



BARGE "HFL 413"

INNAGE 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 INNAGE GAUGE OF 4'-00" ON 1 PORT, THE TRIM CORRECTED INNAGE IS 4'-00 1/8"

LENGTH BETWEEN DRAFT MARKS: 238'-06"

February 16, 2012

PRECISION MEASUREMENT
 & ANALYSIS, INC.

P.O. Box 2092
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BARGE "HFL 413"

1 PORT INNAGE 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 | 385 | 0 | 13,246 | 0 | 28,166 | 0 | 43,182 | 0 | 58,137 | 0 | 73,111 | 0 | 88,128 | 0 | 103,145 | 0 | 118,157 | 0 | 133,168 |
| 1/4 | 562 | 1/4 | 13,547 | 1/4 | 28,479 | 1/4 | 43,495 | 1/4 | 58,448 | 1/4 | 73,424 | 1/4 | 88,441 | 1/4 | 103,458 | 1/4 | 118,470 | 1/4 | 133,480 |
| 1/2 | 739 | 1/2 | 13,849 | 1/2 | 28,792 | 1/2 | 43,808 | 1/2 | 58,758 | 1/2 | 73,737 | 1/2 | 88,754 | 1/2 | 103,771 | 1/2 | 118,783 | 1/2 | 133,793 |
| 3/4 | 916 | 3/4 | 14,150 | 3/4 | 29,105 | 3/4 | 44,121 | 3/4 | 59,069 | 3/4 | 74,050 | 3/4 | 89,067 | 3/4 | 104,084 | 3/4 | 119,095 | 3/4 | 134,106 |
| 1 | 1,092 | 1 | 14,451 | 1 | 29,417 | 1 | 44,434 | 1 | 59,379 | 1 | 74,363 | 1 | 89,380 | 1 | 104,396 | 1 | 119,408 | 1 | 134,418 |
| 1/4 | 1,331 | 1/4 | 14,756 | 1/4 | 29,730 | 1/4 | 44,747 | 1/4 | 59,690 | 1/4 | 74,676 | 1/4 | 89,692 | 1/4 | 104,709 | 1/4 | 119,721 | 1/4 | 134,731 |
| 1/2 | 1,570 | 1/2 | 15,061 | 1/2 | 30,043 | 1/2 | 45,059 | 1/2 | 60,000 | 1/2 | 74,988 | 1/2 | 90,005 | 1/2 | 105,022 | 1/2 | 120,033 | 1/2 | 135,044 |
| 3/4 | 1,808 | 3/4 | 15,367 | 3/4 | 30,356 | 3/4 | 45,372 | 3/4 | 60,311 | 3/4 | 75,301 | 3/4 | 90,318 | 3/4 | 105,335 | 3/4 | 120,346 | 3/4 | 135,357 |
| 2 | 2,047 | 2 | 15,672 | 2 | 30,669 | 2 | 45,685 | 2 | 60,621 | 2 | 75,614 | 2 | 90,631 | 2 | 105,648 | 2 | 120,659 | 2 | 135,669 |
| 1/4 | 2,309 | 1/4 | 15,981 | 1/4 | 30,982 | 1/4 | 45,998 | 1/4 | 60,932 | 1/4 | 75,927 | 1/4 | 90,944 | 1/4 | 105,961 | 1/4 | 120,972 | 1/4 | 135,982 |
| 1/2 | 2,570 | 1/2 | 16,290 | 1/2 | 31,294 | 1/2 | 46,311 | 1/2 | 61,242 | 1/2 | 76,240 | 1/2 | 91,257 | 1/2 | 106,273 | 1/2 | 121,284 | 1/2 | 136,295 |
| 3/4 | 2,832 | 3/4 | 16,599 | 3/4 | 31,607 | 3/4 | 46,624 | 3/4 | 61,553 | 3/4 | 76,553 | 3/4 | 91,570 | 3/4 | 106,586 | 3/4 | 121,597 | 3/4 | 136,607 |
| 3 | 3,094 | 3 | 16,908 | 3 | 31,920 | 3 | 46,937 | 3 | 61,863 | 3 | 76,866 | 3 | 91,882 | 3 | 106,899 | 3 | 121,910 | 3 | 136,920 |
| 1/4 | 3,360 | 1/4 | 17,220 | 1/4 | 32,233 | 1/4 | 47,249 | 1/4 | 62,174 | 1/4 | 77,178 | 1/4 | 92,195 | 1/4 | 107,212 | 1/4 | 122,222 | 1/4 | 137,233 |
| 1/2 | 3,627 | 1/2 | 17,531 | 1/2 | 32,546 | 1/2 | 47,562 | 1/2 | 62,485 | 1/2 | 77,491 | 1/2 | 92,508 | 1/2 | 107,525 | 1/2 | 122,535 | 1/2 | 137,546 |
| 3/4 | 3,893 | 3/4 | 17,843 | 3/4 | 32,859 | 3/4 | 47,875 | 3/4 | 62,795 | 3/4 | 77,804 | 3/4 | 92,821 | 3/4 | 107,838 | 3/4 | 122,848 | 3/4 | 137,858 |
| 4 | 4,159 | 4 | 18,155 | 4 | 33,172 | 4 | 48,188 | 4 | 63,106 | 4 | 78,117 | 4 | 93,134 | 4 | 108,150 | 4 | 123,161 | 4 | 138,171 |
| 1/4 | 4,430 | 1/4 | 18,468 | 1/4 | 33,484 | 1/4 | 48,500 | 1/4 | 63,417 | 1/4 | 78,430 | 1/4 | 93,447 | 1/4 | 108,463 | 1/4 | 123,473 | 1/4 | 138,484 |
| 1/2 | 4,700 | 1/2 | 18,781 | 1/2 | 33,797 | 1/2 | 48,812 | 1/2 | 63,729 | 1/2 | 78,743 | 1/2 | 93,759 | 1/2 | 108,776 | 1/2 | 123,786 | 1/2 | 138,796 |
| 3/4 | 4,971 | 3/4 | 19,094 | 3/4 | 34,110 | 3/4 | 49,124 | 3/4 | 64,041 | 3/4 | 79,055 | 3/4 | 94,072 | 3/4 | 109,088 | 3/4 | 124,099 | 3/4 | 139,109 |
| 5 | 5,241 | 5 | 19,407 | 5 | 34,423 | 5 | 49,436 | 5 | 64,352 | 5 | 79,368 | 5 | 94,385 | 5 | 109,401 | 5 | 124,411 | 5 | 139,422 |
| 1/4 | 5,516 | 1/4 | 19,719 | 1/4 | 34,736 | 1/4 | 49,748 | 1/4 | 64,665 | 1/4 | 79,681 | 1/4 | 94,698 | 1/4 | 109,714 | 1/4 | 124,724 | 1/4 | 139,735 |
| 1/2 | 5,790 | 1/2 | 20,032 | 1/2 | 35,049 | 1/2 | 50,059 | 1/2 | 64,978 | 1/2 | 79,994 | 1/2 | 95,011 | 1/2 | 110,027 | 1/2 | 125,037 | 1/2 | 140,047 |
| 3/4 | 6,064 | 3/4 | 20,345 | 3/4 | 35,361 | 3/4 | 50,371 | 3/4 | 65,290 | 3/4 | 80,307 | 3/4 | 95,324 | 3/4 | 110,339 | 3/4 | 125,350 | 3/4 | 140,360 |
| 6 | 6,339 | 6 | 20,658 | 6 | 35,674 | 6 | 50,682 | 6 | 65,603 | 6 | 80,620 | 6 | 95,637 | 6 | 110,652 | 6 | 125,662 | 6 | 140,673 |
| 1/4 | 6,617 | 1/4 | 20,971 | 1/4 | 35,987 | 1/4 | 50,993 | 1/4 | 65,916 | 1/4 | 80,933 | 1/4 | 95,949 | 1/4 | 110,965 | 1/4 | 125,975 | 1/4 | 140,985 |
| 1/2 | 6,895 | 1/2 | 21,284 | 1/2 | 36,300 | 1/2 | 51,304 | 1/2 | 66,229 | 1/2 | 81,245 | 1/2 | 96,262 | 1/2 | 111,277 | 1/2 | 126,288 | 1/2 | 141,298 |
| 3/4 | 7,173 | 3/4 | 21,596 | 3/4 | 36,613 | 3/4 | 51,616 | 3/4 | 66,541 | 3/4 | 81,558 | 3/4 | 96,575 | 3/4 | 111,590 | 3/4 | 126,601 | 3/4 | 141,611 |
| 7 | 7,451 | 7 | 21,909 | 7 | 36,926 | 7 | 51,927 | 7 | 66,854 | 7 | 81,871 | 7 | 96,888 | 7 | 111,903 | 7 | 126,913 | 7 | 141,924 |
| 1/4 | 7,733 | 1/4 | 22,222 | 1/4 | 37,238 | 1/4 | 52,237 | 1/4 | 67,167 | 1/4 | 82,184 | 1/4 | 97,201 | 1/4 | 112,216 | 1/4 | 127,226 | 1/4 | 142,236 |
| 1/2 | 8,015 | 1/2 | 22,535 | 1/2 | 37,551 | 1/2 | 52,548 | 1/2 | 67,480 | 1/2 | 82,497 | 1/2 | 97,514 | 1/2 | 112,528 | 1/2 | 127,539 | 1/2 | 142,549 |
| 3/4 | 8,297 | 3/4 | 22,848 | 3/4 | 37,864 | 3/4 | 52,859 | 3/4 | 67,793 | 3/4 | 82,810 | 3/4 | 97,827 | 3/4 | 112,841 | 3/4 | 127,851 | 3/4 | 142,862 |
| 8 | 8,579 | 8 | 23,161 | 8 | 38,177 | 8 | 53,170 | 8 | 68,106 | 8 | 83,123 | 8 | 98,139 | 8 | 113,154 | 8 | 128,164 | 8 | 143,174 |
| 1/4 | 8,865 | 1/4 | 23,473 | 1/4 | 38,490 | 1/4 | 53,480 | 1/4 | 68,419 | 1/4 | 83,435 | 1/4 | 98,452 | 1/4 | 113,466 | 1/4 | 128,477 | 1/4 | 143,487 |
| 1/2 | 9,151 | 1/2 | 23,786 | 1/2 | 38,803 | 1/2 | 53,790 | 1/2 | 68,731 | 1/2 | 83,748 | 1/2 | 98,765 | 1/2 | 113,779 | 1/2 | 128,790 | 1/2 | 143,800 |
| 3/4 | 9,437 | 3/4 | 24,099 | 3/4 | 39,116 | 3/4 | 54,101 | 3/4 | 69,044 | 3/4 | 84,061 | 3/4 | 99,078 | 3/4 | 114,092 | 3/4 | 129,102 | 3/4 | 144,113 |
| 9 | 9,723 | 9 | 24,412 | 9 | 39,428 | 9 | 54,411 | 9 | 69,357 | 9 | 84,374 | 9 | 99,391 | 9 | 114,405 | 9 | 129,415 | 9 | 144,425 |
| 1/4 | 10,013 | 1/4 | 24,725 | 1/4 | 39,741 | 1/4 | 54,722 | 1/4 | 69,670 | 1/4 | 84,687 | 1/4 | 99,704 | 1/4 | 114,717 | 1/4 | 129,728 | 1/4 | 144,738 |
| 1/2 | 10,302 | 1/2 | 25,038 | 1/2 | 40,054 | 1/2 | 55,032 | 1/2 | 69,983 | 1/2 | 85,000 | 1/2 | 100,016 | 1/2 | 115,030 | 1/2 | 130,040 | 1/2 | 145,051 |
| 3/4 | 10,592 | 3/4 | 25,351 | 3/4 | 40,367 | 3/4 | 55,343 | 3/4 | 70,296 | 3/4 | 85,312 | 3/4 | 100,329 | 3/4 | 115,343 | 3/4 | 130,353 | 3/4 | 145,363 |
| 10 | 10,882 | 10 | 25,663 | 10 | 40,680 | 10 | 55,653 | 10 | 70,609 | 10 | 85,625 | 10 | 100,642 | 10 | 115,655 | 10 | 130,666 | 10 | 145,676 |
| 1/4 | 11,175 | 1/4 | 25,976 | 1/4 | 40,993 | 1/4 | 55,964 | 1/4 | 70,921 | 1/4 | 85,938 | 1/4 | 100,955 | 1/4 | 115,968 | 1/4 | 130,979 | 1/4 | 145,989 |
| 1/2 | 11,469 | 1/2 | 26,289 | 1/2 | 41,305 | 1/2 | 56,274 | 1/2 | 71,234 | 1/2 | 86,251 | 1/2 | 101,268 | 1/2 | 116,281 | 1/2 | 131,291 | 1/2 | 146,302 |
| 3/4 | 11,763 | 3/4 | 26,602 | 3/4 | 41,618 | 3/4 | 56,585 | 3/4 | 71,547 | 3/4 | 86,564 | 3/4 | 101,581 | 3/4 | 116,594 | 3/4 | 131,604 | 3/4 | 146,614 |
| 11 | 12,056 | 11 | 26,915 | 11 | 41,931 | 11 | 56,895 | 11 | 71,860 | 11 | 86,877 | 11 | 101,894 | 11 | 116,906 | 11 | 131,917 | 11 | 146,927 |
| 1/4 | 12,354 | 1/4 | 27,228 | 1/4 | 42,244 | 1/4 | 57,206 | 1/4 | 72,173 | 1/4 | 87,190 | 1/4 | 102,206 | 1/4 | 117,219 | 1/4 | 132,229 | 1/4 | 147,240 |
| 1/2 | 12,651 | 1/2 | 27,540 | 1/2 | 42,557 | 1/2 | 57,516 | 1/2 | 72,486 | 1/2 | 87,502 | 1/2 | 102,519 | 1/2 | 117,532 | 1/2 | 132,542 | 1/2 | 147,552 |
| 3/4 | 12,949 | 3/4 | 27,853 | 3/4 | 42,870 | 3/4 | 57,827 | 3/4 | 72,798 | 3/4 | 87,815 | 3/4 | 102,832 | 3/4 | 117,844 | 3/4 | 132,855 | 3/4 | 147,865 |

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 INNAGE GAUGES TAKEN TO THREADS ON "MMC" VALVE.

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

PRECISION MEASUREMENT
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BARGE "HFL 413"

1 PORT INNAGE 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 | 148,178 | 0 | 163,188 | 0 | 178,189 | 0 | 193,156 | 0 | 208,050 | 0 | | 0 | | 0 | | 0 | | 0 | |
| 1/4 | 148,491 | 1/4 | 163,501 | 1/4 | 178,501 | 1/4 | 193,468 | 1/4 | 208,330 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 148,803 | 1/2 | 163,814 | 1/2 | 178,813 | 1/2 | 193,780 | 1/2 | 208,610 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 149,116 | 3/4 | 164,126 | 3/4 | 179,125 | 3/4 | 194,091 | 3/4 | 208,890 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 1 | 149,429 | 1 | 164,439 | 1 | 179,437 | 1 | 194,403 | 1 | 209,170 | 1 | | 1 | | 1 | | 1 | | 1 | |
| 1/4 | 149,741 | 1/4 | 164,752 | 1/4 | 179,748 | 1/4 | 194,715 | 1/4 | 209,402 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 150,054 | 1/2 | 165,064 | 1/2 | 180,060 | 1/2 | 195,027 | 1/2 | 209,633 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 150,367 | 3/4 | 165,377 | 3/4 | 180,372 | 3/4 | 195,339 | 3/4 | 209,865 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 2 | 150,680 | 2 | 165,690 | 2 | 180,684 | 2 | 195,650 | 2 | 210,096 | 2 | | 2 | | 2 | | 2 | | 2 | |
| 1/4 | 150,992 | 1/4 | 166,003 | 1/4 | 180,996 | 1/4 | 195,962 | 1/4 | 210,276 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 151,305 | 1/2 | 166,315 | 1/2 | 181,307 | 1/2 | 196,274 | 1/2 | 210,455 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 151,618 | 3/4 | 166,628 | 3/4 | 181,619 | 3/4 | 196,586 | 3/4 | 210,635 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 3 | 151,930 | 3 | 166,941 | 3 | 181,931 | 3 | 196,898 | 3 | 210,814 | 3 | | 3 | | 3 | | 3 | | 3 | |
| 1/4 | 152,243 | 1/4 | 167,253 | 1/4 | 182,243 | 1/4 | 197,209 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 152,556 | 1/2 | 167,566 | 1/2 | 182,555 | 1/2 | 197,521 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 152,869 | 3/4 | 167,879 | 3/4 | 182,866 | 3/4 | 197,833 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 4 | 153,181 | 4 | 168,192 | 4 | 183,178 | 4 | 198,145 | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | |
| 1/4 | 153,494 | 1/4 | 168,504 | 1/4 | 183,490 | 1/4 | 198,457 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 153,807 | 1/2 | 168,817 | 1/2 | 183,802 | 1/2 | 198,768 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 154,119 | 3/4 | 169,130 | 3/4 | 184,114 | 3/4 | 199,080 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 5 | 154,432 | 5 | 169,442 | 5 | 184,425 | 5 | 199,392 | 5 | | 5 | | 5 | | 5 | | 5 | | 5 | |
| 1/4 | 154,745 | 1/4 | 169,755 | 1/4 | 184,737 | 1/4 | 199,703 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 155,058 | 1/2 | 170,068 | 1/2 | 185,049 | 1/2 | 200,013 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 155,370 | 3/4 | 170,381 | 3/4 | 185,361 | 3/4 | 200,324 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 6 | 155,683 | 6 | 170,693 | 6 | 185,673 | 6 | 200,635 | 6 | | 6 | | 6 | | 6 | | 6 | | 6 | |
| 1/4 | 155,996 | 1/4 | 171,006 | 1/4 | 185,984 | 1/4 | 200,945 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 156,308 | 1/2 | 171,319 | 1/2 | 186,296 | 1/2 | 201,254 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 156,621 | 3/4 | 171,631 | 3/4 | 186,608 | 3/4 | 201,564 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 7 | 156,934 | 7 | 171,944 | 7 | 186,920 | 7 | 201,874 | 7 | | 7 | | 7 | | 7 | | 7 | | 7 | |
| 1/4 | 157,247 | 1/4 | 172,257 | 1/4 | 187,232 | 1/4 | 202,183 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 157,559 | 1/2 | 172,570 | 1/2 | 187,543 | 1/2 | 202,493 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 157,872 | 3/4 | 172,882 | 3/4 | 187,855 | 3/4 | 202,803 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 8 | 158,185 | 8 | 173,195 | 8 | 188,167 | 8 | 203,112 | 8 | | 8 | | 8 | | 8 | | 8 | | 8 | |
| 1/4 | 158,497 | 1/4 | 173,508 | 1/4 | 188,479 | 1/4 | 203,422 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 158,810 | 1/2 | 173,820 | 1/2 | 188,791 | 1/2 | 203,732 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 159,123 | 3/4 | 174,133 | 3/4 | 189,102 | 3/4 | 204,042 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 9 | 159,436 | 9 | 174,446 | 9 | 189,414 | 9 | 204,352 | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | |
| 1/4 | 159,748 | 1/4 | 174,758 | 1/4 | 189,726 | 1/4 | 204,661 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 160,061 | 1/2 | 175,070 | 1/2 | 190,038 | 1/2 | 204,971 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 160,374 | 3/4 | 175,383 | 3/4 | 190,350 | 3/4 | 205,281 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 10 | 160,686 | 10 | 175,695 | 10 | 190,661 | 10 | 205,590 | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |
| 1/4 | 160,999 | 1/4 | 176,007 | 1/4 | 190,973 | 1/4 | 205,900 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 161,312 | 1/2 | 176,319 | 1/2 | 191,285 | 1/2 | 206,209 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 161,625 | 3/4 | 176,630 | 3/4 | 191,597 | 3/4 | 206,518 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 11 | 161,937 | 11 | 176,942 | 11 | 191,909 | 11 | 206,828 | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | |
| 1/4 | 162,250 | 1/4 | 177,254 | 1/4 | 192,220 | 1/4 | 207,133 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 162,563 | 1/2 | 177,566 | 1/2 | 192,532 | 1/2 | 207,439 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 162,875 | 3/4 | 177,878 | 3/4 | 192,844 | 3/4 | 207,745 | 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"

1 STBD
INNAGE 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 | 385 | 0 | 13,239 | 0 | 28,152 | 0 | 43,161 | 0 | 58,165 | 0 | 73,172 | 0 | 88,181 | 0 | 103,190 | 0 | 118,195 | 0 | 133,197 |
| 1/4 | 562 | 1/4 | 13,541 | 1/4 | 28,465 | 1/4 | 43,473 | 1/4 | 58,478 | 1/4 | 73,484 | 1/4 | 88,493 | 1/4 | 103,503 | 1/4 | 118,507 | 1/4 | 133,510 |
| 1/2 | 738 | 1/2 | 13,842 | 1/2 | 28,777 | 1/2 | 43,786 | 1/2 | 58,790 | 1/2 | 73,797 | 1/2 | 88,806 | 1/2 | 103,815 | 1/2 | 118,820 | 1/2 | 133,822 |
| 3/4 | 915 | 3/4 | 14,143 | 3/4 | 29,090 | 3/4 | 44,099 | 3/4 | 59,102 | 3/4 | 74,110 | 3/4 | 89,119 | 3/4 | 104,128 | 3/4 | 119,132 | 3/4 | 134,135 |
| 1 | 1,092 | 1 | 14,444 | 1 | 29,403 | 1 | 44,411 | 1 | 59,415 | 1 | 74,422 | 1 | 89,432 | 1 | 104,441 | 1 | 119,445 | 1 | 134,448 |
| 1/4 | 1,330 | 1/4 | 14,749 | 1/4 | 29,715 | 1/4 | 44,724 | 1/4 | 59,727 | 1/4 | 74,735 | 1/4 | 89,744 | 1/4 | 104,753 | 1/4 | 119,757 | 1/4 | 134,760 |
| 1/2 | 1,569 | 1/2 | 15,054 | 1/2 | 30,028 | 1/2 | 45,037 | 1/2 | 60,040 | 1/2 | 75,048 | 1/2 | 90,057 | 1/2 | 105,066 | 1/2 | 120,070 | 1/2 | 135,073 |
| 3/4 | 1,807 | 3/4 | 15,359 | 3/4 | 30,341 | 3/4 | 45,349 | 3/4 | 60,352 | 3/4 | 75,360 | 3/4 | 90,370 | 3/4 | 105,379 | 3/4 | 120,383 | 3/4 | 135,385 |
| 2 | 2,046 | 2 | 15,664 | 2 | 30,653 | 2 | 45,662 | 2 | 60,665 | 2 | 75,673 | 2 | 90,682 | 2 | 105,692 | 2 | 120,695 | 2 | 135,698 |
| 1/4 | 2,308 | 1/4 | 15,973 | 1/4 | 30,966 | 1/4 | 45,975 | 1/4 | 60,977 | 1/4 | 75,986 | 1/4 | 90,995 | 1/4 | 106,004 | 1/4 | 121,008 | 1/4 | 136,010 |
| 1/2 | 2,569 | 1/2 | 16,282 | 1/2 | 31,279 | 1/2 | 46,288 | 1/2 | 61,290 | 1/2 | 76,298 | 1/2 | 91,308 | 1/2 | 106,317 | 1/2 | 121,320 | 1/2 | 136,323 |
| 3/4 | 2,831 | 3/4 | 16,590 | 3/4 | 31,591 | 3/4 | 46,600 | 3/4 | 61,602 | 3/4 | 76,611 | 3/4 | 91,620 | 3/4 | 106,630 | 3/4 | 121,633 | 3/4 | 136,635 |
| 3 | 3,093 | 3 | 16,899 | 3 | 31,904 | 3 | 46,913 | 3 | 61,915 | 3 | 76,924 | 3 | 91,933 | 3 | 106,942 | 3 | 121,945 | 3 | 136,948 |
| 1/4 | 3,359 | 1/4 | 17,211 | 1/4 | 32,217 | 1/4 | 47,226 | 1/4 | 62,227 | 1/4 | 77,237 | 1/4 | 92,246 | 1/4 | 107,255 | 1/4 | 122,258 | 1/4 | 137,261 |
| 1/2 | 3,625 | 1/2 | 17,523 | 1/2 | 32,529 | 1/2 | 47,538 | 1/2 | 62,540 | 1/2 | 77,549 | 1/2 | 92,558 | 1/2 | 107,568 | 1/2 | 122,570 | 1/2 | 137,573 |
| 3/4 | 3,891 | 3/4 | 17,834 | 3/4 | 32,842 | 3/4 | 47,851 | 3/4 | 62,853 | 3/4 | 77,862 | 3/4 | 92,871 | 3/4 | 107,880 | 3/4 | 122,883 | 3/4 | 137,886 |
| 4 | 4,157 | 4 | 18,146 | 4 | 33,155 | 4 | 48,164 | 4 | 63,165 | 4 | 78,175 | 4 | 93,184 | 4 | 108,193 | 4 | 123,196 | 4 | 138,198 |
| 1/4 | 4,428 | 1/4 | 18,459 | 1/4 | 33,468 | 1/4 | 48,476 | 1/4 | 63,478 | 1/4 | 78,487 | 1/4 | 93,497 | 1/4 | 108,505 | 1/4 | 123,508 | 1/4 | 138,511 |
| 1/2 | 4,698 | 1/2 | 18,771 | 1/2 | 33,780 | 1/2 | 48,789 | 1/2 | 63,791 | 1/2 | 78,800 | 1/2 | 93,809 | 1/2 | 108,818 | 1/2 | 123,821 | 1/2 | 138,823 |
| 3/4 | 4,968 | 3/4 | 19,084 | 3/4 | 34,093 | 3/4 | 49,102 | 3/4 | 64,103 | 3/4 | 79,113 | 3/4 | 94,122 | 3/4 | 109,130 | 3/4 | 124,133 | 3/4 | 139,136 |
| 5 | 5,239 | 5 | 19,397 | 5 | 34,406 | 5 | 49,414 | 5 | 64,416 | 5 | 79,425 | 5 | 94,435 | 5 | 109,443 | 5 | 124,446 | 5 | 139,449 |
| 1/4 | 5,513 | 1/4 | 19,710 | 1/4 | 34,718 | 1/4 | 49,727 | 1/4 | 64,729 | 1/4 | 79,738 | 1/4 | 94,747 | 1/4 | 109,756 | 1/4 | 124,758 | 1/4 | 139,761 |
| 1/2 | 5,787 | 1/2 | 20,022 | 1/2 | 35,031 | 1/2 | 50,040 | 1/2 | 65,042 | 1/2 | 80,051 | 1/2 | 95,060 | 1/2 | 110,068 | 1/2 | 125,071 | 1/2 | 140,074 |
| 3/4 | 6,061 | 3/4 | 20,335 | 3/4 | 35,344 | 3/4 | 50,352 | 3/4 | 65,354 | 3/4 | 80,363 | 3/4 | 95,373 | 3/4 | 110,381 | 3/4 | 125,383 | 3/4 | 140,386 |
| 6 | 6,336 | 6 | 20,648 | 6 | 35,656 | 6 | 50,665 | 6 | 65,667 | 6 | 80,676 | 6 | 95,685 | 6 | 110,693 | 6 | 125,696 | 6 | 140,699 |
| 1/4 | 6,614 | 1/4 | 20,960 | 1/4 | 35,969 | 1/4 | 50,978 | 1/4 | 65,980 | 1/4 | 80,989 | 1/4 | 95,998 | 1/4 | 111,006 | 1/4 | 126,009 | 1/4 | 141,011 |
| 1/2 | 6,892 | 1/2 | 21,273 | 1/2 | 36,282 | 1/2 | 51,290 | 1/2 | 66,292 | 1/2 | 81,302 | 1/2 | 96,311 | 1/2 | 111,318 | 1/2 | 126,321 | 1/2 | 141,324 |
| 3/4 | 7,170 | 3/4 | 21,586 | 3/4 | 36,594 | 3/4 | 51,603 | 3/4 | 66,605 | 3/4 | 81,614 | 3/4 | 96,623 | 3/4 | 111,631 | 3/4 | 126,634 | 3/4 | 141,636 |
| 7 | 7,448 | 7 | 21,898 | 7 | 36,907 | 7 | 51,916 | 7 | 66,918 | 7 | 81,927 | 7 | 96,936 | 7 | 111,943 | 7 | 126,946 | 7 | 141,949 |
| 1/4 | 7,730 | 1/4 | 22,211 | 1/4 | 37,220 | 1/4 | 52,228 | 1/4 | 67,230 | 1/4 | 82,240 | 1/4 | 97,249 | 1/4 | 112,256 | 1/4 | 127,259 | 1/4 | 142,262 |
| 1/2 | 8,011 | 1/2 | 22,524 | 1/2 | 37,532 | 1/2 | 52,541 | 1/2 | 67,543 | 1/2 | 82,552 | 1/2 | 97,562 | 1/2 | 112,569 | 1/2 | 127,571 | 1/2 | 142,574 |
| 3/4 | 8,293 | 3/4 | 22,836 | 3/4 | 37,845 | 3/4 | 52,853 | 3/4 | 67,856 | 3/4 | 82,865 | 3/4 | 97,874 | 3/4 | 112,881 | 3/4 | 127,884 | 3/4 | 142,887 |
| 8 | 8,575 | 8 | 23,149 | 8 | 38,158 | 8 | 53,166 | 8 | 68,168 | 8 | 83,178 | 8 | 98,187 | 8 | 113,194 | 8 | 128,196 | 8 | 143,199 |
| 1/4 | 8,861 | 1/4 | 23,462 | 1/4 | 38,470 | 1/4 | 53,478 | 1/4 | 68,481 | 1/4 | 83,490 | 1/4 | 98,500 | 1/4 | 113,506 | 1/4 | 128,509 | 1/4 | 143,512 |
| 1/2 | 9,147 | 1/2 | 23,774 | 1/2 | 38,783 | 1/2 | 53,791 | 1/2 | 68,794 | 1/2 | 83,803 | 1/2 | 98,812 | 1/2 | 113,819 | 1/2 | 128,822 | 1/2 | 143,824 |
| 3/4 | 9,432 | 3/4 | 24,087 | 3/4 | 39,096 | 3/4 | 54,103 | 3/4 | 69,107 | 3/4 | 84,116 | 3/4 | 99,125 | 3/4 | 114,131 | 3/4 | 129,134 | 3/4 | 144,137 |
| 9 | 9,718 | 9 | 24,400 | 9 | 39,409 | 9 | 54,416 | 9 | 69,419 | 9 | 84,428 | 9 | 99,438 | 9 | 114,444 | 9 | 129,447 | 9 | 144,450 |
| 1/4 | 10,008 | 1/4 | 24,712 | 1/4 | 39,721 | 1/4 | 54,728 | 1/4 | 69,732 | 1/4 | 84,741 | 1/4 | 99,750 | 1/4 | 114,756 | 1/4 | 129,759 | 1/4 | 144,762 |
| 1/2 | 10,297 | 1/2 | 25,025 | 1/2 | 40,034 | 1/2 | 55,040 | 1/2 | 70,045 | 1/2 | 85,054 | 1/2 | 100,063 | 1/2 | 115,069 | 1/2 | 130,072 | 1/2 | 145,075 |
| 3/4 | 10,587 | 3/4 | 25,338 | 3/4 | 40,347 | 3/4 | 55,353 | 3/4 | 70,357 | 3/4 | 85,367 | 3/4 | 100,376 | 3/4 | 115,382 | 3/4 | 130,384 | 3/4 | 145,387 |
| 10 | 10,877 | 10 | 25,650 | 10 | 40,659 | 10 | 55,665 | 10 | 70,670 | 10 | 85,679 | 10 | 100,688 | 10 | 115,694 | 10 | 130,697 | 10 | 145,700 |
| 1/4 | 11,170 | 1/4 | 25,963 | 1/4 | 40,972 | 1/4 | 55,978 | 1/4 | 70,983 | 1/4 | 85,992 | 1/4 | 101,001 | 1/4 | 116,007 | 1/4 | 131,009 | 1/4 | 146,012 |
| 1/2 | 11,463 | 1/2 | 26,276 | 1/2 | 41,285 | 1/2 | 56,290 | 1/2 | 71,295 | 1/2 | 86,305 | 1/2 | 101,314 | 1/2 | 116,319 | 1/2 | 131,322 | 1/2 | 146,325 |
| 3/4 | 11,757 | 3/4 | 26,589 | 3/4 | 41,597 | 3/4 | 56,603 | 3/4 | 71,608 | 3/4 | 86,617 | 3/4 | 101,627 | 3/4 | 116,632 | 3/4 | 131,635 | 3/4 | 146,637 |
| 11 | 12,050 | 11 | 26,901 | 11 | 41,910 | 11 | 56,915 | 11 | 71,921 | 11 | 86,930 | 11 | 101,939 | 11 | 116,944 | 11 | 131,947 | 11 | 146,950 |
| 1/4 | 12,348 | 1/4 | 27,214 | 1/4 | 42,223 | 1/4 | 57,228 | 1/4 | 72,233 | 1/4 | 87,243 | 1/4 | 102,252 | 1/4 | 117,257 | 1/4 | 132,260 | 1/4 | 147,263 |
| 1/2 | 12,645 | 1/2 | 27,527 | 1/2 | 42,535 | 1/2 | 57,540 | 1/2 | 72,546 | 1/2 | 87,555 | 1/2 | 102,565 | 1/2 | 117,569 | 1/2 | 132,572 | 1/2 | 147,575 |
| 3/4 | 12,942 | 3/4 | 27,839 | 3/4 | 42,848 | 3/4 | 57,853 | 3/4 | 72,859 | 3/4 | 87,868 | 3/4 | 102,877 | 3/4 | 117,882 | 3/4 | 132,885 | 3/4 | 147,888 |

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 INNAGE 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
INNAGE 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 | 148,200 | 0 | 163,203 | 0 | 178,197 | 0 | 193,156 | 0 | 208,043 | 0 | | 0 | | 0 | | 0 | | 0 | |
| 1/4 | 148,513 | 1/4 | 163,516 | 1/4 | 178,509 | 1/4 | 193,468 | 1/4 | 208,323 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 148,825 | 1/2 | 163,828 | 1/2 | 178,820 | 1/2 | 193,780 | 1/2 | 208,603 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 149,138 | 3/4 | 164,141 | 3/4 | 179,132 | 3/4 | 194,091 | 3/4 | 208,883 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 1 | 149,451 | 1 | 164,453 | 1 | 179,444 | 1 | 194,403 | 1 | 209,163 | 1 | | 1 | | 1 | | 1 | | 1 | |
| 1/4 | 149,763 | 1/4 | 164,766 | 1/4 | 179,755 | 1/4 | 194,715 | 1/4 | 209,394 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 150,076 | 1/2 | 165,079 | 1/2 | 180,067 | 1/2 | 195,026 | 1/2 | 209,625 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 150,388 | 3/4 | 165,391 | 3/4 | 180,379 | 3/4 | 195,338 | 3/4 | 209,857 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 2 | 150,701 | 2 | 165,704 | 2 | 180,690 | 2 | 195,650 | 2 | 210,088 | 2 | | 2 | | 2 | | 2 | | 2 | |
| 1/4 | 151,013 | 1/4 | 166,016 | 1/4 | 181,002 | 1/4 | 195,961 | 1/4 | 210,268 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 151,326 | 1/2 | 166,329 | 1/2 | 181,314 | 1/2 | 196,273 | 1/2 | 210,447 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 151,638 | 3/4 | 166,641 | 3/4 | 181,625 | 3/4 | 196,584 | 3/4 | 210,626 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 3 | 151,951 | 3 | 166,954 | 3 | 181,937 | 3 | 196,896 | 3 | 210,806 | 3 | | 3 | | 3 | | 3 | | 3 | |
| 1/4 | 152,264 | 1/4 | 167,267 | 1/4 | 182,249 | 1/4 | 197,208 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 152,576 | 1/2 | 167,579 | 1/2 | 182,560 | 1/2 | 197,519 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 152,889 | 3/4 | 167,892 | 3/4 | 182,872 | 3/4 | 197,831 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 4 | 153,201 | 4 | 168,204 | 4 | 183,184 | 4 | 198,143 | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | |
| 1/4 | 153,514 | 1/4 | 168,517 | 1/4 | 183,495 | 1/4 | 198,454 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 153,826 | 1/2 | 168,829 | 1/2 | 183,807 | 1/2 | 198,766 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 154,139 | 3/4 | 169,142 | 3/4 | 184,118 | 3/4 | 199,078 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 5 | 154,452 | 5 | 169,454 | 5 | 184,430 | 5 | 199,389 | 5 | | 5 | | 5 | | 5 | | 5 | | 5 | |
| 1/4 | 154,764 | 1/4 | 169,767 | 1/4 | 184,742 | 1/4 | 199,700 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 155,077 | 1/2 | 170,080 | 1/2 | 185,053 | 1/2 | 200,010 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 155,389 | 3/4 | 170,392 | 3/4 | 185,365 | 3/4 | 200,321 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 6 | 155,702 | 6 | 170,705 | 6 | 185,677 | 6 | 200,632 | 6 | | 6 | | 6 | | 6 | | 6 | | 6 | |
| 1/4 | 156,014 | 1/4 | 171,017 | 1/4 | 185,988 | 1/4 | 200,941 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 156,327 | 1/2 | 171,330 | 1/2 | 186,300 | 1/2 | 201,251 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 156,639 | 3/4 | 171,642 | 3/4 | 186,612 | 3/4 | 201,560 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 7 | 156,952 | 7 | 171,955 | 7 | 186,923 | 7 | 201,870 | 7 | | 7 | | 7 | | 7 | | 7 | | 7 | |
| 1/4 | 157,265 | 1/4 | 172,268 | 1/4 | 187,235 | 1/4 | 202,179 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 157,577 | 1/2 | 172,580 | 1/2 | 187,547 | 1/2 | 202,489 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 157,890 | 3/4 | 172,893 | 3/4 | 187,858 | 3/4 | 202,798 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 8 | 158,202 | 8 | 173,205 | 8 | 188,170 | 8 | 203,108 | 8 | | 8 | | 8 | | 8 | | 8 | | 8 | |
| 1/4 | 158,515 | 1/4 | 173,518 | 1/4 | 188,482 | 1/4 | 203,418 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 158,827 | 1/2 | 173,830 | 1/2 | 188,793 | 1/2 | 203,727 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 159,140 | 3/4 | 174,143 | 3/4 | 189,105 | 3/4 | 204,037 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 9 | 159,452 | 9 | 174,455 | 9 | 189,417 | 9 | 204,347 | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | |
| 1/4 | 159,765 | 1/4 | 174,768 | 1/4 | 189,728 | 1/4 | 204,656 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 160,078 | 1/2 | 175,080 | 1/2 | 190,040 | 1/2 | 204,966 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 160,390 | 3/4 | 175,392 | 3/4 | 190,351 | 3/4 | 205,275 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 10 | 160,703 | 10 | 175,704 | 10 | 190,663 | 10 | 205,585 | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |
| 1/4 | 161,015 | 1/4 | 176,016 | 1/4 | 190,975 | 1/4 | 205,894 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 161,328 | 1/2 | 176,327 | 1/2 | 191,286 | 1/2 | 206,203 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 161,640 | 3/4 | 176,639 | 3/4 | 191,598 | 3/4 | 206,512 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 11 | 161,953 | 11 | 176,950 | 11 | 191,910 | 11 | 206,821 | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | |
| 1/4 | 162,266 | 1/4 | 177,262 | 1/4 | 192,221 | 1/4 | 207,127 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 162,578 | 1/2 | 177,574 | 1/2 | 192,533 | 1/2 | 207,432 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 162,891 | 3/4 | 177,885 | 3/4 | 192,845 | 3/4 | 207,738 | 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 INNAGE 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 | 1,031 | 0 | 15,695 | 0 | 30,756 | 0 | 45,446 | 0 | 59,931 | 0 | 74,783 | 0 | 89,848 | 0 | 104,912 | 0 | 119,971 | 0 | 135,027 |
| 1/4 | 1,267 | 1/4 | 16,008 | 1/4 | 31,070 | 1/4 | 45,748 | 1/4 | 60,233 | 1/4 | 75,097 | 1/4 | 90,161 | 1/4 | 105,226 | 1/4 | 120,284 | 1/4 | 135,341 |
| 1/2 | 1,502 | 1/2 | 16,322 | 1/2 | 31,384 | 1/2 | 46,049 | 1/2 | 60,535 | 1/2 | 75,411 | 1/2 | 90,475 | 1/2 | 105,539 | 1/2 | 120,598 | 1/2 | 135,655 |
| 3/4 | 1,737 | 3/4 | 16,636 | 3/4 | 31,698 | 3/4 | 46,350 | 3/4 | 60,837 | 3/4 | 75,725 | 3/4 | 90,789 | 3/4 | 105,853 | 3/4 | 120,912 | 3/4 | 135,968 |
| 1 | 1,973 | 1 | 16,950 | 1 | 32,011 | 1 | 46,651 | 1 | 61,139 | 1 | 76,039 | 1 | 91,103 | 1 | 106,167 | 1 | 121,225 | 1 | 136,282 |
| 1/4 | 2,266 | 1/4 | 17,264 | 1/4 | 32,325 | 1/4 | 46,952 | 1/4 | 61,441 | 1/4 | 76,353 | 1/4 | 91,417 | 1/4 | 106,481 | 1/4 | 121,539 | 1/4 | 136,596 |
| 1/2 | 2,560 | 1/2 | 17,578 | 1/2 | 32,639 | 1/2 | 47,253 | 1/2 | 61,743 | 1/2 | 76,666 | 1/2 | 91,731 | 1/2 | 106,795 | 1/2 | 121,853 | 1/2 | 136,909 |
| 3/4 | 2,853 | 3/4 | 17,891 | 3/4 | 32,953 | 3/4 | 47,554 | 3/4 | 62,045 | 3/4 | 76,980 | 3/4 | 92,044 | 3/4 | 107,109 | 3/4 | 122,166 | 3/4 | 137,223 |
| 2 | 3,147 | 2 | 18,205 | 2 | 33,267 | 2 | 47,856 | 2 | 62,347 | 2 | 77,294 | 2 | 92,358 | 2 | 107,422 | 2 | 122,480 | 2 | 137,537 |
| 1/4 | 3,459 | 1/4 | 18,519 | 1/4 | 33,581 | 1/4 | 48,157 | 1/4 | 62,650 | 1/4 | 77,608 | 1/4 | 92,672 | 1/4 | 107,736 | 1/4 | 122,794 | 1/4 | 137,850 |
| 1/2 | 3,772 | 1/2 | 18,833 | 1/2 | 33,894 | 1/2 | 48,458 | 1/2 | 62,952 | 1/2 | 77,922 | 1/2 | 92,986 | 1/2 | 108,050 | 1/2 | 123,107 | 1/2 | 138,164 |
| 3/4 | 4,085 | 3/4 | 19,147 | 3/4 | 34,208 | 3/4 | 48,759 | 3/4 | 63,254 | 3/4 | 78,236 | 3/4 | 93,300 | 3/4 | 108,364 | 3/4 | 123,421 | 3/4 | 138,478 |
| 3 | 4,398 | 3 | 19,461 | 3 | 34,522 | 3 | 49,061 | 3 | 63,556 | 3 | 78,549 | 3 | 93,614 | 3 | 108,678 | 3 | 123,735 | 3 | 138,791 |
| 1/4 | 4,711 | 1/4 | 19,774 | 1/4 | 34,836 | 1/4 | 49,362 | 1/4 | 63,858 | 1/4 | 78,863 | 1/4 | 93,927 | 1/4 | 108,992 | 1/4 | 124,048 | 1/4 | 139,105 |
| 1/2 | 5,025 | 1/2 | 20,088 | 1/2 | 35,150 | 1/2 | 49,663 | 1/2 | 64,160 | 1/2 | 79,177 | 1/2 | 94,241 | 1/2 | 109,305 | 1/2 | 124,362 | 1/2 | 139,419 |
| 3/4 | 5,339 | 3/4 | 20,402 | 3/4 | 35,463 | 3/4 | 49,965 | 3/4 | 64,462 | 3/4 | 79,491 | 3/4 | 94,555 | 3/4 | 109,619 | 3/4 | 124,676 | 3/4 | 139,732 |
| 4 | 5,652 | 4 | 20,716 | 4 | 35,777 | 4 | 50,266 | 4 | 64,764 | 4 | 79,805 | 4 | 94,869 | 4 | 109,933 | 4 | 124,989 | 4 | 140,046 |
| 1/4 | 5,966 | 1/4 | 21,030 | 1/4 | 36,085 | 1/4 | 50,568 | 1/4 | 65,072 | 1/4 | 80,119 | 1/4 | 95,183 | 1/4 | 110,247 | 1/4 | 125,303 | 1/4 | 140,360 |
| 1/2 | 6,280 | 1/2 | 21,344 | 1/2 | 36,393 | 1/2 | 50,869 | 1/2 | 65,380 | 1/2 | 80,432 | 1/2 | 95,497 | 1/2 | 110,560 | 1/2 | 125,617 | 1/2 | 140,674 |
| 3/4 | 6,594 | 3/4 | 21,657 | 3/4 | 36,701 | 3/4 | 51,171 | 3/4 | 65,688 | 3/4 | 80,746 | 3/4 | 95,810 | 3/4 | 110,874 | 3/4 | 125,931 | 3/4 | 140,987 |
| 5 | 6,907 | 5 | 21,971 | 5 | 37,009 | 5 | 51,473 | 5 | 65,996 | 5 | 81,060 | 5 | 96,124 | 5 | 111,188 | 5 | 126,244 | 5 | 141,301 |
| 1/4 | 7,221 | 1/4 | 22,285 | 1/4 | 37,311 | 1/4 | 51,775 | 1/4 | 66,310 | 1/4 | 81,374 | 1/4 | 96,438 | 1/4 | 111,501 | 1/4 | 126,558 | 1/4 | 141,615 |
| 1/2 | 7,535 | 1/2 | 22,599 | 1/2 | 37,613 | 1/2 | 52,077 | 1/2 | 66,624 | 1/2 | 81,688 | 1/2 | 96,752 | 1/2 | 111,815 | 1/2 | 126,872 | 1/2 | 141,928 |
| 3/4 | 7,849 | 3/4 | 22,913 | 3/4 | 37,915 | 3/4 | 52,379 | 3/4 | 66,937 | 3/4 | 82,002 | 3/4 | 97,066 | 3/4 | 112,129 | 3/4 | 127,185 | 3/4 | 142,242 |
| 6 | 8,163 | 6 | 23,226 | 6 | 38,217 | 6 | 52,681 | 6 | 67,251 | 6 | 82,315 | 6 | 97,380 | 6 | 112,442 | 6 | 127,499 | 6 | 142,556 |
| 1/4 | 8,477 | 1/4 | 23,540 | 1/4 | 38,519 | 1/4 | 52,983 | 1/4 | 67,565 | 1/4 | 82,629 | 1/4 | 97,693 | 1/4 | 112,756 | 1/4 | 127,813 | 1/4 | 142,869 |
| 1/2 | 8,790 | 1/2 | 23,854 | 1/2 | 38,821 | 1/2 | 53,285 | 1/2 | 67,879 | 1/2 | 82,943 | 1/2 | 98,007 | 1/2 | 113,070 | 1/2 | 128,126 | 1/2 | 143,183 |
| 3/4 | 9,104 | 3/4 | 24,168 | 3/4 | 39,122 | 3/4 | 53,587 | 3/4 | 68,193 | 3/4 | 83,257 | 3/4 | 98,321 | 3/4 | 113,383 | 3/4 | 128,440 | 3/4 | 143,497 |
| 7 | 9,418 | 7 | 24,482 | 7 | 39,424 | 7 | 53,889 | 7 | 68,507 | 7 | 83,571 | 7 | 98,635 | 7 | 113,697 | 7 | 128,754 | 7 | 143,810 |
| 1/4 | 9,732 | 1/4 | 24,796 | 1/4 | 39,725 | 1/4 | 54,192 | 1/4 | 68,820 | 1/4 | 83,885 | 1/4 | 98,949 | 1/4 | 114,011 | 1/4 | 129,067 | 1/4 | 144,124 |
| 1/2 | 10,046 | 1/2 | 25,109 | 1/2 | 40,026 | 1/2 | 54,494 | 1/2 | 69,134 | 1/2 | 84,198 | 1/2 | 99,263 | 1/2 | 114,324 | 1/2 | 129,381 | 1/2 | 144,438 |
| 3/4 | 10,360 | 3/4 | 25,423 | 3/4 | 40,327 | 3/4 | 54,796 | 3/4 | 69,448 | 3/4 | 84,512 | 3/4 | 99,577 | 3/4 | 114,638 | 3/4 | 129,695 | 3/4 | 144,751 |
| 8 | 10,673 | 8 | 25,737 | 8 | 40,628 | 8 | 55,098 | 8 | 69,762 | 8 | 84,826 | 8 | 99,890 | 8 | 114,952 | 8 | 130,008 | 8 | 145,065 |
| 1/4 | 10,987 | 1/4 | 26,051 | 1/4 | 40,929 | 1/4 | 55,400 | 1/4 | 70,076 | 1/4 | 85,140 | 1/4 | 100,204 | 1/4 | 115,265 | 1/4 | 130,322 | 1/4 | 145,379 |
| 1/2 | 11,301 | 1/2 | 26,365 | 1/2 | 41,231 | 1/2 | 55,702 | 1/2 | 70,390 | 1/2 | 85,454 | 1/2 | 100,518 | 1/2 | 115,579 | 1/2 | 130,636 | 1/2 | 145,692 |
| 3/4 | 11,615 | 3/4 | 26,678 | 3/4 | 41,532 | 3/4 | 56,004 | 3/4 | 70,703 | 3/4 | 85,768 | 3/4 | 100,832 | 3/4 | 115,893 | 3/4 | 130,949 | 3/4 | 146,006 |
| 9 | 11,929 | 9 | 26,992 | 9 | 41,833 | 9 | 56,306 | 9 | 71,017 | 9 | 86,081 | 9 | 101,146 | 9 | 116,206 | 9 | 131,263 | 9 | 146,320 |
| 1/4 | 12,242 | 1/4 | 27,306 | 1/4 | 42,134 | 1/4 | 56,608 | 1/4 | 71,331 | 1/4 | 86,395 | 1/4 | 101,460 | 1/4 | 116,520 | 1/4 | 131,577 | 1/4 | 146,633 |
| 1/2 | 12,556 | 1/2 | 27,619 | 1/2 | 42,435 | 1/2 | 56,910 | 1/2 | 71,645 | 1/2 | 86,709 | 1/2 | 101,773 | 1/2 | 116,834 | 1/2 | 131,890 | 1/2 | 146,947 |
| 3/4 | 12,870 | 3/4 | 27,933 | 3/4 | 42,736 | 3/4 | 57,212 | 3/4 | 71,959 | 3/4 | 87,023 | 3/4 | 102,087 | 3/4 | 117,147 | 3/4 | 132,204 | 3/4 | 147,261 |
| 10 | 13,184 | 10 | 28,247 | 10 | 43,037 | 10 | 57,514 | 10 | 72,273 | 10 | 87,337 | 10 | 102,401 | 10 | 117,461 | 10 | 132,518 | 10 | 147,574 |
| 1/4 | 13,498 | 1/4 | 28,560 | 1/4 | 43,338 | 1/4 | 57,816 | 1/4 | 72,586 | 1/4 | 87,651 | 1/4 | 102,715 | 1/4 | 117,775 | 1/4 | 132,832 | 1/4 | 147,888 |
| 1/2 | 13,812 | 1/2 | 28,874 | 1/2 | 43,640 | 1/2 | 58,118 | 1/2 | 72,900 | 1/2 | 87,965 | 1/2 | 103,029 | 1/2 | 118,089 | 1/2 | 133,145 | 1/2 | 148,202 |
| 3/4 | 14,125 | 3/4 | 29,187 | 3/4 | 43,941 | 3/4 | 58,421 | 3/4 | 73,214 | 3/4 | 88,278 | 3/4 | 103,343 | 3/4 | 118,402 | 3/4 | 133,459 | 3/4 | 148,516 |
| 11 | 14,439 | 11 | 29,501 | 11 | 44,242 | 11 | 58,723 | 11 | 73,528 | 11 | 88,592 | 11 | 103,656 | 11 | 118,716 | 11 | 133,773 | 11 | 148,829 |
| 1/4 | 14,753 | 1/4 | 29,815 | 1/4 | 44,543 | 1/4 | 59,025 | 1/4 | 73,842 | 1/4 | 88,906 | 1/4 | 103,970 | 1/4 | 119,030 | 1/4 | 134,086 | 1/4 | 149,143 |
| 1/2 | 15,067 | 1/2 | 30,129 | 1/2 | 44,844 | 1/2 | 59,327 | 1/2 | 74,156 | 1/2 | 89,220 | 1/2 | 104,284 | 1/2 | 119,343 | 1/2 | 134,400 | 1/2 | 149,457 |
| 3/4 | 15,381 | 3/4 | 30,442 | 3/4 | 45,145 | 3/4 | 59,629 | 3/4 | 74,469 | 3/4 | 89,534 | 3/4 | 104,598 | 3/4 | 119,657 | 3/4 | 134,714 | 3/4 | 149,770 |

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 INNAGE 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 INNAGE 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 | 150,084 | 0 | 165,141 | 0 | 180,187 | 0 | 195,192 | 0 | 210,101 | 0 | | 0 | | 0 | | 0 | | 0 | |
| 1/4 | 150,398 | 1/4 | 165,454 | 1/4 | 180,499 | 1/4 | 195,505 | 1/4 | 210,381 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 150,711 | 1/2 | 165,768 | 1/2 | 180,812 | 1/2 | 195,817 | 1/2 | 210,660 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 151,025 | 3/4 | 166,082 | 3/4 | 181,124 | 3/4 | 196,130 | 3/4 | 210,940 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 1 | 151,339 | 1 | 166,395 | 1 | 181,437 | 1 | 196,443 | 1 | 211,220 | 1 | | 1 | | 1 | | 1 | | 1 | |
| 1/4 | 151,652 | 1/4 | 166,709 | 1/4 | 181,750 | 1/4 | 196,755 | 1/4 | 211,451 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 151,966 | 1/2 | 167,023 | 1/2 | 182,062 | 1/2 | 197,068 | 1/2 | 211,682 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 152,280 | 3/4 | 167,336 | 3/4 | 182,375 | 3/4 | 197,380 | 3/4 | 211,913 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 2 | 152,593 | 2 | 167,650 | 2 | 182,688 | 2 | 197,693 | 2 | 212,145 | 2 | | 2 | | 2 | | 2 | | 2 | |
| 1/4 | 152,907 | 1/4 | 167,964 | 1/4 | 183,000 | 1/4 | 198,006 | 1/4 | 212,324 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 153,221 | 1/2 | 168,277 | 1/2 | 183,313 | 1/2 | 198,318 | 1/2 | 212,502 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 153,534 | 3/4 | 168,591 | 3/4 | 183,625 | 3/4 | 198,631 | 3/4 | 212,681 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 3 | 153,848 | 3 | 168,905 | 3 | 183,938 | 3 | 198,944 | 3 | 212,860 | 3 | | 3 | | 3 | | 3 | | 3 | |
| 1/4 | 154,162 | 1/4 | 169,218 | 1/4 | 184,251 | 1/4 | 199,256 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 154,475 | 1/2 | 169,532 | 1/2 | 184,563 | 1/2 | 199,569 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 154,789 | 3/4 | 169,846 | 3/4 | 184,876 | 3/4 | 199,881 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 4 | 155,103 | 4 | 170,159 | 4 | 185,188 | 4 | 200,194 | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | |
| 1/4 | 155,416 | 1/4 | 170,473 | 1/4 | 185,501 | 1/4 | 200,507 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 155,730 | 1/2 | 170,787 | 1/2 | 185,814 | 1/2 | 200,819 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 156,044 | 3/4 | 171,101 | 3/4 | 186,126 | 3/4 | 201,132 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 5 | 156,358 | 5 | 171,414 | 5 | 186,439 | 5 | 201,444 | 5 | | 5 | | 5 | | 5 | | 5 | | 5 | |
| 1/4 | 156,671 | 1/4 | 171,728 | 1/4 | 186,752 | 1/4 | 201,756 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 156,985 | 1/2 | 172,042 | 1/2 | 187,064 | 1/2 | 202,067 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 157,299 | 3/4 | 172,355 | 3/4 | 187,377 | 3/4 | 202,378 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 6 | 157,612 | 6 | 172,669 | 6 | 187,689 | 6 | 202,689 | 6 | | 6 | | 6 | | 6 | | 6 | | 6 | |
| 1/4 | 157,926 | 1/4 | 172,983 | 1/4 | 188,002 | 1/4 | 202,998 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 158,240 | 1/2 | 173,296 | 1/2 | 188,315 | 1/2 | 203,308 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 158,553 | 3/4 | 173,610 | 3/4 | 188,627 | 3/4 | 203,617 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 7 | 158,867 | 7 | 173,924 | 7 | 188,940 | 7 | 203,927 | 7 | | 7 | | 7 | | 7 | | 7 | | 7 | |
| 1/4 | 159,181 | 1/4 | 174,237 | 1/4 | 189,252 | 1/4 | 204,236 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 159,494 | 1/2 | 174,551 | 1/2 | 189,565 | 1/2 | 204,546 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 159,808 | 3/4 | 174,865 | 3/4 | 189,878 | 3/4 | 204,856 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 8 | 160,122 | 8 | 175,178 | 8 | 190,190 | 8 | 205,165 | 8 | | 8 | | 8 | | 8 | | 8 | | 8 | |
| 1/4 | 160,435 | 1/4 | 175,492 | 1/4 | 190,503 | 1/4 | 205,475 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 160,749 | 1/2 | 175,806 | 1/2 | 190,816 | 1/2 | 205,785 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 161,063 | 3/4 | 176,119 | 3/4 | 191,128 | 3/4 | 206,094 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 9 | 161,376 | 9 | 176,433 | 9 | 191,441 | 9 | 206,404 | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | |
| 1/4 | 161,690 | 1/4 | 176,746 | 1/4 | 191,753 | 1/4 | 206,713 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 162,004 | 1/2 | 177,059 | 1/2 | 192,066 | 1/2 | 207,023 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 162,317 | 3/4 | 177,373 | 3/4 | 192,379 | 3/4 | 207,333 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 10 | 162,631 | 10 | 177,686 | 10 | 192,691 | 10 | 207,642 | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |
| 1/4 | 162,945 | 1/4 | 177,998 | 1/4 | 193,004 | 1/4 | 207,951 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 163,258 | 1/2 | 178,311 | 1/2 | 193,316 | 1/2 | 208,261 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 163,572 | 3/4 | 178,624 | 3/4 | 193,629 | 3/4 | 208,570 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 11 | 163,886 | 11 | 178,936 | 11 | 193,942 | 11 | 208,879 | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | |
| 1/4 | 164,200 | 1/4 | 179,249 | 1/4 | 194,254 | 1/4 | 209,184 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 164,513 | 1/2 | 179,561 | 1/2 | 194,567 | 1/2 | 209,490 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 164,827 | 3/4 | 179,874 | 3/4 | 194,880 | 3/4 | 209,795 | 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 STBD

INNAGE 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 | 1,032 | 0 | 15,707 | 0 | 30,779 | 0 | 45,834 | 0 | 60,894 | 0 | 75,969 | 0 | 91,045 | 0 | 106,120 | 0 | 121,190 | 0 | 136,257 |
| 1/4 | 1,268 | 1/4 | 16,021 | 1/4 | 31,093 | 1/4 | 46,147 | 1/4 | 61,208 | 1/4 | 76,284 | 1/4 | 91,359 | 1/4 | 106,434 | 1/4 | 121,504 | 1/4 | 136,571 |
| 1/2 | 1,503 | 1/2 | 16,335 | 1/2 | 31,408 | 1/2 | 46,460 | 1/2 | 61,522 | 1/2 | 76,598 | 1/2 | 91,673 | 1/2 | 106,748 | 1/2 | 121,817 | 1/2 | 136,885 |
| 3/4 | 1,739 | 3/4 | 16,649 | 3/4 | 31,722 | 3/4 | 46,774 | 3/4 | 61,837 | 3/4 | 76,912 | 3/4 | 91,987 | 3/4 | 107,062 | 3/4 | 122,131 | 3/4 | 137,199 |
| 1 | 1,974 | 1 | 16,963 | 1 | 32,036 | 1 | 47,087 | 1 | 62,151 | 1 | 77,226 | 1 | 92,301 | 1 | 107,376 | 1 | 122,445 | 1 | 137,513 |
| 1/4 | 2,268 | 1/4 | 17,277 | 1/4 | 32,350 | 1/4 | 47,400 | 1/4 | 62,465 | 1/4 | 77,540 | 1/4 | 92,615 | 1/4 | 107,690 | 1/4 | 122,759 | 1/4 | 137,827 |
| 1/2 | 2,562 | 1/2 | 17,591 | 1/2 | 32,664 | 1/2 | 47,713 | 1/2 | 62,779 | 1/2 | 77,854 | 1/2 | 92,929 | 1/2 | 108,004 | 1/2 | 123,073 | 1/2 | 138,141 |
| 3/4 | 2,855 | 3/4 | 17,905 | 3/4 | 32,978 | 3/4 | 48,026 | 3/4 | 63,093 | 3/4 | 78,168 | 3/4 | 93,243 | 3/4 | 108,318 | 3/4 | 123,387 | 3/4 | 138,455 |
| 2 | 3,149 | 2 | 18,219 | 2 | 33,292 | 2 | 48,339 | 2 | 63,407 | 2 | 78,482 | 2 | 93,557 | 2 | 108,632 | 2 | 123,701 | 2 | 138,768 |
| 1/4 | 3,462 | 1/4 | 18,533 | 1/4 | 33,606 | 1/4 | 48,652 | 1/4 | 63,721 | 1/4 | 78,796 | 1/4 | 93,871 | 1/4 | 108,946 | 1/4 | 124,015 | 1/4 | 139,082 |
| 1/2 | 3,775 | 1/2 | 18,847 | 1/2 | 33,920 | 1/2 | 48,966 | 1/2 | 64,035 | 1/2 | 79,110 | 1/2 | 94,185 | 1/2 | 109,260 | 1/2 | 124,329 | 1/2 | 139,396 |
| 3/4 | 4,088 | 3/4 | 19,161 | 3/4 | 34,234 | 3/4 | 49,279 | 3/4 | 64,349 | 3/4 | 79,424 | 3/4 | 94,499 | 3/4 | 109,575 | 3/4 | 124,643 | 3/4 | 139,710 |
| 3 | 4,401 | 3 | 19,475 | 3 | 34,548 | 3 | 49,592 | 3 | 64,663 | 3 | 79,738 | 3 | 94,813 | 3 | 109,889 | 3 | 124,957 | 3 | 140,024 |
| 1/4 | 4,715 | 1/4 | 19,789 | 1/4 | 34,862 | 1/4 | 49,906 | 1/4 | 64,977 | 1/4 | 80,052 | 1/4 | 95,127 | 1/4 | 110,203 | 1/4 | 125,270 | 1/4 | 140,338 |
| 1/2 | 5,029 | 1/2 | 20,103 | 1/2 | 35,176 | 1/2 | 50,219 | 1/2 | 65,291 | 1/2 | 80,366 | 1/2 | 95,442 | 1/2 | 110,517 | 1/2 | 125,584 | 1/2 | 140,652 |
| 3/4 | 5,343 | 3/4 | 20,418 | 3/4 | 35,490 | 3/4 | 50,532 | 3/4 | 65,605 | 3/4 | 80,680 | 3/4 | 95,756 | 3/4 | 110,831 | 3/4 | 125,898 | 3/4 | 140,966 |
| 4 | 5,657 | 4 | 20,732 | 4 | 35,804 | 4 | 50,846 | 4 | 65,919 | 4 | 80,995 | 4 | 96,070 | 4 | 111,145 | 4 | 126,212 | 4 | 141,280 |
| 1/4 | 5,971 | 1/4 | 21,046 | 1/4 | 36,119 | 1/4 | 51,159 | 1/4 | 66,233 | 1/4 | 81,309 | 1/4 | 96,384 | 1/4 | 111,458 | 1/4 | 126,526 | 1/4 | 141,594 |
| 1/2 | 6,285 | 1/2 | 21,360 | 1/2 | 36,433 | 1/2 | 51,473 | 1/2 | 66,547 | 1/2 | 81,623 | 1/2 | 96,698 | 1/2 | 111,772 | 1/2 | 126,840 | 1/2 | 141,908 |
| 3/4 | 6,599 | 3/4 | 21,674 | 3/4 | 36,747 | 3/4 | 51,787 | 3/4 | 66,862 | 3/4 | 81,937 | 3/4 | 97,012 | 3/4 | 112,086 | 3/4 | 127,154 | 3/4 | 142,221 |
| 5 | 6,913 | 5 | 21,988 | 5 | 37,061 | 5 | 52,100 | 5 | 67,176 | 5 | 82,251 | 5 | 97,326 | 5 | 112,400 | 5 | 127,468 | 5 | 142,535 |
| 1/4 | 7,227 | 1/4 | 22,302 | 1/4 | 37,375 | 1/4 | 52,415 | 1/4 | 67,490 | 1/4 | 82,565 | 1/4 | 97,640 | 1/4 | 112,714 | 1/4 | 127,782 | 1/4 | 142,849 |
| 1/2 | 7,541 | 1/2 | 22,616 | 1/2 | 37,689 | 1/2 | 52,729 | 1/2 | 67,804 | 1/2 | 82,879 | 1/2 | 97,954 | 1/2 | 113,028 | 1/2 | 128,096 | 1/2 | 143,163 |
| 3/4 | 7,855 | 3/4 | 22,930 | 3/4 | 38,003 | 3/4 | 53,043 | 3/4 | 68,118 | 3/4 | 83,193 | 3/4 | 98,268 | 3/4 | 113,342 | 3/4 | 128,409 | 3/4 | 143,477 |
| 6 | 8,169 | 6 | 23,244 | 6 | 38,317 | 6 | 53,357 | 6 | 68,432 | 6 | 83,507 | 6 | 98,582 | 6 | 113,656 | 6 | 128,723 | 6 | 143,791 |
| 1/4 | 8,483 | 1/4 | 23,558 | 1/4 | 38,631 | 1/4 | 53,671 | 1/4 | 68,746 | 1/4 | 83,821 | 1/4 | 98,896 | 1/4 | 113,970 | 1/4 | 129,037 | 1/4 | 144,105 |
| 1/2 | 8,797 | 1/2 | 23,872 | 1/2 | 38,944 | 1/2 | 53,985 | 1/2 | 69,060 | 1/2 | 84,135 | 1/2 | 99,210 | 1/2 | 114,284 | 1/2 | 129,351 | 1/2 | 144,419 |
| 3/4 | 9,111 | 3/4 | 24,186 | 3/4 | 39,258 | 3/4 | 54,299 | 3/4 | 69,374 | 3/4 | 84,449 | 3/4 | 99,524 | 3/4 | 114,598 | 3/4 | 129,665 | 3/4 | 144,733 |
| 7 | 9,425 | 7 | 24,500 | 7 | 39,571 | 7 | 54,613 | 7 | 69,688 | 7 | 84,763 | 7 | 99,838 | 7 | 114,911 | 7 | 129,979 | 7 | 145,047 |
| 1/4 | 9,739 | 1/4 | 24,814 | 1/4 | 39,885 | 1/4 | 54,927 | 1/4 | 70,002 | 1/4 | 85,077 | 1/4 | 100,153 | 1/4 | 115,225 | 1/4 | 130,293 | 1/4 | 145,361 |
| 1/2 | 10,053 | 1/2 | 25,129 | 1/2 | 40,198 | 1/2 | 55,241 | 1/2 | 70,316 | 1/2 | 85,391 | 1/2 | 100,467 | 1/2 | 115,539 | 1/2 | 130,607 | 1/2 | 145,674 |
| 3/4 | 10,367 | 3/4 | 25,443 | 3/4 | 40,511 | 3/4 | 55,555 | 3/4 | 70,630 | 3/4 | 85,706 | 3/4 | 100,781 | 3/4 | 115,853 | 3/4 | 130,921 | 3/4 | 145,988 |
| 8 | 10,682 | 8 | 25,757 | 8 | 40,824 | 8 | 55,869 | 8 | 70,944 | 8 | 86,020 | 8 | 101,095 | 8 | 116,167 | 8 | 131,235 | 8 | 146,302 |
| 1/4 | 10,996 | 1/4 | 26,071 | 1/4 | 41,137 | 1/4 | 56,183 | 1/4 | 71,258 | 1/4 | 86,334 | 1/4 | 101,409 | 1/4 | 116,481 | 1/4 | 131,549 | 1/4 | 146,616 |
| 1/2 | 11,310 | 1/2 | 26,385 | 1/2 | 41,450 | 1/2 | 56,497 | 1/2 | 71,573 | 1/2 | 86,648 | 1/2 | 101,723 | 1/2 | 116,795 | 1/2 | 131,862 | 1/2 | 146,930 |
| 3/4 | 11,624 | 3/4 | 26,699 | 3/4 | 41,763 | 3/4 | 56,811 | 3/4 | 71,887 | 3/4 | 86,962 | 3/4 | 102,037 | 3/4 | 117,109 | 3/4 | 132,176 | 3/4 | 147,244 |
| 9 | 11,938 | 9 | 27,013 | 9 | 42,076 | 9 | 57,126 | 9 | 72,201 | 9 | 87,276 | 9 | 102,351 | 9 | 117,423 | 9 | 132,490 | 9 | 147,558 |
| 1/4 | 12,252 | 1/4 | 27,326 | 1/4 | 42,390 | 1/4 | 57,440 | 1/4 | 72,515 | 1/4 | 87,590 | 1/4 | 102,665 | 1/4 | 117,737 | 1/4 | 132,804 | 1/4 | 147,872 |
| 1/2 | 12,566 | 1/2 | 27,640 | 1/2 | 42,703 | 1/2 | 57,754 | 1/2 | 72,829 | 1/2 | 87,904 | 1/2 | 102,979 | 1/2 | 118,051 | 1/2 | 133,118 | 1/2 | 148,186 |
| 3/4 | 12,880 | 3/4 | 27,954 | 3/4 | 43,016 | 3/4 | 58,068 | 3/4 | 73,143 | 3/4 | 88,218 | 3/4 | 103,293 | 3/4 | 118,364 | 3/4 | 133,432 | 3/4 | 148,500 |
| 10 | 13,194 | 10 | 28,268 | 10 | 43,329 | 10 | 58,382 | 10 | 73,457 | 10 | 88,532 | 10 | 103,607 | 10 | 118,678 | 10 | 133,746 | 10 | 148,814 |
| 1/4 | 13,508 | 1/4 | 28,582 | 1/4 | 43,642 | 1/4 | 58,696 | 1/4 | 73,771 | 1/4 | 88,846 | 1/4 | 103,921 | 1/4 | 118,992 | 1/4 | 134,060 | 1/4 | 149,127 |
| 1/2 | 13,822 | 1/2 | 28,896 | 1/2 | 43,955 | 1/2 | 59,010 | 1/2 | 74,085 | 1/2 | 89,160 | 1/2 | 104,235 | 1/2 | 119,306 | 1/2 | 134,374 | 1/2 | 149,441 |
| 3/4 | 14,136 | 3/4 | 29,210 | 3/4 | 44,268 | 3/4 | 59,324 | 3/4 | 74,399 | 3/4 | 89,474 | 3/4 | 104,549 | 3/4 | 119,620 | 3/4 | 134,688 | 3/4 | 149,755 |
| 11 | 14,450 | 11 | 29,523 | 11 | 44,582 | 11 | 59,638 | 11 | 74,713 | 11 | 89,788 | 11 | 104,864 | 11 | 119,934 | 11 | 135,002 | 11 | 150,069 |
| 1/4 | 14,764 | 1/4 | 29,837 | 1/4 | 44,895 | 1/4 | 59,952 | 1/4 | 75,027 | 1/4 | 90,102 | 1/4 | 105,178 | 1/4 | 120,248 | 1/4 | 135,315 | 1/4 | 150,383 |
| 1/2 | 15,078 | 1/2 | 30,151 | 1/2 | 45,208 | 1/2 | 60,266 | 1/2 | 75,341 | 1/2 | 90,416 | 1/2 | 105,492 | 1/2 | 120,562 | 1/2 | 135,629 | 1/2 | 150,697 |
| 3/4 | 15,393 | 3/4 | 30,465 | 3/4 | 45,521 | 3/4 | 60,580 | 3/4 | 75,655 | 3/4 | 90,731 | 3/4 | 105,806 | 3/4 | 120,876 | 3/4 | 135,943 | 3/4 | 151,011 |

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 INNAGE 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
INNAGE 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 | 151,325 | 0 | 166,392 | 0 | 181,449 | 0 | 196,466 | 0 | 211,385 | 0 | | 0 | | 0 | | 0 | | 0 | |
| 1/4 | 151,639 | 1/4 | 166,706 | 1/4 | 181,762 | 1/4 | 196,779 | 1/4 | 211,665 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 151,953 | 1/2 | 167,020 | 1/2 | 182,075 | 1/2 | 197,092 | 1/2 | 211,945 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 152,267 | 3/4 | 167,334 | 3/4 | 182,388 | 3/4 | 197,404 | 3/4 | 212,225 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 1 | 152,580 | 1 | 167,648 | 1 | 182,701 | 1 | 197,717 | 1 | 212,505 | 1 | | 1 | | 1 | | 1 | | 1 | |
| 1/4 | 152,894 | 1/4 | 167,962 | 1/4 | 183,014 | 1/4 | 198,030 | 1/4 | 212,737 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 153,208 | 1/2 | 168,276 | 1/2 | 183,326 | 1/2 | 198,343 | 1/2 | 212,968 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 153,522 | 3/4 | 168,590 | 3/4 | 183,639 | 3/4 | 198,656 | 3/4 | 213,199 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 2 | 153,836 | 2 | 168,904 | 2 | 183,952 | 2 | 198,969 | 2 | 213,431 | 2 | | 2 | | 2 | | 2 | | 2 | |
| 1/4 | 154,150 | 1/4 | 169,218 | 1/4 | 184,265 | 1/4 | 199,281 | 1/4 | 213,610 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 154,464 | 1/2 | 169,531 | 1/2 | 184,578 | 1/2 | 199,594 | 1/2 | 213,789 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 154,778 | 3/4 | 169,845 | 3/4 | 184,891 | 3/4 | 199,907 | 3/4 | 213,968 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 3 | 155,092 | 3 | 170,159 | 3 | 185,203 | 3 | 200,220 | 3 | 214,147 | 3 | | 3 | | 3 | | 3 | | 3 | |
| 1/4 | 155,406 | 1/4 | 170,473 | 1/4 | 185,516 | 1/4 | 200,533 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 155,720 | 1/2 | 170,787 | 1/2 | 185,829 | 1/2 | 200,846 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 156,033 | 3/4 | 171,101 | 3/4 | 186,142 | 3/4 | 201,158 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 4 | 156,347 | 4 | 171,415 | 4 | 186,455 | 4 | 201,471 | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | |
| 1/4 | 156,661 | 1/4 | 171,729 | 1/4 | 186,768 | 1/4 | 201,784 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 156,975 | 1/2 | 172,043 | 1/2 | 187,081 | 1/2 | 202,097 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 157,289 | 3/4 | 172,357 | 3/4 | 187,393 | 3/4 | 202,410 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 5 | 157,603 | 5 | 172,671 | 5 | 187,706 | 5 | 202,723 | 5 | | 5 | | 5 | | 5 | | 5 | | 5 | |
| 1/4 | 157,917 | 1/4 | 172,984 | 1/4 | 188,019 | 1/4 | 203,034 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 158,231 | 1/2 | 173,298 | 1/2 | 188,332 | 1/2 | 203,345 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 158,545 | 3/4 | 173,612 | 3/4 | 188,645 | 3/4 | 203,657 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 6 | 158,859 | 6 | 173,926 | 6 | 188,958 | 6 | 203,968 | 6 | | 6 | | 6 | | 6 | | 6 | | 6 | |
| 1/4 | 159,173 | 1/4 | 174,240 | 1/4 | 189,270 | 1/4 | 204,278 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 159,486 | 1/2 | 174,554 | 1/2 | 189,583 | 1/2 | 204,587 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 159,800 | 3/4 | 174,868 | 3/4 | 189,896 | 3/4 | 204,897 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 7 | 160,114 | 7 | 175,182 | 7 | 190,209 | 7 | 205,207 | 7 | | 7 | | 7 | | 7 | | 7 | | 7 | |
| 1/4 | 160,428 | 1/4 | 175,496 | 1/4 | 190,522 | 1/4 | 205,517 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 160,742 | 1/2 | 175,810 | 1/2 | 190,835 | 1/2 | 205,827 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 161,056 | 3/4 | 176,124 | 3/4 | 191,148 | 3/4 | 206,136 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 8 | 161,370 | 8 | 176,437 | 8 | 191,460 | 8 | 206,446 | 8 | | 8 | | 8 | | 8 | | 8 | | 8 | |
| 1/4 | 161,684 | 1/4 | 176,751 | 1/4 | 191,773 | 1/4 | 206,756 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 161,998 | 1/2 | 177,065 | 1/2 | 192,086 | 1/2 | 207,066 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 162,312 | 3/4 | 177,379 | 3/4 | 192,399 | 3/4 | 207,376 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 9 | 162,626 | 9 | 177,693 | 9 | 192,712 | 9 | 207,686 | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | |
| 1/4 | 162,939 | 1/4 | 178,006 | 1/4 | 193,025 | 1/4 | 207,996 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 163,253 | 1/2 | 178,320 | 1/2 | 193,337 | 1/2 | 208,305 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 163,567 | 3/4 | 178,633 | 3/4 | 193,650 | 3/4 | 208,615 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 10 | 163,881 | 10 | 178,947 | 10 | 193,963 | 10 | 208,925 | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |
| 1/4 | 164,195 | 1/4 | 179,259 | 1/4 | 194,276 | 1/4 | 209,234 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 164,509 | 1/2 | 179,572 | 1/2 | 194,589 | 1/2 | 209,544 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 164,823 | 3/4 | 179,885 | 3/4 | 194,902 | 3/4 | 209,853 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 11 | 165,137 | 11 | 180,198 | 11 | 195,214 | 11 | 210,163 | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | |
| 1/4 | 165,451 | 1/4 | 180,511 | 1/4 | 195,527 | 1/4 | 210,468 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 165,765 | 1/2 | 180,824 | 1/2 | 195,840 | 1/2 | 210,774 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 166,079 | 3/4 | 181,137 | 3/4 | 196,153 | 3/4 | 211,080 | 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"

3 PORT INNAGE 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 | 1,029 | 0 | 15,640 | 0 | 30,636 | 0 | 45,403 | 0 | 59,967 | 0 | 74,883 | 0 | 89,856 | 0 | 104,841 | 0 | 119,816 | 0 | 134,788 |
| 1/4 | 1,263 | 1/4 | 15,953 | 1/4 | 30,948 | 1/4 | 45,705 | 1/4 | 60,279 | 1/4 | 75,194 | 1/4 | 90,168 | 1/4 | 105,154 | 1/4 | 120,128 | 1/4 | 135,100 |
| 1/2 | 1,498 | 1/2 | 16,265 | 1/2 | 31,261 | 1/2 | 46,006 | 1/2 | 60,591 | 1/2 | 75,504 | 1/2 | 90,481 | 1/2 | 105,466 | 1/2 | 120,440 | 1/2 | 135,412 |
| 3/4 | 1,733 | 3/4 | 16,578 | 3/4 | 31,573 | 3/4 | 46,308 | 3/4 | 60,903 | 3/4 | 75,815 | 3/4 | 90,793 | 3/4 | 105,778 | 3/4 | 120,752 | 3/4 | 135,724 |
| 1 | 1,967 | 1 | 16,890 | 1 | 31,886 | 1 | 46,610 | 1 | 61,215 | 1 | 76,125 | 1 | 91,105 | 1 | 106,091 | 1 | 121,064 | 1 | 136,036 |
| 1/4 | 2,260 | 1/4 | 17,203 | 1/4 | 32,198 | 1/4 | 46,912 | 1/4 | 61,527 | 1/4 | 76,436 | 1/4 | 91,417 | 1/4 | 106,403 | 1/4 | 121,376 | 1/4 | 136,347 |
| 1/2 | 2,552 | 1/2 | 17,515 | 1/2 | 32,511 | 1/2 | 47,214 | 1/2 | 61,839 | 1/2 | 76,746 | 1/2 | 91,729 | 1/2 | 106,715 | 1/2 | 121,688 | 1/2 | 136,659 |
| 3/4 | 2,845 | 3/4 | 17,828 | 3/4 | 32,823 | 3/4 | 47,517 | 3/4 | 62,151 | 3/4 | 77,056 | 3/4 | 92,041 | 3/4 | 107,027 | 3/4 | 122,000 | 3/4 | 136,971 |
| 2 | 3,138 | 2 | 18,140 | 2 | 33,136 | 2 | 47,819 | 2 | 62,463 | 2 | 77,367 | 2 | 92,353 | 2 | 107,339 | 2 | 122,312 | 2 | 137,283 |
| 1/4 | 3,450 | 1/4 | 18,452 | 1/4 | 33,448 | 1/4 | 48,121 | 1/4 | 62,774 | 1/4 | 77,678 | 1/4 | 92,665 | 1/4 | 107,651 | 1/4 | 122,624 | 1/4 | 137,595 |
| 1/2 | 3,762 | 1/2 | 18,765 | 1/2 | 33,760 | 1/2 | 48,424 | 1/2 | 63,086 | 1/2 | 77,990 | 1/2 | 92,977 | 1/2 | 107,963 | 1/2 | 122,935 | 1/2 | 137,907 |
| 3/4 | 4,074 | 3/4 | 19,077 | 3/4 | 34,073 | 3/4 | 48,727 | 3/4 | 63,397 | 3/4 | 78,301 | 3/4 | 93,289 | 3/4 | 108,275 | 3/4 | 123,247 | 3/4 | 138,219 |
| 3 | 4,385 | 3 | 19,390 | 3 | 34,385 | 3 | 49,029 | 3 | 63,708 | 3 | 78,612 | 3 | 93,601 | 3 | 108,587 | 3 | 123,559 | 3 | 138,531 |
| 1/4 | 4,698 | 1/4 | 19,702 | 1/4 | 34,697 | 1/4 | 49,332 | 1/4 | 64,019 | 1/4 | 78,925 | 1/4 | 93,913 | 1/4 | 108,899 | 1/4 | 123,871 | 1/4 | 138,843 |
| 1/2 | 5,011 | 1/2 | 20,015 | 1/2 | 35,009 | 1/2 | 49,634 | 1/2 | 64,329 | 1/2 | 79,237 | 1/2 | 94,225 | 1/2 | 109,211 | 1/2 | 124,183 | 1/2 | 139,155 |
| 3/4 | 5,323 | 3/4 | 20,327 | 3/4 | 35,321 | 3/4 | 49,937 | 3/4 | 64,639 | 3/4 | 79,550 | 3/4 | 94,537 | 3/4 | 109,523 | 3/4 | 124,495 | 3/4 | 139,466 |
| 4 | 5,636 | 4 | 20,640 | 4 | 35,633 | 4 | 50,239 | 4 | 64,950 | 4 | 79,862 | 4 | 94,850 | 4 | 109,835 | 4 | 124,807 | 4 | 139,778 |
| 1/4 | 5,949 | 1/4 | 20,952 | 1/4 | 35,941 | 1/4 | 50,542 | 1/4 | 65,260 | 1/4 | 80,174 | 1/4 | 95,162 | 1/4 | 110,147 | 1/4 | 125,119 | 1/4 | 140,090 |
| 1/2 | 6,261 | 1/2 | 21,264 | 1/2 | 36,250 | 1/2 | 50,845 | 1/2 | 65,571 | 1/2 | 80,487 | 1/2 | 95,474 | 1/2 | 110,459 | 1/2 | 125,431 | 1/2 | 140,402 |
| 3/4 | 6,574 | 3/4 | 21,577 | 3/4 | 36,558 | 3/4 | 51,147 | 3/4 | 65,881 | 3/4 | 80,799 | 3/4 | 95,786 | 3/4 | 110,771 | 3/4 | 125,743 | 3/4 | 140,714 |
| 5 | 6,886 | 5 | 21,889 | 5 | 36,866 | 5 | 51,450 | 5 | 66,192 | 5 | 81,111 | 5 | 96,098 | 5 | 111,083 | 5 | 126,054 | 5 | 141,026 |
| 1/4 | 7,199 | 1/4 | 22,202 | 1/4 | 37,171 | 1/4 | 51,752 | 1/4 | 66,502 | 1/4 | 81,424 | 1/4 | 96,410 | 1/4 | 111,395 | 1/4 | 126,366 | 1/4 | 141,337 |
| 1/2 | 7,512 | 1/2 | 22,514 | 1/2 | 37,476 | 1/2 | 52,055 | 1/2 | 66,812 | 1/2 | 81,736 | 1/2 | 96,722 | 1/2 | 111,707 | 1/2 | 126,678 | 1/2 | 141,649 |
| 3/4 | 7,824 | 3/4 | 22,827 | 3/4 | 37,782 | 3/4 | 52,358 | 3/4 | 67,123 | 3/4 | 82,049 | 3/4 | 97,034 | 3/4 | 112,019 | 3/4 | 126,990 | 3/4 | 141,961 |
| 6 | 8,137 | 6 | 23,139 | 6 | 38,087 | 6 | 52,660 | 6 | 67,433 | 6 | 82,361 | 6 | 97,346 | 6 | 112,331 | 6 | 127,302 | 6 | 142,272 |
| 1/4 | 8,450 | 1/4 | 23,452 | 1/4 | 38,392 | 1/4 | 52,963 | 1/4 | 67,744 | 1/4 | 82,673 | 1/4 | 97,658 | 1/4 | 112,642 | 1/4 | 127,614 | 1/4 | 142,579 |
| 1/2 | 8,763 | 1/2 | 23,764 | 1/2 | 38,697 | 1/2 | 53,265 | 1/2 | 68,054 | 1/2 | 82,986 | 1/2 | 97,971 | 1/2 | 112,954 | 1/2 | 127,926 | 1/2 | 142,887 |
| 3/4 | 9,076 | 3/4 | 24,077 | 3/4 | 39,002 | 3/4 | 53,568 | 3/4 | 68,365 | 3/4 | 83,298 | 3/4 | 98,283 | 3/4 | 113,266 | 3/4 | 128,238 | 3/4 | 143,194 |
| 7 | 9,388 | 7 | 24,389 | 7 | 39,307 | 7 | 53,870 | 7 | 68,675 | 7 | 83,611 | 7 | 98,595 | 7 | 113,578 | 7 | 128,550 | 7 | 143,501 |
| 1/4 | 9,701 | 1/4 | 24,701 | 1/4 | 39,612 | 1/4 | 54,173 | 1/4 | 68,985 | 1/4 | 83,923 | 1/4 | 98,907 | 1/4 | 113,890 | 1/4 | 128,862 | 1/4 | 143,796 |
| 1/2 | 10,014 | 1/2 | 25,014 | 1/2 | 39,917 | 1/2 | 54,476 | 1/2 | 69,296 | 1/2 | 84,235 | 1/2 | 99,220 | 1/2 | 114,202 | 1/2 | 129,174 | 1/2 | 144,090 |
| 3/4 | 10,327 | 3/4 | 25,326 | 3/4 | 40,222 | 3/4 | 54,778 | 3/4 | 69,606 | 3/4 | 84,548 | 3/4 | 99,532 | 3/4 | 114,514 | 3/4 | 129,485 | 3/4 | 144,385 |
| 8 | 10,640 | 8 | 25,639 | 8 | 40,528 | 8 | 55,081 | 8 | 69,917 | 8 | 84,860 | 8 | 99,844 | 8 | 114,826 | 8 | 129,797 | 8 | 144,680 |
| 1/4 | 10,953 | 1/4 | 25,951 | 1/4 | 40,833 | 1/4 | 55,383 | 1/4 | 70,227 | 1/4 | 85,173 | 1/4 | 100,157 | 1/4 | 115,138 | 1/4 | 130,109 | 1/4 | 144,959 |
| 1/2 | 11,266 | 1/2 | 26,264 | 1/2 | 41,138 | 1/2 | 55,686 | 1/2 | 70,537 | 1/2 | 85,485 | 1/2 | 100,469 | 1/2 | 115,450 | 1/2 | 130,421 | 1/2 | 145,238 |
| 3/4 | 11,578 | 3/4 | 26,576 | 3/4 | 41,443 | 3/4 | 55,989 | 3/4 | 70,848 | 3/4 | 85,797 | 3/4 | 100,781 | 3/4 | 115,762 | 3/4 | 130,733 | 3/4 | 145,516 |
| 9 | 11,891 | 9 | 26,888 | 9 | 41,748 | 9 | 56,291 | 9 | 71,158 | 9 | 86,110 | 9 | 101,094 | 9 | 116,073 | 9 | 131,045 | 9 | 145,795 |
| 1/4 | 12,203 | 1/4 | 27,201 | 1/4 | 42,053 | 1/4 | 56,595 | 1/4 | 71,469 | 1/4 | 86,422 | 1/4 | 101,406 | 1/4 | 116,385 | 1/4 | 131,357 | 1/4 | 146,058 |
| 1/2 | 12,516 | 1/2 | 27,513 | 1/2 | 42,358 | 1/2 | 56,899 | 1/2 | 71,779 | 1/2 | 86,734 | 1/2 | 101,718 | 1/2 | 116,697 | 1/2 | 131,669 | 1/2 | 146,321 |
| 3/4 | 12,828 | 3/4 | 27,825 | 3/4 | 42,663 | 3/4 | 57,204 | 3/4 | 72,090 | 3/4 | 87,047 | 3/4 | 102,030 | 3/4 | 117,009 | 3/4 | 131,981 | 3/4 | 146,584 |
| 10 | 13,141 | 10 | 28,137 | 10 | 42,969 | 10 | 57,508 | 10 | 72,400 | 10 | 87,359 | 10 | 102,343 | 10 | 117,321 | 10 | 132,293 | 10 | 146,847 |
| 1/4 | 13,453 | 1/4 | 28,450 | 1/4 | 43,274 | 1/4 | 57,814 | 1/4 | 72,710 | 1/4 | 87,671 | 1/4 | 102,655 | 1/4 | 117,633 | 1/4 | 132,605 | 1/4 | 147,094 |
| 1/2 | 13,766 | 1/2 | 28,762 | 1/2 | 43,579 | 1/2 | 58,119 | 1/2 | 73,021 | 1/2 | 87,984 | 1/2 | 102,967 | 1/2 | 117,945 | 1/2 | 132,916 | 1/2 | 147,342 |
| 3/4 | 14,078 | 3/4 | 29,074 | 3/4 | 43,884 | 3/4 | 58,425 | 3/4 | 73,331 | 3/4 | 88,296 | 3/4 | 103,280 | 3/4 | 118,257 | 3/4 | 133,228 | 3/4 | 147,589 |
| 11 | 14,391 | 11 | 29,387 | 11 | 44,189 | 11 | 58,731 | 11 | 73,642 | 11 | 88,608 | 11 | 103,592 | 11 | 118,569 | 11 | 133,540 | 11 | 147,836 |
| 1/4 | 14,703 | 1/4 | 29,699 | 1/4 | 44,493 | 1/4 | 59,040 | 1/4 | 73,952 | 1/4 | 88,920 | 1/4 | 103,904 | 1/4 | 118,881 | 1/4 | 133,852 | 1/4 | 148,067 |
| 1/2 | 15,015 | 1/2 | 30,011 | 1/2 | 44,796 | 1/2 | 59,349 | 1/2 | 74,263 | 1/2 | 89,232 | 1/2 | 104,217 | 1/2 | 119,193 | 1/2 | 134,164 | 1/2 | 148,299 |
| 3/4 | 15,328 | 3/4 | 30,324 | 3/4 | 45,099 | 3/4 | 59,658 | 3/4 | 74,573 | 3/4 | 89,544 | 3/4 | 104,529 | 3/4 | 119,504 | 3/4 | 134,476 | 3/4 | 148,530 |

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 INNAGE 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 INNAGE 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 | 148,761 | 0 | 159,148 | 0 | 169,513 | 0 | 179,849 | 0 | 190,170 | 0 | | 0 | | 0 | | 0 | | 0 | |
| 1/4 | 148,981 | 1/4 | 159,364 | 1/4 | 169,728 | 1/4 | 180,064 | 1/4 | 190,364 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 149,200 | 1/2 | 159,580 | 1/2 | 169,943 | 1/2 | 180,280 | 1/2 | 190,557 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 149,420 | 3/4 | 159,796 | 3/4 | 170,159 | 3/4 | 180,495 | 3/4 | 190,750 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 1 | 149,640 | 1 | 160,012 | 1 | 170,374 | 1 | 180,710 | 1 | 190,943 | 1 | | 1 | | 1 | | 1 | | 1 | |
| 1/4 | 149,856 | 1/4 | 160,228 | 1/4 | 170,589 | 1/4 | 180,926 | 1/4 | 191,103 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 150,072 | 1/2 | 160,444 | 1/2 | 170,805 | 1/2 | 181,141 | 1/2 | 191,262 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 150,288 | 3/4 | 160,660 | 3/4 | 171,020 | 3/4 | 181,356 | 3/4 | 191,422 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 2 | 150,504 | 2 | 160,877 | 2 | 171,235 | 2 | 181,572 | 2 | 191,582 | 2 | | 2 | | 2 | | 2 | | 2 | |
| 1/4 | 150,720 | 1/4 | 161,093 | 1/4 | 171,451 | 1/4 | 181,787 | 1/4 | 191,706 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 150,936 | 1/2 | 161,309 | 1/2 | 171,666 | 1/2 | 182,002 | 1/2 | 191,829 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 151,152 | 3/4 | 161,525 | 3/4 | 171,881 | 3/4 | 182,218 | 3/4 | 191,953 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 3 | 151,368 | 3 | 161,741 | 3 | 172,097 | 3 | 182,433 | 3 | 192,077 | 3 | | 3 | | 3 | | 3 | | 3 | |
| 1/4 | 151,584 | 1/4 | 161,957 | 1/4 | 172,312 | 1/4 | 182,648 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 151,801 | 1/2 | 162,173 | 1/2 | 172,527 | 1/2 | 182,864 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 152,017 | 3/4 | 162,389 | 3/4 | 172,743 | 3/4 | 183,079 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 4 | 152,233 | 4 | 162,605 | 4 | 172,958 | 4 | 183,294 | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | |
| 1/4 | 152,449 | 1/4 | 162,821 | 1/4 | 173,173 | 1/4 | 183,510 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 152,665 | 1/2 | 163,037 | 1/2 | 173,389 | 1/2 | 183,725 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 152,881 | 3/4 | 163,254 | 3/4 | 173,604 | 3/4 | 183,940 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 5 | 153,097 | 5 | 163,470 | 5 | 173,819 | 5 | 184,156 | 5 | | 5 | | 5 | | 5 | | 5 | | 5 | |
| 1/4 | 153,313 | 1/4 | 163,686 | 1/4 | 174,035 | 1/4 | 184,371 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 153,529 | 1/2 | 163,902 | 1/2 | 174,250 | 1/2 | 184,586 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 153,745 | 3/4 | 164,118 | 3/4 | 174,465 | 3/4 | 184,802 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 6 | 153,961 | 6 | 164,334 | 6 | 174,681 | 6 | 185,017 | 6 | | 6 | | 6 | | 6 | | 6 | | 6 | |
| 1/4 | 154,178 | 1/4 | 164,550 | 1/4 | 174,896 | 1/4 | 185,232 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 154,394 | 1/2 | 164,766 | 1/2 | 175,111 | 1/2 | 185,448 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 154,610 | 3/4 | 164,982 | 3/4 | 175,327 | 3/4 | 185,663 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 7 | 154,826 | 7 | 165,198 | 7 | 175,542 | 7 | 185,878 | 7 | | 7 | | 7 | | 7 | | 7 | | 7 | |
| 1/4 | 155,042 | 1/4 | 165,415 | 1/4 | 175,757 | 1/4 | 186,094 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 155,258 | 1/2 | 165,631 | 1/2 | 175,973 | 1/2 | 186,309 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 155,474 | 3/4 | 165,847 | 3/4 | 176,188 | 3/4 | 186,524 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 8 | 155,690 | 8 | 166,063 | 8 | 176,403 | 8 | 186,740 | 8 | | 8 | | 8 | | 8 | | 8 | | 8 | |
| 1/4 | 155,906 | 1/4 | 166,279 | 1/4 | 176,619 | 1/4 | 186,955 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 156,122 | 1/2 | 166,495 | 1/2 | 176,834 | 1/2 | 187,171 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 156,339 | 3/4 | 166,711 | 3/4 | 177,049 | 3/4 | 187,386 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 9 | 156,555 | 9 | 166,927 | 9 | 177,265 | 9 | 187,602 | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | |
| 1/4 | 156,771 | 1/4 | 167,143 | 1/4 | 177,480 | 1/4 | 187,817 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 156,987 | 1/2 | 167,359 | 1/2 | 177,696 | 1/2 | 188,032 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 157,203 | 3/4 | 167,574 | 3/4 | 177,911 | 3/4 | 188,248 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 10 | 157,419 | 10 | 167,790 | 10 | 178,126 | 10 | 188,463 | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |
| 1/4 | 157,635 | 1/4 | 168,005 | 1/4 | 178,342 | 1/4 | 188,678 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 157,851 | 1/2 | 168,221 | 1/2 | 178,557 | 1/2 | 188,893 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 158,067 | 3/4 | 168,436 | 3/4 | 178,772 | 3/4 | 189,108 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 11 | 158,283 | 11 | 168,651 | 11 | 178,988 | 11 | 189,324 | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | |
| 1/4 | 158,499 | 1/4 | 168,867 | 1/4 | 179,203 | 1/4 | 189,535 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 158,716 | 1/2 | 169,082 | 1/2 | 179,418 | 1/2 | 189,747 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 158,932 | 3/4 | 169,297 | 3/4 | 179,634 | 3/4 | 189,959 | 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"

3 STBD

INNAGE 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 | 1,028 | 0 | 15,648 | 0 | 30,668 | 0 | 45,671 | 0 | 60,689 | 0 | 75,709 | 0 | 90,729 | 0 | 105,749 | 0 | 120,752 | 0 | 135,752 |
| 1/4 | 1,263 | 1/4 | 15,961 | 1/4 | 30,981 | 1/4 | 45,984 | 1/4 | 61,002 | 1/4 | 76,022 | 1/4 | 91,042 | 1/4 | 106,062 | 1/4 | 121,064 | 1/4 | 136,064 |
| 1/2 | 1,498 | 1/2 | 16,274 | 1/2 | 31,294 | 1/2 | 46,296 | 1/2 | 61,315 | 1/2 | 76,335 | 1/2 | 91,355 | 1/2 | 106,374 | 1/2 | 121,377 | 1/2 | 136,377 |
| 3/4 | 1,732 | 3/4 | 16,587 | 3/4 | 31,606 | 3/4 | 46,609 | 3/4 | 61,628 | 3/4 | 76,648 | 3/4 | 91,668 | 3/4 | 106,687 | 3/4 | 121,689 | 3/4 | 136,689 |
| 1 | 1,967 | 1 | 16,900 | 1 | 31,919 | 1 | 46,922 | 1 | 61,941 | 1 | 76,961 | 1 | 91,980 | 1 | 107,000 | 1 | 122,002 | 1 | 137,002 |
| 1/4 | 2,260 | 1/4 | 17,213 | 1/4 | 32,232 | 1/4 | 47,234 | 1/4 | 62,254 | 1/4 | 77,274 | 1/4 | 92,293 | 1/4 | 107,313 | 1/4 | 122,314 | 1/4 | 137,314 |
| 1/2 | 2,552 | 1/2 | 17,526 | 1/2 | 32,545 | 1/2 | 47,547 | 1/2 | 62,567 | 1/2 | 77,586 | 1/2 | 92,606 | 1/2 | 107,626 | 1/2 | 122,627 | 1/2 | 137,627 |
| 3/4 | 2,845 | 3/4 | 17,839 | 3/4 | 32,858 | 3/4 | 47,860 | 3/4 | 62,880 | 3/4 | 77,899 | 3/4 | 92,919 | 3/4 | 107,939 | 3/4 | 122,939 | 3/4 | 137,939 |
| 2 | 3,137 | 2 | 18,152 | 2 | 33,171 | 2 | 48,173 | 2 | 63,193 | 2 | 78,212 | 2 | 93,232 | 2 | 108,251 | 2 | 123,252 | 2 | 138,251 |
| 1/4 | 3,449 | 1/4 | 18,465 | 1/4 | 33,484 | 1/4 | 48,486 | 1/4 | 63,505 | 1/4 | 78,525 | 1/4 | 93,545 | 1/4 | 108,564 | 1/4 | 123,564 | 1/4 | 138,564 |
| 1/2 | 3,761 | 1/2 | 18,777 | 1/2 | 33,797 | 1/2 | 48,799 | 1/2 | 63,818 | 1/2 | 78,838 | 1/2 | 93,858 | 1/2 | 108,877 | 1/2 | 123,877 | 1/2 | 138,876 |
| 3/4 | 4,073 | 3/4 | 19,090 | 3/4 | 34,110 | 3/4 | 49,111 | 3/4 | 64,131 | 3/4 | 79,151 | 3/4 | 94,171 | 3/4 | 109,189 | 3/4 | 124,189 | 3/4 | 139,189 |
| 3 | 4,385 | 3 | 19,403 | 3 | 34,423 | 3 | 49,424 | 3 | 64,444 | 3 | 79,464 | 3 | 94,484 | 3 | 109,502 | 3 | 124,502 | 3 | 139,501 |
| 1/4 | 4,698 | 1/4 | 19,716 | 1/4 | 34,735 | 1/4 | 49,737 | 1/4 | 64,757 | 1/4 | 79,777 | 1/4 | 94,797 | 1/4 | 109,814 | 1/4 | 124,814 | 1/4 | 139,814 |
| 1/2 | 5,010 | 1/2 | 20,029 | 1/2 | 35,048 | 1/2 | 50,050 | 1/2 | 65,070 | 1/2 | 80,090 | 1/2 | 95,110 | 1/2 | 110,127 | 1/2 | 125,127 | 1/2 | 140,126 |
| 3/4 | 5,323 | 3/4 | 20,342 | 3/4 | 35,361 | 3/4 | 50,363 | 3/4 | 65,383 | 3/4 | 80,403 | 3/4 | 95,422 | 3/4 | 110,439 | 3/4 | 125,439 | 3/4 | 140,439 |
| 4 | 5,636 | 4 | 20,655 | 4 | 35,673 | 4 | 50,676 | 4 | 65,696 | 4 | 80,716 | 4 | 95,735 | 4 | 110,752 | 4 | 125,752 | 4 | 140,751 |
| 1/4 | 5,949 | 1/4 | 20,968 | 1/4 | 35,986 | 1/4 | 50,989 | 1/4 | 66,009 | 1/4 | 81,029 | 1/4 | 96,048 | 1/4 | 111,064 | 1/4 | 126,064 | 1/4 | 141,064 |
| 1/2 | 6,261 | 1/2 | 21,281 | 1/2 | 36,298 | 1/2 | 51,302 | 1/2 | 66,322 | 1/2 | 81,341 | 1/2 | 96,361 | 1/2 | 111,377 | 1/2 | 126,377 | 1/2 | 141,376 |
| 3/4 | 6,574 | 3/4 | 21,594 | 3/4 | 36,611 | 3/4 | 51,615 | 3/4 | 66,635 | 3/4 | 81,654 | 3/4 | 96,674 | 3/4 | 111,689 | 3/4 | 126,689 | 3/4 | 141,689 |
| 5 | 6,887 | 5 | 21,906 | 5 | 36,923 | 5 | 51,928 | 5 | 66,947 | 5 | 81,967 | 5 | 96,987 | 5 | 112,002 | 5 | 127,002 | 5 | 142,001 |
| 1/4 | 7,200 | 1/4 | 22,219 | 1/4 | 37,235 | 1/4 | 52,241 | 1/4 | 67,260 | 1/4 | 82,280 | 1/4 | 97,300 | 1/4 | 112,314 | 1/4 | 127,314 | 1/4 | 142,313 |
| 1/2 | 7,513 | 1/2 | 22,532 | 1/2 | 37,548 | 1/2 | 52,554 | 1/2 | 67,573 | 1/2 | 82,593 | 1/2 | 97,613 | 1/2 | 112,627 | 1/2 | 127,627 | 1/2 | 142,626 |
| 3/4 | 7,826 | 3/4 | 22,845 | 3/4 | 37,860 | 3/4 | 52,866 | 3/4 | 67,886 | 3/4 | 82,906 | 3/4 | 97,926 | 3/4 | 112,939 | 3/4 | 127,939 | 3/4 | 142,938 |
| 6 | 8,139 | 6 | 23,158 | 6 | 38,173 | 6 | 53,179 | 6 | 68,199 | 6 | 83,219 | 6 | 98,239 | 6 | 113,252 | 6 | 128,252 | 6 | 143,250 |
| 1/4 | 8,452 | 1/4 | 23,471 | 1/4 | 38,485 | 1/4 | 53,492 | 1/4 | 68,512 | 1/4 | 83,532 | 1/4 | 98,552 | 1/4 | 113,564 | 1/4 | 128,564 | 1/4 | 143,558 |
| 1/2 | 8,765 | 1/2 | 23,784 | 1/2 | 38,797 | 1/2 | 53,805 | 1/2 | 68,825 | 1/2 | 83,845 | 1/2 | 98,865 | 1/2 | 113,877 | 1/2 | 128,877 | 1/2 | 143,865 |
| 3/4 | 9,077 | 3/4 | 24,097 | 3/4 | 39,110 | 3/4 | 54,118 | 3/4 | 69,138 | 3/4 | 84,158 | 3/4 | 99,177 | 3/4 | 114,189 | 3/4 | 129,189 | 3/4 | 144,173 |
| 7 | 9,390 | 7 | 24,410 | 7 | 39,422 | 7 | 54,431 | 7 | 69,451 | 7 | 84,471 | 7 | 99,490 | 7 | 114,502 | 7 | 129,502 | 7 | 144,481 |
| 1/4 | 9,703 | 1/4 | 24,723 | 1/4 | 39,735 | 1/4 | 54,744 | 1/4 | 69,764 | 1/4 | 84,783 | 1/4 | 99,803 | 1/4 | 114,814 | 1/4 | 129,814 | 1/4 | 144,776 |
| 1/2 | 10,016 | 1/2 | 25,036 | 1/2 | 40,047 | 1/2 | 55,057 | 1/2 | 70,077 | 1/2 | 85,096 | 1/2 | 100,116 | 1/2 | 115,127 | 1/2 | 130,127 | 1/2 | 145,072 |
| 3/4 | 10,329 | 3/4 | 25,348 | 3/4 | 40,359 | 3/4 | 55,370 | 3/4 | 70,390 | 3/4 | 85,409 | 3/4 | 100,429 | 3/4 | 115,439 | 3/4 | 130,439 | 3/4 | 145,367 |
| 8 | 10,642 | 8 | 25,661 | 8 | 40,672 | 8 | 55,683 | 8 | 70,702 | 8 | 85,722 | 8 | 100,742 | 8 | 115,752 | 8 | 130,752 | 8 | 145,663 |
| 1/4 | 10,955 | 1/4 | 25,974 | 1/4 | 40,984 | 1/4 | 55,996 | 1/4 | 71,015 | 1/4 | 86,035 | 1/4 | 101,055 | 1/4 | 116,064 | 1/4 | 131,064 | 1/4 | 145,942 |
| 1/2 | 11,268 | 1/2 | 26,287 | 1/2 | 41,297 | 1/2 | 56,308 | 1/2 | 71,328 | 1/2 | 86,348 | 1/2 | 101,368 | 1/2 | 116,377 | 1/2 | 131,377 | 1/2 | 146,221 |
| 3/4 | 11,581 | 3/4 | 26,600 | 3/4 | 41,609 | 3/4 | 56,621 | 3/4 | 71,641 | 3/4 | 86,661 | 3/4 | 101,681 | 3/4 | 116,689 | 3/4 | 131,689 | 3/4 | 146,500 |
| 9 | 11,894 | 9 | 26,913 | 9 | 41,922 | 9 | 56,934 | 9 | 71,954 | 9 | 86,974 | 9 | 101,994 | 9 | 117,002 | 9 | 132,002 | 9 | 146,780 |
| 1/4 | 12,207 | 1/4 | 27,226 | 1/4 | 42,234 | 1/4 | 57,247 | 1/4 | 72,267 | 1/4 | 87,287 | 1/4 | 102,307 | 1/4 | 117,314 | 1/4 | 132,314 | 1/4 | 147,043 |
| 1/2 | 12,519 | 1/2 | 27,539 | 1/2 | 42,546 | 1/2 | 57,560 | 1/2 | 72,580 | 1/2 | 87,600 | 1/2 | 102,619 | 1/2 | 117,627 | 1/2 | 132,627 | 1/2 | 147,306 |
| 3/4 | 12,832 | 3/4 | 27,852 | 3/4 | 42,859 | 3/4 | 57,873 | 3/4 | 72,893 | 3/4 | 87,913 | 3/4 | 102,932 | 3/4 | 117,939 | 3/4 | 132,939 | 3/4 | 147,570 |
| 10 | 13,145 | 10 | 28,165 | 10 | 43,171 | 10 | 58,186 | 10 | 73,206 | 10 | 88,226 | 10 | 103,245 | 10 | 118,252 | 10 | 133,252 | 10 | 147,833 |
| 1/4 | 13,458 | 1/4 | 28,477 | 1/4 | 43,484 | 1/4 | 58,499 | 1/4 | 73,519 | 1/4 | 88,538 | 1/4 | 103,558 | 1/4 | 118,564 | 1/4 | 133,564 | 1/4 | 148,080 |
| 1/2 | 13,771 | 1/2 | 28,790 | 1/2 | 43,796 | 1/2 | 58,812 | 1/2 | 73,832 | 1/2 | 88,851 | 1/2 | 103,871 | 1/2 | 118,877 | 1/2 | 133,877 | 1/2 | 148,328 |
| 3/4 | 14,084 | 3/4 | 29,103 | 3/4 | 44,108 | 3/4 | 59,125 | 3/4 | 74,144 | 3/4 | 89,164 | 3/4 | 104,184 | 3/4 | 119,189 | 3/4 | 134,189 | 3/4 | 148,575 |
| 11 | 14,397 | 11 | 29,416 | 11 | 44,421 | 11 | 59,438 | 11 | 74,457 | 11 | 89,477 | 11 | 104,497 | 11 | 119,502 | 11 | 134,502 | 11 | 148,822 |
| 1/4 | 14,710 | 1/4 | 29,729 | 1/4 | 44,733 | 1/4 | 59,750 | 1/4 | 74,770 | 1/4 | 89,790 | 1/4 | 104,810 | 1/4 | 119,814 | 1/4 | 134,814 | 1/4 | 149,053 |
| 1/2 | 15,023 | 1/2 | 30,042 | 1/2 | 45,046 | 1/2 | 60,063 | 1/2 | 75,083 | 1/2 | 90,103 | 1/2 | 105,123 | 1/2 | 120,127 | 1/2 | 135,127 | 1/2 | 149,285 |
| 3/4 | 15,336 | 3/4 | 30,355 | 3/4 | 45,359 | 3/4 | 60,376 | 3/4 | 75,396 | 3/4 | 90,416 | 3/4 | 105,436 | 3/4 | 120,439 | 3/4 | 135,439 | 3/4 | 149,516 |

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 INNAGE 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 STBD
INNAGE 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 | 149,747 | 0 | 160,131 | 0 | 170,493 | 0 | 180,825 | 0 | 191,144 | 0 | | 0 | | 0 | | 0 | | 0 | |
| 1/4 | 149,967 | 1/4 | 160,347 | 1/4 | 170,708 | 1/4 | 181,041 | 1/4 | 191,337 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 150,186 | 1/2 | 160,563 | 1/2 | 170,923 | 1/2 | 181,256 | 1/2 | 191,530 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 150,406 | 3/4 | 160,779 | 3/4 | 171,138 | 3/4 | 181,471 | 3/4 | 191,723 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 1 | 150,625 | 1 | 160,995 | 1 | 171,354 | 1 | 181,686 | 1 | 191,916 | 1 | | 1 | | 1 | | 1 | | 1 | |
| 1/4 | 150,841 | 1/4 | 161,211 | 1/4 | 171,569 | 1/4 | 181,902 | 1/4 | 192,076 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 151,057 | 1/2 | 161,427 | 1/2 | 171,784 | 1/2 | 182,117 | 1/2 | 192,235 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 151,274 | 3/4 | 161,643 | 3/4 | 171,999 | 3/4 | 182,332 | 3/4 | 192,395 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 2 | 151,490 | 2 | 161,859 | 2 | 172,215 | 2 | 182,548 | 2 | 192,555 | 2 | | 2 | | 2 | | 2 | | 2 | |
| 1/4 | 151,706 | 1/4 | 162,075 | 1/4 | 172,430 | 1/4 | 182,763 | 1/4 | 192,679 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 151,922 | 1/2 | 162,291 | 1/2 | 172,645 | 1/2 | 182,978 | 1/2 | 192,802 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 152,138 | 3/4 | 162,507 | 3/4 | 172,860 | 3/4 | 183,193 | 3/4 | 192,926 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 3 | 152,354 | 3 | 162,723 | 3 | 173,076 | 3 | 183,409 | 3 | 193,049 | 3 | | 3 | | 3 | | 3 | | 3 | |
| 1/4 | 152,570 | 1/4 | 162,939 | 1/4 | 173,291 | 1/4 | 183,624 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 152,786 | 1/2 | 163,155 | 1/2 | 173,506 | 1/2 | 183,839 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 153,002 | 3/4 | 163,371 | 3/4 | 173,722 | 3/4 | 184,054 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 4 | 153,218 | 4 | 163,587 | 4 | 173,937 | 4 | 184,270 | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | |
| 1/4 | 153,434 | 1/4 | 163,803 | 1/4 | 174,152 | 1/4 | 184,485 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 153,650 | 1/2 | 164,019 | 1/2 | 174,367 | 1/2 | 184,700 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 153,866 | 3/4 | 164,235 | 3/4 | 174,583 | 3/4 | 184,916 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 5 | 154,082 | 5 | 164,451 | 5 | 174,798 | 5 | 185,131 | 5 | | 5 | | 5 | | 5 | | 5 | | 5 | |
| 1/4 | 154,298 | 1/4 | 164,667 | 1/4 | 175,013 | 1/4 | 185,346 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 154,514 | 1/2 | 164,883 | 1/2 | 175,228 | 1/2 | 185,561 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 154,730 | 3/4 | 165,099 | 3/4 | 175,444 | 3/4 | 185,777 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 6 | 154,946 | 6 | 165,315 | 6 | 175,659 | 6 | 185,992 | 6 | | 6 | | 6 | | 6 | | 6 | | 6 | |
| 1/4 | 155,162 | 1/4 | 165,531 | 1/4 | 175,874 | 1/4 | 186,207 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 155,378 | 1/2 | 165,747 | 1/2 | 176,089 | 1/2 | 186,422 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 155,594 | 3/4 | 165,964 | 3/4 | 176,305 | 3/4 | 186,638 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 7 | 155,810 | 7 | 166,180 | 7 | 176,520 | 7 | 186,853 | 7 | | 7 | | 7 | | 7 | | 7 | | 7 | |
| 1/4 | 156,026 | 1/4 | 166,396 | 1/4 | 176,735 | 1/4 | 187,068 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 156,242 | 1/2 | 166,612 | 1/2 | 176,951 | 1/2 | 187,284 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 156,458 | 3/4 | 166,828 | 3/4 | 177,166 | 3/4 | 187,499 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 8 | 156,674 | 8 | 167,044 | 8 | 177,381 | 8 | 187,714 | 8 | | 8 | | 8 | | 8 | | 8 | | 8 | |
| 1/4 | 156,890 | 1/4 | 167,260 | 1/4 | 177,596 | 1/4 | 187,930 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 157,106 | 1/2 | 167,476 | 1/2 | 177,812 | 1/2 | 188,145 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 157,322 | 3/4 | 167,692 | 3/4 | 178,027 | 3/4 | 188,360 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 9 | 157,538 | 9 | 167,908 | 9 | 178,242 | 9 | 188,576 | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | |
| 1/4 | 157,754 | 1/4 | 168,123 | 1/4 | 178,457 | 1/4 | 188,791 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 157,970 | 1/2 | 168,339 | 1/2 | 178,673 | 1/2 | 189,006 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 158,186 | 3/4 | 168,555 | 3/4 | 178,888 | 3/4 | 189,222 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 10 | 158,402 | 10 | 168,770 | 10 | 179,103 | 10 | 189,437 | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |
| 1/4 | 158,619 | 1/4 | 168,986 | 1/4 | 179,319 | 1/4 | 189,652 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 158,835 | 1/2 | 169,201 | 1/2 | 179,534 | 1/2 | 189,867 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 159,051 | 3/4 | 169,416 | 3/4 | 179,749 | 3/4 | 190,082 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 11 | 159,267 | 11 | 169,631 | 11 | 179,964 | 11 | 190,297 | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | |
| 1/4 | 159,483 | 1/4 | 169,847 | 1/4 | 180,180 | 1/4 | 190,509 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 159,699 | 1/2 | 170,062 | 1/2 | 180,395 | 1/2 | 190,720 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 159,915 | 3/4 | 170,277 | 3/4 | 180,610 | 3/4 | 190,932 | 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"

PORT SLOP INNAGE 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 | 96 | 0 | 1,249 | 0 | 2,402 | 0 | 3,553 | 0 | 4,706 | 0 | | 0 | | 0 | | 0 | | 0 | |
| 1/4 | 120 | 1/4 | 1,273 | 1/4 | 2,426 | 1/4 | 3,578 | 1/4 | 4,730 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 144 | 1/2 | 1,297 | 1/2 | 2,449 | 1/2 | 3,602 | 1/2 | 4,754 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 168 | 3/4 | 1,321 | 3/4 | 2,473 | 3/4 | 3,626 | 3/4 | 4,777 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 1 | 192 | 1 | 1,345 | 1 | 2,497 | 1 | 3,650 | 1 | 4,801 | 1 | | 1 | | 1 | | 1 | | 1 | |
| 1/4 | 216 | 1/4 | 1,369 | 1/4 | 2,521 | 1/4 | 3,674 | 1/4 | 4,825 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 240 | 1/2 | 1,393 | 1/2 | 2,545 | 1/2 | 3,698 | 1/2 | 4,848 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 264 | 3/4 | 1,417 | 3/4 | 2,569 | 3/4 | 3,722 | 3/4 | 4,872 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 2 | 288 | 2 | 1,441 | 2 | 2,593 | 2 | 3,746 | 2 | 4,896 | 2 | | 2 | | 2 | | 2 | | 2 | |
| 1/4 | 312 | 1/4 | 1,465 | 1/4 | 2,617 | 1/4 | 3,770 | 1/4 | 4,919 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 336 | 1/2 | 1,489 | 1/2 | 2,641 | 1/2 | 3,794 | 1/2 | 4,943 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 360 | 3/4 | 1,513 | 3/4 | 2,665 | 3/4 | 3,818 | 3/4 | 4,967 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 3 | 384 | 3 | 1,537 | 3 | 2,689 | 3 | 3,842 | 3 | 4,990 | 3 | | 3 | | 3 | | 3 | | 3 | |
| 1/4 | 408 | 1/4 | 1,561 | 1/4 | 2,713 | 1/4 | 3,866 | 1/4 | 5,014 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 432 | 1/2 | 1,585 | 1/2 | 2,737 | 1/2 | 3,890 | 1/2 | 5,037 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 456 | 3/4 | 1,609 | 3/4 | 2,761 | 3/4 | 3,914 | 3/4 | 5,061 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 4 | 480 | 4 | 1,633 | 4 | 2,785 | 4 | 3,938 | 4 | 5,084 | 4 | | 4 | | 4 | | 4 | | 4 | |
| 1/4 | 504 | 1/4 | 1,657 | 1/4 | 2,809 | 1/4 | 3,962 | 1/4 | 5,096 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 528 | 1/2 | 1,681 | 1/2 | 2,833 | 1/2 | 3,986 | 1/2 | 5,108 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 552 | 3/4 | 1,705 | 3/4 | 2,857 | 3/4 | 4,010 | 3/4 | 5,119 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 5 | 577 | 5 | 1,729 | 5 | 2,881 | 5 | 4,034 | 5 | 5,131 | 5 | | 5 | | 5 | | 5 | | 5 | |
| 1/4 | 601 | 1/4 | 1,753 | 1/4 | 2,905 | 1/4 | 4,058 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 625 | 1/2 | 1,777 | 1/2 | 2,929 | 1/2 | 4,082 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 649 | 3/4 | 1,801 | 3/4 | 2,953 | 3/4 | 4,106 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 6 | 673 | 6 | 1,825 | 6 | 2,977 | 6 | 4,130 | 6 | | 6 | | 6 | | 6 | | 6 | | 6 | |
| 1/4 | 697 | 1/4 | 1,849 | 1/4 | 3,001 | 1/4 | 4,154 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 721 | 1/2 | 1,873 | 1/2 | 3,025 | 1/2 | 4,178 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 745 | 3/4 | 1,897 | 3/4 | 3,049 | 3/4 | 4,202 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 7 | 769 | 7 | 1,921 | 7 | 3,073 | 7 | 4,226 | 7 | | 7 | | 7 | | 7 | | 7 | | 7 | |
| 1/4 | 793 | 1/4 | 1,945 | 1/4 | 3,097 | 1/4 | 4,250 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 817 | 1/2 | 1,969 | 1/2 | 3,121 | 1/2 | 4,274 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 841 | 3/4 | 1,993 | 3/4 | 3,145 | 3/4 | 4,298 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 8 | 865 | 8 | 2,017 | 8 | 3,169 | 8 | 4,322 | 8 | | 8 | | 8 | | 8 | | 8 | | 8 | |
| 1/4 | 889 | 1/4 | 2,042 | 1/4 | 3,193 | 1/4 | 4,346 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 913 | 1/2 | 2,066 | 1/2 | 3,217 | 1/2 | 4,370 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 937 | 3/4 | 2,090 | 3/4 | 3,241 | 3/4 | 4,394 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 9 | 961 | 9 | 2,114 | 9 | 3,265 | 9 | 4,418 | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | |
| 1/4 | 985 | 1/4 | 2,138 | 1/4 | 3,289 | 1/4 | 4,442 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 1,009 | 1/2 | 2,162 | 1/2 | 3,313 | 1/2 | 4,466 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 1,033 | 3/4 | 2,186 | 3/4 | 3,337 | 3/4 | 4,490 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 10 | 1,057 | 10 | 2,210 | 10 | 3,361 | 10 | 4,514 | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |
| 1/4 | 1,081 | 1/4 | 2,234 | 1/4 | 3,385 | 1/4 | 4,538 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 1,105 | 1/2 | 2,258 | 1/2 | 3,409 | 1/2 | 4,562 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 1,129 | 3/4 | 2,282 | 3/4 | 3,433 | 3/4 | 4,586 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 11 | 1,153 | 11 | 2,306 | 11 | 3,457 | 11 | 4,610 | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | |
| 1/4 | 1,177 | 1/4 | 2,330 | 1/4 | 3,481 | 1/4 | 4,634 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 1,201 | 1/2 | 2,354 | 1/2 | 3,505 | 1/2 | 4,658 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 1,225 | 3/4 | 2,378 | 3/4 | 3,529 | 3/4 | 4,682 | 3/4 | | 3/4 | | 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 INNAGE 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

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BARGE "HFL 413"

STBD SLOP INNAGE 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 | 96 | 0 | 1,249 | 0 | 2,402 | 0 | 3,553 | 0 | 4,706 | 0 | | 0 | | 0 | | 0 | | 0 | |
| 1/4 | 120 | 1/4 | 1,273 | 1/4 | 2,426 | 1/4 | 3,578 | 1/4 | 4,730 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 144 | 1/2 | 1,297 | 1/2 | 2,449 | 1/2 | 3,602 | 1/2 | 4,754 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 168 | 3/4 | 1,321 | 3/4 | 2,473 | 3/4 | 3,626 | 3/4 | 4,777 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 1 | 192 | 1 | 1,345 | 1 | 2,497 | 1 | 3,650 | 1 | 4,801 | 1 | | 1 | | 1 | | 1 | | 1 | |
| 1/4 | 216 | 1/4 | 1,369 | 1/4 | 2,521 | 1/4 | 3,674 | 1/4 | 4,825 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 240 | 1/2 | 1,393 | 1/2 | 2,545 | 1/2 | 3,698 | 1/2 | 4,848 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 264 | 3/4 | 1,417 | 3/4 | 2,569 | 3/4 | 3,722 | 3/4 | 4,872 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 2 | 288 | 2 | 1,441 | 2 | 2,593 | 2 | 3,746 | 2 | 4,896 | 2 | | 2 | | 2 | | 2 | | 2 | |
| 1/4 | 312 | 1/4 | 1,465 | 1/4 | 2,617 | 1/4 | 3,770 | 1/4 | 4,919 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 336 | 1/2 | 1,489 | 1/2 | 2,641 | 1/2 | 3,794 | 1/2 | 4,943 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 360 | 3/4 | 1,513 | 3/4 | 2,665 | 3/4 | 3,818 | 3/4 | 4,967 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 3 | 384 | 3 | 1,537 | 3 | 2,689 | 3 | 3,842 | 3 | 4,990 | 3 | | 3 | | 3 | | 3 | | 3 | |
| 1/4 | 408 | 1/4 | 1,561 | 1/4 | 2,713 | 1/4 | 3,866 | 1/4 | 5,014 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 432 | 1/2 | 1,585 | 1/2 | 2,737 | 1/2 | 3,890 | 1/2 | 5,037 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 456 | 3/4 | 1,609 | 3/4 | 2,761 | 3/4 | 3,914 | 3/4 | 5,061 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 4 | 480 | 4 | 1,633 | 4 | 2,785 | 4 | 3,938 | 4 | 5,084 | 4 | | 4 | | 4 | | 4 | | 4 | |
| 1/4 | 504 | 1/4 | 1,657 | 1/4 | 2,809 | 1/4 | 3,962 | 1/4 | 5,096 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 528 | 1/2 | 1,681 | 1/2 | 2,833 | 1/2 | 3,986 | 1/2 | 5,108 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 552 | 3/4 | 1,705 | 3/4 | 2,857 | 3/4 | 4,010 | 3/4 | 5,119 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 5 | 577 | 5 | 1,729 | 5 | 2,881 | 5 | 4,034 | 5 | 5,131 | 5 | | 5 | | 5 | | 5 | | 5 | |
| 1/4 | 601 | 1/4 | 1,753 | 1/4 | 2,905 | 1/4 | 4,058 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 625 | 1/2 | 1,777 | 1/2 | 2,929 | 1/2 | 4,082 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 649 | 3/4 | 1,801 | 3/4 | 2,953 | 3/4 | 4,106 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 6 | 673 | 6 | 1,825 | 6 | 2,977 | 6 | 4,130 | 6 | | 6 | | 6 | | 6 | | 6 | | 6 | |
| 1/4 | 697 | 1/4 | 1,849 | 1/4 | 3,001 | 1/4 | 4,154 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 721 | 1/2 | 1,873 | 1/2 | 3,025 | 1/2 | 4,178 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 745 | 3/4 | 1,897 | 3/4 | 3,049 | 3/4 | 4,202 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 7 | 769 | 7 | 1,921 | 7 | 3,073 | 7 | 4,226 | 7 | | 7 | | 7 | | 7 | | 7 | | 7 | |
| 1/4 | 793 | 1/4 | 1,945 | 1/4 | 3,097 | 1/4 | 4,250 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 817 | 1/2 | 1,969 | 1/2 | 3,121 | 1/2 | 4,274 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 841 | 3/4 | 1,993 | 3/4 | 3,145 | 3/4 | 4,298 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 8 | 865 | 8 | 2,017 | 8 | 3,169 | 8 | 4,322 | 8 | | 8 | | 8 | | 8 | | 8 | | 8 | |
| 1/4 | 889 | 1/4 | 2,042 | 1/4 | 3,193 | 1/4 | 4,346 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 913 | 1/2 | 2,066 | 1/2 | 3,217 | 1/2 | 4,370 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 937 | 3/4 | 2,090 | 3/4 | 3,241 | 3/4 | 4,394 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 9 | 961 | 9 | 2,114 | 9 | 3,265 | 9 | 4,418 | 9 | | 9 | | 9 | | 9 | | 9 | | 9 | |
| 1/4 | 985 | 1/4 | 2,138 | 1/4 | 3,289 | 1/4 | 4,442 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 1,009 | 1/2 | 2,162 | 1/2 | 3,313 | 1/2 | 4,466 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 1,033 | 3/4 | 2,186 | 3/4 | 3,337 | 3/4 | 4,490 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 10 | 1,057 | 10 | 2,210 | 10 | 3,361 | 10 | 4,514 | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | |
| 1/4 | 1,081 | 1/4 | 2,234 | 1/4 | 3,385 | 1/4 | 4,538 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 1,105 | 1/2 | 2,258 | 1/2 | 3,409 | 1/2 | 4,562 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 1,129 | 3/4 | 2,282 | 3/4 | 3,433 | 3/4 | 4,586 | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | | 3/4 | |
| 11 | 1,153 | 11 | 2,306 | 11 | 3,457 | 11 | 4,610 | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | |
| 1/4 | 1,177 | 1/4 | 2,330 | 1/4 | 3,481 | 1/4 | 4,634 | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | | 1/4 | |
| 1/2 | 1,201 | 1/2 | 2,354 | 1/2 | 3,505 | 1/2 | 4,658 | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | | 1/2 | |
| 3/4 | 1,225 | 3/4 | 2,378 | 3/4 | 3,529 | 3/4 | 4,682 | 3/4 | | 3/4 | | 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.

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