

# Owner – Tank 1 Tank Capacity Report

Location

NOVLUM INC. 

08/17/2022

# OWNER – TANK 1

## LOCATION

### CONTENTS

LIST OF FIGURES .....	2
LIST OF TABLES .....	2
1 INTRODUCTION.....	3
2 ANALYSIS.....	3
2.1 REFERENCE LOCATIONS .....	4
2.2 SHELL CIRCUMFERENCES .....	9
2.3 BOTTOM SURVEY.....	9
2.4 DEADWOOD.....	9
2.5 FLOATING ROOF.....	10
2.6 STRAPPING TABLE .....	11

## LIST OF FIGURES

Figure 1: Tank levels .....	4
Figure 2: Shell profile .....	5
Figure 3: Bottom profile .....	6
Figure 4: Bottom Reference .....	7
Figure 5: Strike Point .....	7
Figure 6: Overflow Reference .....	8

## LIST OF TABLES

Table 1: Tank specifics .....	3
Table 2: Shell circumference and corrections .....	9
Table 3: Shell course incremental volumes .....	9
Table 4: Bottom survey .....	9
Table 5: Deadwood measurements .....	9
Table 6: Tank strapping table at 60.00 °F .....	11
Table 7: Tank average fractional increments table at 60.00 °F .....	13
Table 8: Incremental factor sheet at 60.00 °F .....	13

## 1 INTRODUCTION

The purpose of this examination was to assess the capacity of the tank according with the relevant sections of *API MPMS 2.2A: Manual of Petroleum Management Standard Chapter 2 – Tank Calibration*.

## 2 ANALYSIS

The elevation at the Bottom (bottom to shell weld nearest to the Manway) was set to zero.

**Table 1: Tank specifics**

<b>Shell inner diameter</b>	59 ft 11.03 in
<b>Shell height</b>	40 ft 1.00 in
<b>Course heights</b>	8 ft 0.0000 in; 8 ft 0.0000 in; 8 ft 0.0000 in; 8 ft 0.0000 in; 8 ft 1.0000 in
<b>Course thicknesses</b>	0.2500 in; 0.1850 in; 0.1500 in; 0.1250 in; 0.1250 in
<b>Shell elasticity</b>	29,000,000.00 psi
<b>Strike height (wrt Bottom)</b>	1.35 in
<b>Overflow height (wrt Bottom)</b>	40 ft 0.60 in
<b>Overflow height (wrt Strike)</b>	39 ft 11.25 in
<b>Max fill height (wrt Bottom)</b>	39 ft 2.89 in
<b>Max fill height (wrt Strike)</b>	39 ft 1.54 in
<b>Gauge height (wrt Strike)</b>	42 ft 4.50 in
<b>Fill density</b>	0.760
<b>Floating Roof</b>	Yes
<b>Weight</b>	28,000.00 lb
<b>Position</b>	Low Leg
<b>Displaced depth</b>	2.50 in
<b>Low Leg bottom height (wrt Strike)</b>	3 ft 0.82 in
<b>Low Leg top height (wrt Strike)</b>	3 ft 3.33 in
<b>High Leg bottom height (wrt Strike)</b>	7 ft 0.82 in
<b>High Leg top height (wrt Strike)</b>	7 ft 3.33 in
<b>Measurement temperature</b>	72.00 °F
<b>Standard temperature</b>	60.00 °F
<b>Temperature correction factor to standard temperature</b>	0.99992
<b>Fill capacity at 60.00 °F</b>	19,971.3355 bbl
<b>Shell data precision (1σ)</b>	0.06 in
<b>Bottom data precision (1σ)</b>	0.06 in
<b>Data accuracy (1σ)</b>	0.1 in (Manufacturer specification)

## 2.1 REFERENCE LOCATIONS

The following shows the tank levels.

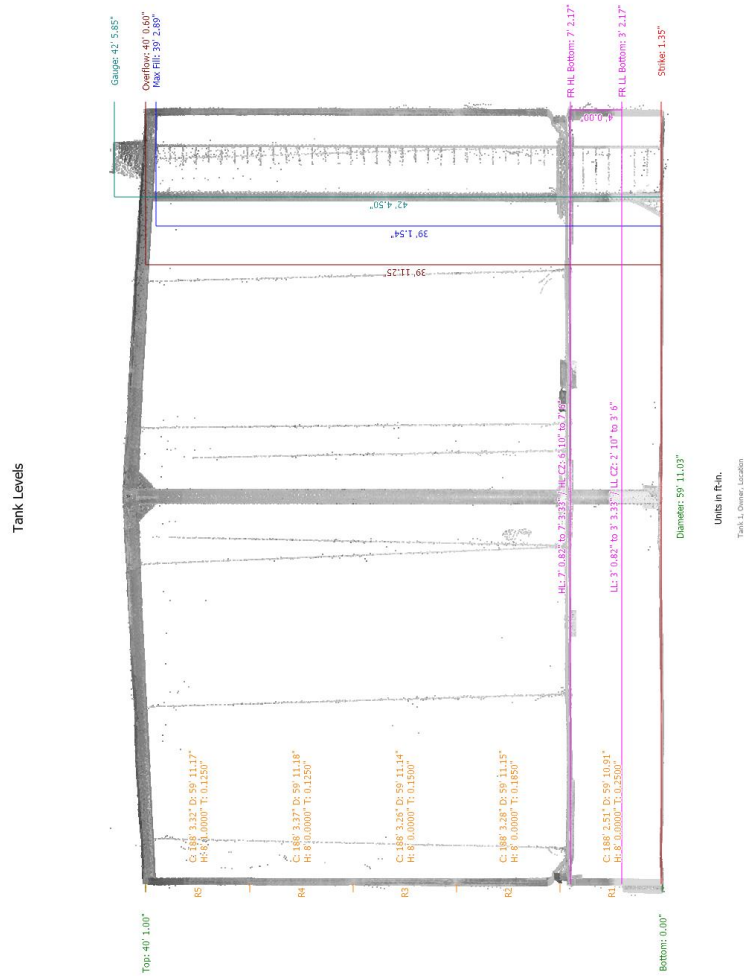


Figure 1: Tank levels

The following shows the shell and bottom profiles.

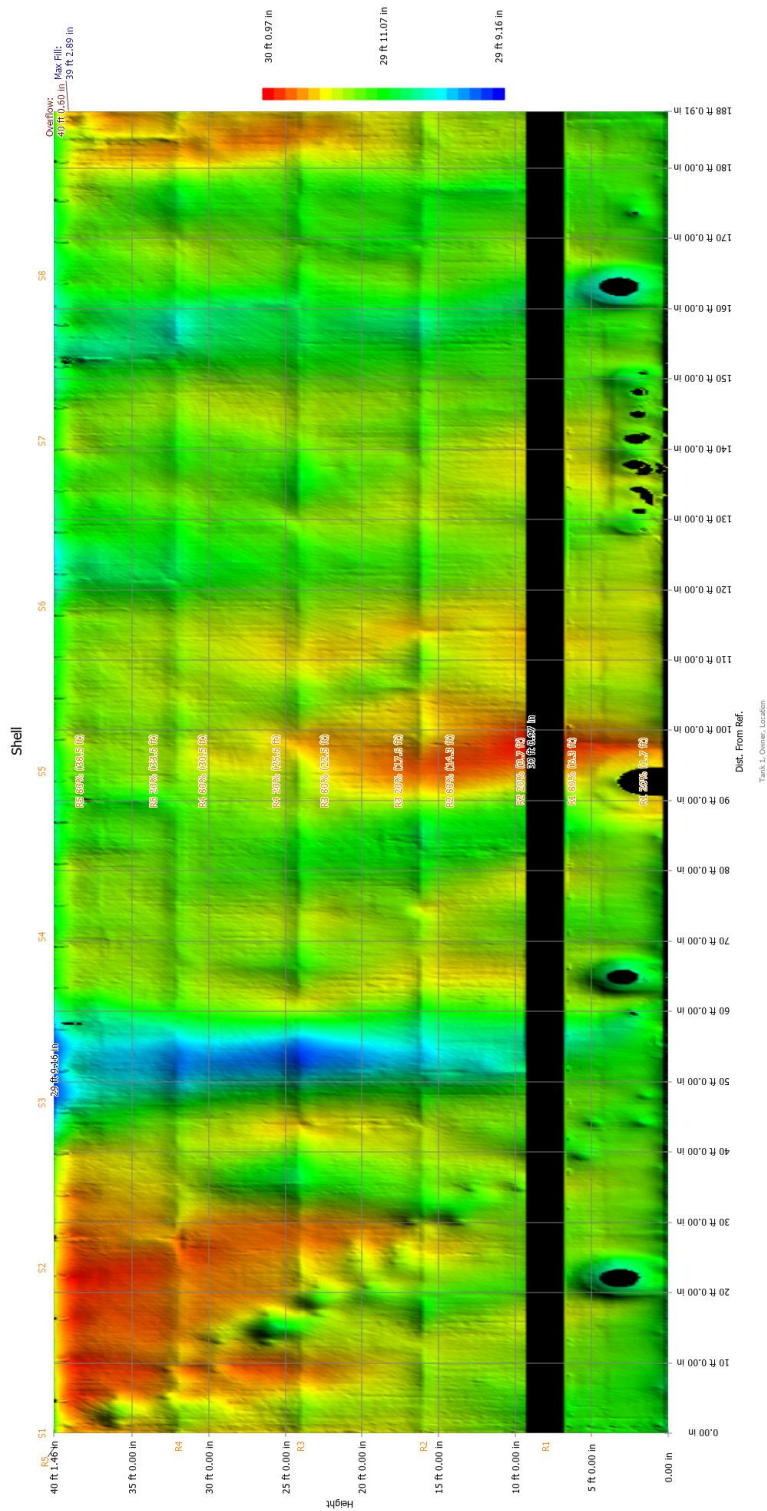


Figure 2: Shell profile

Bottom

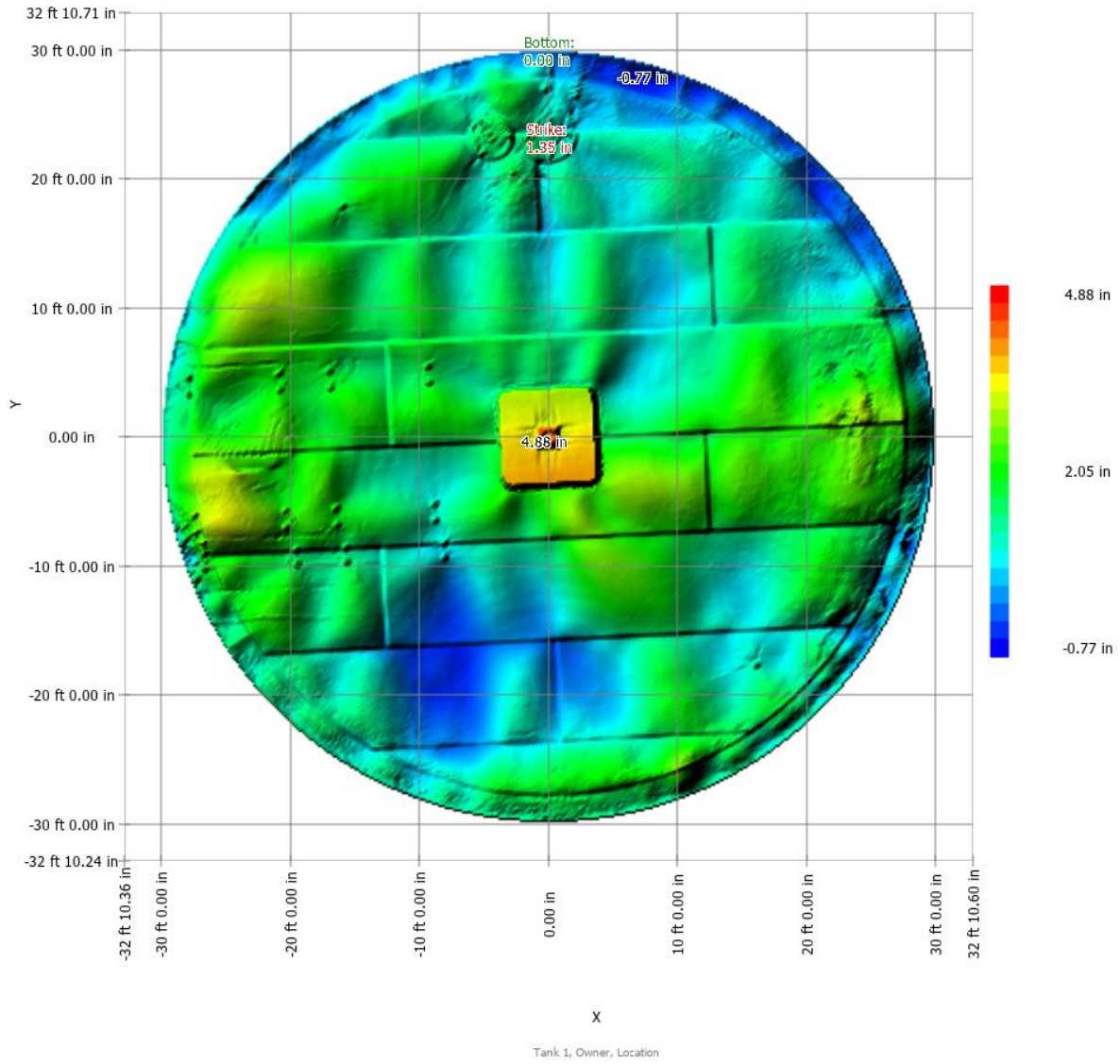


Figure 3: Bottom profile

The following shows the Bottom Reference, Strike Point, Overflow, and Gauge Point locations.

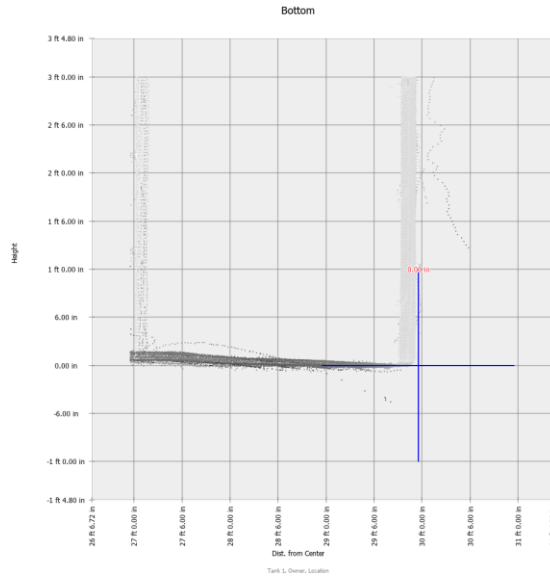


Figure 4: Bottom Reference

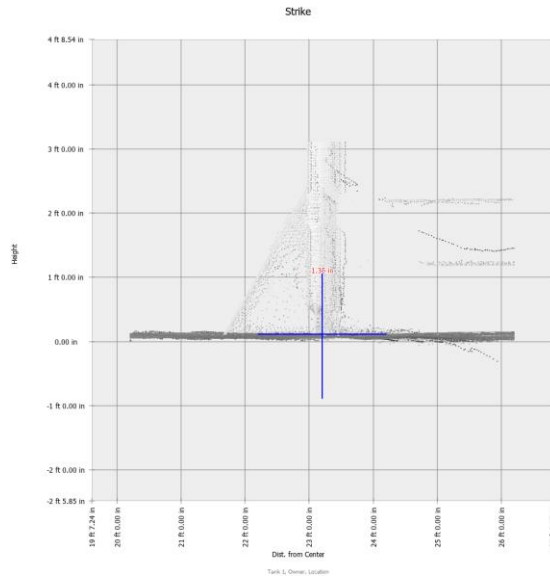


Figure 5: Strike Point



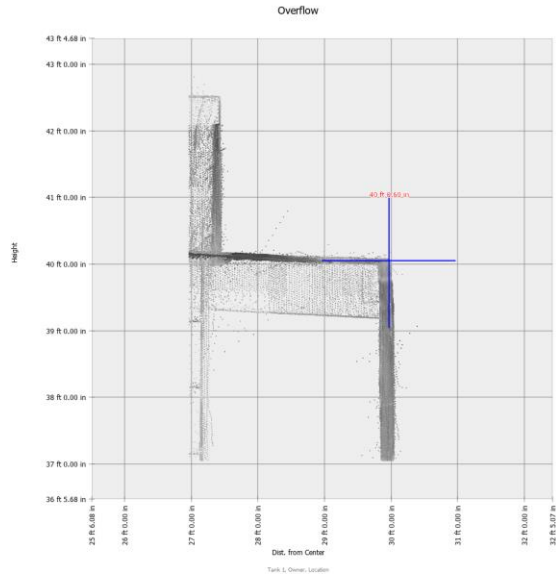


Figure 6: Overflow Reference

## 2.2 SHELL CIRCUMFERENCES

Table 2: Shell circumference and corrections

Ring	Perc. (%)	Elev. (ft-in)	Cir. Meas. (ft-in)	Cir. Std. (ft-in)	Cir. Stress (ft-in)
1	20	1' 7.98"	188' 2.16"	188' 1.98"	188' 2.22"
1	80	6' 3.91"	188' 2.91"	188' 2.74"	188' 2.80"
2	20	9' 7.87"	188' 3.27"	188' 3.10"	188' 3.41"
2	80	14' 3.81"	188' 3.24"	188' 3.06"	188' 3.15"
3	20	17' 7.76"	188' 3.17"	188' 3.00"	188' 3.39"
3	80	22' 5.70"	188' 3.20"	188' 3.03"	188' 3.12"
4	20	25' 7.66"	188' 3.25"	188' 3.08"	188' 3.55"
4	80	30' 5.59"	188' 3.26"	188' 3.08"	188' 3.19"
5	20	33' 7.55"	188' 3.17"	188' 2.99"	188' 3.47"
5	80	38' 5.48"	188' 3.24"	188' 3.07"	188' 3.18"

Table 3: Shell course incremental volumes

Ring	Height (ft-in)	Thickness (ft-in)	Circumference (ft-in)	Diameter (ft-in)	Inc. Vol. (bbl)	Inc. Vol. LH (bbl)	Inc. Vol. Total (bbl)
1	8' 0.0000"	0.2500"	188' 2.51"	59' 10.91"	41.8381	0.0000	41.8381
2	8' 0.0000"	0.1850"	188' 3.28"	59' 11.15"	41.8667	0.0109	41.8777
3	8' 0.0000"	0.1500"	188' 3.26"	59' 11.14"	41.8658	0.0257	41.8915
4	8' 0.0000"	0.1250"	188' 3.37"	59' 11.18"	41.8701	0.0439	41.9140
5	8' 1.0000"	0.1250"	188' 3.32"	59' 11.17"	41.8684	0.0657	41.9341

## 2.3 BOTTOM SURVEY

Table 4: Bottom survey

From Height (ft-in)	To Height (ft-in)	Pos. Vol. (bbl)	Neg. Vol. (bbl)	Total. Vol. (bbl)
-	0"	0.5896	-43.5939	-43.0043
0"	1"	0.0000	-11.1839	-11.1839
1"	2"	0.0000	-1.9096	-1.9096
2"	3"	0.0000	-0.1957	-0.1957
3"	4"	0.0000	-0.0038	-0.0038

## 2.4 DEADWOOD

Table 5: Deadwood measurements

Name	From Elev. (ft-in)	To Elev. (ft-in)	Vol. (bbl)
MANWAY-004	1.36"	3' 2.06"	0.9435
Gauge	2.53"	39' 9.90"	-0.4088
PIPE-006	3.01"	2' 3.07"	-0.0121
Ladder	3.15"	39' 10.74"	-0.4090
COLUMN-01	5.24"	39' 10.08"	-0.7013
NOZZLE-005	1' 4.06"	1' 9.64"	-0.0041
PIPE-004	1' 4.14"	2' 4.04"	-0.3051
PIPE-001	1' 4.37"	2' 4.27"	-0.3052
NOZZLE-003	1' 4.58"	2' 3.61"	0.0765
PIPE-005	1' 4.69"	2' 1.94"	-0.2106
NOZZLE-004	1' 4.78"	2' 8.74"	0.1101
NOZZLE-006	1' 6.15"	2' 7.91"	-0.0362
MANWAY-001	1' 9.16"	4' 3.16"	0.4524
MANWAY-002	1' 9.72"	4' 3.72"	0.4481
MANWAY-003	1' 10.04"	3' 10.04"	0.2984
NOZZLE-002	1' 10.06"	2' 2.07"	0.0097
NOZZLE-001	1' 10.96"	2' 0.62"	0.0007
Floating Roof	3' 2.17"	3' 4.67"	-105.1109

## 2.5 FLOATING ROOF

A total of **105.1109 bbl** has been deducted from this table in **Low Leg** position, between **3 ft 0.82 in** and **3 ft 3.33 in** above the strike point, for roof displacement based on a floating weight of **28,000.00 lb** and an observed liquid density of **0.760** as observed under conditions of the liquid in which the roof is floating. Gauged levels above this range reflect this deduction but should be corrected for actually observed gravity of the liquid at prevailing temperatures as follows:

- **For specific gravity of 0.760 observed, no correction**
- **For each 0.001 above specific gravity of 0.760 observed, add 0.1381 bbl.**
- **For each 0.001 below specific gravity of 0.760 observed, subtract 0.1381 bbl.**

Critical Zone - The displacement of the floating roof is distributed within the range specified above. This range cannot be accurately calibrated because the shape of the roof changes within this range, changes as the tank fills, and may change over time. Therefore, critical zones should be observed as follows and should be avoided for critical measurements:

- **Low Leg critical zone - between 2 ft 10 in and 3 ft 6 in above the strike point.**
- **High Leg critical zone - between 6 ft 10 in and 7 ft 6 in above the strike point.**

When not operating in Low Leg position, values between the start of the Low Leg position to the end of the High Leg position of the roof critical zones will be in error because the capacity table was computed with the roof in the Low Leg position.

## 2.6 STRAPPING TABLE

Note that the following heights are computed to allow for the difference in elevation at the Strike point vs. the elevation at the Bottom (bottom to shell weld nearest to the Manway). Volumes are corrected to standard temperature of 60.00 °F.

**Table 6: Tank strapping table at 60.00 °F**

B – Denotes increments below top of bottom  
 L – Denotes floating roof critical zone in Low Leg position  
 H – Denotes floating roof critical zone in High Leg position  
 X – Denotes increments above the max fill height

in	bbl	in	bbl	in	bbl	in	bbl
- 0 ft -	13.3766 B	- 6 ft -	2,908.5580	- 12 ft -	5,922.6226	- 18 ft -	8,937.9353
1	44.0561 B	1	2,950.3929	1	5,964.4971	1	8,979.8236
2	84.0092 B	2	2,992.2277	2	6,006.3716	2	9,021.7119
3	125.6751 B	3	3,034.0626	3	6,048.2460	3	9,063.6003
4	167.5327 B	4	3,075.8975	4	6,090.1205	4	9,105.4886
5	209.3928	5	3,117.7323	5	6,131.9950	5	9,147.3769
6	251.2528	6	3,159.5672	6	6,173.8694	6	9,189.2652
7	293.1129	7	3,201.4021	7	6,215.7439	7	9,231.1535
8	334.9730	8	3,243.2370	8	6,257.6184	8	9,273.0418
9	376.8331	9	3,285.0718	9	6,299.4928	9	9,314.9302
10	418.6931	10	3,326.9067	10	6,341.3673	10	9,356.8185
11	460.5532	11	3,368.7416 H	11	6,383.2418	11	9,398.7068
- 1 ft -	502.4133	- 7 ft -	3,410.5764 H	- 13 ft -	6,425.1162	- 19 ft -	9,440.5951
1	544.2733	1	3,452.4113 H	1	6,466.9907	1	9,482.4834
2	586.1334	2	3,494.2462 H	2	6,508.8652	2	9,524.3718
3	627.9879	3	3,536.0811 H	3	6,550.7396	3	9,566.2601
4	669.7907	4	3,577.9159 H	4	6,592.6141	4	9,608.1484
5	711.5893	5	3,619.7508 H	5	6,634.4886	5	9,650.0367
6	753.3858	6	3,661.5857 H	6	6,676.3630	6	9,691.9250
7	795.1823	7	3,703.4206	7	6,718.2375	7	9,733.8133
8	836.9817	8	3,745.2554	8	6,760.1120	8	9,775.7017
9	878.8077	9	3,787.0903	9	6,801.9864	9	9,817.5900
10	920.6500	10	3,828.9252	10	6,843.8609	10	9,859.4783
11	962.4926	11	3,870.7738	11	6,885.7354	11	9,901.3666
- 2 ft -	1,004.3348	- 8 ft -	3,912.6483	- 14 ft -	6,927.6098	- 20 ft -	9,943.2549
1	1,046.1856	1	3,954.5227	1	6,969.4843	1	9,985.1432
2	1,088.0482	2	3,996.3972	2	7,011.3588	2	10,027.0316
3	1,129.9160	3	4,038.2717	3	7,053.2332	3	10,068.9199
4	1,171.8233	4	4,080.1461	4	7,095.1077	4	10,110.8082
5	1,213.7306	5	4,122.0206	5	7,136.9822	5	10,152.6965
6	1,255.6379	6	4,163.8951	6	7,178.8566	6	10,194.5848
7	1,297.5463	7	4,205.7695	7	7,220.7311	7	10,236.4732
8	1,339.4521	8	4,247.6440	8	7,262.6056	8	10,278.3615
9	1,381.3551	9	4,289.5185	9	7,304.4800	9	10,320.2498
10	1,423.2581	10	4,331.3929	10	7,346.3545	10	10,362.1381
11	1,465.1611 L	11	4,373.2674	11	7,388.2290	11	10,404.0264
- 3 ft -	1,507.0642 L	- 9 ft -	4,415.1419	- 15 ft -	7,430.1034	- 21 ft -	10,445.9147
1	1,541.5069 L	1	4,457.0163	1	7,471.9779	1	10,487.8031
2	1,541.4185 L	2	4,498.8908	2	7,513.8524	2	10,529.6914
3	1,541.3301 L	3	4,540.7653	3	7,555.7268	3	10,571.5797
4	1,569.4810 L	4	4,582.6397	4	7,597.6013	4	10,613.4680
5	1,611.3583 L	5	4,624.5142	5	7,639.4758	5	10,655.3563
6	1,653.2356 L	6	4,666.3887	6	7,681.3502	6	10,697.2446
7	1,695.1129	7	4,708.2631	7	7,723.2247	7	10,739.1330
8	1,736.9903	8	4,750.1376	8	7,765.0992	8	10,781.0213
9	1,778.8637	9	4,792.0121	9	7,806.9736	9	10,822.9096
10	1,820.7286	10	4,833.8865	10	7,848.8481	10	10,864.7979
11	1,862.5935	11	4,875.7610	11	7,890.7224	11	10,906.6862
- 4 ft -	1,904.4584	- 10 ft -	4,917.6355	- 16 ft -	7,932.6157	- 22 ft -	10,948.5746
1	1,946.3233	1	4,959.5099	1	7,974.5040	1	10,990.4629
2	1,988.1853	2	5,001.3844	2	8,016.3923	2	11,032.3512
3	2,030.0257	3	5,043.2589	3	8,058.2806	3	11,074.2395
4	2,071.8605	4	5,085.1333	4	8,100.1690	4	11,116.1278
5	2,113.6954	5	5,127.0078	5	8,142.0573	5	11,158.0161
6	2,155.5303	6	5,168.8823	6	8,183.9456	6	11,199.9045
7	2,197.3652	7	5,210.7567	7	8,225.8339	7	11,241.7928
8	2,239.2000	8	5,252.6312	8	8,267.7222	8	11,283.6811
9	2,281.0349	9	5,294.5057	9	8,309.6105	9	11,325.5694
10	2,322.8698	10	5,336.3801	10	8,351.4989	10	11,367.4577
11	2,364.7046	11	5,378.2546	11	8,393.3872	11	11,409.3460
- 5 ft -	2,406.5395	- 11 ft -	5,420.1291	- 17 ft -	8,435.2755	- 23 ft -	11,451.2344
1	2,448.3744	1	5,462.0035	1	8,477.1638	1	11,493.1227
2	2,490.2093	2	5,503.8780	2	8,519.0521	2	11,535.0110
3	2,532.0441	3	5,545.7524	3	8,560.9405	3	11,576.8993
4	2,573.8790	4	5,587.6269	4	8,602.8288	4	11,618.7876
5	2,615.7139	5	5,629.5014	5	8,644.7171	5	11,660.6760
6	2,657.5488	6	5,671.3758	6	8,686.6054	6	11,702.5643
7	2,699.3836	7	5,713.2503	7	8,728.4937	7	11,744.4526
8	2,741.2185	8	5,755.1248	8	8,770.3820	8	11,786.3409
9	2,783.0534	9	5,796.9992	9	8,812.2704	9	11,828.2292
10	2,824.8882	10	5,838.8737	10	8,854.1587	10	11,870.1175
11	2,866.7231	11	5,880.7482	11	8,896.0470	11	11,912.0137

in	bbl	in	bbl	in	bbl	in	bbl
- 24 ft -	11,953.9244	- 30 ft -	14,971.5005	- 36 ft -	17,990.0685		
1	11,995.8352	1	15,013.4113	1	18,031.9994		
2	12,037.7460	2	15,055.3221	2	18,073.9302		
3	12,079.6568	3	15,097.2329	3	18,115.8611		
4	12,121.5676	4	15,139.1436	4	18,157.7920		
5	12,163.4783	5	15,181.0544	5	18,199.7229		
6	12,205.3891	6	15,222.9652	6	18,241.6537		
7	12,247.2999	7	15,264.8760	7	18,283.5846		
8	12,289.2107	8	15,306.7868	8	18,325.5155		
9	12,331.1215	9	15,348.6975	9	18,367.4464		
10	12,373.0322	10	15,390.6083	10	18,409.3773		
11	12,414.9430	11	15,432.5191	11	18,451.3081		
- 25 ft -	12,456.8538	- 31 ft -	15,474.4299	- 37 ft -	18,493.2390		
1	12,498.7646	1	15,516.3407	1	18,535.1699		
2	12,540.6754	2	15,558.2514	2	18,577.1008		
3	12,582.5861	3	15,600.1622	3	18,619.0316		
4	12,624.4969	4	15,642.0730	4	18,660.9625		
5	12,666.4077	5	15,683.9838	5	18,702.8934		
6	12,708.3185	6	15,725.8945	6	18,744.8243		
7	12,750.2292	7	15,767.8053	7	18,786.7552		
8	12,792.1400	8	15,809.7161	8	18,828.6860		
9	12,834.0508	9	15,851.6269	9	18,870.6169		
10	12,875.9616	10	15,893.5377	10	18,912.5478		
11	12,917.8724	11	15,935.4485	11	18,954.4787		
- 26 ft -	12,959.7831	- 32 ft -	15,977.3593	- 38 ft -	18,996.4096		
1	13,001.6939	1	16,019.2701	1	19,038.3404		
2	13,043.6047	2	16,061.1809	2	19,080.2713		
3	13,085.5155	3	16,103.0917	3	19,122.2022		
4	13,127.4263	4	16,145.0025	4	19,164.1331		
5	13,169.3370	5	16,186.9133	5	19,206.0639		
6	13,211.2478	6	16,228.8241	6	19,247.9948		
7	13,253.1586	7	16,270.7349	7	19,289.9257		
8	13,295.0694	8	16,312.6457	8	19,331.8566		
9	13,336.9801	9	16,354.5565	9	19,373.7875		
10	13,378.8909	10	16,396.4673	10	19,415.7183		
11	13,420.8017	11	16,438.3781	11	19,457.6492		
- 27 ft -	13,462.7125	- 33 ft -	16,480.2889	- 39 ft -	19,499.5801		
1	13,504.6233	1	16,522.2000	1	19,541.5110		
2	13,546.5340	2	16,564.1111	2	19,583.4419 X		
3	13,588.4448	3	16,606.0222	3	19,625.3727 X		
4	13,630.3556	4	16,647.9333	4	19,667.3036 X		
5	13,672.2664	5	16,689.8444	5	19,709.2345 X		
6	13,714.1772	6	16,731.7555	6	19,751.1654 X		
7	13,756.0879	7	16,773.6666	7	19,793.0962 X		
8	13,797.9987	8	16,815.5777	8	19,835.0271 X		
9	13,839.9095	9	16,857.4888	9	19,876.9588 X		
10	13,881.8203	10	16,899.4000	10	19,918.8925 X		
11	13,923.7311	11	16,941.3111	11	19,960.8266 X		
- 28 ft -	13,965.6418	- 34 ft -	16,983.2222	- 40 ft -	19,971.3355 X		
1	14,007.5526	1	17,025.1333				
2	14,049.4634	2	17,067.0444				
3	14,091.3742	3	17,108.9555				
4	14,133.2849	4	17,150.8666				
5	14,175.1957	5	17,192.7777				
6	14,217.1065	6	17,234.6888				
7	14,259.0173	7	17,276.6000				
8	14,300.9281	8	17,318.5111				
9	14,342.8388	9	17,360.4222				
10	14,384.7496	10	17,402.3333				
11	14,426.6604	11	17,444.2444				
- 29 ft -	14,468.5712	- 35 ft -	17,486.1555				
1	14,510.4820	1	17,528.0666				
2	14,552.3927	2	17,570.0000				
3	14,594.3035	3	17,612.0000				
4	14,636.2143	4	17,654.0000				
5	14,678.1251	5	17,696.0000				
6	14,720.0359	6	17,738.0000				
7	14,761.9466	7	17,780.0000				
8	14,803.8574	8	17,822.0000				
9	14,845.7682	9	17,864.0000				
10	14,887.6790	10	17,906.0000				
11	14,929.5897	11	17,948.0000				

**Table 7: Tank average fractional increments table at 60.00 °F**

Average fractional increments table should not be applied below 4 in and in Low Leg critical zone

Fraction (in)	Vol. (bbl)
1/16	2.6182
1/8	5.2364
3/16	7.8546
1/4	10.4729
5/16	13.0911
3/8	15.7093
7/16	18.3275
1/2	20.9457
9/16	23.5639
5/8	26.1822
11/16	28.8004
3/4	31.4186
13/16	34.0368
7/8	36.6550
15/16	39.2732
1	41.8915

**Table 8: Incremental factor sheet at 60.00 °F**

B – Denotes bottom displacement zone  
 R – Denotes floating roof displacement zone in Low Leg position

Line No.	From Height (ft-in)	To Height (ft-in)	No. of Inc.	Inc. Vol. (bbl)	Tot. Vol. (bbl)	Zone
0	-	0"	1	13.3766	13.3766	B
1	0"	1"	1	30.6795	44.0561	B
2	1"	2"	1	39.9531	84.0092	B
3	2"	3"	1	41.6658	125.6751	B
4	3"	4"	1	41.8576	167.5327	B
5	4"	1' 2"	10	41.8601	586.1334	
6	1' 2"	1' 3"	1	41.8544	627.9879	
7	1' 3"	1' 4"	1	41.8028	669.7907	
8	1' 4"	1' 5"	1	41.7986	711.5893	
9	1' 5"	1' 7"	2	41.7965	795.1823	
10	1' 7"	1' 8"	1	41.7994	836.9817	
11	1' 8"	1' 9"	1	41.8261	878.8077	
12	1' 9"	1' 10"	1	41.8423	920.6500	
13	1' 10"	1' 11"	1	41.8426	962.4926	
14	1' 11"	2' 0"	1	41.8422	1,004.3348	
15	2' 0"	2' 1"	1	41.8507	1,046.1856	
16	2' 1"	2' 2"	1	41.8626	1,088.0482	
17	2' 2"	2' 3"	1	41.8678	1,129.9160	
18	2' 3"	2' 6"	3	41.9073	1,255.6379	
19	2' 6"	2' 7"	1	41.9085	1,297.5463	
20	2' 7"	2' 8"	1	41.9057	1,339.4521	
21	2' 8"	3' 0"	4	41.9030	1,507.0642	
22	3' 0"	3' 1"	1	34.4427	1,541.5069	R
23	3' 1"	3' 3"	2	-0.0884	1,541.3301	R
24	3' 3"	3' 4"	1	28.1508	1,569.4810	R
25	3' 4"	3' 8"	4	41.8773	1,736.9903	
26	3' 8"	3' 9"	1	41.8735	1,778.8637	
27	3' 9"	4' 1"	4	41.8649	1,946.3233	
28	4' 1"	4' 2"	1	41.8620	1,988.1853	
29	4' 2"	4' 3"	1	41.8404	2,030.0257	
30	4' 3"	7' 10"	43	41.8349	3,828.9252	
31	7' 10"	7' 11"	1	41.8486	3,870.7738	
32	7' 11"	15' 10"	95	41.8745	7,848.8481	
33	15' 10"	15' 11"	1	41.8793	7,890.7274	
34	15' 11"	23' 10"	95	41.8883	11,870.1175	
35	23' 10"	23' 11"	1	41.8961	11,912.0137	
36	23' 11"	31' 10"	95	41.9108	15,893.5377	
37	31' 10"	31' 11"	1	41.9178	15,935.4554	
38	31' 11"	39' 8"	93	41.9309	19,835.0271	
39	39' 8"	39' 9"	1	41.9317	19,876.9588	
40	39' 9"	39' 10"	1	41.9337	19,918.8925	
41	39' 10"	39' 11"	1	41.9341	19,960.8266	
42	39' 11"	39' 11.3"	1	10.5089	19,971.3355	