULLAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 15'-11"

IN	0 FT.	IN	1 FT.	IN	2 FT.	IN	3 FT.	IN	4 FT.	IN	5 FT.	IN	6 FT.	IN	7 FT.	IN	8 FT.	IN	9 FT.
0		0		0	189,324	0	178,988	0	168,651	0	158,283	0	147,836	0	133,540	0	118,569	0	103,592
1/4		1/4		1/4	189,108	1/4	178,772	1/4	168,436	1/4	158,067	1/4	147,589	1/4	133,228	1/4	118,257	1/4	103,280
1/2		1/2		1/2	188,893	1/2	178,557	1/2	168,221	1/2	157,851	1/2	147,342	1/2	132,916	1/2	117,945	1/2	102,967
3/4		3/4		3/4	188,678	3/4	178,342	3/4	168,005	3/4	157,635	3/4	147,094	3/4	132,605	3/4	117,633	3/4	102,655
1		1		1	188,463	1	178,126	1	167,790	1	157,419	1	146,847	1	132,293	1	117,321	1	102,343
1/4		1/4		1/4	188,248	1/4	177,911	1/4	167,574	1/4	157,203	1/4	146,584	1/4	131,981	1/4	117,009	1/4	102,030
1/2		1/2		1/2	188,032	1/2	177,696	1/2	167,359	1/2	156,987	1/2	146,321	1/2	131,669	1/2	116,697	1/2	101,718
3/4		3/4		3/4	187,817	3/4	177,480	3/4	167,143	3/4	156,771	3/4	146,058	3/4	131,357	3/4	116,385	3/4	101,406
2		2		2	187,602	2	177,265	2	166,927	2	156,555	2	145,795	2	131,045	2	116,073	2	101,094
1/4		1/4		1/4	187,386	1/4	177,049	1/4	166,711	1/4	156,339	1/4	145,516	1/4	130,733	1/4	115,762	1/4	100,781
1/2		1/2		1/2	187,171	1/2	176,834	1/2	166,495	1/2	156,122	1/2	145,238	1/2	130,421	1/2	115,450	1/2	100,469
3/4		3/4		3/4	186,955	3/4	176,619	3/4	166,279	3/4	155,906	3/4	144,959	3/4	130,109	3/4	115,138	3/4	100,157
3		3		3	186,740	3	176,403	3	166,063	3	155,690	3	144,680	3	129,797	3	114,826	3	99,844
1/4		1/4		1/4	186,524	1/4	176,188	1/4	165,847	1/4	155,474	1/4	144,385	1/4	129,485	1/4	114,514	1/4	99,532
1/2		1/2		1/2	186,309	1/2	175,973	1/2	165,631	1/2	155,258	1/2	144,090	1/2	129,174	1/2	114,202	1/2	99,220
3/4		3/4		3/4	186,094	3/4	175,757	3/4	165,415	3/4	155,042	3/4	143,796	3/4	128,862	3/4	113,890	3/4	98,907
4		4		4	185,878	4	175,542	4	165,198	4	154,826	4	143,501	4	128,550	4	113,578	4	98,595
1/4		1/4		1/4	185,663	1/4	175,327	1/4	164,982	1/4	154,610	1/4	143,194	1/4	128,238	1/4	113,266	1/4	98,283
1/2		1/2		1/2	185,448	1/2	175,111	1/2	164,766	1/2	154,394	1/2	142,887	1/2	127,926	1/2	112,954	1/2	97,971
3/4		3/4		3/4	185,232	3/4	174,896	3/4	164,550	3/4	154,178	3/4	142,579	3/4	127,614	3/4	112,642	3/4	97,658
5		5		5	185,017	5	174,681	5	164,334	5	153,961	5	142,272	5	127,302	5	112,331	5	97,346
1/4		1/4		1/4	184,802	1/4	174,465	1/4	164,118	1/4	153,745	1/4	141,961	1/4	126,990	1/4	112,019	1/4	97,034
1/2		1/2		1/2	184,586	1/2	174,250	1/2	163,902	1/2	153,529	1/2	141,649	1/2	126,678	1/2	111,707	1/2	96,722
3/4		3/4		3/4	184,371	3/4	174,035	3/4	163,686	3/4	153,313	3/4	141,337	3/4	126,366	3/4	111,395	3/4	96,410
6		6		6	184,156	6	173,819	6	163,470	6	153,097	6	141,026	6	126,054	6	111,083	6	96,098
1/4		1/4		1/4	183,940	1/4	173,604	1/4	163,254	1/4	152,881	1/4	140,714	1/4	125,743	1/4	110,771	1/4	95,786
1/2		1/2		1/2	183,725	1/2	173,389	1/2	163,037	1/2	152,665	1/2	140,402	1/2	125,431	1/2	110,459	1/2	95,474
3/4		3/4		3/4	183,510	3/4	173,173	3/4	162,821	3/4	152,449	3/4	140,090	3/4	125,119	3/4	110,147	3/4	95,162
7		7		7	183,294	7	172,958	7	162,605	7	152,233	7	139,778	7	124,807	7	109,835	7	94,850
1/4		1/4		1/4	183,079	1/4	172,743	1/4	162,389	1/4	152,017	1/4	139,466	1/4	124,495	1/4	109,523	1/4	94,537
1/2		1/2		1/2	182,864	1/2	172,527	1/2	162,173	1/2	151,801	1/2	139,155	1/2	124,183	1/2	109,211	1/2	94,225
3/4		3/4		3/4	182,648	3/4	172,312	3/4	161,957	3/4	151,584	3/4	138,843	3/4	123,871	3/4	108,899	3/4	93,913
8		8	192,077	8	182,433	8	172,097	8	161,741	8	151,368	8	138,531	8	123,559	8	108,587	8	93,601
1/4		1/4	191,953	1/4	182,218	1/4	171,881	1/4	161,525	1/4	151,152	1/4	138,219	1/4	123,247	1/4	108,275	1/4	93,289
1/2		1/2	191,829	1/2	182,002	1/2	171,666	1/2	161,309	1/2	150,936	1/2	137,907	1/2	122,935	1/2	107,963	1/2	92,977
3/4		3/4	191,706	3/4	181,787	3/4	171,451	3/4	161,093	3/4	150,720	3/4	137,595	3/4	122,624	3/4	107,651	3/4	92,665
9		9	191,582	9	181,572	9	171,235	9	160,877	9	150,504	9	137,283	9	122,312	9	107,339	9	92,353
1/4		1/4	191,422	1/4	181,356	1/4	171,020	1/4	160,660	1/4	150,288	1/4	136,971	1/4	122,000	1/4	107,027	1/4	92,041
1/2		1/2	191,262	1/2	181,141	1/2	170,805	1/2	160,444	1/2	150,072	1/2	136,659	1/2	121,688	1/2	106,715	1/2	91,729
3/4		3/4	191,103	3/4	180,926	3/4	170,589	3/4	160,228	3/4	149,856	3/4	136,347	3/4	121,376	3/4	106,403	3/4	91,417
10		10	190,943	10	180,710	10	170,374	10	160,012	10	149,640	10	136,036	10	121,064	10	106,091	10	91,105
1/4		1/4	190,750	1/4	180,495	1/4	170,159	1/4	159,796	1/4	149,420	1/4	135,724	1/4	120,752	1/4	105,778	1/4	90,793
1/2		1/2	190,557	1/2	180,280	1/2	169,943	1/2	159,580	1/2	149,200	1/2	135,412	1/2	120,440	1/2	105,466	1/2	90,481
3/4		3/4	190,364	3/4	180,064	3/4	169,728	3/4	159,364	3/4	148,981	3/4	135,100	3/4	120,128	3/4	105,154	3/4	90,168
11		11	190,170	11	179,849	11	169,513	11	159,148	11	148,761	11	134,788	11	119,816	11	104,841	11	89,856
1/4		1/4	189,959	1/4	179,634	1/4	169,297	1/4	158,932	1/4	148,530	1/4	134,476	1/4	119,504	1/4	104,529	1/4	89,544
1/2		1/2	189,747	1/2	179,418	1/2	169,082	1/2	158,716	1/2	148,299	1/2	134,164	1/2	119,193	1/2	104,217	1/2	89,232
3/4		3/4	189,535	3/4	179,203	3/4	168,867	3/4	158,499	3/4	148,067	3/4	133,852	3/4	118,881	3/4	103,904	3/4	88,920

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

BARGE STRAPPED AND COMPUTED IN ACCORDANCE WITH MPMS CHAPTER 2.7.

CAPACITY TABLE ONLY APPLIES WHEN BARGE IS ON EVEN KEEL.

CAPACITY TABLE EXTENDS TO EXTREME HEIGHT OF TANK.

CAPACITY TABLE ONLY APPLIES TO ULLAGE GAUGES TAKEN TO THREADS ON "MMC" VALVE.

GAUGE POINT: (MMC) LOCATED 12'-09" OFF CENTERLINE AND 43'-00" FORWARD OF AFT BULKHEAD.

PRECISION MEASUREMENT  
& ANALYSIS, INC.

P.O. Box 2092

Pearland, Texas 77588

<http://www.pmacorp.net>



# BARGE "HFL 413"

## 3 PORT ULLAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 15'-11"

IN	10 FT.	IN	11 FT.	IN	12 FT.	IN	13 FT.	IN	14 FT.	IN	15 FT.	IN	16 FT.	IN	17 FT.	IN	18 FT.	IN	19 FT.
0	88,608	0	73,642	0	58,731	0	44,189	0	29,387	0	14,391	0		0		0		0	
1/4	88,296	1/4	73,331	1/4	58,425	1/4	43,884	1/4	29,074	1/4	14,078	1/4		1/4		1/4		1/4	
1/2	87,984	1/2	73,021	1/2	58,119	1/2	43,579	1/2	28,762	1/2	13,766	1/2		1/2		1/2		1/2	
3/4	87,671	3/4	72,710	3/4	57,814	3/4	43,274	3/4	28,450	3/4	13,453	3/4		3/4		3/4		3/4	
1	87,359	1	72,400	1	57,508	1	42,969	1	28,137	1	13,141	1		1		1		1	
1/4	87,047	1/4	72,090	1/4	57,204	1/4	42,663	1/4	27,825	1/4	12,828	1/4		1/4		1/4		1/4	
1/2	86,734	1/2	71,779	1/2	56,899	1/2	42,358	1/2	27,513	1/2	12,516	1/2		1/2		1/2		1/2	
3/4	86,422	3/4	71,469	3/4	56,595	3/4	42,053	3/4	27,201	3/4	12,203	3/4		3/4		3/4		3/4	
2	86,110	2	71,158	2	56,291	2	41,748	2	26,888	2	11,891	2		2		2		2	
1/4	85,797	1/4	70,848	1/4	55,989	1/4	41,443	1/4	26,576	1/4	11,578	1/4		1/4		1/4		1/4	
1/2	85,485	1/2	70,537	1/2	55,686	1/2	41,138	1/2	26,264	1/2	11,266	1/2		1/2		1/2		1/2	
3/4	85,173	3/4	70,227	3/4	55,383	3/4	40,833	3/4	25,951	3/4	10,953	3/4		3/4		3/4		3/4	
3	84,860	3	69,917	3	55,081	3	40,528	3	25,639	3	10,640	3		3		3		3	
1/4	84,548	1/4	69,606	1/4	54,778	1/4	40,222	1/4	25,326	1/4	10,327	1/4		1/4		1/4		1/4	
1/2	84,235	1/2	69,296	1/2	54,476	1/2	39,917	1/2	25,014	1/2	10,014	1/2		1/2		1/2		1/2	
3/4	83,923	3/4	68,985	3/4	54,173	3/4	39,612	3/4	24,701	3/4	9,701	3/4		3/4		3/4		3/4	
4	83,611	4	68,675	4	53,870	4	39,307	4	24,389	4	9,388	4		4		4		4	
1/4	83,298	1/4	68,365	1/4	53,568	1/4	39,002	1/4	24,077	1/4	9,076	1/4		1/4		1/4		1/4	
1/2	82,986	1/2	68,054	1/2	53,265	1/2	38,697	1/2	23,764	1/2	8,763	1/2		1/2		1/2		1/2	
3/4	82,673	3/4	67,744	3/4	52,963	3/4	38,392	3/4	23,452	3/4	8,450	3/4		3/4		3/4		3/4	
5	82,361	5	67,433	5	52,660	5	38,087	5	23,139	5	8,137	5		5		5		5	
1/4	82,049	1/4	67,123	1/4	52,358	1/4	37,782	1/4	22,827	1/4	7,824	1/4		1/4		1/4		1/4	
1/2	81,736	1/2	66,812	1/2	52,055	1/2	37,476	1/2	22,514	1/2	7,512	1/2		1/2		1/2		1/2	
3/4	81,424	3/4	66,502	3/4	51,752	3/4	37,171	3/4	22,202	3/4	7,199	3/4		3/4		3/4		3/4	
6	81,111	6	66,192	6	51,450	6	36,866	6	21,889	6	6,886	6		6		6		6	
1/4	80,799	1/4	65,881	1/4	51,147	1/4	36,558	1/4	21,577	1/4	6,574	1/4		1/4		1/4		1/4	
1/2	80,487	1/2	65,571	1/2	50,845	1/2	36,250	1/2	21,264	1/2	6,261	1/2		1/2		1/2		1/2	
3/4	80,174	3/4	65,260	3/4	50,542	3/4	35,941	3/4	20,952	3/4	5,949	3/4		3/4		3/4		3/4	
7	79,862	7	64,950	7	50,239	7	35,633	7	20,640	7	5,636	7		7		7		7	
1/4	79,550	1/4	64,639	1/4	49,937	1/4	35,321	1/4	20,327	1/4	5,323	1/4		1/4		1/4		1/4	
1/2	79,237	1/2	64,329	1/2	49,634	1/2	35,009	1/2	20,015	1/2	5,011	1/2		1/2		1/2		1/2	
3/4	78,925	3/4	64,019	3/4	49,332	3/4	34,697	3/4	19,702	3/4	4,698	3/4		3/4		3/4		3/4	
8	78,612	8	63,708	8	49,029	8	34,385	8	19,390	8	4,385	8		8		8		8	
1/4	78,301	1/4	63,397	1/4	48,727	1/4	34,073	1/4	19,077	1/4	4,074	1/4		1/4		1/4		1/4	
1/2	77,990	1/2	63,086	1/2	48,424	1/2	33,760	1/2	18,765	1/2	3,762	1/2		1/2		1/2		1/2	
3/4	77,678	3/4	62,774	3/4	48,121	3/4	33,448	3/4	18,452	3/4	3,450	3/4		3/4		3/4		3/4	
9	77,367	9	62,463	9	47,819	9	33,136	9	18,140	9	3,138	9		9		9		9	
1/4	77,056	1/4	62,151	1/4	47,517	1/4	32,823	1/4	17,828	1/4	2,845	1/4		1/4		1/4		1/4	
1/2	76,746	1/2	61,839	1/2	47,214	1/2	32,511	1/2	17,515	1/2	2,552	1/2		1/2		1/2		1/2	
3/4	76,436	3/4	61,527	3/4	46,912	3/4	32,198	3/4	17,203	3/4	2,260	3/4		3/4		3/4		3/4	
10	76,125	10	61,215	10	46,610	10	31,886	10	16,890	10	1,967	10		10		10		10	
1/4	75,815	1/4	60,903	1/4	46,308	1/4	31,573	1/4	16,578	1/4	1,733	1/4		1/4		1/4		1/4	
1/2	75,504	1/2	60,591	1/2	46,006	1/2	31,261	1/2	16,265	1/2	1,498	1/2		1/2		1/2		1/2	
3/4	75,194	3/4	60,279	3/4	45,705	3/4	30,948	3/4	15,953	3/4	1,263	3/4		3/4		3/4		3/4	
11	74,883	11	59,967	11	45,403	11	30,636	11	15,640	11	1,029	11		11		11		11	
1/4	74,573	1/4	59,658	1/4	45,099	1/4	30,324	1/4	15,328	1/4		1/4		1/4		1/4		1/4	
1/2	74,263	1/2	59,349	1/2	44,796	1/2	30,011	1/2	15,015	1/2		1/2		1/2		1/2		1/2	
3/4	73,952	3/4	59,040	3/4	44,493	3/4	29,699	3/4	14,703	3/4		3/4		3/4		3/4		3/4	

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

STRAPPED: 02/15/2012 CL - SW  
CALCULATED: 02/16/2012 CL  
PRINTED: 02/16/2012 CL

CANCELS AND SUPERCEDES  
ALL PRIOR TO 02/2012

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
Pearland, Texas 77588  
<http://www.pmacorp.net>



# BARGE "HFL 413"

## 3 STBD ULLAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 15'-10 3/4"

IN	0 FT.	IN	1 FT.	IN	2 FT.	IN	3 FT.	IN	4 FT.	IN	5 FT.	IN	6 FT.	IN	7 FT.	IN	8 FT.	IN	9 FT.
0		0		0	190,082	0	179,749	0	169,416	0	159,051	0	148,575	0	134,189	0	119,189	0	104,184
1/4		1/4		1/4	189,867	1/4	179,534	1/4	169,201	1/4	158,835	1/4	148,328	1/4	133,877	1/4	118,877	1/4	103,871
1/2		1/2		1/2	189,652	1/2	179,319	1/2	168,986	1/2	158,619	1/2	148,080	1/2	133,564	1/2	118,564	1/2	103,558
3/4		3/4		3/4	189,437	3/4	179,103	3/4	168,770	3/4	158,402	3/4	147,833	3/4	133,252	3/4	118,252	3/4	103,245
1		1		1	189,222	1	178,888	1	168,555	1	158,186	1	147,570	1	132,939	1	117,939	1	102,932
1/4		1/4		1/4	189,006	1/4	178,673	1/4	168,339	1/4	157,970	1/4	147,306	1/4	132,627	1/4	117,627	1/4	102,619
1/2		1/2		1/2	188,791	1/2	178,457	1/2	168,123	1/2	157,754	1/2	147,043	1/2	132,314	1/2	117,314	1/2	102,307
3/4		3/4		3/4	188,576	3/4	178,242	3/4	167,908	3/4	157,538	3/4	146,780	3/4	132,002	3/4	117,002	3/4	101,994
2		2		2	188,360	2	178,027	2	167,692	2	157,322	2	146,500	2	131,689	2	116,689	2	101,681
1/4		1/4		1/4	188,145	1/4	177,812	1/4	167,476	1/4	157,106	1/4	146,221	1/4	131,377	1/4	116,377	1/4	101,368
1/2		1/2		1/2	187,930	1/2	177,596	1/2	167,260	1/2	156,890	1/2	145,942	1/2	131,064	1/2	116,064	1/2	101,055
3/4		3/4		3/4	187,714	3/4	177,381	3/4	167,044	3/4	156,674	3/4	145,663	3/4	130,752	3/4	115,752	3/4	100,742
3		3		3	187,499	3	177,166	3	166,828	3	156,458	3	145,367	3	130,439	3	115,439	3	100,429
1/4		1/4		1/4	187,284	1/4	176,951	1/4	166,612	1/4	156,242	1/4	145,072	1/4	130,127	1/4	115,127	1/4	100,116
1/2		1/2		1/2	187,068	1/2	176,735	1/2	166,396	1/2	156,026	1/2	144,776	1/2	129,814	1/2	114,814	1/2	99,803
3/4		3/4		3/4	186,853	3/4	176,520	3/4	166,180	3/4	155,810	3/4	144,481	3/4	129,502	3/4	114,502	3/4	99,490
4		4		4	186,638	4	176,305	4	165,964	4	155,594	4	144,173	4	129,189	4	114,189	4	99,177
1/4		1/4		1/4	186,422	1/4	176,089	1/4	165,747	1/4	155,378	1/4	143,865	1/4	128,877	1/4	113,877	1/4	98,865
1/2		1/2		1/2	186,207	1/2	175,874	1/2	165,531	1/2	155,162	1/2	143,558	1/2	128,564	1/2	113,564	1/2	98,552
3/4		3/4		3/4	185,992	3/4	175,659	3/4	165,315	3/4	154,946	3/4	143,250	3/4	128,252	3/4	113,252	3/4	98,239
5		5		5	185,777	5	175,444	5	165,099	5	154,730	5	142,938	5	127,939	5	112,939	5	97,926
1/4		1/4		1/4	185,561	1/4	175,228	1/4	164,883	1/4	154,514	1/4	142,626	1/4	127,627	1/4	112,627	1/4	97,613
1/2		1/2		1/2	185,346	1/2	175,013	1/2	164,667	1/2	154,298	1/2	142,313	1/2	127,314	1/2	112,314	1/2	97,300
3/4		3/4		3/4	185,131	3/4	174,798	3/4	164,451	3/4	154,082	3/4	142,001	3/4	127,002	3/4	112,002	3/4	96,987
6		6		6	184,916	6	174,583	6	164,235	6	153,866	6	141,689	6	126,689	6	111,689	6	96,674
1/4		1/4		1/4	184,700	1/4	174,367	1/4	164,019	1/4	153,650	1/4	141,376	1/4	126,377	1/4	111,377	1/4	96,361
1/2		1/2		1/2	184,485	1/2	174,152	1/2	163,803	1/2	153,434	1/2	141,064	1/2	126,064	1/2	111,064	1/2	96,048
3/4		3/4		3/4	184,270	3/4	173,937	3/4	163,587	3/4	153,218	3/4	140,751	3/4	125,752	3/4	110,752	3/4	95,735
7		7		7	184,054	7	173,722	7	163,371	7	153,002	7	140,439	7	125,439	7	110,439	7	95,422
1/4		1/4		1/4	183,839	1/4	173,506	1/4	163,155	1/4	152,786	1/4	140,126	1/4	125,127	1/4	110,127	1/4	95,110
1/2		1/2		1/2	183,624	1/2	173,291	1/2	162,939	1/2	152,570	1/2	139,814	1/2	124,814	1/2	109,814	1/2	94,797
3/4		3/4		3/4	183,409	3/4	173,076	3/4	162,723	3/4	152,354	3/4	139,501	3/4	124,502	3/4	109,502	3/4	94,484
8		8		8	192,926	8	183,193	8	172,860	8	162,507	8	152,138	8	139,189	8	124,189	8	94,171
1/4		1/4		1/4	192,802	1/4	182,978	1/4	172,645	1/4	162,291	1/4	151,922	1/4	138,876	1/4	123,877	1/4	93,858
1/2		1/2		1/2	192,679	1/2	182,763	1/2	172,430	1/2	162,075	1/2	151,706	1/2	138,564	1/2	123,564	1/2	93,545
3/4		3/4		3/4	192,555	3/4	182,548	3/4	172,215	3/4	161,859	3/4	151,490	3/4	138,251	3/4	123,252	3/4	93,232
9		9		9	192,395	9	182,332	9	171,999	9	161,643	9	151,274	9	137,939	9	122,939	9	92,919
1/4		1/4		1/4	192,235	1/4	182,117	1/4	171,784	1/4	161,427	1/4	151,057	1/4	137,627	1/4	122,627	1/4	92,606
1/2		1/2		1/2	192,076	1/2	181,902	1/2	171,569	1/2	161,211	1/2	150,841	1/2	137,314	1/2	122,314	1/2	92,293
3/4		3/4		3/4	191,916	3/4	181,686	3/4	171,354	3/4	160,995	3/4	150,625	3/4	137,002	3/4	122,002	3/4	91,980
10		10		10	191,723	10	181,471	10	171,138	10	160,779	10	150,406	10	136,689	10	121,689	10	91,668
1/4		1/4		1/4	191,530	1/4	181,256	1/4	170,923	1/4	160,563	1/4	150,186	1/4	136,377	1/4	121,377	1/4	91,355
1/2		1/2		1/2	191,337	1/2	181,041	1/2	170,708	1/2	160,347	1/2	149,967	1/2	136,064	1/2	121,064	1/2	91,042
3/4		3/4		3/4	191,144	3/4	180,825	3/4	170,493	3/4	160,131	3/4	149,747	3/4	135,752	3/4	120,752	3/4	90,729
11		11		11	190,932	11	180,610	11	170,277	11	159,915	11	149,516	11	135,439	11	120,439	11	90,416
1/4		1/4		1/4	190,720	1/4	180,395	1/4	170,062	1/4	159,699	1/4	149,285	1/4	135,127	1/4	120,127	1/4	90,103
1/2		1/2		1/2	190,509	1/2	180,180	1/2	169,847	1/2	159,483	1/2	149,053	1/2	134,814	1/2	119,814	1/2	89,790
3/4		3/4		3/4	190,297	3/4	179,964	3/4	169,631	3/4	159,267	3/4	148,822	3/4	134,502	3/4	119,502	3/4	89,477

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

BARGE STRAPPED AND COMPUTED IN ACCORDANCE WITH MPMS CHAPTER 2.7.  
CAPACITY TABLE ONLY APPLIES WHEN BARGE IS ON EVEN KEEL.  
CAPACITY TABLE EXTENDS TO EXTREME HEIGHT OF TANK.  
CAPACITY TABLE ONLY APPLIES TO ULLAGE GAUGES TAKEN TO THREADS ON "MMC" VALVE.  
GAUGE POINT: (MMC) LOCATED 12'-09" OFF CENTERLINE AND 43'-00" FORWARD OF AFT BULKHEAD.

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
Pearland, Texas 77588  
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# BARGE "HFL 413"

**3 STBD**  
**ULLAGE TABLE**

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 15'-10 3/4"

IN	10 FT.	IN	11 FT.	IN	12 FT.	IN	13 FT.	IN	14 FT.	IN	15 FT.	IN	16 FT.	IN	17 FT.	IN	18 FT.	IN	19 FT.
0	89,164	0	74,144	0	59,125	0	44,108	0	29,103	0	14,084	0		0		0		0	
1/4	88,851	1/4	73,832	1/4	58,812	1/4	43,796	1/4	28,790	1/4	13,771	1/4		1/4		1/4		1/4	
1/2	88,538	1/2	73,519	1/2	58,499	1/2	43,484	1/2	28,477	1/2	13,458	1/2		1/2		1/2		1/2	
3/4	88,226	3/4	73,206	3/4	58,186	3/4	43,171	3/4	28,165	3/4	13,145	3/4		3/4		3/4		3/4	
1	87,913	1	72,893	1	57,873	1	42,859	1	27,852	1	12,832	1		1		1		1	
1/4	87,600	1/4	72,580	1/4	57,560	1/4	42,546	1/4	27,539	1/4	12,519	1/4		1/4		1/4		1/4	
1/2	87,287	1/2	72,267	1/2	57,247	1/2	42,234	1/2	27,226	1/2	12,207	1/2		1/2		1/2		1/2	
3/4	86,974	3/4	71,954	3/4	56,934	3/4	41,922	3/4	26,913	3/4	11,894	3/4		3/4		3/4		3/4	
2	86,661	2	71,641	2	56,621	2	41,609	2	26,600	2	11,581	2		2		2		2	
1/4	86,348	1/4	71,328	1/4	56,308	1/4	41,297	1/4	26,287	1/4	11,268	1/4		1/4		1/4		1/4	
1/2	86,035	1/2	71,015	1/2	55,996	1/2	40,984	1/2	25,974	1/2	10,955	1/2		1/2		1/2		1/2	
3/4	85,722	3/4	70,702	3/4	55,683	3/4	40,672	3/4	25,661	3/4	10,642	3/4		3/4		3/4		3/4	
3	85,409	3	70,390	3	55,370	3	40,359	3	25,348	3	10,329	3		3		3		3	
1/4	85,096	1/4	70,077	1/4	55,057	1/4	40,047	1/4	25,036	1/4	10,016	1/4		1/4		1/4		1/4	
1/2	84,783	1/2	69,764	1/2	54,744	1/2	39,735	1/2	24,723	1/2	9,703	1/2		1/2		1/2		1/2	
3/4	84,471	3/4	69,451	3/4	54,431	3/4	39,422	3/4	24,410	3/4	9,390	3/4		3/4		3/4		3/4	
4	84,158	4	69,138	4	54,118	4	39,110	4	24,097	4	9,077	4		4		4		4	
1/4	83,845	1/4	68,825	1/4	53,805	1/4	38,797	1/4	23,784	1/4	8,765	1/4		1/4		1/4		1/4	
1/2	83,532	1/2	68,512	1/2	53,492	1/2	38,485	1/2	23,471	1/2	8,452	1/2		1/2		1/2		1/2	
3/4	83,219	3/4	68,199	3/4	53,179	3/4	38,173	3/4	23,158	3/4	8,139	3/4		3/4		3/4		3/4	
5	82,906	5	67,886	5	52,866	5	37,860	5	22,845	5	7,826	5		5		5		5	
1/4	82,593	1/4	67,573	1/4	52,554	1/4	37,548	1/4	22,532	1/4	7,513	1/4		1/4		1/4		1/4	
1/2	82,280	1/2	67,260	1/2	52,241	1/2	37,235	1/2	22,219	1/2	7,200	1/2		1/2		1/2		1/2	
3/4	81,967	3/4	66,947	3/4	51,928	3/4	36,923	3/4	21,906	3/4	6,887	3/4		3/4		3/4		3/4	
6	81,654	6	66,635	6	51,615	6	36,611	6	21,594	6	6,574	6		6		6		6	
1/4	81,341	1/4	66,322	1/4	51,302	1/4	36,298	1/4	21,281	1/4	6,261	1/4		1/4		1/4		1/4	
1/2	81,029	1/2	66,009	1/2	50,989	1/2	35,986	1/2	20,968	1/2	5,949	1/2		1/2		1/2		1/2	
3/4	80,716	3/4	65,696	3/4	50,676	3/4	35,673	3/4	20,655	3/4	5,636	3/4		3/4		3/4		3/4	
7	80,403	7	65,383	7	50,363	7	35,361	7	20,342	7	5,323	7		7		7		7	
1/4	80,090	1/4	65,070	1/4	50,050	1/4	35,048	1/4	20,029	1/4	5,010	1/4		1/4		1/4		1/4	
1/2	79,777	1/2	64,757	1/2	49,737	1/2	34,735	1/2	19,716	1/2	4,698	1/2		1/2		1/2		1/2	
3/4	79,464	3/4	64,444	3/4	49,424	3/4	34,423	3/4	19,403	3/4	4,385	3/4		3/4		3/4		3/4	
8	79,151	8	64,131	8	49,111	8	34,110	8	19,090	8	4,073	8		8		8		8	
1/4	78,838	1/4	63,818	1/4	48,799	1/4	33,797	1/4	18,777	1/4	3,761	1/4		1/4		1/4		1/4	
1/2	78,525	1/2	63,505	1/2	48,486	1/2	33,484	1/2	18,465	1/2	3,449	1/2		1/2		1/2		1/2	
3/4	78,212	3/4	63,193	3/4	48,173	3/4	33,171	3/4	18,152	3/4	3,137	3/4		3/4		3/4		3/4	
9	77,899	9	62,880	9	47,860	9	32,858	9	17,839	9	2,845	9		9		9		9	
1/4	77,586	1/4	62,567	1/4	47,547	1/4	32,545	1/4	17,526	1/4	2,552	1/4		1/4		1/4		1/4	
1/2	77,274	1/2	62,254	1/2	47,234	1/2	32,232	1/2	17,213	1/2	2,260	1/2		1/2		1/2		1/2	
3/4	76,961	3/4	61,941	3/4	46,922	3/4	31,919	3/4	16,900	3/4	1,967	3/4		3/4		3/4		3/4	
10	76,648	10	61,628	10	46,609	10	31,606	10	16,587	10	1,732	10		10		10		10	
1/4	76,335	1/4	61,315	1/4	46,296	1/4	31,294	1/4	16,274	1/4	1,498	1/4		1/4		1/4		1/4	
1/2	76,022	1/2	61,002	1/2	45,984	1/2	30,981	1/2	15,961	1/2	1,263	1/2		1/2		1/2		1/2	
3/4	75,709	3/4	60,689	3/4	45,671	3/4	30,668	3/4	15,648	3/4	1,028	3/4		3/4		3/4		3/4	
11	75,396	11	60,376	11	45,359	11	30,355	11	15,336	11		11		11		11		11	
1/4	75,083	1/4	60,063	1/4	45,046	1/4	30,042	1/4	15,023	1/4		1/4		1/4		1/4		1/4	
1/2	74,770	1/2	59,750	1/2	44,733	1/2	29,729	1/2	14,710	1/2		1/2		1/2		1/2		1/2	
3/4	74,457	3/4	59,438	3/4	44,421	3/4	29,416	3/4	14,397	3/4		3/4		3/4		3/4		3/4	

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

STRAPPED: 02/15/2012 CL - SW  
CALCULATED: 02/16/2012 CL  
PRINTED: 02/16/2012 CL

CANCELS AND SUPERCEDES  
ALL PRIOR TO 02/2012

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
Pearland, Texas 77588  
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# BARGE "HFL 413"

## PORT SLOP ULLAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 6'-01 1/2"

IN	0 FT.	IN	1 FT.	IN	2 FT.	IN	3 FT.	IN	4 FT.	IN	5 FT.	IN	6 FT.	IN	7 FT.	IN	8 FT.	IN	9 FT.
0		0		0	4,848	0	3,698	0	2,545	0	1,393	0	240	0		0		0	
1/4		1/4		1/4	4,825	1/4	3,674	1/4	2,521	1/4	1,369	1/4	216	1/4		1/4		1/4	
1/2		1/2		1/2	4,801	1/2	3,650	1/2	2,497	1/2	1,345	1/2	192	1/2		1/2		1/2	
3/4		3/4		3/4	4,777	3/4	3,626	3/4	2,473	3/4	1,321	3/4	168	3/4		3/4		3/4	
1		1		1	4,754	1	3,602	1	2,449	1	1,297	1	144	1		1		1	
1/4		1/4		1/4	4,730	1/4	3,578	1/4	2,426	1/4	1,273	1/4	120	1/4		1/4		1/4	
1/2		1/2		1/2	4,706	1/2	3,553	1/2	2,402	1/2	1,249	1/2	96	1/2		1/2		1/2	
3/4		3/4		3/4	4,682	3/4	3,529	3/4	2,378	3/4	1,225	3/4		3/4		3/4		3/4	
2		2		2	4,658	2	3,505	2	2,354	2	1,201	2		2		2		2	
1/4		1/4		1/4	4,634	1/4	3,481	1/4	2,330	1/4	1,177	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,610	1/2	3,457	1/2	2,306	1/2	1,153	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,586	3/4	3,433	3/4	2,282	3/4	1,129	3/4		3/4		3/4		3/4	
3		3		3	4,562	3	3,409	3	2,258	3	1,105	3		3		3		3	
1/4		1/4		1/4	4,538	1/4	3,385	1/4	2,234	1/4	1,081	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,514	1/2	3,361	1/2	2,210	1/2	1,057	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,490	3/4	3,337	3/4	2,186	3/4	1,033	3/4		3/4		3/4		3/4	
4		4		4	4,466	4	3,313	4	2,162	4	1,009	4		4		4		4	
1/4		1/4		1/4	4,442	1/4	3,289	1/4	2,138	1/4	985	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,418	1/2	3,265	1/2	2,114	1/2	961	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,394	3/4	3,241	3/4	2,090	3/4	937	3/4		3/4		3/4		3/4	
5		5		5	4,370	5	3,217	5	2,066	5	913	5		5		5		5	
1/4		1/4		1/4	4,346	1/4	3,193	1/4	2,042	1/4	889	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,322	1/2	3,169	1/2	2,017	1/2	865	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,298	3/4	3,145	3/4	1,993	3/4	841	3/4		3/4		3/4		3/4	
6		6		6	4,274	6	3,121	6	1,969	6	817	6		6		6		6	
1/4		1/4		1/4	4,250	1/4	3,097	1/4	1,945	1/4	793	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,226	1/2	3,073	1/2	1,921	1/2	769	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,202	3/4	3,049	3/4	1,897	3/4	745	3/4		3/4		3/4		3/4	
7		7		7	4,178	7	3,025	7	1,873	7	721	7		7		7		7	
1/4		1/4		1/4	4,154	1/4	3,001	1/4	1,849	1/4	697	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,130	1/2	2,977	1/2	1,825	1/2	673	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,106	3/4	2,953	3/4	1,801	3/4	649	3/4		3/4		3/4		3/4	
8		8		8	4,082	8	2,929	8	1,777	8	625	8		8		8		8	
1/4		1/4		1/4	4,058	1/4	2,905	1/4	1,753	1/4	601	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	5,131	1/2	4,034	1/2	2,881	1/2	577	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	5,119	3/4	4,010	3/4	2,857	3/4	552	3/4		3/4		3/4		3/4	
9		9		9	5,108	9	3,986	9	2,833	9	528	9		9		9		9	
1/4		1/4		1/4	5,096	1/4	3,962	1/4	2,809	1/4	504	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	5,084	1/2	3,938	1/2	2,785	1/2	480	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	5,061	3/4	3,914	3/4	2,761	3/4	456	3/4		3/4		3/4		3/4	
10		10		10	5,037	10	3,890	10	2,737	10	432	10		10		10		10	
1/4		1/4		1/4	5,014	1/4	3,866	1/4	2,713	1/4	408	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,990	1/2	3,842	1/2	2,689	1/2	384	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,967	3/4	3,818	3/4	2,665	3/4	360	3/4		3/4		3/4		3/4	
11		11		11	4,943	11	3,794	11	2,641	11	336	11		11		11		11	
1/4		1/4		1/4	4,919	1/4	3,770	1/4	2,617	1/4	312	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,896	1/2	3,746	1/2	2,593	1/2	288	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,872	3/4	3,722	3/4	2,569	3/4	264	3/4		3/4		3/4		3/4	

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

BARGE STRAPPED AND COMPUTED IN ACCORDANCE WITH MPMS CHAPTER 2.7.

CAPACITY TABLE ONLY APPLIES WHEN BARGE IS ON EVEN KEEL.

CAPACITY TABLE EXTENDS TO EXTREME HEIGHT OF TANK.

CAPACITY TABLE ONLY APPLIES TO ULLAGE GAUGES TAKEN TO THREADS ON "MMC" VALVE.

STRAPPED: 02/09/2012 CL - SW

CALCULATED: 02/10/2012 CL

PRINTED: 02/10/2012 CL

CANCELS AND SUPERCEDES  
ALL PRIOR TO 02/2012

PRECISION MEASUREMENT  
& ANALYSIS, INC.

P.O. Box 2092

Pearland, Texas 77588

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# BARGE "HFL 413"

## STBD SLOP ULLAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 6'-01 1/2"

IN	0 FT.	IN	1 FT.	IN	2 FT.	IN	3 FT.	IN	4 FT.	IN	5 FT.	IN	6 FT.	IN	7 FT.	IN	8 FT.	IN	9 FT.
0		0		0	4,848	0	3,698	0	2,545	0	1,393	0	240	0		0		0	
1/4		1/4		1/4	4,825	1/4	3,674	1/4	2,521	1/4	1,369	1/4	216	1/4		1/4		1/4	
1/2		1/2		1/2	4,801	1/2	3,650	1/2	2,497	1/2	1,345	1/2	192	1/2		1/2		1/2	
3/4		3/4		3/4	4,777	3/4	3,626	3/4	2,473	3/4	1,321	3/4	168	3/4		3/4		3/4	
1		1		1	4,754	1	3,602	1	2,449	1	1,297	1	144	1		1		1	
1/4		1/4		1/4	4,730	1/4	3,578	1/4	2,426	1/4	1,273	1/4	120	1/4		1/4		1/4	
1/2		1/2		1/2	4,706	1/2	3,553	1/2	2,402	1/2	1,249	1/2	96	1/2		1/2		1/2	
3/4		3/4		3/4	4,682	3/4	3,529	3/4	2,378	3/4	1,225	3/4		3/4		3/4		3/4	
2		2		2	4,658	2	3,505	2	2,354	2	1,201	2		2		2		2	
1/4		1/4		1/4	4,634	1/4	3,481	1/4	2,330	1/4	1,177	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,610	1/2	3,457	1/2	2,306	1/2	1,153	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,586	3/4	3,433	3/4	2,282	3/4	1,129	3/4		3/4		3/4		3/4	
3		3		3	4,562	3	3,409	3	2,258	3	1,105	3		3		3		3	
1/4		1/4		1/4	4,538	1/4	3,385	1/4	2,234	1/4	1,081	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,514	1/2	3,361	1/2	2,210	1/2	1,057	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,490	3/4	3,337	3/4	2,186	3/4	1,033	3/4		3/4		3/4		3/4	
4		4		4	4,466	4	3,313	4	2,162	4	1,009	4		4		4		4	
1/4		1/4		1/4	4,442	1/4	3,289	1/4	2,138	1/4	985	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,418	1/2	3,265	1/2	2,114	1/2	961	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,394	3/4	3,241	3/4	2,090	3/4	937	3/4		3/4		3/4		3/4	
5		5		5	4,370	5	3,217	5	2,066	5	913	5		5		5		5	
1/4		1/4		1/4	4,346	1/4	3,193	1/4	2,042	1/4	889	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,322	1/2	3,169	1/2	2,017	1/2	865	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,298	3/4	3,145	3/4	1,993	3/4	841	3/4		3/4		3/4		3/4	
6		6		6	4,274	6	3,121	6	1,969	6	817	6		6		6		6	
1/4		1/4		1/4	4,250	1/4	3,097	1/4	1,945	1/4	793	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,226	1/2	3,073	1/2	1,921	1/2	769	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,202	3/4	3,049	3/4	1,897	3/4	745	3/4		3/4		3/4		3/4	
7		7		7	4,178	7	3,025	7	1,873	7	721	7		7		7		7	
1/4		1/4		1/4	4,154	1/4	3,001	1/4	1,849	1/4	697	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,130	1/2	2,977	1/2	1,825	1/2	673	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,106	3/4	2,953	3/4	1,801	3/4	649	3/4		3/4		3/4		3/4	
8		8		8	4,082	8	2,929	8	1,777	8	625	8		8		8		8	
1/4		1/4		1/4	4,058	1/4	2,905	1/4	1,753	1/4	601	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	5,131	1/2	4,034	1/2	2,881	1/2	577	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	5,119	3/4	4,010	3/4	2,857	3/4	552	3/4		3/4		3/4		3/4	
9		9		9	5,108	9	3,986	9	2,833	9	528	9		9		9		9	
1/4		1/4		1/4	5,096	1/4	3,962	1/4	2,809	1/4	504	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	5,084	1/2	3,938	1/2	2,785	1/2	480	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	5,061	3/4	3,914	3/4	2,761	3/4	456	3/4		3/4		3/4		3/4	
10		10		10	5,037	10	3,890	10	2,737	10	432	10		10		10		10	
1/4		1/4		1/4	5,014	1/4	3,866	1/4	2,713	1/4	408	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,990	1/2	3,842	1/2	2,689	1/2	384	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,967	3/4	3,818	3/4	2,665	3/4	360	3/4		3/4		3/4		3/4	
11		11		11	4,943	11	3,794	11	2,641	11	336	11		11		11		11	
1/4		1/4		1/4	4,919	1/4	3,770	1/4	2,617	1/4	312	1/4		1/4		1/4		1/4	
1/2		1/2		1/2	4,896	1/2	3,746	1/2	2,593	1/2	288	1/2		1/2		1/2		1/2	
3/4		3/4		3/4	4,872	3/4	3,722	3/4	2,569	3/4	264	3/4		3/4		3/4		3/4	

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

BARGE STRAPPED AND COMPUTED IN ACCORDANCE WITH MPMS CHAPTER 2.7.  
CAPACITY TABLE ONLY APPLIES WHEN BARGE IS ON EVEN KEEL.  
CAPACITY TABLE EXTENDS TO EXTREME HEIGHT OF TANK.  
CAPACITY TABLE ONLY APPLIES TO ULLAGE GAUGES TAKEN TO THREADS ON "MMC" VALVE.

STRAPPED: 02/09/2012 CL - SW  
CALCULATED: 02/10/2012 CL  
PRINTED: 02/10/2012 CL

CANCELS AND SUPERCEDES  
ALL PRIOR TO 02/2012

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
Pearland, Texas 77588  
<http://www.pmacorp.net>