



United States of America  
Department of Homeland Security  
United States Coast Guard

Certification Date: 07 Jul 2023  
Expiration Date: 07 Jul 2028

# Certificate of Inspection

For ships on international voyages this certificate fulfills the requirements of SOLAS 74 as amended, regulation V/14, for a SAFE MANNING DOCUMENT.

|                                                                             |                                                                             |                |            |            |     |         |
|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------|------------|------------|-----|---------|
| Vessel Name                                                                 | Official Number                                                             | IMO Number     | Call Sign  | Service    |     |         |
| CCL 20                                                                      | 1191598                                                                     |                |            | Tank Barge |     |         |
| Hailing Port                                                                | Hull Material                                                               | Horsepower     | Propulsion |            |     |         |
| BATON ROUGE, LA                                                             | Steel                                                                       |                |            |            |     |         |
| UNITED STATES                                                               |                                                                             |                |            |            |     |         |
| Place Built                                                                 | Delivery Date                                                               | Keel Laid Date | Gross Tons | Net Tons   | DWT | Length  |
|                                                                             | 02Feb2007                                                                   | 01Sep2006      | R-735      | R-735      |     | R-200.0 |
|                                                                             |                                                                             |                | I-         | I-         |     | I-0     |
| Owner                                                                       | Operator                                                                    |                |            |            |     |         |
| CHEM CARRIERS LLC<br>1237 HIGHWAY 75<br>SUNSHINE, LA 70780<br>UNITED STATES | CHEM CARRIERS LLC<br>1237 Highway 75<br>SUNSHINE, LA 70780<br>UNITED STATES |                |            |            |     |         |

This vessel must be manned with the following licensed and unlicensed Personnel. Included in which there must be 0 Certified Lifeboatmen, 0 Certified Tankermen, 0 HSC Type Rating, and 0 GMDSS Operators.

|                            |                      |                              |          |
|----------------------------|----------------------|------------------------------|----------|
| 0 Masters                  | 0 Licensed Mates     | 0 Chief Engineers            | 0 Oilers |
| 0 Chief Mates              | 0 First Class Pilots | 0 First Assistant Engineers  |          |
| 0 Second Mates             | 0 Radio Officers     | 0 Second Assistant Engineers |          |
| 0 Third Mates              | 0 Able Seamen        | 0 Third Assistant Engineers  |          |
| 0 Master First Class Pilot | 0 Ordinary Seamen    | 0 Licensed Engineers         |          |
| 0 Mate First Class Pilots  | 0 Deckhands          | 0 Qualified Member Engineer  |          |

In addition, this vessel may carry 0 Passengers, 0 Other Persons in crew, 0 Persons in addition to crew, and no Others. Total Persons allowed: 0

## Route Permitted And Conditions Of Operation:

### ---Lakes, Bays, and Sounds---

This electronic Certificate of Inspection was issued by Sector Houston-Galveston under unique tracking number 8487039-CG841.

Also, in fair weather only, not more than twelve (12) miles from shore between St. Marks and Carrabelle, Florida.

This vessel has been granted a fresh water service examination interval in accordance with 46 CFR Table 31.10-21(b); if this vessel is operated in salt water more than six (6) months in any twelve (12) month period, the vessel must be inspected using salt water intervals and the cognizant OCMI notified in writing as soon as

\*\*\*SEE NEXT PAGE FOR ADDITIONAL CERTIFICATE INFORMATION\*\*\*

With this Inspection for Certification having been completed at New Orleans, LA, UNITED STATES, the Officer in Charge, Marine Inspection, Sector New Orleans certified the vessel, in all respects, is in conformity with the applicable vessel inspection laws and the rules and regulations prescribed thereunder.

|                               |                |       |                  |                                                                                                                                                                                       |
|-------------------------------|----------------|-------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Annual/Periodic/Re-Inspection |                |       |                  | This Amended certificate issued by:<br><br>Kelley M. Brown CDR, USCG, By Direction<br><br>Officer in Charge, Marine Inspection<br><br>Sector Houston-Galveston<br><br>Inspection Zone |
| Date                          | Zone           | A/P/R | Signature        |                                                                                                                                                                                       |
| 06Aug2024                     | SEC HouGalvstn | A     | DEVORE BRYAN     |                                                                                                                                                                                       |
| 31Jul2025                     | SEC HouGalvstn | P     | BERTOCCHI KYLE   |                                                                                                                                                                                       |
| 16Sep2026                     | SEC HouGalvstn | A     | THOMPSON RACHAEL |                                                                                                                                                                                       |



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# Certificate of Inspection

Vessel Name: CCL 20

this change in status occurs.

## ---Hull Exams---

| Exam Type          | Next Exam | Last Exam | Prior Exam |
|--------------------|-----------|-----------|------------|
| DryDock            | 31Jan2033 | 31Jan2023 | 10Apr2013  |
| Internal Structure | 31Jan2028 | 31Jan2023 | 29Mar2018  |

## --- Liquid/Gas/Solid Cargo Authority/Conditions ---

Authorization: GRADE "A" AND LOWER AND SPECIFIED HAZARDOUS CARGOES.

| Total Capacity | Units   | Highest Grade Type | Part151 Regulated | Part153 Regulated | Part154 Regulated |
|----------------|---------|--------------------|-------------------|-------------------|-------------------|
| 11430          | Barrels | A                  | Yes               | No                | No                |

### \*Hazardous Bulk Solids Authority\*

Not Authorized

### \*Loading Constraints - Structural\*

| Tank Location Description | Max Cargo Weight per Tank (short tons) | Maximum Density (lbs/gal) |
|---------------------------|----------------------------------------|---------------------------|
| 1 C/L                     | 649                                    | 15.00                     |
| 2 C/L                     | 761                                    | 15.00                     |
| 3 C/L                     | 676                                    | 15.00                     |

### \*Loading Constraints - Stability\*

| Hull Type | Maximum Load (short tons) | Maximum Draft (ft/in) | Max Density (lbs/gal) | Route Description |
|-----------|---------------------------|-----------------------|-----------------------|-------------------|
| I         | 1429                      | 8ft 9in               | 15.00                 | R, LBS            |
| II        | 1519                      | 9ft 2in               | 15.00                 | R, LBS            |
| III       | 1735                      | 10ft 2in              | 15.00                 | R, LBS            |
| III       | 1807                      | 10ft 6in              | 13.50                 | R, LBS            |
| III       | 1825                      | 10ft 7in              | 12.80                 | R, LBS            |
| III       | 1915                      | 11ft 0in              | 15.00                 | R                 |
| III       | 1969                      | 11ft 3in              | 13.50                 | R                 |
| III       | 1987                      | 11ft 4in              | 12.80                 | R                 |

### \*Conditions Of Carriage\*

Only those cargoes named in the vessel's Cargo Authority Attachment (CAA), serial# C1-1901251, dated May 06, 2019, and Grade "A" and lower cargoes may be carried, and then only in the tanks indicated.

When the vessel is carrying cargoes containing greater than 0.5% benzene, the person in charge is responsible for ensuring the provisions of 46 US Code of Federal Regulations Part 197, Subpart C are applied.

In accordance with 46 CFR Part 39, excluding part 39.4000, this vessel's vapor control system has been inspected to the plans approved by Marine Safety Center letter serial #C2-0602834, dated October 02,2006, and found acceptable for collection of bulk liquid cargo vapors annotated with "Yes" in the CAA's VCS column.

## --- Inspection Status ---



United States of America  
Department of Homeland Security  
United States Coast Guard

|                     |             |
|---------------------|-------------|
| Certification Date: | 07 Jul 2023 |
| Expiration Date:    | 07 Jul 2028 |

# Certificate of Inspection

Vessel Name: CCL 20

## \*Cargo Tanks\*

| Tank Id | Internal Exam |           |           | External Exam |      |      |
|---------|---------------|-----------|-----------|---------------|------|------|
|         | Previous      | Last      | Next      | Previous      | Last | Next |
| 1 C/L   | 05Mar2013     | 07Jul2023 | 31Mar2033 | -             | -    | -    |
| 2 C/L   | 05Mar2013     | 07Jul2023 | 31Mar2033 | -             | -    | -    |
| 3 C/L   | 05Mar2013     | 07Jul2023 | 31Mar2033 | -             | -    | -    |

### Hydro Test

| Tank Id | Safety Valves | Previous | Last | Next |
|---------|---------------|----------|------|------|
| 1 C/L   | -             | -        | -    | -    |
| 2 C/L   | -             | -        | -    | -    |
| 3 C/L   | -             | -        | -    | -    |

## ---Conditional Portable Fire Extinguisher Requirements---

Required Only During Transfer of Cargo or Operation of Barge Machinery

## --- Fire Fighting Equipment ---

### \*Fire Extinguishers - Hand portable and semi-portable\*

| Quantity | Class Type |
|----------|------------|
| 2        | 40-B:C     |

## ---Certificate Amendments---

| Amending Unit            | Amendment Date | Amendment Remark                                                |
|--------------------------|----------------|-----------------------------------------------------------------|
| Sector Houston/Galveston | 06Aug2024      | Completed Annual Inspection.                                    |
| Sector Houston/Galveston | 31Jul2025      | Completed Periodic Inspection.                                  |
| Sector Houston/Galveston | 16Sep2026      | Completed Annual Inspection. Updated vapor control description. |

\*\*\*END\*\*\*



# Certificate of Inspection

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|             |                 |            |           |            |
|-------------|-----------------|------------|-----------|------------|
| Vessel Name | Official Number | IMO Number | Call Sign | Service    |
| CCL 20      | 1191598         |            |           | Tank Barge |

|                 |               |            |            |
|-----------------|---------------|------------|------------|
| Hailing Port    | Hull Material | Horsepower | Propulsion |
| BATON ROUGE, LA | Steel         |            |            |
| UNITED STATES   |               |            |            |

|             |               |                |            |          |     |         |
|-------------|---------------|----------------|------------|----------|-----|---------|
| Place Built | Delivery Date | Keel Laid Date | Gross Tons | Net Tons | DWT | Length  |
|             | 02Feb2007     | 01Sep2006      | R-735      | R-735    |     | R-200.0 |
|             |               |                | I          | I        |     | 10      |

|                                                                             |                                                                             |
|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Owner                                                                       | Operator                                                                    |
| CHEM CARRIERS LLC<br>1237 HIGHWAY 75<br>SUNSHINE, LA 70780<br>UNITED STATES | CHEM CARRIERS LLC<br>1237 Highway 75<br>SUNSHINE, LA 70780<br>UNITED STATES |

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|                            |                      |                              |          |
|----------------------------|----------------------|------------------------------|----------|
| 0 Masters                  | 0 Licensed Mates     | 0 Chief Engineers            | 0 Oilers |
| 0 Chief Mates              | 0 First Class Pilots | 0 First Assistant Engineers  |          |
| 0 Second Mates             | 0 Radio Officers     | 0 Second Assistant Engineers |          |
| 0 Third Mates              | 0 Able Seamen        | 0 Third Assistant Engineers  |          |
| 0 Master First Class Pilot | 0 Ordinary Seamen    | 0 Licensed Engineers         |          |
| 0 Mate First Class Pilots  | 0 Deckhands          | 0 Qualified Member Engineer  |          |

In addition, this vessel may carry 0 Passengers, 0 Other Persons in crew, 0 Persons in addition to crew, and no Others. Total Persons allowed: 0

Route Permitted And Conditions Of Operation:  
---Lakes, Bays, and Sounds---

Also, in fair weather only, not more than twelve (12) miles from shore between St. Marks and Carrabelle, Florida.

This vessel has been granted a fresh water service examination interval in accordance with 46 CFR Table 31.10-21(b); if this vessel is operated in salt water more than six (6) months in any twelve (12) month period, the vessel must be inspected using salt water intervals and the cognizant OCMI notified in writing as soon as this change in status occurs.

\*\*\*SEE NEXT PAGE FOR ADDITIONAL CERTIFICATE INFORMATION\*\*\*

With this Inspection for Certification having been completed at New Orleans, LA, UNITED STATES, the Officer in Charge, Marine Inspection, Sector New Orleans certified the vessel, in all respects, is in conformity with the applicable vessel inspection laws and the rules and regulations prescribed thereunder.

|                               |             |       |                 |                                                                                                                                                          |
|-------------------------------|-------------|-------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Annual/Periodic/Re-Inspection |             |       |                 | This certificate issued by:<br><b>J. H. HART COMMANDER</b> by direction<br>Officer in Charge, Marine Inspection<br>Sector New Orleans<br>Inspection Zone |
| Date                          | Zone        | A/P/R | Signature       |                                                                                                                                                          |
| 06 AUG 2024                   | SEC Hou-GAL | A     | [Signature] CWO |                                                                                                                                                          |
| 31 JUL 2025                   | SEC Hou-GAL | A     | [Signature] CWO |                                                                                                                                                          |
| 110 SEP 26                    | SEC Hou/GAL | A     | [Signature] CWO |                                                                                                                                                          |



# Certificate of Inspection

Vessel Name: CCL 20

## ---Hull Exams---

| Exam Type          | Next Exam | Last Exam | Prior Exam |
|--------------------|-----------|-----------|------------|
| DryDock            | 31Jan2033 | 31Jan2023 | 10Apr2013  |
| Internal Structure | 31Jan2028 | 31Jan2023 | 29Mar2018  |

## --- Liquid/Gas/Solid Cargo Authority/Conditions ---

Authorization: GRADE "A" AND LOWER AND SPECIFIED HAZARDOUS CARGOES.

| Total Capacity | Units   | Highest Grade Type | Part151 Regulated | Part153 Regulated | Part154 Regulated |
|----------------|---------|--------------------|-------------------|-------------------|-------------------|
| 11430          | Barrels | A                  | Yes               | No                | No                |

### \*Hazardous Bulk Solids Authority\*

Not Authorized

### \*Loading Constraints - Structural\*

| Tank Location Description | Max Cargo Weight per Tank (short tons) | Maximum Density (lbs/gal) |
|---------------------------|----------------------------------------|---------------------------|
| 1 C/L                     | 649                                    | 15.00                     |
| 2 C/L                     | 761                                    | 15.00                     |
| 3 C/L                     | 676                                    | 15.00                     |

### \*Loading Constraints - Stability\*

| Hull Type | Maximum Load (short tons) | Maximum Draft (ft/in) | Max Density (lbs/gal) | Route Description |
|-----------|---------------------------|-----------------------|-----------------------|-------------------|
| I         | 1429                      | 8ft 9in               | 15.00                 | R, LBS            |
| II        | 1519                      | 9ft 2in               | 15.00                 | R, LBS            |
| III       | 1735                      | 10ft 2in              | 15.00                 | R, LBS            |
| III       | 1807                      | 10ft 6in              | 13.50                 | R, LBS            |
| III       | 1825                      | 10ft 7in              | 12.80                 | R, LBS            |
| III       | 1915                      | 11ft 0in              | 15.00                 | R                 |
| III       | 1969                      | 11ft 3in              | 13.50                 | R                 |
| III       | 1987                      | 11ft 4in              | 12.80                 | R                 |

### \*Conditions Of Carriage\*

Only those cargoes named in the vessel's Cargo Authority Attachment (CAA), serial# C1-1901251, dated May 06, 2019, and Grade "A" and lower cargoes may be carried, and then only in the tanks indicated.

When the vessel is carrying cargoes containing greater than 0.5% benzene, the person in charge is responsible for ensuring the provisions of 46 US Code of Federal Regulations Part 197, Subpart C are applied.

### \*Vapor Control Authorization\*

In accordance with 46 CFR Part 39, excluding part 39.40, this vessel's vapor control system has been inspected to the plans approved by Marine Safety Center letter serial #C2-0602834, dated October 02,2006, and found acceptable for collection of bulk liquid cargo vapors annotated with "Yes" in the CAA's VCS column.

## --- Inspection Status ---



United States of America  
Department of Homeland Security  
United States Coast Guard

Certification Date: 07 Jul 2023

Expiration Date: 07 Jul 2028

# Certificate of Inspection

Vessel Name: CCL 20

## \*Cargo Tanks\*

| Tank Id | Internal Exam |           |           | External Exam |      |      |
|---------|---------------|-----------|-----------|---------------|------|------|
|         | Previous      | Last      | Next      | Previous      | Last | Next |
| 1 C/L   | 05Mar2013     | 07Jul2023 | 31Mar2033 | -             | -    | -    |
| 2 C/L   | 05Mar2013     | 07Jul2023 | 31Mar2033 | -             | -    | -    |
| 3 C/L   | 05Mar2013     | 07Jul2023 | 31Mar2033 | -             | -    | -    |

### Hydro Test

| Tank Id | Safety Valves | Previous | Last | Next |
|---------|---------------|----------|------|------|
| 1 C/L   | -             | -        | -    | -    |
| 2 C/L   | -             | -        | -    | -    |
| 3 C/L   | -             | -        | -    | -    |

## ---Conditional Portable Fire Extinguisher Requirements---

Required Only During Transfer of Cargo or Operation of Barge Machinery

## --- Fire Fighting Equipment ---

### \*Fire Extinguishers - Hand portable and semi-portable\*

| Quantity | Class Type |
|----------|------------|
| 2        | 40-B:C     |

\*\*\*END\*\*\*



# Certificate of Inspection

## Cargo Authority Attachment

Vessel Name: CCL 20

Official #: 1191598

Shipyard: Southwest Shipyard

Hull #: 9539

### 46 CFR 151 Tank Group Characteristics

| Tank Group Information |                | Cargo Identification |        |       | Hull |          | Tanks            |      |        | Cargo Transfer |      | Environmental Control |                | Fire Protection Provided | Special Requirements                                                                                                     |                                                                          | Elec Haz | Temp Cont |
|------------------------|----------------|----------------------|--------|-------|------|----------|------------------|------|--------|----------------|------|-----------------------|----------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------|-----------|
| Tnk Grp                | Tanks in Group | Density              | Press. | Temp. | Type | Seg Tank | Type             | Vent | Gauge  | Pipe Class     | Cont | Tanks                 | Handling Space |                          | General                                                                                                                  | Materials of Construction                                                |          |           |
| A                      | #1,#2,#3       | 15                   | Atmos. | Amb.  | I    | III 2ii  | Integral Gravity | PV   | Closed | I              | G-1  | NR                    | NA             | Portable                 | 40-1(f)(1), .50-5, .50-5(d), .50-42, .50-50, .50-55, .50-60, .50-70(a), .50-70(b), .50-73, .50-81(a), .50-81(b), .50-84, | 55-1(b), (c), (e), (f), (g), (j), 56-1(a), (b), (c), (d), (e), (f), (g), | NR       | No        |

Notes: 1. Under Environmental Control, Tanks, NR means that the tank group is suitable only for those cargoes which require no environmental control in the cargo tanks.  
2. Under Environmental Control, Handling Space, NR means that the tank group is suitable only for those cargoes which require no environmental control in the cargo handling space. NA means that the vessel does not have a cargo control space, and this requirement is not applied.  
3. Under Electrical Hazard Class, NA means that the tank group is suitable only for those cargoes which have no electrical hazard class requirement. NR means that the vessel has no electrical equipment located in a hazardous location.

### List of Authorized Cargoes

| Cargo Identification |           |                 |             |       |           | Conditions of Carriage |                               |                       |                                                         |  |              |
|----------------------|-----------|-----------------|-------------|-------|-----------|------------------------|-------------------------------|-----------------------|---------------------------------------------------------|--|--------------|
| Name                 | Chem Code | Compat Group No | Sub Chapter | Grade | Hull Type | Tank Group             | Vapor Recovery App'd (Y or N) | Recovery VCS Category | Special Requirements in 46 CFR 151 General and Mat's of |  | Insp. Period |

### Authorized Subchapter O Cargoes

|                                                                                |      |                 |       |     |     |    |     |     |                                  |   |
|--------------------------------------------------------------------------------|------|-----------------|-------|-----|-----|----|-----|-----|----------------------------------|---|
| Sodium acetate solution                                                        | SAN  | 34              | D/O 3 | #   | A   | No | N/A |     |                                  |   |
| Acetic acid                                                                    | AAC  | 4 <sup>2</sup>  | O     | D   | III | A  | Yes | 1   | .50-73, .55-1(g)                 | G |
| Acetic anhydride                                                               | ACA  | 11              | O     | D   | III | A  | Yes | 1   | .50-73, .55-1(g)                 | G |
| Acetone cyanohydrin                                                            | ACY  | 0 1,2           | O     | E   | I   | A  | Yes | 3   | .50-5, .50-70(b), .50-73, .50-81 | G |
| Acetonitrile                                                                   | ATN  | 37              | O     | C   | III | A  | Yes | 3   | No                               | G |
| ACP Solutions                                                                  | ACPS | 21              | O     | E   | I   | A  | Yes | 3   | .50-5, .50-73                    | 2 |
| Acrylonitrile                                                                  | ACN  | 15 <sup>2</sup> | O     | C   | II  | A  | Yes | 4   | .50-70(a), .55-1(e)              | G |
| Adiponitrile                                                                   | ADN  | 37              | O     | E   | II  | A  | Yes | 1   | No                               | G |
| Alkyl (C7-C9) nitrates                                                         | AKN  | 34 <sup>2</sup> | O     | NA  | III | A  | No  | N/A | .50-81, .50-86                   | G |
| Allyl alcohol                                                                  | ALA  | 15 <sup>2</sup> | O     | C   | I   | A  | Yes | 3   | .50-5, .50-73                    | G |
| Allyl chloride                                                                 | ALC  | 15              | O     | B   | I   | A  | Yes | 3   | .50-5                            | G |
| Aminoethyl ethanolamine                                                        | AEE  | 8               | O     | E   | III | A  | Yes | 1   | .55-1(b)                         | G |
| Ammonium bisulfite solution (70% or less)                                      | ABX  | 43 <sup>2</sup> | O     | NA  | III | A  | No  | N/A | .50-73, .56-1(a), (b), (c)       | G |
| Ammonium hydroxide (28% or less NH3)                                           | AMH  | 6               | O     | NA  | III | A  | No  | N/A | .56-1(a), (b), (c), (f), (g)     | G |
| Aniline                                                                        | ANL  | 9               | O     | E   | I   | A  | Yes | 3   | .50-5, .50-73                    | G |
| Anthracene oil (Coal tar fraction)                                             | AHO  | 33              | O     | NA  | II  | A  | No  | N/A | No                               | G |
| Benzene                                                                        | BNZ  | 32              | O     | C   | III | A  | Yes | 1   | .50-60                           | G |
| Benzene or hydrocarbon mixtures (having 10% Benzene or more)                   | BHB  | 32 <sup>2</sup> | O     | C   | III | A  | Yes | 1   | .50-60                           | G |
| Benzene or hydrocarbon mixtures (containing Acetylene and 10% Benzene or more) | BHA  | 32 <sup>2</sup> | O     | C   | III | A  | Yes | 1   | .50-60, .56-1(b), (d), (f), (g)  | G |
| Benzene, Toluene, Xylene mixtures (10% Benzene or more)                        | BTX  | 32              | O     | B/C | III | A  | Yes | 1   | .50-60                           | G |
| Butyl acrylate (all isomers)                                                   | BAR  | 14              | O     | D   | III | A  | Yes | 2   | .50-70(a), .50-81(a), (b)        | G |
| Butyl methacrylate                                                             | BMH  | 14              | O     | D   | III | A  | Yes | 2   | .50-70(a), .50-81(a), (b)        | G |
| Butyraldehyde (all isomers)                                                    | BAE  | 19              | O     | C   | III | A  | Yes | 1   | .55-1(h)                         | G |
| Camphor oil (light)                                                            | CPO  | 18              | O     | D   | II  | A  | No  | N/A | No                               | G |
| Carbolic oil                                                                   | CBO  | 21              | O     | E   | I   | A  | Yes | 3   | .50-5, .50-73                    | G |
| Carbon tetrachloride                                                           | CBT  | 36              | O     | NA  | III | A  | No  | N/A | No                               | G |
| Caustic polish solution                                                        | CPS  | 5 <sup>2</sup>  | O     | NA  | III | A  | No  | N/A | .50-73, .55-1(j)                 | G |
| Caustic soda solution                                                          | CSS  | 5 <sup>2</sup>  | O     | NA  | III | A  | No  | N/A | .50-73, .55-1(j)                 | G |
| Chlorobenzene                                                                  | CRB  | 36              | O     | D   | III | A  | Yes | 1   | No                               | G |
| Chloroform                                                                     | CRF  | 36              | O     | NA  | III | A  | Yes | 3   | No                               | G |

\*\*\* This document is only valid when attached to, and referenced by a current, valid Certificate of Inspection. \*\*\*



# Certificate of Inspection

## Cargo Authority Attachment

Vessel Name: CCL 20

Official #: 1191598

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Shipyard: Southwest Shipyard

Hull #: 9539

| Cargo Identification                                                             |           |                  |             |       |           |            | Conditions of Carriage |              |                                                                      |  |              |
|----------------------------------------------------------------------------------|-----------|------------------|-------------|-------|-----------|------------|------------------------|--------------|----------------------------------------------------------------------|--|--------------|
| Name                                                                             | Chem Code | Compat Group No  | Sub Chapter | Grade | Hull Type | Tank Group | Vapor Recovery         |              | Special Requirements in 46 CFR 151 General and Mat's of Construction |  | Insp. Period |
|                                                                                  |           |                  |             |       |           |            | App'd (Y or N)         | VCS Category |                                                                      |  |              |
| Chlorohydrins (crude)                                                            | CHD       | 17               | O           | D     | I         | A          | Yes                    | 3            | 50-5                                                                 |  | G            |
| o-Chloronitrobenzene                                                             | CNO       | 42               | O           | E     | I         | A          | No                     | N/A          | 50-5, 50-73                                                          |  | G            |
| Coal tar crude bases                                                             | CTB       | 9                | O           | D     | I         | A          | No                     | N/A          | 50-5, 50-73, 55-1(e)                                                 |  | G            |
| Coal tar naphtha solvent                                                         | NCT       | 33               | O           | D     | III       | A          | Yes                    | 1            | 50-73                                                                |  | G            |
| Creosote                                                                         | CCW       | 21 <sup>2</sup>  | O           | E     | III       | A          | Yes                    | 1            | No                                                                   |  | G            |
| Cresols (all isomers)                                                            | CRS       | 21               | O           | E     | III       | A          | Yes                    | 1            | No                                                                   |  | G            |
| Cresylate spent caustic                                                          | CSC       | 5                | O           | NA    | III       | A          | No                     | N/A          | 50-73, 55-1(b)                                                       |  | G            |
| Cresylic acid tar                                                                | CRX       | 21               | O           | E     | III       | A          | Yes                    | 1            | 55-1(f)                                                              |  | G            |
| Crotonaldehyde                                                                   | CTA       | 19 <sup>2</sup>  | O           | C     | II        | A          | Yes                    | 4            | 55-1(h)                                                              |  | G            |
| Crude hydrocarbon feedstock (containing Butyraldehydes and Ethylpropyl acrolein) | CHG       | 19 <sup>2</sup>  | O           | C     | III       | A          | Yes                    | 1            | No                                                                   |  | G            |
| Cyclohexanone                                                                    | CCH       | 18               | O           | D     | III       | A          | Yes                    | 1            | 56-1(a), (b)                                                         |  | G            |
| Cyclohexanone, Cyclohexanol mixture                                              | CYX       | 18 <sup>2</sup>  | O           | E     | III       | A          | Yes                    | 1            | 56-1(b)                                                              |  | G            |
| Cyclohexylamine                                                                  | CHA       | 7                | O           | D     | III       | A          | Yes                    | 1            | 56-1(a), (b), (c), (g)                                               |  | G            |
| Cyclopentadiene, Styrene, Benzene mixture                                        | CSB       | 30               | O           | D     | III       | A          | Yes                    | 1            | 50-60, 56-1(b)                                                       |  | G            |
| iso-Decyl acrylate                                                               | IAI       | 14               | O           | E     | III       | A          | Yes                    | 2            | 50-70(a), 50-81(a), (b), 55-1(c)                                     |  | G            |
| Dichlorobenzene (all isomers)                                                    | DBX       | 36               | O           | E     | III       | A          | Yes                    | 3            | 56-1(a), (b)                                                         |  | G            |
| 1,1-Dichloroethane                                                               | DCH       | 36               | O           | C     | III       | A          | Yes                    | 1            | No                                                                   |  | G            |
| 2,2-Dichloroethyl ether                                                          | DEE       | 41               | O           | D     | II        | A          | Yes                    | 1            | 55-1(f)                                                              |  | G            |
| Dichloromethane                                                                  | DCM       | 36               | O           | NA    | III       | A          | No                     | N/A          | No                                                                   |  | G            |
| 2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution                     | DDE       | 43               | O           | E     | III       | A          | No                     | N/A          | 56-1(a), (b), (c), (g)                                               |  | G            |
| 2,4-Dichlorophenoxyacetic acid, dimethylamine salt solution                      | DAD       | 0 <sup>1,2</sup> | O           | A     | III       | A          | No                     | N/A          | 56-1(a), (b), (c), (g)                                               |  | G            |
| 2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution                | DTI       | 43 <sup>2</sup>  | O           | E     | III       | A          | No                     | N/A          | 56-1(a), (b), (c), (g)                                               |  | G            |
| 1,1-Dichloropropane                                                              | DPB       | 36               | O           | C     | III       | A          | Yes                    | 3            | No                                                                   |  | G            |
| 1,2-Dichloropropane                                                              | DPP       | 36               | O           | C     | III       | A          | Yes                    | 3            | No                                                                   |  | G            |
| 1,3-Dichloropropane                                                              | DPC       | 36               | O           | C     | III       | A          | Yes                    | 3            | No                                                                   |  | G            |
| 1,3-Dichloropropene                                                              | DPU       | 15               | O           | D     | II        | A          | Yes                    | 4            | No                                                                   |  | G            |
| Dichloropropene, Dichloropropane mixtures                                        | DMX       | 15               | O           | C     | II        | A          | Yes                    | 1            | No                                                                   |  | G            |
| Diethanolamine                                                                   | DEA       | 8                | O           | E     | III       | A          | Yes                    | 1            | 55-1(c)                                                              |  | G            |
| Diethylamine                                                                     | DEN       | 7                | O           | C     | III       | A          | Yes                    | 3            | 55-1(c)                                                              |  | G            |
| Diethylenetriamine                                                               | DET       | 7 <sup>2</sup>   | O           | E     | III       | A          | Yes                    | 1            | 55-1(c)                                                              |  | G            |
| Diisobutylamine                                                                  | DBU       | 7                | O           | D     | III       | A          | Yes                    | 3            | 55-1(c)                                                              |  | G            |
| Diisopropanolamine                                                               | DIP       | 8                | O           | E     | III       | A          | Yes                    | 1            | 55-1(c)                                                              |  | G            |
| Diisopropylamine                                                                 | DIA       | 7                | O           | C     | II        | A          | Yes                    | 3            | 55-1(c)                                                              |  | G            |
| N,N-Dimethylacetamide                                                            | DAC       | 10               | O           | E     | III       | A          | Yes                    | 3            | 56-1(b)                                                              |  | G            |
| Dimethyl disulfide                                                               | DSK       | 0                | O           | C     | II        | A          | Yes                    | 3            | 50-5                                                                 |  | G            |
| Dimethylethanolamine                                                             | DMB       | 8                | O           | D     | III       | A          | Yes                    | 1            | 56-1(b), (c)                                                         |  | G            |
| Dimethylformamide                                                                | DMF       | 10               | O           | D     | III       | A          | Yes                    | 1            | 55-1(e)                                                              |  | G            |
| Di-n-propylamine                                                                 | DNA       | 7                | O           | C     | II        | A          | Yes                    | 3            | 55-1(c)                                                              |  | G            |
| Dodecyl dimethylamine, Tetradecyl dimethylamine mixture                          | DOT       | 7                | O           | E     | III       | A          | No                     | N/A          | 56-1(b)                                                              |  | G            |
| Dodecyl diphenyl ether disulfonate solution                                      | DOS       | 43               | O           | #     | II        | A          | No                     | N/A          | No                                                                   |  | G            |
| EE Glycol Ether Mixture                                                          | EEG       | 40               | O           | D     | III       | A          | No                     | N/A          | No                                                                   |  | G            |
| Epichlorohydrin                                                                  | EPC       | 17               | O           | D     | I         | A          | Yes                    | 3            | 50-5                                                                 |  | G            |
| Ethanolamine                                                                     | MEA       | 8                | O           | E     | III       | A          | Yes                    | 1            | 55-1(c)                                                              |  | G            |
| Ethyl acrylate                                                                   | EAC       | 14               | O           | C     | III       | A          | Yes                    | 2            | 50-70(a), 50-81(a), (b)                                              |  | G            |
| Ethylamine solutions (72% or less)                                               | EAN       | 7                | O           | A     | II        | A          | Yes                    | 6            | 55-1(b)                                                              |  | G            |
| N-Ethylbutylamine                                                                | EBA       | 7                | O           | D     | III       | A          | Yes                    | 3            | 55-1(b)                                                              |  | G            |

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# Certificate of Inspection

## Cargo Authority Attachment

Vessel Name: CCL 20  
Official #: 1191598

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Shipyard: Southwest Shipyard  
Hull #: 9539

| Cargo Identification                                                                             |           |                 |             |       |           | Conditions of Carriage |                |              |                                                                       |              |
|--------------------------------------------------------------------------------------------------|-----------|-----------------|-------------|-------|-----------|------------------------|----------------|--------------|-----------------------------------------------------------------------|--------------|
| Name                                                                                             | Chem Code | Compat Group No | Sub Chapter | Grade | Hull Type | Tank Group             | Vapor Recovery |              | Special Requirements in 46 CFR 151 General and Mat'ls of Construction | Insp. Period |
|                                                                                                  |           |                 |             |       |           |                        | App'd (Y or N) | VCS Category |                                                                       |              |
| N-Ethylcyclohexylamine                                                                           | ECC       | 7               | O           | D     | III       | A                      | Yes            | 1            | .55-1(b)                                                              | G            |
| Ethylene chlorohydrin                                                                            | ECH       | 20              | O           | D     | I         | A                      | Yes            | 3            | .50-5, .50-73                                                         | G            |
| Ethylene cyanohydrin                                                                             | ETC       | 20              | O           | E     | III       | A                      | Yes            | 1            | No                                                                    | G            |
| Ethylenediamine                                                                                  | EDA       | 7 2             | O           | D     | III       | A                      | Yes            | 1            | .55-1(c)                                                              | G            |
| Ethylene dichloride                                                                              | EDC       | 36 2            | O           | C     | III       | A                      | Yes            | 1            | No                                                                    | G            |
| Ethylene glycol hexyl ether                                                                      | EGH       | 40              | O           | E     | III       | A                      | No             | N/A          | No                                                                    | G            |
| Ethylene glycol monoalkyl ethers                                                                 | EGC       | 40              | O           | D/E   | III       | A                      | Yes            | 1            | No                                                                    | G            |
| Ethylene glycol propyl ether                                                                     | EGP       | 40              | O           | E     | III       | A                      | Yes            | 1            | No                                                                    | G            |
| 2-Ethylhexyl acrylate                                                                            | EAI       | 14              | O           | E     | III       | A                      | Yes            | 2            | .50-70(a), .50-81(a), (b)                                             | G            |
| Ethyl methacrylate                                                                               | ETM       | 14              | O           | D/E   | III       | A                      | Yes            | 2            | .50-70(a)                                                             | G            |
| 2-Ethyl-3-propylacrolein                                                                         | EPA       | 19 2            | O           | E     | III       | A                      | Yes            | 1            | No                                                                    | G            |
| Formaldehyde solution (37% to 50%)                                                               | FMS       | 19 2            | O           | D/E   | III       | A                      | Yes            | 1            | .55-1(h)                                                              | G            |
| Furfural                                                                                         | FFA       | 19              | O           | D     | III       | A                      | Yes            | 1            | .55-1(h)                                                              | G            |
| Glutaraldehyde solutions (50% or less)                                                           | GTA       | 19              | O           | NA    | III       | A                      | No             | N/A          | No                                                                    | G            |
| Hexamethylenediamine solution                                                                    | HMC       | 7               | O           | E     | III       | A                      | Yes            | 1            | .55-1(c)                                                              | G            |
| Hexamethylenimine                                                                                | HMI       | 7               | O           | C     | II        | A                      | Yes            | 1            | .56-1(b), (c)                                                         | G            |
| 2-Hydroxyethyl acrylate                                                                          | HAI       | 0 1,2           | O           | E     | I         | A                      | Yes            | 3            | .50-5, .50-70(a), .50-73, .50-81(a), (                                | G            |
| Isoprene                                                                                         | IPR       | 30              | O           | A     | III       | A                      | No             | N/A          | .50-70(a), .50-81(a), (b)                                             | G            |
| Isoprene, Pentadiene mixture                                                                     | IPN       | 30              | O           | B     | III       | A                      | No             | N/A          | .50-70(a), .55-1(c)                                                   | G            |
| Kraft pulping liquors (free alkali content 3% or more)(including: Black, Green, or White liquor) | KPL       | 5               | O           | NA    | III       | A                      | No             | N/A          | .50-73, .56-1(a), (c), (g)                                            | G            |
| Mesityl oxide                                                                                    | MSO       | 18 2            | O           | D     | III       | A                      | Yes            | 1            | No                                                                    | G            |
| Methyl acrylate                                                                                  | MAM       | 14              | O           | C     | III       | A                      | Yes            | 2            | .50-70(a), .50-81(a), (b)                                             | G            |
| Methylcyclopentadiene dimer                                                                      | MCK       | 30              | O           | C     | III       | A                      | Yes            | 1            | No                                                                    | G            |
| Methyl diethanolamine                                                                            | MDE       | 8               | O           | E     | III       | A                      | Yes            | 1            | .56-1(b), (c)                                                         | G            |
| 2-Methyl-5-ethyl pyridine                                                                        | MEP       | 9               | O           | E     | III       | A                      | Yes            | 1            | .55-1(a)                                                              | G            |
| Methyl methacrylate                                                                              | MMM       | 14              | O           | C     | III       | A                      | Yes            | 2            | .50-70(a), .50-81(a), (b)                                             | G            |
| 2-Methylpyridine                                                                                 | MPR       | 9               | O           | D     | III       | A                      | Yes            | 3            | .55-1(c)                                                              | G            |
| alpha-Methylstyrene                                                                              | MSR       | 30              | O           | D     | III       | A                      | Yes            | 2            | .50-70(a), .50-81(a), (b)                                             | G            |
| Morpholine                                                                                       | MPL       | 7 2             | O           | D     | III       | A                      | Yes            | 1            | .55-1(c)                                                              | G            |
| Nitrobenzene                                                                                     | NTB       | 42              | O           | E     | I         | A                      | Yes            | 3            | .50-5, .50-73                                                         | G            |
| Nitroethane                                                                                      | NTE       | 42              | O           | D     | II        | A                      | No             | N/A          | .50-81, .56-1(b)                                                      | G            |
| 1- or 2-Nitropropane                                                                             | NPM       | 42              | O           | D     | III       | A                      | Yes            | 1            | .50-81                                                                | G            |
| o-Nitrotoluene                                                                                   | NIE       | 42              | O           | E     | I         | A                      | No             | N/A          | .50-5, .50-73                                                         | G            |
| Pentachloroethane                                                                                | PCE       | 36              | O           | NA    | III       | A                      | No             | N/A          | No                                                                    | G            |
| 1,3-Pentadiene                                                                                   | PDE       | 30              | O           | A     | III       | A                      | Yes            | 7            | .50-70(a), .50-81                                                     | G            |
| Perchloroethylene                                                                                | PER       | 36              | O           | NA    | III       | A                      | No             | N/A          | No                                                                    | G            |
| Phenol (or solutions with 5% or more Phenol)                                                     | PHN       | 21              | O           | E     | I         | A                      | Yes            | 3            | .50-5, .50-73                                                         | 2 yr         |
| Polyethylene polyamines                                                                          | PEB       | 7 2             | O           | E     | III       | A                      | Yes            | 1            | .55-1(e)                                                              | G            |
| iso-Propanolamine                                                                                | MPA       | 8               | O           | E     | III       | A                      | Yes            | 1            | .55-1(c)                                                              | G            |
| Propanolamine (iso-, n-)                                                                         | PAX       | 8               | O           | E     | III       | A                      | Yes            | 1            | .56-1(b), (c)                                                         | G            |
| Propionic acid                                                                                   | PNA       | 4               | O           | D     | III       | A                      | Yes            | 1            | .50-73, .55-1(g)                                                      | G            |
| Isopropylamine                                                                                   | IPP       | 7               | O           | A     | II        | A                      | Yes            | 5            | .55-1(c)                                                              | G            |
| Pyridine                                                                                         | PRD       | 9               | O           | C     | III       | A                      | Yes            | 1            | .55-1(e)                                                              | G            |
| Pyrolysis Gasoline (containing benzene)                                                          | PYG       | 32              | O           | C     | II        | A                      | No             | N/A          | .50-5, .50-60                                                         | G            |
| Sodium acetate, Glycol, Water mixture (3% or more Sodium Hydroxide)                              | SAP       | 5               | O           |       | III       | A                      | No             | N/A          | .50-73, .55-1(f)                                                      | G            |
| Sodium aluminate solution (45% or less)                                                          | SAU       | 5               | O           | NA    | III       | A                      | No             | N/A          | .50-73, .56-1(a), (b), (c)                                            | G            |

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# Certificate of Inspection

## Cargo Authority Attachment

Vessel Name: CCL 20

Official #: 1191598

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Shipyard: Southwest Shipyard

Hull #: 9539

| Cargo Identification                                                                               |           |                 |             |       |           | Conditions of Carriage |                               |              |                                                                        |              |
|----------------------------------------------------------------------------------------------------|-----------|-----------------|-------------|-------|-----------|------------------------|-------------------------------|--------------|------------------------------------------------------------------------|--------------|
| Name                                                                                               | Chem Code | Compat Group No | Sub Chapter | Grade | Hull Type | Tank Group             | Vapor Recovery App'd (Y or N) | VCS Category | Special Requirements in 46 CFR 151 General and Mat'l's of Construction | Insp. Period |
| Sodium chlorate solution (50% or less)                                                             | SDD       | 0 1.2           | O           | NA    | III       | A                      | No                            | N/A          | .50-73                                                                 | G            |
| Sodium dichromate solution (70% or less)                                                           | SDL       | 0 1.2           | O           | NA    | II        | A                      | No                            | N/A          | .50-5(d), .50-73, .56-1(b), (c)                                        | G            |
| Sodium hypochlorite solution (20% or less)                                                         | SHQ       | 5               | O           | NA    | III       | A                      | No                            | N/A          | .50-73, .56-1(a), (b)                                                  | G            |
| Sodium sulfide, hydrosulfide solution (H <sub>2</sub> S 15 ppm or less)                            | SSH       | 0 1.2           | O           | NA    | III       | A                      | Yes                           | 1            | .50-73, .55-1(b)                                                       | G            |
| Sodium sulfide, hydrosulfide solution (H <sub>2</sub> S greater than 15 ppm but less than 200 ppm) | SSI       | 0 1.2           | O           | NA    | III       | A                      | No                            | N/A          | .50-73, .55-1(b)                                                       | G            |
| Sodium sulfide, hydrosulfide solution (H <sub>2</sub> S greater than 200 ppm)                      | SSJ       | 0 1.2           | O           | NA    | II        | A                      | No                            | N/A          | .50-73, .55-1(b)                                                       | G            |
| Styrene monomer                                                                                    | STY       | 30              | O           | D     | III       | A                      | Yes                           | 2            | .50-70(a), .50-81(a), (b)                                              | G            |
| 1,1,2,2-Tetrachloroethane                                                                          | TEC       | 36              | O           | NA    | III       | A                      | No                            | N/A          | No                                                                     | G            |
| Tetraethylene pentamine                                                                            | TTP       | 7               | O           | E     | III       | A                      | Yes                           | 1            | .55-1(c)                                                               | G            |
| Tetrahydrofuran                                                                                    | THF       | 41              | O           | C     | III       | A                      | Yes                           | 1            | .50-70(b)                                                              | G            |
| o-Toluidine                                                                                        | TLI       | 9               | O           | E     | II        | A                      | Yes                           | 3            | .50-5, .50-73                                                          | G            |
| 1,2,4-Trichlorobenzene                                                                             | TCB       | 36              | O           | E     | III       | A                      | Yes                           | 1            | .50-73, .56-1(a)                                                       | G            |
| 1,1,2-Trichloroethane                                                                              | TCM       | 36              | O           | NA    | III       | A                      | Yes                           | 1            | No                                                                     | G            |
| Trichloroethylene                                                                                  | TCL       | 36 2            | O           | NA    | III       | A                      | Yes                           | 1            | No                                                                     | G            |
| 1,2,3-Trichloropropane                                                                             | TCN       | 36              | O           | E     | II        | A                      | Yes                           | 3            | .50-73, .56-1(a)                                                       | G            |
| Triethanolamine                                                                                    | TEA       | 8 2             | O           | E     | III       | A                      | Yes                           | 1            | .55-1(b)                                                               | G            |
| Triethylamine                                                                                      | TEN       | 7               | O           | C     | II        | A                      | Yes                           | 3            | .55-1(e)                                                               | G            |
| Triethylenetetramine                                                                               | TET       | 7 2             | O           | E     | III       | A                      | Yes                           | 1            | .55-1(b)                                                               | G            |
| Triphenylborane (10% or less), caustic soda solution                                               | TPB       | 5               | O           | NA    | III       | A                      | No                            | N/A          | .56-1(a), (b), (c)                                                     | G            |
| Trisodium phosphate solution                                                                       | TSP       | 5               | O           | NA    | III       | A                      | No                            | N/A          | .50-73, .56-1(a), (c)                                                  | G            |
| Urea, Ammonium nitrate solution (containing more than 2% NH <sub>3</sub> )                         | UAS       | 6               | O           | NA    | III       | A                      | No                            | N/A          | .56-1(b)                                                               | G            |
| Vanillin black liquor (free alkali content, 3% or more).                                           | VBL       | 5               | O           | NA    | III       | A                      | No                            | N/A          | .50-73, .56-1(a), (c), (g)                                             | G            |
| Vinyl acetate                                                                                      | VAM       | 13              | O           | C     | III       | A                      | Yes                           | 2            | .50-70(a), .50-81(a), (b)                                              | G            |
| Vinyl neodecanoate                                                                                 | VND       | 13              | O           | E     | III       | A                      | No                            | N/A          | .50-70(a), .50-81(a), (b)                                              | G            |
| Vinyltoluene                                                                                       | VNT       | 13              | O           | D     | III       | A                      | Yes                           | 2            | .50-70(a), .50-81, .56-1(a), (b), (c), (                               | G            |

### Subchapter D Cargoes Authorized for Vapor Control

|                                                                                                                                                       |     |      |   |   |  |   |     |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|---|---|--|---|-----|---|
| Acetone                                                                                                                                               | ACT | 18 2 | D | C |  | A | Yes | 1 |
| Acetophenone                                                                                                                                          | ACP | 18   | D | E |  | A | Yes | 1 |
| Alcohol (C6-C17) (secondary) poly(3-6) ethoxylates                                                                                                    | AEA | 20   | D | E |  | A | Yes | 1 |
| Alcohol (C6-C17) (secondary) poly(7-12) ethoxylates                                                                                                   | AEB | 20   | D | E |  | A | Yes | 1 |
| Amyl acetate (all isomers)                                                                                                                            | AEC | 34   | D | D |  | A | Yes | 1 |
| Amyl alcohol (iso-, n-, sec-, primary)                                                                                                                | AAI | 20   | D | D |  | A | Yes | 1 |
| Benzyl acetate                                                                                                                                        | BZE | 34   | D | E |  | A | Yes | 1 |
| Benzyl alcohol                                                                                                                                        | BAL | 21   | D | E |  | A | Yes | 1 |
| Brake fluid base mixtures (containing Poly(2-8)alkylene(C2-C3) glycols, Polyalkylene(C2-C10) glycol monoalkyl(C1-C4) ethers, and their borate esters) | BFY | 20   | D | E |  | A | Yes | 1 |
| Butyl acetate (all isomers)                                                                                                                           | BAX | 34   | D | D |  | A | Yes | 1 |
| Isobutyl alcohol                                                                                                                                      | IAL | 20 2 | D | D |  | A | Yes | 1 |
| Butyl alcohol (n-)                                                                                                                                    | BAN | 20 2 | D | D |  | A | Yes | 1 |
| Butyl alcohol (sec-)                                                                                                                                  | BAS | 20 2 | D | C |  | A | Yes | 1 |
| Butyl alcohol (tert-)                                                                                                                                 | BAT | 20 2 | D | C |  | A | Yes | 1 |
| Butyl benzyl phthalate                                                                                                                                | BPH | 34   | D | E |  | A | Yes | 1 |

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## Cargo Authority Attachment

Vessel Name: CCL 20

Official #: 1191598

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Shipyard: Southwest Shipyard

Hull #: 9539

| Cargo Identification                   |           |                 |             |       |           | Conditions of Carriage |                               |              |                                                                       |              |
|----------------------------------------|-----------|-----------------|-------------|-------|-----------|------------------------|-------------------------------|--------------|-----------------------------------------------------------------------|--------------|
| Name                                   | Chem Code | Compat Group No | Sub Chapter | Grade | Hull Type | Tank Group             | Vapor Recovery App'd (Y or N) | VCS Category | Special Requirements in 46 CFR 151 General and Mat'ls of Construction | Insp. Period |
| Butyl toluene                          | BUE       | 32              | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| Caprolactam solutions                  | CLS       | 22              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Cycloheptane                           | CYE       | 31              | D           | C     |           | A                      | Yes                           | 1            |                                                                       |              |
| Cyclohexane                            | CHX       | 31              | D           | C     |           | A                      | Yes                           | 1            |                                                                       |              |
| Cyclohexanol                           | CHN       | 20              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Cyclohexyl acetate                     | CYC       | 34              | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| 1,3-Cyclopentadiene dimer (molten)     | CPD       | 30              | D           | D/E   |           | A                      | Yes                           | 2            |                                                                       |              |
| Cyclopentane                           | CYP       | 31              | D           | B     |           | A                      | Yes                           | 1            |                                                                       |              |
| p-Cymene                               | CMP       | 32              | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| iso-Decaldehyde                        | IDA       | 19              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| n-Decaldehyde                          | DAL       | 19              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Decanoic acid                          | DCO       | 4               | D           | #     |           | A                      | Yes                           | 1            |                                                                       |              |
| Decene                                 | DCE       | 30              | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| Decyl alcohol (all isomers)            | DAX       | 20 <sup>2</sup> | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| n-Decylbenzene, see Alkyl(C9+)benzenes | DBZ       | 32              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Diacetone alcohol                      | DAA       | 20 <sup>2</sup> | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| Dibutyl phthalate                      | DPA       | 34              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Diethylbenzene                         | DEB       | 32              | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| Diethylene glycol                      | DEG       | 40 <sup>2</sup> | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Diisobutylene                          | DBL       | 30              | D           | C     |           | A                      | Yes                           | 1            |                                                                       |              |
| Diisobutyl ketone                      | DIK       | 18              | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| Diisopropylbenzene (all isomers)       | DIX       | 32              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Dimethyl phthalate                     | DTL       | 34              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Diethyl phthalate                      | DOP       | 34              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Dipentene                              | DPN       | 30              | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| Diphenyl                               | DIL       | 32              | D           | D/E   |           | A                      | Yes                           | 1            |                                                                       |              |
| Diphenyl, Diphenyl ether mixtures      | DDO       | 33              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Diphenyl ether                         | DPE       | 41              | D           | (E)   |           | A                      | Yes                           | 1            |                                                                       |              |
| Dipropylene glycol                     | DPG       | 40              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Distillates: Flashed feed stocks       | DFF       | 33              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Distillates: Straight run              | DSR       | 33              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Dodecene (all isomers)                 | DOZ       | 30              | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| Dodecylbenzene, see Alkyl(C9+)benzenes | DDB       | 32              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| 2-Ethoxyethyl acetate                  | EEA       | 34              | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| Ethoxy triglycol (crude)               | ETG       | 40              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Ethyl acetate                          | ETA       | 34              | D           | C     |           | A                      | Yes                           | 1            |                                                                       |              |
| Ethyl acetoacetate                     | EAA       | 34              | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Ethyl alcohol                          | EAL       | 20 <sup>2</sup> | D           | C     |           | A                      | Yes                           | 1            |                                                                       |              |
| Ethylbenzene                           | ETB       | 32              | D           | C     |           | A                      | Yes                           | 1            |                                                                       |              |
| Ethyl butanol                          | EBT       | 20              | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |

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# Certificate of Inspection

## Cargo Authority Attachment

Vessel Name: CCL 20

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Shipyard: Southwest Shipyard

Hull #: 9539

| Cargo Identification                                                    |           |                 |             |       |           | Conditions of Carriage |                |              |                                                                        |              |
|-------------------------------------------------------------------------|-----------|-----------------|-------------|-------|-----------|------------------------|----------------|--------------|------------------------------------------------------------------------|--------------|
| Name                                                                    | Chem Code | Compat Group No | Sub Chapter | Grade | Hull Type | Tank Group             | Vapor Recovery |              | Special Requirements in 46 CFR 151 General and Mat'l's of Construction | Insp. Period |
|                                                                         |           |                 |             |       |           |                        | App'd (Y or N) | VCS Category |                                                                        |              |
| Ethyl tert-butyl ether                                                  | EBE       | 41              | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Ethyl butyrate                                                          | EBR       | 34              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Ethyl cyclohexane                                                       | ECY       | 31              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Ethylene glycol                                                         | EGL       | 20 <sup>2</sup> | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Ethylene glycol butyl ether acetate                                     | EMA       | 34              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Ethylene glycol diacetate                                               | EGY       | 34              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Ethylene glycol phenyl ether                                            | EPE       | 40              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Ethyl-3-ethoxypropionate                                                | EEP       | 34              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| 2-Ethylhexanol                                                          | EHX       | 20              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Ethyl propionate                                                        | EPR       | 34              | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Ethyl toluene                                                           | ETE       | 32              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Formamide                                                               | FAM       | 10              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Furfuryl alcohol                                                        | FAL       | 20 <sup>2</sup> | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Gasoline blending stocks: Alkylates                                     | GAK       | 33              | D           | A/C   |           | A                      | Yes            | 1            |                                                                        |              |
| Gasoline blending stocks: Reformates                                    | GRF       | 33              | D           | A/C   |           | A                      | Yes            | 1            |                                                                        |              |
| Gasolines: Automotive (containing not over 4.23 grams lead per gallon)  | GAT       | 33              | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Gasolines: Aviation (containing not over 4.86 grams of lead per gallon) | GAV       | 33              | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Gasolines: Casinghead (natural)                                         | GCS       | 33              | D           | A/C   |           | A                      | Yes            | 1            |                                                                        |              |
| Gasolines: Polymer                                                      | GPL       | 33              | D           | A/C   |           | A                      | Yes            | 1            |                                                                        |              |
| Gasolines: Straight run                                                 | GSR       | 33              | D           | A/C   |           | A                      | Yes            | 1            |                                                                        |              |
| Glycerine                                                               | GCR       | 20 <sup>2</sup> | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Heptane (all isomers), see Alkanes (C6-C9) (all isomers)                | HMX       | 31              | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| n-Heptanoic acid                                                        | HEN       | 4               | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Heptanol (all isomers)                                                  | HTX       | 20              | D           | D/E   |           | A                      | Yes            | 1            |                                                                        |              |
| Heptene (all isomers)                                                   | HPX       | 30              | D           | C     |           | A                      | Yes            | 2            |                                                                        |              |
| Heptyl acetate                                                          | HPE       | 34              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Hexane (all isomers), see Alkanes (C6-C9)                               | HXS       | 31 <sup>2</sup> | D           | B/C   |           | A                      | Yes            | 1            |                                                                        |              |
| Hexanoic acid                                                           | HXO       | 4               | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Hexanol                                                                 | HXN       | 20              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Hexene (all isomers)                                                    | HEX       | 30              | D           | C     |           | A                      | Yes            | 2            |                                                                        |              |
| Hexylene glycol                                                         | HXG       | 20              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Isophorone                                                              | IPH       | 18 <sup>2</sup> | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Jet fuel: JP-4                                                          | JPF       | 33              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Jet fuel: JP-5 (kerosene, heavy)                                        | JPV       | 33              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Kerosene                                                                | KRS       | 33              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Methyl acetate                                                          | MTT       | 34              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Methyl alcohol                                                          | MAL       | 20 <sup>2</sup> | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Methylamyl acetate                                                      | MAC       | 34              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Methylamyl alcohol                                                      | MAA       | 20              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Methyl amyl ketone                                                      | MAK       | 18              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |

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# Certificate of Inspection

## Cargo Authority Attachment

Vessel Name: CCL 20

Official #: 1191598

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Shipyard: Southwest Shipyard

Hull #: 9539

| Cargo Identification                                     |           |                 |             |       |           | Conditions of Carriage |                |              |                                                                        |              |
|----------------------------------------------------------|-----------|-----------------|-------------|-------|-----------|------------------------|----------------|--------------|------------------------------------------------------------------------|--------------|
| Name                                                     | Chem Code | Compat Group No | Sub Chapter | Grade | Hull Type | Tank Group             | Vapor Recovery |              | Special Requirements in 46 CFR 151 General and Mat'l's of Construction | Insp. Period |
|                                                          |           |                 |             |       |           |                        | App'd (Y or N) | VCS Category |                                                                        |              |
| Methyl tert-butyl ether                                  | MBE       | 41 <sup>2</sup> | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Methyl butyl ketone                                      | MBK       | 18              | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Methyl butyrate                                          | MBU       | 34              | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Methylcyclohexane                                        | MCY       | 31              | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Methyl ethyl ketone                                      | MEK       | 18 <sup>2</sup> | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Methyl heptyl ketone                                     | MHK       | 18              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Methyl isobutyl ketone                                   | MIK       | 18 <sup>2</sup> | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Mineral spirits                                          | MNS       | 33              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Myrcene                                                  | MRE       | 30              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Naphtha: Heavy                                           | NAG       | 33              | D           | #     |           | A                      | Yes            | 1            |                                                                        |              |
| Naphtha: Petroleum                                       | PTN       | 33              | D           | #     |           | A                      | Yes            | 1            |                                                                        |              |
| Naphtha: Solvent                                         | NSV       | 33              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Naphtha: Stoddard solvent                                | NSS       | 33              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Naphtha: Varnish makers and painters (75%)               | NVM       | 33              | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Nonane (all isomers), see Alkanes (C6-C9)                | NAX       | 31              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Nonene (all isomers)                                     | NON       | 30              | D           | D     |           | A                      | Yes            | 2            |                                                                        |              |
| Nonyl alcohol (all isomers)                              | NNS       | 20 <sup>2</sup> | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Nonyl phenol                                             | NNP       | 21              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Nonyl phenol poly(4+)ethoxylates                         | NPE       | 40              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Octane (all isomers), see Alkanes (C6-C9)                | OAX       | 31              | D           | C     |           | A                      | Yes            | 1            |                                                                        |              |
| Octanoic acid (all isomers)                              | OAY       | 4               | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Octanol (all isomers)                                    | OCX       | 20 <sup>2</sup> | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Octene (all isomers)                                     | OTX       | 30              | D           | C     |           | A                      | Yes            | 2            |                                                                        |              |
| Oil, fuel: No. 2                                         | OTW       | 33              | D           | D/E   |           | A                      | Yes            | 1            |                                                                        |              |
| Oil, fuel: No. 2-D                                       | OTD       | 33              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Oil, fuel: No. 4                                         | OFR       | 33              | D           | D/E   |           | A                      | Yes            | 1            |                                                                        |              |
| Oil, fuel: No. 6                                         | OSX       | 33              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Oil, misc: Crude                                         | OIL       | 33              | D           | A/D   |           | A                      | Yes            | 1            |                                                                        |              |
| Oil, misc: Diesel                                        | ODS       | 33              | D           | D/E   |           | A                      | Yes            | 1            |                                                                        |              |
| Oil, misc: Gas, high pour                                | OGP       | 33              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Oil, misc: Lubricating                                   | OLB       | 33              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Oil, misc: Residual                                      | ORL       | 33              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Oil, misc: Turbine                                       | OTB       | 33              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| n-Pentyl propionate                                      | PPE       | 34              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| alpha-Pinene                                             | PIO       | 30              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| beta-Pinene                                              | PIP       | 30              | D           | D     |           | A                      | Yes            | 1            |                                                                        |              |
| Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether         | PAG       | 40              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether acetate | PAF       | 34              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Polybutene                                               | PLB       | 30              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |
| Polypropylene glycol                                     | PGC       | 40              | D           | E     |           | A                      | Yes            | 1            |                                                                        |              |

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# Certificate of Inspection

## Cargo Authority Attachment

Vessel Name: CCL 20  
Official #: 1191598

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Shipyard: Southwest Shipyard  
Hull #: 9539

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| Cargo Identification                                       |           |                   |             |       |           | Conditions of Carriage |                               |              |                                                                       |              |
|------------------------------------------------------------|-----------|-------------------|-------------|-------|-----------|------------------------|-------------------------------|--------------|-----------------------------------------------------------------------|--------------|
| Name                                                       | Chem Code | Compat Group No   | Sub Chapter | Grade | Hull Type | Tank Group             | Vapor Recovery App'd (Y or N) | VCS Category | Special Requirements in 46 CFR-151 General and Mat'ls of Construction | Insp. Period |
| Isopropyl acetate                                          | IAC       | 34                | D           | C     |           | A                      | Yes                           | 1            |                                                                       |              |
| n-Propyl acetate                                           | PAT       | 34                | D           | C     |           | A                      | Yes                           | 1            |                                                                       |              |
| Isopropyl alcohol                                          | IPA       | 20 <sup>2,3</sup> | D           | C     |           | A                      | Yes                           | 1            |                                                                       |              |
| n-Propyl alcohol                                           | PAL       | 20 <sup>2</sup>   | D           | C     |           | A                      | Yes                           | 1            |                                                                       |              |
| Propylbenzene (all isomers)                                | PBY       | 32                | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| Isopropylcyclohexane                                       | IPX       | 31                | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| Propylene glycol                                           | PPG       | 20 <sup>2</sup>   | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Propylene glycol methyl ether acetate                      | PGN       | 34                | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| Propylene tetramer                                         | PTT       | 30                | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |
| Sulfolane                                                  | SFL       | 39                | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Tetraethylene glycol                                       | TTG       | 40                | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Tetrahydronaphthalene                                      | THN       | 32                | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Toluene                                                    | TOL       | 32                | D           | C     |           | A                      | Yes                           | 1            |                                                                       |              |
| Tricresyl phosphate (containing less than 1% ortho isomer) | TCP       | 34                | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Triethylbenzene                                            | TEB       | 32                | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Triethylene glycol                                         | TEG       | 40                | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Triethyl phosphate                                         | TPS       | 34                | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Trimethylbenzene (all isomers)                             | TRE       | 32                | D           | {D}   |           | A                      | Yes                           | 1            |                                                                       |              |
| Trixylyl phosphate                                         | TRP       | 34                | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| 1-Undecene                                                 | UDC       | 30                | D           | D/E   |           | A                      | Yes                           | 1            |                                                                       |              |
| 1-Undecyl alcohol                                          | UND       | 20                | D           | E     |           | A                      | Yes                           | 1            |                                                                       |              |
| Xylenes (ortho-, meta-, para-)                             | XLX       | 32                | D           | D     |           | A                      | Yes                           | 1            |                                                                       |              |

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# Certificate of Inspection

## Cargo Authority Attachment

Vessel Name: CCL 20  
Official #: 1191598

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Shipyard: Southwest Shi  
Hull #: 9539

### Explanation of terms & symbols used in the Table:

#### Cargo Identification

|                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name                                                 | The proper shipping name as listed in 46 CFR Table 30.25-1, 46 CFR Table 151.05, and 46 CFR Part 153 Table 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Chem Code<br>none                                    | The three letter designation assigned to the cargo in the Chemical Hazards Response Information System (CHRIS) Manual.<br>Certain mixtures of cargoes may not have a CHRIS Code assigned.                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Compatibility Group No.                              | The cargo reactive group number assigned for compatibility determinations in 46 CFR Part 150 Tables I and II. In accordance with 46 CFR 150.130, the Person-in-Charge of the barge is responsible for ensuring that the compatibility requirements of 46 CFR Part 150 are met. Cargoes must be checked for compatibility using the figures, tables, and appendices of 46 CFR 150 in conjunction with the assigned reactive group number.                                                                                                                                                                                             |
| Note 1                                               | Because of the very high reactivity or unusual conditions of carriage or potential compatibility problems, this product is not assigned to a specific group in the Compatibility Chart. For additional compatibility information, contact Commandant (CG-3PSO-3), U.S. Coast Guard, 2100 Second Street, SW, Washington, DC 20593-0001. Telephone (202) 372-1425.                                                                                                                                                                                                                                                                     |
| Note 2                                               | See Appendix I to 46 CFR Part 150 - exceptions to the compatibility chart.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Subchapter<br>Subchapter D<br>Subchapter O<br>Note 3 | The subchapter in Title 46 Code of Federal Regulations under which the cargo has been classified.<br>Those flammable and combustible liquids listed in 46 CFR Table 30.25-1.<br>Those hazardous cargoes listed in 46 CFR Table 151.05 and 46 CFR Part 153 Table 2.<br>Those cargoes listed in 46 CFR Part 153 Table 2 are non-regulated cargoes when carried in bulk on non-oceangoing barges.                                                                                                                                                                                                                                       |
| Grade                                                | The cargo classification assigned to each flammable or combustible liquid. Grades inside of "{}" indicate a provisional assignment based upon literature sources which were not verified by manufacturers data. The Person-in-Charge shall verify the cargo grade based on Manufacturers data and ensure that the barge is authorized for carriage of that grade of cargo.                                                                                                                                                                                                                                                           |
| A, B, C<br>D, E<br>Note 4                            | Flammable liquid cargoes, as defined in 46 CFR 30-10.22.<br>Combustible liquid cargoes, as defined in 46 CFR 30-10.15.<br>The flammability/combustibility grade of these cargoes may vary depending upon the flashpoint and Reid vapor pressure. The Person-in-Charge shall verify the cargo grade based on Manufacturers data and ensure that the barge is authorized for carriage of that grade of cargo.                                                                                                                                                                                                                          |
| NA<br>#                                              | Those subchapter O cargoes which are not classified as a flammable or combustible liquid.<br>No flammability/combustibility grade has been assigned yet, as the necessary flash point/vapor pressure data for such assignments are presently not available.                                                                                                                                                                                                                                                                                                                                                                          |
| Hull Type<br>I<br>II<br>III<br>NA                    | The required barge hull classification for carriage of the specified Subchapter O hazardous material cargo, see 46 CFR 151.10-1.<br>Designed to carry products which require the maximum preventive measures to preclude the uncontrolled release of the cargo. See 46 CFR 151.10-1(b)(1).<br>Designed to carry products which require significant preventive measures to preclude the uncontrolled release of cargo. See 46 CFR 151.10-1(b)(3).<br>Designed to carry products of sufficient hazard to require a moderate degree of control. See 46 CFR 151.10-1(b)(4).<br>Not applicable to barges certificated under Subchapter D. |

#### Conditions of Carriage

|                                     |                                                                                                                                                                                                                              |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tank Group                          | The vessel's tank group (as defined in Section 4) which is authorized for carriage of the named cargo.                                                                                                                       |
| Vapor Recovery<br>Approved (Y or N) | Yes: The vessel's VCS has been reviewed and approved by the MSC to control vapors of the specified cargo.<br>No: The vessel's VCS has been reviewed and is not approved by the MSC to control vapors of the specified cargo. |

#### Conditions of Carriage

|                                     |                                                                                                                                                                                                                              |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tank Group                          | The vessel's tank group (as defined under the "46 CFR Tank Group Characteristics" listed on page 1) which is authorized for carriage of the named cargo.                                                                     |
| Vapor Recovery<br>Approved (Y or N) | Yes: The vessel's VCS has been reviewed and approved by the MSC to control vapors of the specified cargo.<br>No: The vessel's VCS has been reviewed and is not approved by the MSC to control vapors of the specified cargo. |

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VCS Category: | The specified cargo's provisional classification for vapor control systems.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Category 1    | (No additional VCS requirements above those for benzene, gasolines and crude oil) All requirements applying to the handling of oil and hazardous materials in Titles 33 and 46 Code of Federal Regulations (CFR) apply to these cargoes. Those specifically dealing with vapor control systems are in 33 CFR 155.750, 33 CFR 156.120, 33 CFR 156.170, 46 CFR 35.35 and 46 CFR 39. The cargo tank venting system calculations (46 CFR 39.20-11) and the pressure drop calculations (46 CFR 39.30-1(b)) must use appropriate friction factors, vapor densities and vapor growth rates.                                                                                             |
| Category 2    | (Polymerizes) Polymerization and residue build-up of these cargoes can adversely affect the vessel by fouling safety components and restricting vapor flow which could lead to cargo tank overpressurization. The vessel's owner must develop a method of ensuring all VCS safety components are functional and polymer build-up is not causing an unsafe condition due to increased pressure in the vapor control piping and cargo tanks. The method shall be acceptable to the local Officer in Charge, Marine Inspection. This is in addition to the requirements of Category 1. Please note that a material not normally considered a monomer can be a problem in detonation |
| Category 3    | (Highly toxic) VCSs for these toxic cargoes cannot use a spill valve or rupture disk as the primary means to meet the overfill protection requirement of 46 CFR 39.20-9. This requirement is in addition to the requirements of Category 1.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Category 4    | (Polymerizes and highly toxic) Must comply with requirements of Categories 1, 2 and 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Category 5    | (High vapor pressure) VCS pressure drop calculations for cargoes with a vapor pressure greater than 14.7 psia at 115 F must take into account increased vapor-air mixture densities and vapor growth rates as compared to Category 1 cargoes. Consult the Marine Safety Center's VCS Guidelines for further information. This requirement is in addition to the requirements of Category 1.                                                                                                                                                                                                                                                                                      |
| Category 6    | (High vapor pressure and highly toxic) Must comply with requirements of Categories 1, 3 and 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Category 7    | (High vapor pressure and polymerizes) Must comply with requirements of Categories 1, 2 and 5.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| none          | The cargo has not been evaluated/classified for use in vapor control systems.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |



# UNITED STATES OF AMERICA

## DEPARTMENT OF HOMELAND SECURITY UNITED STATES COAST GUARD

### NATIONAL VESSEL DOCUMENTATION CENTER

# CERTIFICATE OF DOCUMENTATION

|                                                                             |                            |                                                 |                                       |                             |  |
|-----------------------------------------------------------------------------|----------------------------|-------------------------------------------------|---------------------------------------|-----------------------------|--|
| VESSEL NAME<br>CCL 20                                                       |                            | OFFICIAL NUMBER<br>1191598                      | IMO OR OTHER NUMBER<br>9539           | YEAR COMPLETED<br>2007      |  |
| HAILING PORT<br>BATON ROUGE LA                                              |                            | HULL MATERIAL<br>STEEL                          |                                       | MECHANICAL PROPULSION<br>NO |  |
| GROSS TONNAGE<br><br>735 GRT                                                | NET TONNAGE<br><br>735 NRT | LENGTH<br><br>200.0                             | BREADTH<br><br>35.0                   | DEPTH<br><br>12.5           |  |
| PLACE BUILT<br><br>GALVESTON TX                                             |                            |                                                 |                                       |                             |  |
| OWNERS<br>CHEM CARRIERS LLC<br>COMPRISED OF ONE MEMBER                      |                            |                                                 | OPERATIONAL ENDORSEMENTS<br>COASTWISE |                             |  |
| MANAGING OWNER<br>CHEM CARRIERS LLC<br>1237 HIGHWAY 75<br>SUNSHINE LA 70780 |                            |                                                 |                                       |                             |  |
| RESTRICTIONS<br>NONE                                                        |                            |                                                 |                                       |                             |  |
| ENTITLEMENTS<br>NONE                                                        |                            |                                                 |                                       |                             |  |
| REMARKS<br>NONE                                                             |                            |                                                 |                                       |                             |  |
| ISSUE DATE<br>JULY 09, 2026                                                 |                            | THIS CERTIFICATE EXPIRES<br><br>AUGUST 31, 2027 |                                       |                             |  |
|                                                                             |                            | DIRECTOR, NATIONAL VESSEL DOCUMENTATION CENTER  |                                       |                             |  |



**Certificate of Financial Responsibility (COFR)**<https://www.uscg.mil/Mariners/National-Pollution-Funds-Center/COFRs/ECOFR-Active-Vessel-Status/>

Updated: 04/10/2025 14:00

| Vessel Name  | Vin      | Vessel Type Code | Vsl Vessel Type Desc | Gross Tonnage | Case Control Id | Case- Examiner Id | Case- Operator Name  | Effective Date         | Expiration Date        | Insurance Cancel Flag |
|--------------|----------|------------------|----------------------|---------------|-----------------|-------------------|----------------------|------------------------|------------------------|-----------------------|
| CCL 1        | D518612  | 50               | TANKBARGE            | 812           | 841310          | 22                | CHEM CARRIERS, L.L.C | 9/2/2022 12:00:00 AM   | 9/2/2025 12:00:00 AM   |                       |
| CCL 2        | D510107  | 50               | TANKBARGE            | 855           | 841310          | 22                | CHEM CARRIERS, L.L.C | 6/23/2023 12:00:00 AM  | 6/23/2026 12:00:00 AM  |                       |
| CCL 3        | D296363  | 50               | TANKBARGE            | 822           | 841310          | 22                | CHEM CARRIERS, L.L.C | 10/3/2023 12:00:00 AM  | 10/3/2026 12:00:00 AM  |                       |
| CCL 4        | D512519  | 50               | TANKBARGE            | 860           | 841310          | 22                | CHEM CARRIERS, L.L.C | 4/7/2025 4:00:00 AM    | 4/7/2028 12:00:00 AM   |                       |
| CCL 5        | D512520  | 50               | TANKBARGE            | 860           | 841310          | 22                | CHEM CARRIERS, L.L.C | 12/6/2022 12:00:00 AM  | 12/6/2025 12:00:00 AM  |                       |
| CCL 6        | D530996  | 50               | TANKBARGE            | 798           | 841310          | 22                | CHEM CARRIERS, L.L.C | 1/26/2025 5:00:00 AM   | 1/26/2028 12:00:00 AM  |                       |
| CCL 7        | D551980  | 50               | TANKBARGE            | 773           | 841310          | 22                | CHEM CARRIERS, L.L.C | 11/27/2023 12:00:00 AM | 11/27/2026 12:00:00 AM |                       |
| CCL 8        | D551982  | 50               | TANKBARGE            | 773           | 841310          | 22                | CHEM CARRIERS, L.L.C | 9/27/2022 12:00:00 AM  | 9/27/2025 12:00:00 AM  |                       |
| CCL 9        | D551983  | 50               | TANKBARGE            | 773           | 841310          | 22                | CHEM CARRIERS, L.L.C | 2/19/2023 12:00:00 AM  | 2/19/2026 12:00:00 AM  |                       |
| CCL 10       | D551979  | 50               | TANKBARGE            | 773           | 841310          | 22                | CHEM CARRIERS, L.L.C | 12/12/2023 12:00:00 AM | 12/12/2026 12:00:00 AM |                       |
| CCL 11       | D551976  | 50               | TANKBARGE            | 773           | 841310          | 22                | CHEM CARRIERS, L.L.C | 9/29/2022 12:00:00 AM  | 9/29/2025 12:00:00 AM  |                       |
| CCL 14       | D4497784 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 9/22/2022 12:00:00 AM  | 9/22/2025 12:00:00 AM  |                       |
| CCL 15       | D1164452 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 3/1/2024 12:00:00 AM   | 3/1/2027 12:00:00 AM   |                       |
| CCL 16       | D1164666 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 9/14/2024 12:00:00 AM  | 9/14/2027 12:00:00 AM  |                       |
| CCL 17       | D1166179 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 1/31/2023 12:00:00 AM  | 1/31/2026 12:00:00 AM  |                       |
| CCL 18       | D1168981 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 7/1/2023 12:00:00 AM   | 7/1/2026 12:00:00 AM   |                       |
| CCL 19       | D1168980 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 8/24/2023 12:00:00 AM  | 8/24/2026 12:00:00 AM  |                       |
| CCL 20       | D1191598 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 2/27/2025 5:00:00 AM   | 2/27/2028 12:00:00 AM  |                       |
| CCL 21       | D1191599 | 50               | TANKBARGE            | 793           | 841310          | 22                | CHEM CARRIERS, L.L.C | 2/26/2025 5:00:00 AM   | 2/26/2028 12:00:00 AM  |                       |
| CCL 22       | D1191600 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 1/13/2025 5:00:00 AM   | 1/13/2028 12:00:00 AM  |                       |
| CCL 23       | D1191601 | 50               | TANKBARGE            | 793           | 841310          | 22                | CHEM CARRIERS, L.L.C | 4/20/2025 4:00:00 AM   | 4/20/2028 12:00:00 AM  |                       |
| CCL 24       | D1196547 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 8/11/2023 12:00:00 AM  | 8/11/2026 12:00:00 AM  |                       |
| CCL 25       | D1196548 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 8/11/2023 12:00:00 AM  | 8/11/2026 12:00:00 AM  |                       |
| CCL 26       | D1203816 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 2/11/2025 5:00:00 AM   | 2/11/2028 12:00:00 AM  |                       |
| CCL 27       | D1203817 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 5/3/2024 12:00:00 AM   | 5/3/2027 12:00:00 AM   |                       |
| CCL 28       | D1212828 | 50               | TANKBARGE            | 793           | 841310          | 22                | CHEM CARRIERS, L.L.C | 9/9/2023 12:00:00 AM   | 9/9/2026 12:00:00 AM   |                       |
| CCL 29       | D1212829 | 50               | TANKBARGE            | 793           | 841310          | 22                | CHEM CARRIERS, L.L.C | 9/22/2023 12:00:00 AM  | 9/22/2026 12:00:00 AM  |                       |
| CCL 30       | D1305871 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 10/1/2023 12:00:00 AM  | 10/1/2026 12:00:00 AM  |                       |
| CCL 31       | D1305870 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 10/1/2023 12:00:00 AM  | 10/1/2026 12:00:00 AM  |                       |
| CCL 32       | D1305869 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 11/13/2023 12:00:00 AM | 11/13/2026 12:00:00 AM |                       |
| CCL 33       | D1305868 | 50               | TANKBARGE            | 735           | 841310          | 22                | CHEM CARRIERS, L.L.C | 11/13/2023 12:00:00 AM | 11/13/2026 12:00:00 AM |                       |
| CCL 401      | D1216671 | 50               | TANKBARGE            | 2001          | 841310          | 22                | CHEM CARRIERS, L.L.C | 4/13/2024 12:00:00 AM  | 4/13/2027 12:00:00 AM  |                       |
| CCL 402      | D1219910 | 50               | TANKBARGE            | 1754          | 841310          | 22                | CHEM CARRIERS, L.L.C | 4/29/2024 12:00:00 AM  | 4/29/2027 12:00:00 AM  |                       |
| CCL 403      | D1231311 | 50               | TANKBARGE            | 1691          | 841310          | 22                | CHEM CARRIERS, L.L.C | 2/8/2023 12:00:00 AM   | 2/8/2026 12:00:00 AM   |                       |
| CCL 404      | D1231312 | 50               | TANKBARGE            | 1619          | 841310          | 22                | CHEM CARRIERS, L.L.C | 2/23/2023 12:00:00 AM  | 2/23/2026 12:00:00 AM  |                       |
| CCL 405      | D1236867 | 50               | TANKBARGE            | 1619          | 841310          | 22                | CHEM CARRIERS, L.L.C | 1/1/2024 12:00:00 AM   | 1/1/2027 12:00:00 AM   |                       |
| CCL 406      | D1236866 | 50               | TANKBARGE            | 1691          | 841310          | 22                | CHEM CARRIERS, L.L.C | 1/27/2024 12:00:00 AM  | 1/27/2027 12:00:00 AM  |                       |
| CCL 407      | D1246320 | 50               | TANKBARGE            | 1754          | 841310          | 22                | CHEM CARRIERS, L.L.C | 8/22/2022 12:00:00 AM  | 8/22/2025 12:00:00 AM  |                       |
| CCL 408      | D1246097 | 50               | TANKBARGE            | 1619          | 841310          | 22                | CHEM CARRIERS, L.L.C | 8/7/2022 12:00:00 AM   | 8/7/2025 12:00:00 AM   |                       |
| CCL 409      | D1246098 | 50               | TANKBARGE            | 1619          | 841310          | 22                | CHEM CARRIERS, L.L.C | 10/2/2022 12:00:00 AM  | 10/2/2025 12:00:00 AM  |                       |
| CCL 410      | D1255906 | 50               | TANKBARGE            | 1619          | 841310          | 22                | CHEM CARRIERS, L.L.C | 9/3/2023 12:00:00 AM   | 9/3/2026 12:00:00 AM   |                       |
| CCL 411      | D1255907 | 50               | TANKBARGE            | 1619          | 841310          | 22                | CHEM CARRIERS, L.L.C | 9/25/2023 12:00:00 AM  | 9/25/2026 12:00:00 AM  |                       |
| CCL 414-L    | D1262941 | 50               | TANKBARGE            | 1619          | 841310          | 22                | CHEM CARRIERS, L.L.C | 9/23/2024 4:00:00 AM   | 9/23/2027 12:00:00 AM  |                       |
| CCL 415-T    | D1262942 | 50               | TANKBARGE            | 1619          | 841310          | 22                | CHEM CARRIERS, L.L.C | 9/28/2024 4:00:00 AM   | 9/28/2027 12:00:00 AM  |                       |
| CCL 416-T    | D1264691 | 50               | TANKBARGE            | 1619          | 841310          | 22                | CHEM CARRIERS, L.L.C | 1/20/2025 5:00:00 AM   | 1/20/2028 12:00:00 AM  |                       |
| CCL 417-T    | D1298307 | 50               | TANKBARGE            | 1769          | 841310          | 22                | CHEM CARRIERS, L.L.C | 1/27/2023 12:00:00 AM  | 1/27/2026 12:00:00 AM  |                       |
| CCL 418-L    | D1306896 | 50               | TANKBARGE            | 1619          | 841310          | 22                | CHEM CARRIERS, L.L.C | 11/13/2023 12:00:00 AM | 11/13/2026 12:00:00 AM |                       |
| CCL 419-L    | D1306897 | 50               | TANKBARGE            | 1619          | 841310          | 22                | CHEM CARRIERS, L.L.C | 1/5/2024 12:00:00 AM   | 1/5/2027 12:00:00 AM   |                       |
| CCL 420-T    | D1348560 | 50               | TANKBARGE            | 1619          | 841310          | 22                | CHEM CARRIERS, L.L.C | 2/12/2025 5:00:00 AM   | 2/12/2028 12:00:00 AM  |                       |
| AX 3202      | D1089031 | 50               | TANKBARGE            | 1754          | 841310          | 22                | CHEM CARRIERS, L.L.C | 6/11/2024 4:00:00 AM   | 6/11/2027 12:00:00 AM  |                       |
| MERLIN BANTA | D249614  | 51               | TUG AND TOWBOAT      | 384           | 841310          | 22                | CHEM CARRIERS, L.L.C | 11/24/2024 5:00:00 AM  | 11/24/2027 12:00:00 AM |                       |



### BARGE PIPING LETTER

INSTRUCTIONS: ALL FIELDS ARE REQUIRED. USE N/A ON ANY NON-APPLICABLE LINE.

BARGE OWNER/BARGE NAME: Chem Carriers / CCL 20

Letter expiration date (one year from test date): 6-12-27

NOTE: Test results are valid for (1) year from the date of test.

1. Cargo Piping and Valves (actual date of test): 6-12-26

Test Pressure (188 psi): 188psi

2. Cargo Relief Valve (actual date of test): 6-12-26

Test Pressure (125 psi): 125psi

3. Cargo Pressure Gauge (actual date of test): 6-12-26

Percent of Accuracy (%): 99%

4. Steam Piping and Relief Valves (actual date of test): N/A

Test Pressure (125 psi): N/A

|                             |                                          |
|-----------------------------|------------------------------------------|
| Signature of Tester:        | <u>Edgar Chiron</u>                      |
| Printed Name of Tester:     | <u>Edgar Chiron</u>                      |
| Company/Location of Tester: | <u>K-solv Maritime / Channelview TX.</u> |

1015 Lakeside Dr, Channelview, TX 77530

Phone: 281-452-4000 Fax: 281-452-5523

Revised 10/03/2019



## BARGE VAPOR TIGHTNESS LETTER

NOTE: Test results are valid for (1) one year from date of test

- Test date: 6-12-26
- Barge owner: Chem Carriers
- Barge Name/Official Number: CCL 20
- Maximum load rate (BPH): 3,500 (BPH)

→ Pressure cargo tanks and vapor system to (28) twenty-eight inches of water using a Manometer to record the time and pressure. Close all valves and allow the vessel to Remain pressure for (30) thirty minutes. Use soap to test and inspect for leaks. After (30) thirty minutes, record pressure and times.

→ Test cargo tanks and Vapor System to 28" inches of water.

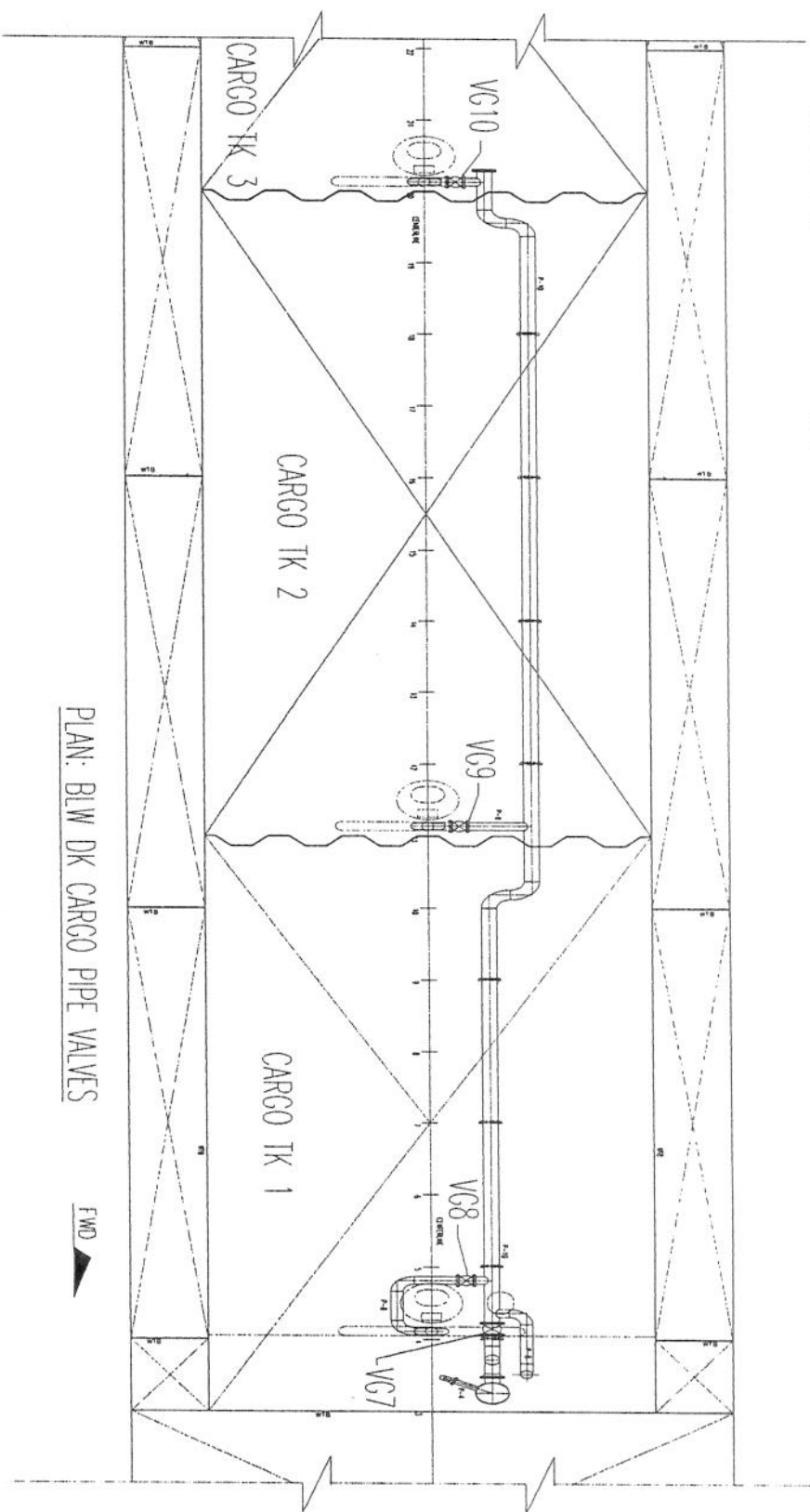
→ Start Time: 11:00 Beginning Pressure: 28"

→ End Time: 11:30 Ending Pressure: 27.3"

✓ This vessel has been tested in accordance with Section 61.304f and has been found to to be vapor tight.

|                                        |                       |
|----------------------------------------|-----------------------|
| Company of Tester:                     | Location:             |
| <u>K-solv Maritime</u>                 | <u>Channelview TX</u> |
| Name of Tester (Print):                | Signature of Tester:  |
| <u>Jose Andrade</u>                    | <u>Jose Andrade</u>   |
| Name of Witness (Print):               | Signature of Witness: |
| <u>Edgar Quin</u>                      | <u>Edgar Quin</u>     |
| Affiliation/Company of Witness (Print) |                       |
| <u>K-solv Supervisor</u>               |                       |

CCL 20 OFFICIAL # 1191598



PLAN: BLW DK CARGO PIPE VALVES



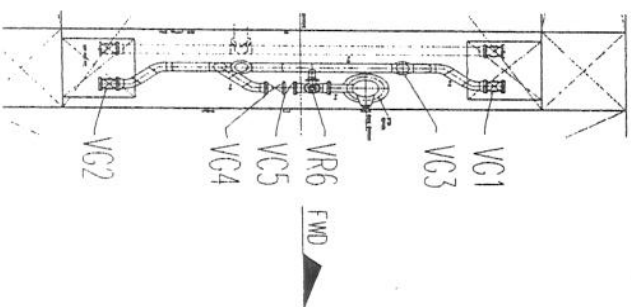
VALVE LEGEND

- VG7 = PUMP DISCHARGE GATE VALVE
- VG8 = CT 1 SUCTION VALVE
- VG9 = CT 2 SUCTION VALVE
- VG10 = CT 3 SUCTION VALVE

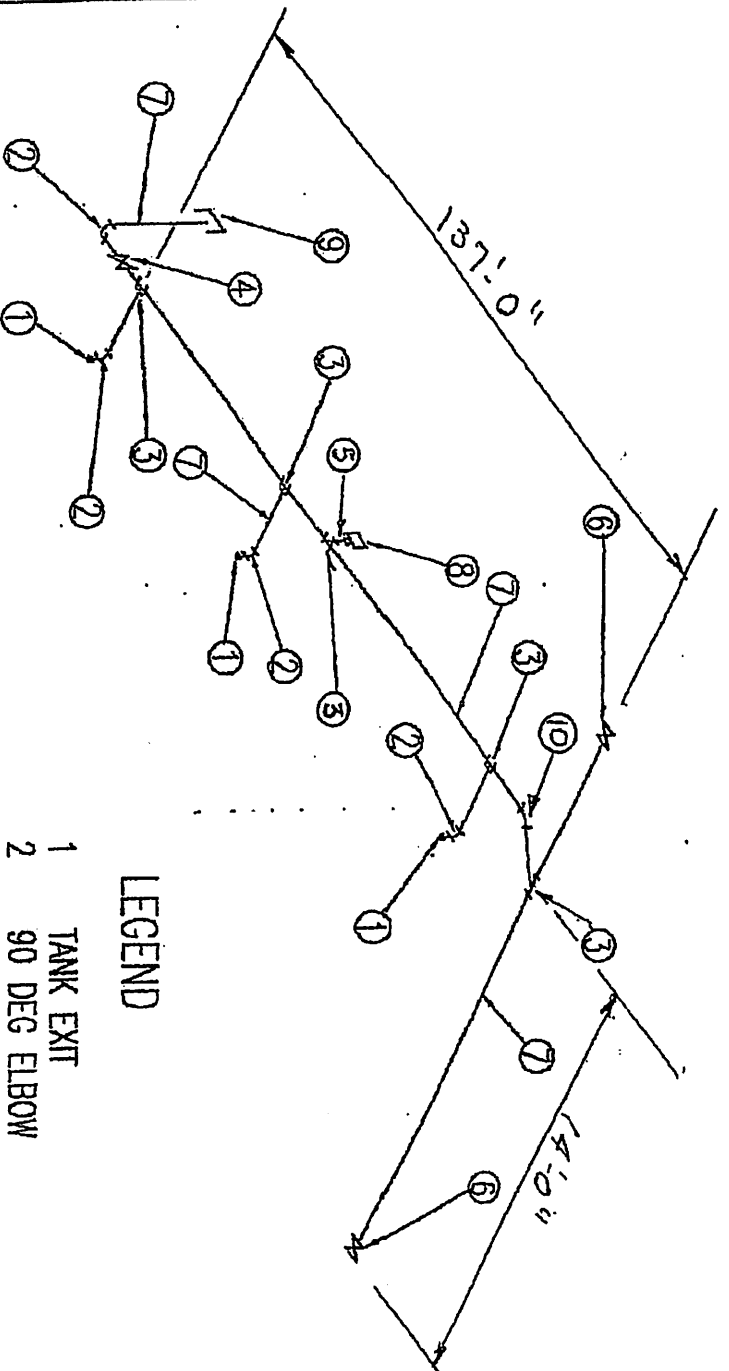
PLAN: ABV DK CARGO PIPE VALVES

VALVE LEGEND

- VG1 = MAIN HEADER PORT DISCHARGE VALVE
- VG2 = MAIN HEADER STBD DISCHARGE VALVE
- VG3 = MAIN HEADER LOADING VALVE
- VG4 = PUMP MASTER SUCTION VALVE
- VG5 = PUMP CHECK VALVE
- VR6 = PUMP RELIEF VALVE



# CCL 20



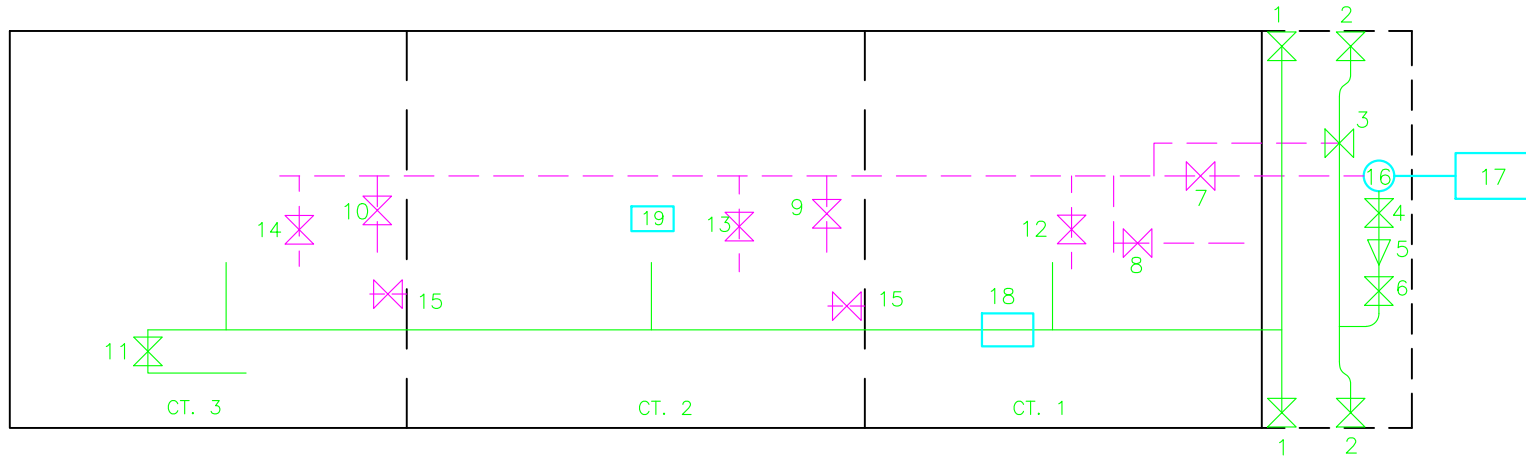
## LEGEND

- 1 TANK EXIT
- 2 90 DEG ELBOW
- 3 FORGED TEE
- 4 BUTTERFLY VALVE
- 5 8" x 6" REDUCER
- 6 GATE VALVE
- 7 8" PIPE
- 8 6" P/V VALVE
- 9 RAIN CAP
- 10 45° ELBOW.

200' x 35' x 12.5' TANK BARGE  
FILE 06-05  
ALT. 0

# CCL 20

## Cargo & Vapor Piping



| Parts List |     |                            |      |      |     |                                  |      |                   |     |                        |      |
|------------|-----|----------------------------|------|------|-----|----------------------------------|------|-------------------|-----|------------------------|------|
| ITEM       | QTY | NAME                       | NOTE | ITEM | QTY | NAME                             | NOTE | ITEM              | QTY | NAME                   | NOTE |
| 1          | 2   | Vapor Header Valve         |      | 8    | 1   | No. 1 Cargo Tank Valve           | 8"   | 15                | 2   | Sluice Valve           | 8"   |
| 2          | 2   | Cargo Header Valve         |      | 9    | 1   | No. 2 Cargo Tank Valve           | 8"   | 16                | 1   | Deep Well Pump         |      |
| 3          | 1   | Drop Valve / Load Valve    | 8"   | 10   | 1   | No. 3 Cargo Tank Valve           | 8"   | 17                | 1   | Pump Engine            |      |
|            |     |                            |      | 11   | 1   | Vent Stack Valve                 |      | 18                | 1   | High Velocity PV Valve |      |
| 4          | 1   | Pressure Release Valve     |      | 12   | 1   | No. 1 High Fill Cargo Tank Valve | 6"   | 19                | 1   | Emergency Shutdown     |      |
| 5          | 1   | Pump Discharge Check Valve |      |      |     |                                  |      | Edited 07/13/2020 |     |                        |      |
| 6          | 1   | Pump Discharge Valve       |      | 13   | 1   | No. 2 High Fill Cargo Tank Valve | 6"   |                   |     |                        |      |
| 7          | 1   | Master Suction Valve       |      | 14   | 1   | No. 3 High Fill Cargo Tank Valve | 6"   |                   |     |                        |      |

Edited 07/13/2020

# **CARGO TRANSFER PROCEDURES**

## ***CHEM CARRIERS L.L.C.***

### **TRANSFER FROM BARGE TO DOCK**

#### **PARTS**

1. **PRODUCTS TRANSFERRED**
2. **DESCRIPTION OF SYSTEM**
3. **PERSONS ON DUTY**
4. **PERSONS IN CHARGE**
5. **EMERGENCY SHUTDOWN**
6. **TOPPING OFF PROCEDURE**
7. **COMPLETION OF TRANSFER**
8. **REPORTING CARGO SPILLS**
9. **VESSEL CLOSURES**
10. **PRODUCT DATA**
11. **Vapor Control Procedures**
12. **Inert system**

**Barge CCL 20**

#### **PARTS 1.                    PRODUCTS TRANSFERRED**

33 CFR 155.750 (a) (1) (i)

**This vessel is certificated for the carriage of grades "A" and lower Sub-Chapter (D) and (O) Products. It has also been certified to carry vapor products. Reference Certificate of Inspection.**

#### **PARTS 2.                    DESCRIPTION OF CARGO TRANSFER SYSTEM**

33 CFR 155.750 (a) (2) (i) (ii)

The cargo transfer procedures apply to all Chem Carrier L.L.C. owned or leased tank barges. In most cases other than series built barges, the cargo piping arrangement is usually slightly different on every barge, and for this reason, the piping diagram must be studied before loading or discharging a barge. The basic concept for loading and discharging is fairly standard depending on the location of the pump.

A.     (Reference the piping diagram for transfer system arrangement.)

B.     PROCEDURES FOR THE CONTAINMENT SYSTEM

33 CFR 155.310 (a) (1) (iv)

33 CFR 155.750 (a) (2) (iii)

1).    The containment pans are equipped with a drain for the removal of slops to shore facilities:  
NEVER DRAIN THE CONTAINMENT TANKS ONTO THE DECK.

2).    CCL 20 is equipped with a separate containment area for

the cargo trunk top and the forward deck area. Each containment area is equipped with drains and scupper plugs. Plugs should be installed prior to cargo transfer and removed after the cargo transfer is complete. PIC should notify Chem Carriers when containment areas need cleaning or if scupper plugs need replacing. **Never Drain Product captured in containment area overboard.**

## **PARTS 3.                    PERSONS ON DUTY DURING TRANSFER**

33 CFR 155.750    (a) (3)

Number of persons required on duty during transfer operations:

- A.    At no time during the transfer operation will be less than one responsible person on duty. The certified tankerman assigned shall be in charge and responsible for the safe transfer of cargo.

## **PARTS 4.                    PERSONS IN CHARGE**

The tanker man (person in charge) is responsible for transferring cargo and carrying out related operations on board in an efficient, safe, and pollution free manner. The tankerman whether employed by the towboat, owner, operator, a shore tankerman service, or Chem Carriers L.L.C., shall comply with all Coast Guard, State and local regulations. Tankerman's responsibility shall include but not be limited to the following:

- A.    To have on his/her person a valid merchant marine document endorsed as tankerman, certified to handle the grade of cargo to be transferred.
- B.    Make a thorough inspection of the barge prior to the start of transfer operation.
- C.    To have proper connection of the grounding cable.
- D.    The vessel's moorings are adequate to hold during all expected conditions of surge, current, wind, tide, ect., and lines are long enough to allow for surge, tide, wind, changes in draft ect.
- E.    Proper hose sizes, lengths, support, and connections.
- F.    The condition of fire extinguishers and required number.
- G.    The person in charge of transfer operations on the transferring vessel or facility and the person in charge of transferring operations on the receiving vessel or facility agree to begin the transfer operations.
- H.    The transfer operation between tank barges and dock facilities should be lighted between sunset and sunrise to comply with the U. S. Coast Guard regulation pertaining to the displaying of lights on barges as required by Title 33.
- I.    The PIC (PERSON IN CHARGE) will be responsible for the DOI (declaration of inspection) and DOS (declaration of security).
- J.    Always maintain communications with dock or shore personnel with an agreed upon approved system.

## **PARTS 5:            EMERGENCY SHUTDOWN**

33 CFR 155.750 (a) (6)

THE EMERGENCY SHUTDOWN IS LOCATED NEAR THE CENTER OF THE BARGE.

- A. In the event of an emergency, transfer operations can be stopped by pulling the remote shutdown cable.
- B. Familiarize yourself with its location and operation prior to transfer.

## **PARTS 6;                            TOPPING OFF PROCEDURES**

33 CFR 155.750 (a) (7)

In the process of topping off, tanks should be loaded at different levels to top off one at a time. Extra care should be taken to avoid over pressuring the connections, and hoses by closing valves against the receiving line. Since barges and facilities vary in their systems, no standard for topping off exist, but the following should be considered:

- A. The closing of one tank increases the rate of flow to other tanks on the same line.
- B. Always consider temperature and cargo in accordance with the amount of expansion that should be allowed.
- C. Always maintain communications with dock or shore personnel.
- D. A set of dipstick overfill devices have been installed on the CCL 20. Dipsticks can be made operational by releasing the covers or caps. Dipsticks should be used as a visual aid for overfill protection.

## **PARTS 7:            COMPLETION OF TRANSFER**

33 CFR 155.750 (a) (8)

Upon the completion of the transfer all pipelines should be drained into cargo tanks. The header valve used during the operation should than be closed, sealed off with a blind flange and shore personnel should seal lines and hatches on vessel.

## **PARTS 8:                            REPORTING CARGO SPILLS**

33 CFR 155.750 (a) (9)

Should an accidental discharge of product occur, you should consider the following:

- A. Locate the source of the spill and try to stop it, if possible, and safe to do so.

- B. Make an attempt to contain the product if possible.
- C. Notify the Coast Guard. The national Response Center at 1-800-424-9300.
- D. Notify Chem Carriers L.L.C. at (225) 642-0060.
- E. If loading, transfer the cargo from the leaking tank to an adjacent tank or back to the dock if safe to do so.
- E. If discharging, pump the product from the leaking tank as quickly as possible if safe to do so.

**\*When reporting a spill, the tankerman should provide the following information:**

- A. Name (his or her)
- B. Name of Company: (employed by; (contracted by;
- C. Name of Barge.
- D. Spill Location
- E. Specify Product.
- F. Estimate Quantity of Spill
- G. Weather, Tide, Sea and Current Conditions.
- H. Cause of Spill.
- I. Action Being Taken to Contain and Stop Spill

## **PART 9**

### **CLOSURES ON VESSELS**

Upon completion of cargo transfer operations, all tank hatch covers, ullage covers, and gauging device covers shall be dogged down and secured. In addition, the vent drain valves, if installed, should be secured and left in the proper position. All drain valves should be closed, and drip pan covers, if installed, should be made up tight. Covers for void spaces, bow and stern compartments shall be secured at all times and checked for tightness. Closing devices on clean-out hatches and clean-out opening should be checked, especially when the barge is loaded.

## **PART 10**

### **PRODUCT DATA**

See specific MSDS sheets provided with these procedures.

Incase of any other emergency, immediately shut down and notify the transferring facility, and Chem Carriers L.L.C. (225) 642-0060 24 Hour Line.

## **PART 11**

### **VAPOR CONTROL PROCEDURES**

This is a guide only and is not intended to replace experience, sound judgment, and a proper assessment of the task at hand.

The tankerman on duty is the acting Designated Person In Charge (PIC) and is responsible for cargo transfer operations and carrying out related operations on barges.

1. Vapor Recovery Transfer Maximum Rate is 2300 BBLS/HR for subchapter "D" Cargoes and 2400 BBLS/Hr for subchapter "O" Cargoes.
- 1.1 Transfer rates, which exceed these maximums, must be approved by Chem Carriers.
- 1.2 Transfer rates for each cargo tank should not exceed the maximum transfer rate.

## **2. Pre-transfer Inspection For Vapor Recovery Operations**

2.1 Follow the procedures outlined below in addition to the procedures utilized during normal transfers:

2.1.1 Wear personal protective equipment (PPE) as needed for the cargo in the barge when testing P/V and, hooking up hoses, or draining low points.

2.1.2 Ensure that a Certificate of Vapor Tightness is onboard and valid.

2.1.3 Close the low point drain on the port/starboard vapor header, if applicable.

2.1.4 Close the low point drain near the vent stack, if applicable.

2.1.5 Close valve to the vent riser if applicable.

2.1.7 Blinds used for the vapor control manifold should have a hole to accommodate the ½" stud located in the vapor header.

2.1.8 Each cargo tank is fitted with a liquid level gauge stick. Remove the cap, raise the stick, This stick can be monitored visually to avoid overfilling.

2.1.9 Ensure that the last one meter (3.3 feet) of vapor piping before the vapor connection is painted red/yellow/red.

2.1.10 The cross-header should be stenciled with the word "VAPOR" in black letters at least 2" high.

2.1.11 The vapor connection flange should be fixed with a 1" long by 1/2" diameter stud projecting outward from the face of the flange, midway between bolt holes.

2.1.12 The high level alarms/shutdowns are installed near the center of each cargo tank. Dock alarm/shutdown should be connected prior to loading, and plugs located near the forward end of the barge Port and Starboard should be labeled "ALARM/SHUTDOWN SENSOR." High level alarms are set to alarm at 90% of the cargo tanks capacity and Shut downs are set to shut transfer down at 95% of each tanks capacity.

2.1.13 Ensure that the P/V relief valve flame screen, if required, is in place and in good condition prior to testing.

2.1.14 Ensure that the facility has a Letter of Adequacy endorsed as meeting the requirements of 33 CFR Subpart E.

### **3. Vapor Piping**

3.1 The PIC checks the vapor piping diagram.

3.2 Characteristics of a vapor header:

3.2.1 The vapor collection piping system on tank barges is permanently installed and located as close as practical to the loading manifold. The piping system is electrically bonded to the hull and electrically continuous.

3.2.2 The last one meter (3.3 feet) of vapor piping prior to the valve before the vapor connection is painted red/yellow/red. The red bands are 4" wide and the yellow band is 32" wide.

3.2.3 The vapor header is stenciled with the word "VAPOR" in black letters at least 2" high.

3.2.4 The vapor connection flange is to be fixed with a 1" by 1/2" diameter stud projecting outward from the face of the flange. This stud is located at the top of the flange, midway between bolt holes.

3.2.5 When not in use, blank off the vapor headers using a blind flange with a bolt in every hole. Each blind flange used on the vapor piping has a hole drilled to accommodate the pin.

### **4. Inspection And Verification Of Vent Lines**

4.1 The Person in Charge performs the following steps:

4.1.1 Checks the Certificate of Inspection on board the barge;

4.1.2 Locates polymerizing or inhibited cargoes in the section of the COI marked *Specific Hazardous Cargo Authority*;

4.1.3 Refers to the MSDS or Chemical Data Guide on board the vessel to determine what cargoes are subject to polymerization, or what cargoes are inhibited;

4.1.4 Locates the MSDS for the cargo and determines its toxicity and whether or not it is a polymerizing or inhibited cargo; and,

4.1.5 Notifies the Dispatcher and Field Supervisor when polymerization is suspected.

5. Any problems with the Vapor Control system must be reported immediately to the person in charge and Chem Carriers.

## **Part 12: Inert System**

1. CCL 20 is equipped with a closed nitrogen) system that will maintain 3 pounds of pressure and/or 3 pounds of vacuum specifically used to transport EDC (Ethylene dichloride). CCL 20 is equipped with pressure gauges on the vapor line. These gauges should be visually monitored during cargo transfer to maintain a proper transfer rate. The Pressure Vacuum Vent Valve is set to relieve pressure/Vacuum at 3 pounds at maximum flow rate.
2. Prior to load or discharge: the dock nitrogen system should be connected and opened in order to maintain a positive pressure to the cargo tank system while loading or discharging. When the pressure on the barge reaches (3# max pressure) the dock nitrogen should be turned off and disconnected.
3. Note: stack butterfly valve has been blanked off while inert system is in use.
4. CCL 20 is equipped with hermetic gauging devices located near the center of each cargo tank these gauging devices are used for closed gauging purposes.

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commandant  
United States Coast Guard

2703 Martin Luther King Jr. Ave SE  
Stop 7516  
Washington, DC 20593-7516  
Staff Symbol: CG-MER-4 (VRP)  
Phone: (202) 372-1005  
Fax: (202) 372-8376  
Email: vrp@uscg.mil

16460  
March 12, 2025

Chem Carriers, L.L.C.  
C/O: FOREFRONT EMERGENCY MANAGEMENT, LP  
ATTN: ALLIE MARTIN  
1730 COTEAU ROAD  
HOUMA, LA 70364

Dear Sir or Madam:

Your Vessel Response Plan (Control Number 56041), submitted to meet the requirements of Title 33, Code of Federal Regulations (CFR), Part 155, Subparts D and I, is **approved**. Approval will remain valid until **March 21, 2030**.

The CCL 20 (1191598) is authorized to operate only in the ports or geographic areas indicated in the Captain of the Port zones listed below. If carrying oil as cargo, the vessel is prohibited from handling, storing, transporting, transferring, or lightering oil unless it is operating in full compliance with this plan. Compliance includes ensuring that required resources have been identified and planned for or are in place and available through contract or other approved means. If applicable to your routes, this includes the dispersant and aerial observation requirements of 33 CFR 155.1050.

You are reminded that your chosen salvage and marine firefighting resource provider may have submitted waivers from meeting one or more of the specified response times in accordance with 33 CFR 155.4055. If so, this may be rescinded by the U.S. Coast Guard if the appropriate response resources are not available when the approved waiver expires. You shall continue to assess the adequacy of your chosen salvors and firefighters as required by 33 CFR 155.4050.

The vessel must keep a copy of this approval letter onboard in addition to the minimum sections of the plan as required by 33 CFR 155.1030. In accordance with 33 CFR 155.1070, you are required to review your plan annually and submit plan amendments for approval. As per 33 CFR 155.1070(b), the entire plan must be resubmitted for a comprehensive review and approval six (6) months prior to the expiration date.

**APPROVED CAPTAIN OF THE PORT ZONES**

CORPUS CHRISTI  
HOUMA  
HOUSTON-GALVESTON

LOWER MISSISSIPPI RIVER OHIO VALLEY  
(MEMPHIS)  
MOBILE  
NEW ORLEANS

UPPER MISSISSIPPI RIVER  
(ST. LOUIS)  
PORT ARTHUR AND LAKE  
CHARLES

Sincerely,



CHARRON MCCOMBS

Lieutenant Commander

Acting Chief, Domestic Preparedness & Planning Division

U.S. Coast Guard

By direction

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commanding Officer  
United States Coast Guard  
Marine Safety Center

US Coast Guard Stop 7430  
2703 Martin Luther King Jr. Ave. SE  
Washington, DC 20593-7430  
Staff Symbol: MSC-5  
Phone: (202) 795-6729  
Email: securityplaninfo@uscg.mil

16710  
VS-326893  
December 3, 2024

Chem Carriers, LLC  
Attn: Robert Banta  
1237 Hwy 75  
Sunshine, LA 70780  
robert@chemcarriers.com

Subj: CHEM CARRIERS, LLC VESSELS  
VESSEL SECURITY PLAN APPROVAL WITH AMENDMENTS

Ref: (a) Your correspondence dated November 6, 2024  
(b) Title 33 Code of Federal Regulations (CFR) Part 104  
(c) MSC Vessel Security Plan Approval letter dated October 16, 2024

Dear Mr. Banta:

We have conducted a review of the Vessel Security Plan (VSP) submitted with reference (a) in accordance with reference (b) and it is **"Approved."**

Your vessel must operate in compliance with this approved VSP and the requirements contained in reference (b). You are reminded to immediately report any deviation from this approved plan to the local Captain of the Port (COTP)/Officer in Charge, Marine Inspection (OCMI).

This approval will remain valid until five years from the date of reference (c) unless rescinded in writing by the local COTP/OCMI. You must review your plan annually and submit any amendments to this office for approval. Please ensure that a copy of the VSP is maintained on board the vessel if manned, or, if unmanned, at a suitable secure location so that it is readily available during an emergency or security incident. You shall make available to the Coast Guard, upon request, this letter, the VSP and any information related to the implementation of the VSP. Our Case Number for this plan is 326893. Please ensure that all future correspondence includes this Case Number.

Sincerely,

K. C. WILLIAMS  
Lieutenant Commander, U.S. Coast Guard  
Chief, Vessel Security Division  
By direction

Enclosures: (1) List of Vessel Security Plan Amendments  
(2) List of Vessels Covered

**List of Vessels Covered**

| <u>Vessel Name</u> | <u>Official Number (O.N.)</u> |
|--------------------|-------------------------------|
| CCL-1              | 518612                        |
| CCL 2              | 510107                        |
| CCL-3              | 296363                        |
| CCL 4              | 512519                        |
| CCL-5              | 512520                        |
| CCL-6              | 530996                        |
| CCL7               | 551980                        |
| CCL 8              | 551982                        |
| CCL 9              | 551983                        |
| CCL 10             | 551979                        |
| CCL 11             | 551976                        |
| CCL 14             | 1164451                       |
| CCL 15             | 1164452                       |
| CCL 16             | 1164666                       |
| CCL 17             | 1166179                       |
| CCL 18             | 1168981                       |
| CCL 19             | 1168980                       |
| CCL 20             | 1191598                       |
| CCL 21             | 1191599                       |
| CCL 22             | 1191600                       |
| CCL 23             | 1191601                       |
| CCL 24             | 1196547                       |
| CCL 25             | 1196548                       |
| CCL 26             | 1203816                       |
| CCL 27             | 1203817                       |
| CCL 28             | 1212828                       |
| CCL 29             | 1212829                       |
| CCL 30             | 1305871                       |
| CCL 31             | 1305870                       |
| CCL 32             | 1305869                       |
| CCL 33             | 1305868                       |
| CCL 401            | 1216671                       |
| CCL 402            | 1219910                       |
| CCL 403            | 1231311                       |
| CCL 404            | 1231312                       |
| CCL 405            | 1236867                       |
| CCL 406            | 1236866                       |
| CCL 407            | 1246320                       |
| CCL 408            | 1246097                       |
| CCL 409            | 1246098                       |
| CCL 410            | 1255906                       |
| CCL 411            | 1255907                       |
| CCL 414-L          | 1262941                       |
| CCL 415-T          | 1262942                       |

| <u>Vessel Name</u> | <u>Official Number (O.N.)</u> |
|--------------------|-------------------------------|
| CCL 416-T          | 1264691                       |
| CCL 417 T          | 1298307                       |
| CCL 418-L          | 1306896                       |
| CCL 419-L          | 1306897                       |
| CCL 420-T          | 1348560                       |
| CCL 421-T          | CG1843359                     |
| CCL 3202           | 1089031                       |
| HFL 413            | 1237482                       |
| HFL 415            | 1237483                       |
| HFL 435            | 1236563                       |
| HFL 605            | 1237484                       |



# BARGE "CCL 20"

## 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 CENTER | - 00-0/8   | 00-0/8       | - 00-1/8   | 00-1/8       | - 00-1/8   | 00-1/8       | - 00-1/4   | 00-1/4       | - 00-1/4   | 00-1/4       | - 00-1/4   | 00-1/4       |
| 2 CENTER | 00-1/8     | - 00-1/8     | 00-3/8     | - 00-3/8     | 00-1/2     | - 00-1/2     | 00-3/4     | - 00-3/4     | 00-7/8     | - 00-7/8     | 01-1/8     | - 01-1/8     |
| 3 CENTER | - 00-0/8   | 00-0/8       | - 00-1/8   | 00-1/8       | - 00-1/8   | 00-1/8       | - 00-1/4   | 00-1/4       | - 00-1/4   | 00-1/4       | - 00-3/8   | 00-3/8       |

(ALL MEASUREMENTS ABOVE ARE IN INCHES)

### EXAMPLE FOR ABOVE TRIM CORRECTIONS:

FWD. DRAFT = 2'-00"  
AFT DRAFT = 4'-00"  
DIFF. = 2'-00" (DOWN BY STERN)

THE CORRECTION FOR 2'-00" TRIM DOWN BY STERN FOR 2 CENTER IS - 00-3/8"  
FOR A MEASURED INNAGE GAUGE OF 4'-00" ON 2 CENTER, THE TRIM CORRECTED INNAGE IS 3'-11 5/8"

LENGTH BETWEEN DRAFT MARKS: 160'-00"

January 24, 2007

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
Pearland, Texas 77588

<http://www.pmacorp.net>



# BARGE "CCL 20"

## 1 CENTER INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-00 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   | 22    | 0   | 9,831  | 0   | 19,874 | 0   | 29,950 | 0   | 40,134 | 0   | 50,319 | 0   | 60,504 | 0   | 70,683 | 0   | 80,866 | 0   | 91,055  |
| 1/4 | 200   | 1/4 | 10,044 | 1/4 | 20,079 | 1/4 | 30,162 | 1/4 | 40,347 | 1/4 | 50,531 | 1/4 | 60,716 | 1/4 | 70,895 | 1/4 | 81,078 | 1/4 | 91,268  |
| 1/2 | 379   | 1/2 | 10,257 | 1/2 | 20,284 | 1/2 | 30,374 | 1/2 | 40,559 | 1/2 | 50,743 | 1/2 | 60,928 | 1/2 | 71,107 | 1/2 | 81,291 | 1/2 | 91,480  |
| 3/4 | 558   | 3/4 | 10,470 | 3/4 | 20,490 | 3/4 | 30,586 | 3/4 | 40,771 | 3/4 | 50,956 | 3/4 | 61,140 | 3/4 | 71,319 | 3/4 | 81,503 | 3/4 | 91,692  |
| 1   | 737   | 1   | 10,683 | 1   | 20,695 | 1   | 30,798 | 1   | 40,983 | 1   | 51,168 | 1   | 61,352 | 1   | 71,531 | 1   | 81,715 | 1   | 91,905  |
| 1/4 | 924   | 1/4 | 10,895 | 1/4 | 20,901 | 1/4 | 31,011 | 1/4 | 41,195 | 1/4 | 51,380 | 1/4 | 61,564 | 1/4 | 71,743 | 1/4 | 81,928 | 1/4 | 92,117  |
| 1/2 | 1,111 | 1/2 | 11,108 | 1/2 | 21,106 | 1/2 | 31,223 | 1/2 | 41,407 | 1/2 | 51,592 | 1/2 | 61,777 | 1/2 | 71,955 | 1/2 | 82,140 | 1/2 | 92,329  |
| 3/4 | 1,297 | 3/4 | 11,321 | 3/4 | 21,311 | 3/4 | 31,435 | 3/4 | 41,620 | 3/4 | 51,804 | 3/4 | 61,989 | 3/4 | 72,167 | 3/4 | 82,352 | 3/4 | 92,541  |
| 2   | 1,484 | 2   | 11,534 | 2   | 21,517 | 2   | 31,647 | 2   | 41,832 | 2   | 52,016 | 2   | 62,201 | 2   | 72,379 | 2   | 82,564 | 2   | 92,754  |
| 1/4 | 1,678 | 1/4 | 11,747 | 1/4 | 21,722 | 1/4 | 31,859 | 1/4 | 42,044 | 1/4 | 52,229 | 1/4 | 62,413 | 1/4 | 72,591 | 1/4 | 82,777 | 1/4 | 92,966  |
| 1/2 | 1,871 | 1/2 | 11,959 | 1/2 | 21,928 | 1/2 | 32,072 | 1/2 | 42,256 | 1/2 | 52,441 | 1/2 | 62,625 | 1/2 | 72,803 | 1/2 | 82,989 | 1/2 | 93,178  |
| 3/4 | 2,065 | 3/4 | 12,172 | 3/4 | 22,133 | 3/4 | 32,284 | 3/4 | 42,468 | 3/4 | 52,653 | 3/4 | 62,838 | 3/4 | 73,015 | 3/4 | 83,201 | 3/4 | 93,390  |
| 3   | 2,259 | 3   | 12,385 | 3   | 22,338 | 3   | 32,496 | 3   | 42,680 | 3   | 52,865 | 3   | 63,050 | 3   | 73,227 | 3   | 83,413 | 3   | 93,602  |
| 1/4 | 2,459 | 1/4 | 12,598 | 1/4 | 22,544 | 1/4 | 32,708 | 1/4 | 42,893 | 1/4 | 53,077 | 1/4 | 63,262 | 1/4 | 73,439 | 1/4 | 83,626 | 1/4 | 93,814  |
| 1/2 | 2,659 | 1/2 | 12,810 | 1/2 | 22,749 | 1/2 | 32,920 | 1/2 | 43,105 | 1/2 | 53,289 | 1/2 | 63,474 | 1/2 | 73,651 | 1/2 | 83,838 | 1/2 | 94,026  |
| 3/4 | 2,859 | 3/4 | 13,023 | 3/4 | 22,955 | 3/4 | 33,132 | 3/4 | 43,317 | 3/4 | 53,502 | 3/4 | 63,686 | 3/4 | 73,863 | 3/4 | 84,050 | 3/4 | 94,238  |
| 4   | 3,059 | 4   | 13,236 | 4   | 23,160 | 4   | 33,345 | 4   | 43,529 | 4   | 53,714 | 4   | 63,898 | 4   | 74,075 | 4   | 84,263 | 4   | 94,450  |
| 1/4 | 3,265 | 1/4 | 13,449 | 1/4 | 23,372 | 1/4 | 33,557 | 1/4 | 43,741 | 1/4 | 53,926 | 1/4 | 64,111 | 1/4 | 74,287 | 1/4 | 84,475 | 1/4 | 94,663  |
| 1/2 | 3,471 | 1/2 | 13,662 | 1/2 | 23,584 | 1/2 | 33,769 | 1/2 | 43,954 | 1/2 | 54,138 | 1/2 | 64,323 | 1/2 | 74,498 | 1/2 | 84,687 | 1/2 | 94,875  |
| 3/4 | 3,677 | 3/4 | 13,874 | 3/4 | 23,797 | 3/4 | 33,981 | 3/4 | 44,166 | 3/4 | 54,350 | 3/4 | 64,535 | 3/4 | 74,710 | 3/4 | 84,899 | 3/4 | 95,087  |
| 5   | 3,883 | 5   | 14,087 | 5   | 24,009 | 5   | 34,193 | 5   | 44,378 | 5   | 54,563 | 5   | 64,747 | 5   | 74,922 | 5   | 85,112 | 5   | 95,299  |
| 1/4 | 4,094 | 1/4 | 14,300 | 1/4 | 24,221 | 1/4 | 34,405 | 1/4 | 44,590 | 1/4 | 54,775 | 1/4 | 64,959 | 1/4 | 75,135 | 1/4 | 85,324 | 1/4 | 95,511  |
| 1/2 | 4,305 | 1/2 | 14,513 | 1/2 | 24,433 | 1/2 | 34,618 | 1/2 | 44,802 | 1/2 | 54,987 | 1/2 | 65,172 | 1/2 | 75,347 | 1/2 | 85,536 | 1/2 | 95,723  |
| 3/4 | 4,516 | 3/4 | 14,726 | 3/4 | 24,645 | 3/4 | 34,830 | 3/4 | 45,014 | 3/4 | 55,199 | 3/4 | 65,384 | 3/4 | 75,559 | 3/4 | 85,749 | 3/4 | 95,935  |
| 6   | 4,727 | 6   | 14,938 | 6   | 24,857 | 6   | 35,042 | 6   | 45,227 | 6   | 55,411 | 6   | 65,596 | 6   | 75,771 | 6   | 85,961 | 6   | 96,147  |
| 1/4 | 4,940 | 1/4 | 15,144 | 1/4 | 25,070 | 1/4 | 35,254 | 1/4 | 45,439 | 1/4 | 55,623 | 1/4 | 65,808 | 1/4 | 75,984 | 1/4 | 86,173 | 1/4 | 96,359  |
| 1/2 | 5,152 | 1/2 | 15,351 | 1/2 | 25,282 | 1/2 | 35,466 | 1/2 | 45,651 | 1/2 | 55,836 | 1/2 | 66,020 | 1/2 | 76,196 | 1/2 | 86,385 | 1/2 | 96,571  |
| 3/4 | 5,364 | 3/4 | 15,557 | 3/4 | 25,494 | 3/4 | 35,679 | 3/4 | 45,863 | 3/4 | 56,048 | 3/4 | 66,232 | 3/4 | 76,408 | 3/4 | 86,598 | 3/4 | 96,783  |
| 7   | 5,577 | 7   | 15,763 | 7   | 25,706 | 7   | 35,891 | 7   | 46,076 | 7   | 56,260 | 7   | 66,446 | 7   | 76,621 | 7   | 86,810 | 7   | 96,996  |
| 1/4 | 5,789 | 1/4 | 15,969 | 1/4 | 25,918 | 1/4 | 36,103 | 1/4 | 46,288 | 1/4 | 56,472 | 1/4 | 66,657 | 1/4 | 76,833 | 1/4 | 87,022 | 1/4 | 97,208  |
| 1/2 | 6,002 | 1/2 | 16,175 | 1/2 | 26,130 | 1/2 | 36,315 | 1/2 | 46,500 | 1/2 | 56,684 | 1/2 | 66,868 | 1/2 | 77,045 | 1/2 | 87,234 | 1/2 | 97,420  |
| 3/4 | 6,214 | 3/4 | 16,381 | 3/4 | 26,343 | 3/4 | 36,527 | 3/4 | 46,712 | 3/4 | 56,897 | 3/4 | 67,080 | 3/4 | 77,257 | 3/4 | 87,447 | 3/4 | 97,632  |
| 8   | 6,427 | 8   | 16,587 | 8   | 26,555 | 8   | 36,739 | 8   | 46,924 | 8   | 57,109 | 8   | 67,292 | 8   | 77,470 | 8   | 87,659 | 8   | 97,844  |
| 1/4 | 6,640 | 1/4 | 16,793 | 1/4 | 26,767 | 1/4 | 36,952 | 1/4 | 47,136 | 1/4 | 57,321 | 1/4 | 67,504 | 1/4 | 77,682 | 1/4 | 87,871 | 1/4 | 98,056  |
| 1/2 | 6,853 | 1/2 | 16,998 | 1/2 | 26,979 | 1/2 | 37,164 | 1/2 | 47,348 | 1/2 | 57,533 | 1/2 | 67,716 | 1/2 | 77,894 | 1/2 | 88,084 | 1/2 | 98,268  |
| 3/4 | 7,065 | 3/4 | 17,204 | 3/4 | 27,191 | 3/4 | 37,376 | 3/4 | 47,561 | 3/4 | 57,745 | 3/4 | 67,928 | 3/4 | 78,107 | 3/4 | 88,296 | 3/4 | 98,481  |
| 9   | 7,278 | 9   | 17,409 | 9   | 27,404 | 9   | 37,588 | 9   | 47,773 | 9   | 57,957 | 9   | 68,140 | 9   | 78,319 | 9   | 88,508 | 9   | 98,693  |
| 1/4 | 7,491 | 1/4 | 17,614 | 1/4 | 27,616 | 1/4 | 37,800 | 1/4 | 47,985 | 1/4 | 58,170 | 1/4 | 68,352 | 1/4 | 78,531 | 1/4 | 88,720 | 1/4 | 98,905  |
| 1/2 | 7,704 | 1/2 | 17,820 | 1/2 | 27,828 | 1/2 | 38,013 | 1/2 | 48,197 | 1/2 | 58,382 | 1/2 | 68,564 | 1/2 | 78,743 | 1/2 | 88,933 | 1/2 | 99,118  |
| 3/4 | 7,916 | 3/4 | 18,025 | 3/4 | 28,040 | 3/4 | 38,225 | 3/4 | 48,409 | 3/4 | 58,594 | 3/4 | 68,776 | 3/4 | 78,958 | 3/4 | 89,145 | 3/4 | 99,330  |
| 10  | 8,129 | 10  | 18,231 | 10  | 28,252 | 10  | 38,437 | 10  | 48,622 | 10  | 58,806 | 10  | 68,988 | 10  | 79,168 | 10  | 89,357 | 10  | 99,542  |
| 1/4 | 8,342 | 1/4 | 18,436 | 1/4 | 28,464 | 1/4 | 38,649 | 1/4 | 48,834 | 1/4 | 59,018 | 1/4 | 69,200 | 1/4 | 79,380 | 1/4 | 89,570 | 1/4 | 99,754  |
| 1/2 | 8,555 | 1/2 | 18,641 | 1/2 | 28,677 | 1/2 | 38,861 | 1/2 | 49,046 | 1/2 | 59,231 | 1/2 | 69,412 | 1/2 | 79,592 | 1/2 | 89,782 | 1/2 | 99,967  |
| 3/4 | 8,768 | 3/4 | 18,847 | 3/4 | 28,889 | 3/4 | 39,073 | 3/4 | 49,258 | 3/4 | 59,443 | 3/4 | 69,624 | 3/4 | 79,805 | 3/4 | 89,994 | 3/4 | 100,179 |
| 11  | 8,980 | 11  | 19,052 | 11  | 29,101 | 11  | 39,286 | 11  | 49,470 | 11  | 59,655 | 11  | 69,836 | 11  | 80,017 | 11  | 90,206 | 11  | 100,391 |
| 1/4 | 9,193 | 1/4 | 19,258 | 1/4 | 29,313 | 1/4 | 39,498 | 1/4 | 49,682 | 1/4 | 59,867 | 1/4 | 70,048 | 1/4 | 80,229 | 1/4 | 90,419 | 1/4 | 100,603 |
| 1/2 | 9,406 | 1/2 | 19,463 | 1/2 | 29,525 | 1/2 | 39,710 | 1/2 | 49,895 | 1/2 | 60,079 | 1/2 | 70,260 | 1/2 | 80,442 | 1/2 | 90,631 | 1/2 | 100,816 |
| 3/4 | 9,619 | 3/4 | 19,668 | 3/4 | 29,738 | 3/4 | 39,922 | 3/4 | 50,107 | 3/4 | 60,291 | 3/4 | 70,472 | 3/4 | 80,654 | 3/4 | 90,843 | 3/4 | 101,028 |

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 ON CENTERLINE AND 27'-00" FORWARD OF AFT BULKHEAD.

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
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*The Joanne*



# BARGE "CCL 20"

## 1 CENTER INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-00 3/4"

| GAUGE HEIGHT 16'-00 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                        | 101,240 | 0   | 110,764 | 0   | 119,831 | 0   | 128,498 | 0   | 137,365 | 0   | 146,120 | 0   |        | 0   |        | 0   |        | 0   |        |
| 1/4                      | 101,453 | 1/4 | 110,949 | 1/4 | 119,816 | 1/4 | 128,683 | 1/4 | 137,549 | 1/4 | 146,205 | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2                      | 101,665 | 1/2 | 111,134 | 1/2 | 120,001 | 1/2 | 128,868 | 1/2 | 137,734 | 1/2 | 146,290 | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4                      | 101,877 | 3/4 | 111,318 | 3/4 | 120,185 | 3/4 | 129,052 | 3/4 | 137,919 | 3/4 | 146,375 | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 1                        | 102,089 | 1   | 111,503 | 1   | 120,370 | 1   | 129,237 | 1   | 138,104 | 1   | 146,460 | 1   |        | 1   |        | 1   |        | 1   |        |
| 1/4                      | 102,302 | 1/4 | 111,688 | 1/4 | 120,555 | 1/4 | 129,422 | 1/4 | 138,288 | 1/4 | 146,502 | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2                      | 102,514 | 1/2 | 111,872 | 1/2 | 120,740 | 1/2 | 129,607 | 1/2 | 138,473 | 1/2 | 146,545 | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4                      | 102,726 | 3/4 | 112,057 | 3/4 | 120,924 | 3/4 | 129,791 | 3/4 | 138,658 | 3/4 | 146,587 | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 2                        | 102,939 | 2   | 112,242 | 2   | 121,109 | 2   | 129,976 | 2   | 138,842 | 2   | 146,630 | 2   |        | 2   |        | 2   |        | 2   |        |
| 1/4                      | 103,151 | 1/4 | 112,427 | 1/4 | 121,294 | 1/4 | 130,161 | 1/4 | 139,027 | 1/4 | 146,640 | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2                      | 103,363 | 1/2 | 112,611 | 1/2 | 121,478 | 1/2 | 130,346 | 1/2 | 139,212 | 1/2 | 146,651 | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4                      | 103,575 | 3/4 | 112,796 | 3/4 | 121,663 | 3/4 | 130,530 | 3/4 | 139,396 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 3                        | 103,788 | 3   | 112,981 | 3   | 121,848 | 3   | 130,715 | 3   | 139,581 | 3   |         | 3   |        | 3   |        | 3   |        | 3   |        |
| 1/4                      | 104,000 | 1/4 | 113,166 | 1/4 | 122,033 | 1/4 | 130,900 | 1/4 | 139,766 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2                      | 104,212 | 1/2 | 113,350 | 1/2 | 122,217 | 1/2 | 131,084 | 1/2 | 139,951 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4                      | 104,424 | 3/4 | 113,535 | 3/4 | 122,402 | 3/4 | 131,269 | 3/4 | 140,135 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 4                        | 104,637 | 4   | 113,720 | 4   | 122,587 | 4   | 131,454 | 4   | 140,320 | 4   |         | 4   |        | 4   |        | 4   |        | 4   |        |
| 1/4                      | 104,849 | 1/4 | 113,904 | 1/4 | 122,772 | 1/4 | 131,639 | 1/4 | 140,505 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2                      | 105,061 | 1/2 | 114,089 | 1/2 | 122,956 | 1/2 | 131,823 | 1/2 | 140,689 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4                      | 105,274 | 3/4 | 114,274 | 3/4 | 123,141 | 3/4 | 132,008 | 3/4 | 140,874 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 5                        | 105,486 | 5   | 114,459 | 5   | 123,326 | 5   | 132,193 | 5   | 141,059 | 5   |         | 5   |        | 5   |        | 5   |        | 5   |        |
| 1/4                      | 105,698 | 1/4 | 114,643 | 1/4 | 123,511 | 1/4 | 132,378 | 1/4 | 141,243 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2                      | 105,910 | 1/2 | 114,828 | 1/2 | 123,695 | 1/2 | 132,562 | 1/2 | 141,428 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4                      | 106,123 | 3/4 | 115,013 | 3/4 | 123,880 | 3/4 | 132,747 | 3/4 | 141,613 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 6                        | 106,335 | 6   | 115,198 | 6   | 124,065 | 6   | 132,932 | 6   | 141,798 | 6   |         | 6   |        | 6   |        | 6   |        | 6   |        |
| 1/4                      | 106,519 | 1/4 | 115,382 | 1/4 | 124,249 | 1/4 | 133,117 | 1/4 | 141,982 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2                      | 106,703 | 1/2 | 115,567 | 1/2 | 124,434 | 1/2 | 133,301 | 1/2 | 142,167 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4                      | 106,888 | 3/4 | 115,752 | 3/4 | 124,619 | 3/4 | 133,486 | 3/4 | 142,352 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 7                        | 107,072 | 7   | 115,937 | 7   | 124,804 | 7   | 133,671 | 7   | 142,536 | 7   |         | 7   |        | 7   |        | 7   |        | 7   |        |
| 1/4                      | 107,256 | 1/4 | 116,121 | 1/4 | 124,988 | 1/4 | 133,855 | 1/4 | 142,721 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2                      | 107,440 | 1/2 | 116,306 | 1/2 | 125,173 | 1/2 | 134,040 | 1/2 | 142,906 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4                      | 107,624 | 3/4 | 116,491 | 3/4 | 125,358 | 3/4 | 134,225 | 3/4 | 143,090 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 8                        | 107,808 | 8   | 116,675 | 8   | 125,543 | 8   | 134,410 | 8   | 143,275 | 8   |         | 8   |        | 8   |        | 8   |        | 8   |        |
| 1/4                      | 107,993 | 1/4 | 116,860 | 1/4 | 125,727 | 1/4 | 134,594 | 1/4 | 143,481 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2                      | 108,178 | 1/2 | 117,045 | 1/2 | 125,912 | 1/2 | 134,779 | 1/2 | 143,687 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4                      | 108,363 | 3/4 | 117,230 | 3/4 | 126,097 | 3/4 | 134,964 | 3/4 | 143,892 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 9                        | 108,547 | 9   | 117,414 | 9   | 126,281 | 9   | 135,148 | 9   | 144,098 | 9   |         | 9   |        | 9   |        | 9   |        | 9   |        |
| 1/4                      | 108,732 | 1/4 | 117,599 | 1/4 | 126,466 | 1/4 | 135,333 | 1/4 | 144,306 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2                      | 108,917 | 1/2 | 117,784 | 1/2 | 126,651 | 1/2 | 135,518 | 1/2 | 144,513 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4                      | 109,101 | 3/4 | 117,969 | 3/4 | 126,836 | 3/4 | 135,703 | 3/4 | 144,721 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 10                       | 109,286 | 10  | 118,153 | 10  | 127,020 | 10  | 135,887 | 10  | 144,928 | 10  |         | 10  |        | 10  |        | 10  |        | 10  |        |
| 1/4                      | 109,471 | 1/4 | 118,338 | 1/4 | 127,205 | 1/4 | 136,072 | 1/4 | 145,098 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2                      | 109,656 | 1/2 | 118,523 | 1/2 | 127,390 | 1/2 | 136,257 | 1/2 | 145,269 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4                      | 109,840 | 3/4 | 118,708 | 3/4 | 127,575 | 3/4 | 136,441 | 3/4 | 145,439 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 11                       | 110,025 | 11  | 118,892 | 11  | 127,759 | 11  | 136,626 | 11  | 145,609 | 11  |         | 11  |        | 11  |        | 11  |        | 11  |        |
| 1/4                      | 110,210 | 1/4 | 119,077 | 1/4 | 127,944 | 1/4 | 136,811 | 1/4 | 145,737 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2                      | 110,395 | 1/2 | 119,262 | 1/2 | 128,129 | 1/2 | 136,995 | 1/2 | 145,864 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4                      | 110,579 | 3/4 | 119,446 | 3/4 | 128,314 | 3/4 | 137,180 | 3/4 | 145,992 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |

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CANCELS AND SUPERCEDES  
ALL PRIOR TO 01/2007

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*P. Mac*



# BARGE "CCL 20"

## 2 CENTER INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-01"

| 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      | 22     | 0      | 11,524 | 0      | 22,953 | 0      | 34,443 | 0      | 46,056 | 0      | 57,668 | 0      | 69,281 | 0      | 80,894 | 0      | 92,507  | 0      | 104,120 |
| 1/4    | 254    | 1/4    | 11,766 | 1/4    | 23,188 | 1/4    | 34,686 | 1/4    | 46,298 | 1/4    | 57,910 | 1/4    | 69,523 | 1/4    | 81,136 | 1/4    | 92,749  | 1/4    | 104,361 |
| 1/2    | 486    | 1/2    | 12,008 | 1/2    | 23,422 | 1/2    | 34,927 | 1/2    | 46,540 | 1/2    | 58,152 | 1/2    | 69,765 | 1/2    | 81,378 | 1/2    | 92,991  | 1/2    | 104,603 |
| 3/4    | 719    | 3/4    | 12,250 | 3/4    | 23,666 | 3/4    | 35,169 | 3/4    | 46,781 | 3/4    | 58,394 | 3/4    | 70,007 | 3/4    | 81,620 | 3/4    | 93,233  | 3/4    | 104,845 |
| 1      | 951    | 1      | 12,491 | 1      | 23,890 | 1      | 35,411 | 1      | 47,023 | 1      | 58,636 | 1      | 70,249 | 1      | 81,862 | 1      | 93,474  | 1      | 105,087 |
| 1 1/4  | 1,186  | 1 1/4  | 12,733 | 1 1/4  | 24,124 | 1 1/4  | 35,653 | 1 1/4  | 47,265 | 1 1/4  | 58,878 | 1 1/4  | 70,491 | 1 1/4  | 82,104 | 1 1/4  | 93,716  | 1 1/4  | 105,329 |
| 1 1/2  | 1,422  | 1 1/2  | 12,975 | 1 1/2  | 24,359 | 1 1/2  | 35,894 | 1 1/2  | 47,507 | 1 1/2  | 59,120 | 1 1/2  | 70,733 | 1 1/2  | 82,346 | 1 1/2  | 93,958  | 1 1/2  | 105,571 |
| 3 1/4  | 1,658  | 3 1/4  | 13,217 | 3 1/4  | 24,593 | 3 1/4  | 36,136 | 3 1/4  | 47,749 | 3 1/4  | 59,362 | 3 1/4  | 70,975 | 3 1/4  | 82,587 | 3 1/4  | 94,200  | 3 1/4  | 105,813 |
| 2      | 1,893  | 2      | 13,459 | 2      | 24,827 | 2      | 36,378 | 2      | 47,991 | 2      | 59,604 | 2      | 71,217 | 2      | 82,829 | 2      | 94,442  | 2      | 106,056 |
| 2 1/4  | 2,131  | 2 1/4  | 13,701 | 2 1/4  | 25,061 | 2 1/4  | 36,620 | 2 1/4  | 48,233 | 2 1/4  | 59,846 | 2 1/4  | 71,459 | 2 1/4  | 83,071 | 2 1/4  | 94,684  | 2 1/4  | 106,297 |
| 2 1/2  | 2,368  | 2 1/2  | 13,943 | 2 1/2  | 25,296 | 2 1/2  | 36,862 | 2 1/2  | 48,475 | 2 1/2  | 60,088 | 2 1/2  | 71,701 | 2 1/2  | 83,313 | 2 1/2  | 94,926  | 2 1/2  | 106,539 |
| 3 1/4  | 2,606  | 3 1/4  | 14,184 | 3 1/4  | 25,530 | 3 1/4  | 37,104 | 3 1/4  | 48,717 | 3 1/4  | 60,330 | 3 1/4  | 71,942 | 3 1/4  | 83,555 | 3 1/4  | 95,168  | 3 1/4  | 106,781 |
| 3      | 2,843  | 3      | 14,426 | 3      | 25,764 | 3      | 37,346 | 3      | 48,959 | 3      | 60,572 | 3      | 72,184 | 3      | 83,797 | 3      | 95,410  | 3      | 107,023 |
| 3 1/4  | 3,082  | 3 1/4  | 14,668 | 3 1/4  | 25,998 | 3 1/4  | 37,588 | 3 1/4  | 49,201 | 3 1/4  | 60,814 | 3 1/4  | 72,426 | 3 1/4  | 84,039 | 3 1/4  | 95,652  | 3 1/4  | 107,265 |
| 3 1/2  | 3,321  | 3 1/2  | 14,910 | 3 1/2  | 26,233 | 3 1/2  | 37,830 | 3 1/2  | 49,443 | 3 1/2  | 61,055 | 3 1/2  | 72,668 | 3 1/2  | 84,281 | 3 1/2  | 95,894  | 3 1/2  | 107,507 |
| 3 3/4  | 3,560  | 3 3/4  | 15,152 | 3 3/4  | 26,467 | 3 3/4  | 38,072 | 3 3/4  | 49,685 | 3 3/4  | 61,297 | 3 3/4  | 72,910 | 3 3/4  | 84,523 | 3 3/4  | 96,136  | 3 3/4  | 107,749 |
| 4      | 3,799  | 4      | 15,394 | 4      | 26,701 | 4      | 38,314 | 4      | 49,927 | 4      | 61,539 | 4      | 73,152 | 4      | 84,765 | 4      | 96,378  | 4      | 107,990 |
| 4 1/4  | 4,039  | 4 1/4  | 15,636 | 4 1/4  | 26,943 | 4 1/4  | 38,556 | 4 1/4  | 50,168 | 4 1/4  | 61,781 | 4 1/4  | 73,394 | 4 1/4  | 85,007 | 4 1/4  | 96,620  | 4 1/4  | 108,232 |
| 4 1/2  | 4,279  | 4 1/2  | 15,878 | 4 1/2  | 27,185 | 4 1/2  | 38,798 | 4 1/2  | 50,410 | 4 1/2  | 62,023 | 4 1/2  | 73,636 | 4 1/2  | 85,249 | 4 1/2  | 96,862  | 4 1/2  | 108,474 |
| 4 3/4  | 4,519  | 4 3/4  | 16,119 | 4 3/4  | 27,427 | 4 3/4  | 39,040 | 4 3/4  | 50,652 | 4 3/4  | 62,265 | 4 3/4  | 73,878 | 4 3/4  | 85,491 | 4 3/4  | 97,103  | 4 3/4  | 108,716 |
| 5      | 4,759  | 5      | 16,361 | 5      | 27,669 | 5      | 39,282 | 5      | 50,894 | 5      | 62,507 | 5      | 74,120 | 5      | 85,733 | 5      | 97,345  | 5      | 108,958 |
| 5 1/4  | 5,000  | 5 1/4  | 16,603 | 5 1/4  | 27,911 | 5 1/4  | 39,523 | 5 1/4  | 51,136 | 5 1/4  | 62,749 | 5 1/4  | 74,362 | 5 1/4  | 85,975 | 5 1/4  | 97,587  | 5 1/4  | 109,200 |
| 5 1/2  | 5,241  | 5 1/2  | 16,845 | 5 1/2  | 28,153 | 5 1/2  | 39,765 | 5 1/2  | 51,378 | 5 1/2  | 62,991 | 5 1/2  | 74,604 | 5 1/2  | 86,216 | 5 1/2  | 97,829  | 5 1/2  | 109,442 |
| 5 3/4  | 5,481  | 5 3/4  | 17,087 | 5 3/4  | 28,395 | 5 3/4  | 40,007 | 5 3/4  | 51,620 | 5 3/4  | 63,233 | 5 3/4  | 74,846 | 5 3/4  | 86,458 | 5 3/4  | 98,071  | 5 3/4  | 109,684 |
| 6      | 5,722  | 6      | 17,329 | 6      | 28,636 | 6      | 40,249 | 6      | 51,862 | 6      | 63,475 | 6      | 75,088 | 6      | 86,700 | 6      | 98,313  | 6      | 109,926 |
| 6 1/4  | 5,963  | 6 1/4  | 17,563 | 6 1/4  | 28,878 | 6 1/4  | 40,491 | 6 1/4  | 52,104 | 6 1/4  | 63,717 | 6 1/4  | 75,330 | 6 1/4  | 86,942 | 6 1/4  | 98,555  | 6 1/4  | 110,168 |
| 6 1/2  | 6,205  | 6 1/2  | 17,798 | 6 1/2  | 29,120 | 6 1/2  | 40,733 | 6 1/2  | 52,346 | 6 1/2  | 63,959 | 6 1/2  | 75,571 | 6 1/2  | 87,184 | 6 1/2  | 98,797  | 6 1/2  | 110,410 |
| 6 3/4  | 6,446  | 6 3/4  | 18,033 | 6 3/4  | 29,362 | 6 3/4  | 40,975 | 6 3/4  | 52,588 | 6 3/4  | 64,201 | 6 3/4  | 75,813 | 6 3/4  | 87,426 | 6 3/4  | 99,039  | 6 3/4  | 110,652 |
| 7      | 6,687  | 7      | 18,267 | 7      | 29,604 | 7      | 41,217 | 7      | 52,830 | 7      | 64,443 | 7      | 76,055 | 7      | 87,668 | 7      | 99,281  | 7      | 110,894 |
| 7 1/4  | 6,929  | 7 1/4  | 18,502 | 7 1/4  | 29,846 | 7 1/4  | 41,459 | 7 1/4  | 53,072 | 7 1/4  | 64,684 | 7 1/4  | 76,297 | 7 1/4  | 87,910 | 7 1/4  | 99,523  | 7 1/4  | 111,136 |
| 7 1/2  | 7,171  | 7 1/2  | 18,736 | 7 1/2  | 30,088 | 7 1/2  | 41,701 | 7 1/2  | 53,314 | 7 1/2  | 64,926 | 7 1/2  | 76,539 | 7 1/2  | 88,152 | 7 1/2  | 99,765  | 7 1/2  | 111,377 |
| 7 3/4  | 7,412  | 7 3/4  | 18,971 | 7 3/4  | 30,330 | 7 3/4  | 41,943 | 7 3/4  | 53,556 | 7 3/4  | 65,168 | 7 3/4  | 76,781 | 7 3/4  | 88,394 | 7 3/4  | 100,007 | 7 3/4  | 111,619 |
| 8      | 7,654  | 8      | 19,208 | 8      | 30,572 | 8      | 42,185 | 8      | 53,797 | 8      | 65,410 | 8      | 77,023 | 8      | 88,636 | 8      | 100,249 | 8      | 111,861 |
| 8 1/4  | 7,896  | 8 1/4  | 19,440 | 8 1/4  | 30,814 | 8 1/4  | 42,427 | 8 1/4  | 54,039 | 8 1/4  | 65,652 | 8 1/4  | 77,265 | 8 1/4  | 88,878 | 8 1/4  | 100,491 | 8 1/4  | 112,103 |
| 8 1/2  | 8,138  | 8 1/2  | 19,674 | 8 1/2  | 31,056 | 8 1/2  | 42,669 | 8 1/2  | 54,281 | 8 1/2  | 65,894 | 8 1/2  | 77,507 | 8 1/2  | 89,120 | 8 1/2  | 100,732 | 8 1/2  | 112,345 |
| 8 3/4  | 8,380  | 8 3/4  | 19,908 | 8 3/4  | 31,298 | 8 3/4  | 42,911 | 8 3/4  | 54,523 | 8 3/4  | 66,136 | 8 3/4  | 77,749 | 8 3/4  | 89,362 | 8 3/4  | 100,974 | 8 3/4  | 112,587 |
| 9      | 8,621  | 9      | 20,143 | 9      | 31,540 | 9      | 43,152 | 9      | 54,765 | 9      | 66,378 | 9      | 77,991 | 9      | 89,604 | 9      | 101,216 | 9      | 112,829 |
| 9 1/4  | 8,863  | 9 1/4  | 20,377 | 9 1/4  | 31,782 | 9 1/4  | 43,394 | 9 1/4  | 55,007 | 9 1/4  | 66,620 | 9 1/4  | 78,233 | 9 1/4  | 89,845 | 9 1/4  | 101,458 | 9 1/4  | 113,071 |
| 9 1/2  | 9,105  | 9 1/2  | 20,611 | 9 1/2  | 32,024 | 9 1/2  | 43,636 | 9 1/2  | 55,249 | 9 1/2  | 66,862 | 9 1/2  | 78,475 | 9 1/2  | 90,087 | 9 1/2  | 101,700 | 9 1/2  | 113,313 |
| 9 3/4  | 9,347  | 9 3/4  | 20,845 | 9 3/4  | 32,265 | 9 3/4  | 43,878 | 9 3/4  | 55,491 | 9 3/4  | 67,104 | 9 3/4  | 78,717 | 9 3/4  | 90,329 | 9 3/4  | 101,942 | 9 3/4  | 113,555 |
| 10     | 9,589  | 10     | 21,080 | 10     | 32,507 | 10     | 44,120 | 10     | 55,733 | 10     | 67,346 | 10     | 78,958 | 10     | 90,571 | 10     | 102,184 | 10     | 113,797 |
| 10 1/4 | 9,831  | 10 1/4 | 21,314 | 10 1/4 | 32,749 | 10 1/4 | 44,362 | 10 1/4 | 55,975 | 10 1/4 | 67,588 | 10 1/4 | 79,200 | 10 1/4 | 90,813 | 10 1/4 | 102,426 | 10 1/4 | 114,039 |
| 10 1/2 | 10,073 | 10 1/2 | 21,548 | 10 1/2 | 32,991 | 10 1/2 | 44,604 | 10 1/2 | 56,217 | 10 1/2 | 67,830 | 10 1/2 | 79,442 | 10 1/2 | 91,055 | 10 1/2 | 102,668 | 10 1/2 | 114,281 |
| 10 3/4 | 10,315 | 10 3/4 | 21,782 | 10 3/4 | 33,233 | 10 3/4 | 44,846 | 10 3/4 | 56,459 | 10 3/4 | 68,072 | 10 3/4 | 79,684 | 10 3/4 | 91,297 | 10 3/4 | 102,910 | 10 3/4 | 114,523 |
| 11     | 10,556 | 11     | 22,016 | 11     | 33,475 | 11     | 45,088 | 11     | 56,701 | 11     | 68,313 | 11     | 79,926 | 11     | 91,539 | 11     | 103,152 | 11     | 114,765 |
| 11 1/4 | 10,798 | 11 1/4 | 22,251 | 11 1/4 | 33,717 | 11 1/4 | 45,330 | 11 1/4 | 56,943 | 11 1/4 | 68,555 | 11 1/4 | 80,168 | 11 1/4 | 91,781 | 11 1/4 | 103,394 | 11 1/4 | 115,006 |
| 11 1/2 | 11,040 | 11 1/2 | 22,485 | 11 1/2 | 33,959 | 11 1/2 | 45,572 | 11 1/2 | 57,185 | 11 1/2 | 68,797 | 11 1/2 | 80,410 | 11 1/2 | 92,023 | 11 1/2 | 103,636 | 11 1/2 | 115,248 |
| 11 3/4 | 11,282 | 11 3/4 | 22,719 | 11 3/4 | 34,201 | 11 3/4 | 45,814 | 11 3/4 | 57,426 | 11 3/4 | 69,039 | 11 3/4 | 80,652 | 11 3/4 | 92,265 | 11 3/4 | 103,878 | 11 3/4 | 115,490 |

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 ON CENTERLINE AND 27'-06" FORWARD OF AFT BULKHEAD.

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

PRECISION MEASUREMENT  
& ANALYSIS, INC.  
P.O. Box 2092  
Pearland, Texas 77568  
<http://www.pmacorp.net>

*The Signature*



# BARGE "CCL 20"

## 2 CENTER INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-01"

| 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   | 115,732 | 0   | 127,345 | 0   | 138,958 | 0   | 150,571 | 0   | 162,183 | 0   | 173,188 | 0   |        | 0   |        | 0   |        | 0   |        |
| 1/4 | 116,974 | 1/4 | 127,587 | 1/4 | 139,200 | 1/4 | 150,813 | 1/4 | 162,425 | 1/4 | 173,285 | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 116,216 | 1/2 | 127,829 | 1/2 | 139,442 | 1/2 | 151,054 | 1/2 | 162,666 | 1/2 | 173,382 | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 116,458 | 3/4 | 128,071 | 3/4 | 139,684 | 3/4 | 151,296 | 3/4 | 162,908 | 3/4 | 173,478 | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 1   | 116,700 | 1   | 128,313 | 1   | 139,926 | 1   | 151,538 | 1   | 163,150 | 1   | 173,575 | 1   |        | 1   |        | 1   |        | 1   |        |
| 1/4 | 116,942 | 1/4 | 128,555 | 1/4 | 140,167 | 1/4 | 151,780 | 1/4 | 163,392 | 1/4 | 173,623 | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 117,184 | 1/2 | 128,797 | 1/2 | 140,409 | 1/2 | 152,022 | 1/2 | 163,634 | 1/2 | 173,672 | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 117,426 | 3/4 | 129,039 | 3/4 | 140,651 | 3/4 | 152,264 | 3/4 | 163,876 | 3/4 | 173,720 | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 2   | 117,668 | 2   | 129,281 | 2   | 140,893 | 2   | 152,506 | 2   | 164,118 | 2   | 173,768 | 2   |        | 2   |        | 2   |        | 2   |        |
| 1/4 | 117,910 | 1/4 | 129,522 | 1/4 | 141,135 | 1/4 | 152,748 | 1/4 | 164,360 | 1/4 | 173,780 | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 118,152 | 1/2 | 129,764 | 1/2 | 141,377 | 1/2 | 152,990 | 1/2 | 164,602 | 1/2 | 173,792 | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 118,394 | 3/4 | 130,006 | 3/4 | 141,619 | 3/4 | 153,232 | 3/4 | 164,843 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 3   | 118,635 | 3   | 130,248 | 3   | 141,861 | 3   | 153,474 | 3   | 165,085 | 3   |         | 3   |        | 3   |        | 3   |        | 3   |        |
| 1/4 | 118,877 | 1/4 | 130,490 | 1/4 | 142,103 | 1/4 | 153,716 | 1/4 | 165,327 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 119,119 | 1/2 | 130,732 | 1/2 | 142,345 | 1/2 | 153,958 | 1/2 | 165,569 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 119,361 | 3/4 | 130,974 | 3/4 | 142,587 | 3/4 | 154,200 | 3/4 | 165,811 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 4   | 119,603 | 4   | 131,216 | 4   | 142,829 | 4   | 154,442 | 4   | 166,053 | 4   |         | 4   |        | 4   |        | 4   |        | 4   |        |
| 1/4 | 119,845 | 1/4 | 131,458 | 1/4 | 143,071 | 1/4 | 154,683 | 1/4 | 166,295 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 120,087 | 1/2 | 131,700 | 1/2 | 143,313 | 1/2 | 154,925 | 1/2 | 166,537 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 120,329 | 3/4 | 131,942 | 3/4 | 143,555 | 3/4 | 155,167 | 3/4 | 166,779 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 5   | 120,571 | 5   | 132,184 | 5   | 143,798 | 5   | 155,409 | 5   | 167,020 | 5   |         | 5   |        | 5   |        | 5   |        | 5   |        |
| 1/4 | 120,813 | 1/4 | 132,426 | 1/4 | 144,038 | 1/4 | 155,651 | 1/4 | 167,262 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 121,055 | 1/2 | 132,668 | 1/2 | 144,280 | 1/2 | 155,893 | 1/2 | 167,504 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 121,297 | 3/4 | 132,910 | 3/4 | 144,522 | 3/4 | 156,135 | 3/4 | 167,746 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 6   | 121,539 | 6   | 133,151 | 6   | 144,764 | 6   | 156,377 | 6   | 167,988 | 6   |         | 6   |        | 6   |        | 6   |        | 6   |        |
| 1/4 | 121,781 | 1/4 | 133,393 | 1/4 | 145,006 | 1/4 | 156,619 | 1/4 | 168,230 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 122,023 | 1/2 | 133,635 | 1/2 | 145,248 | 1/2 | 156,861 | 1/2 | 168,472 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 122,264 | 3/4 | 133,877 | 3/4 | 145,490 | 3/4 | 157,103 | 3/4 | 168,714 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 7   | 122,506 | 7   | 134,119 | 7   | 145,732 | 7   | 157,345 | 7   | 168,956 | 7   |         | 7   |        | 7   |        | 7   |        | 7   |        |
| 1/4 | 122,748 | 1/4 | 134,361 | 1/4 | 145,974 | 1/4 | 157,587 | 1/4 | 169,197 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 122,990 | 1/2 | 134,603 | 1/2 | 146,216 | 1/2 | 157,829 | 1/2 | 169,439 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 123,232 | 3/4 | 134,845 | 3/4 | 146,458 | 3/4 | 158,071 | 3/4 | 169,681 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 8   | 123,474 | 8   | 135,087 | 8   | 146,700 | 8   | 158,312 | 8   | 169,923 | 8   |         | 8   |        | 8   |        | 8   |        | 8   |        |
| 1/4 | 123,716 | 1/4 | 135,329 | 1/4 | 146,942 | 1/4 | 158,554 | 1/4 | 170,165 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 123,958 | 1/2 | 135,571 | 1/2 | 147,184 | 1/2 | 158,796 | 1/2 | 170,407 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 124,200 | 3/4 | 135,813 | 3/4 | 147,426 | 3/4 | 159,038 | 3/4 | 170,649 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 9   | 124,442 | 9   | 136,055 | 9   | 147,667 | 9   | 159,280 | 9   | 170,891 | 9   |         | 9   |        | 9   |        | 9   |        | 9   |        |
| 1/4 | 124,684 | 1/4 | 136,297 | 1/4 | 147,909 | 1/4 | 159,522 | 1/4 | 171,128 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 124,926 | 1/2 | 136,539 | 1/2 | 148,151 | 1/2 | 159,764 | 1/2 | 171,362 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 125,168 | 3/4 | 136,780 | 3/4 | 148,393 | 3/4 | 160,006 | 3/4 | 171,598 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 10  | 125,410 | 10  | 137,022 | 10  | 148,635 | 10  | 160,248 | 10  | 171,834 | 10  |         | 10  |        | 10  |        | 10  |        | 10  |        |
| 1/4 | 125,652 | 1/4 | 137,264 | 1/4 | 148,877 | 1/4 | 160,489 | 1/4 | 172,027 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 125,893 | 1/2 | 137,506 | 1/2 | 149,119 | 1/2 | 160,731 | 1/2 | 172,221 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 126,135 | 3/4 | 137,748 | 3/4 | 149,361 | 3/4 | 160,973 | 3/4 | 172,414 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 11  | 126,377 | 11  | 137,990 | 11  | 149,603 | 11  | 161,215 | 11  | 172,608 | 11  |         | 11  |        | 11  |        | 11  |        | 11  |        |
| 1/4 | 126,619 | 1/4 | 138,232 | 1/4 | 149,845 | 1/4 | 161,457 | 1/4 | 172,753 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 126,861 | 1/2 | 138,474 | 1/2 | 150,087 | 1/2 | 161,699 | 1/2 | 172,898 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 127,103 | 3/4 | 138,716 | 3/4 | 150,329 | 3/4 | 161,941 | 3/4 | 173,043 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |

STRAPPED: 11/28/2006 CL - SW  
CALCULATED: 12/01/2006 CL  
REPRINTED: 01/24/2007 CL

CANCELS AND SUPERCEDES  
ALL PRIOR TO 01/2007

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

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



# BARGE "CCL 20"

## 3 CENTER INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-01"

| 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   | 22     | 0   | 10,336 | 0   | 20,745 | 0   | 31,165 | 0   | 41,568 | 0   | 51,982 | 0   | 62,396 | 0   | 72,809 | 0   | 83,223 | 0   | 93,637  |
| 1/4 | 230    | 1/4 | 10,553 | 1/4 | 20,961 | 1/4 | 31,372 | 1/4 | 41,785 | 1/4 | 52,199 | 1/4 | 62,613 | 1/4 | 73,026 | 1/4 | 83,440 | 1/4 | 93,853  |
| 1/2 | 438    | 1/2 | 10,770 | 1/2 | 21,178 | 1/2 | 31,589 | 1/2 | 42,002 | 1/2 | 52,416 | 1/2 | 62,830 | 1/2 | 73,243 | 1/2 | 83,657 | 1/2 | 94,070  |
| 3/4 | 647    | 3/4 | 10,987 | 3/4 | 21,395 | 3/4 | 31,806 | 3/4 | 42,219 | 3/4 | 52,633 | 3/4 | 63,047 | 3/4 | 73,460 | 3/4 | 83,874 | 3/4 | 94,287  |
| 1   | 855    | 1   | 11,204 | 1   | 21,612 | 1   | 32,023 | 1   | 42,436 | 1   | 52,850 | 1   | 63,263 | 1   | 73,677 | 1   | 84,091 | 1   | 94,504  |
| 1/4 | 1,066  | 1/4 | 11,421 | 1/4 | 21,828 | 1/4 | 32,240 | 1/4 | 42,653 | 1/4 | 53,067 | 1/4 | 63,480 | 1/4 | 73,894 | 1/4 | 84,308 | 1/4 | 94,721  |
| 1/2 | 1,277  | 1/2 | 11,637 | 1/2 | 22,045 | 1/2 | 32,457 | 1/2 | 42,870 | 1/2 | 53,284 | 1/2 | 63,697 | 1/2 | 74,111 | 1/2 | 84,525 | 1/2 | 94,938  |
| 3/4 | 1,489  | 3/4 | 11,854 | 3/4 | 22,262 | 3/4 | 32,674 | 3/4 | 43,087 | 3/4 | 53,501 | 3/4 | 63,914 | 3/4 | 74,328 | 3/4 | 84,742 | 3/4 | 95,155  |
| 2   | 1,700  | 2   | 12,071 | 2   | 22,479 | 2   | 32,890 | 2   | 43,304 | 2   | 53,718 | 2   | 64,131 | 2   | 74,545 | 2   | 84,959 | 2   | 95,372  |
| 1/4 | 1,913  | 1/4 | 12,288 | 1/4 | 22,695 | 1/4 | 33,107 | 1/4 | 43,521 | 1/4 | 53,935 | 1/4 | 64,348 | 1/4 | 74,762 | 1/4 | 85,175 | 1/4 | 95,589  |
| 1/2 | 2,126  | 1/2 | 12,505 | 1/2 | 22,912 | 1/2 | 33,324 | 1/2 | 43,738 | 1/2 | 54,152 | 1/2 | 64,565 | 1/2 | 74,979 | 1/2 | 85,392 | 1/2 | 95,806  |
| 3/4 | 2,339  | 3/4 | 12,722 | 3/4 | 23,129 | 3/4 | 33,541 | 3/4 | 43,955 | 3/4 | 54,369 | 3/4 | 64,782 | 3/4 | 75,196 | 3/4 | 85,609 | 3/4 | 96,023  |
| 3   | 2,552  | 3   | 12,939 | 3   | 23,346 | 3   | 33,758 | 3   | 44,172 | 3   | 54,585 | 3   | 64,999 | 3   | 75,413 | 3   | 85,826 | 3   | 96,240  |
| 1/4 | 2,766  | 1/4 | 13,156 | 1/4 | 23,562 | 1/4 | 33,975 | 1/4 | 44,389 | 1/4 | 54,802 | 1/4 | 65,216 | 1/4 | 75,630 | 1/4 | 86,043 | 1/4 | 96,457  |
| 1/2 | 2,981  | 1/2 | 13,373 | 1/2 | 23,779 | 1/2 | 34,192 | 1/2 | 44,606 | 1/2 | 55,019 | 1/2 | 65,433 | 1/2 | 75,847 | 1/2 | 86,260 | 1/2 | 96,674  |
| 3/4 | 3,195  | 3/4 | 13,590 | 3/4 | 23,996 | 3/4 | 34,409 | 3/4 | 44,823 | 3/4 | 55,236 | 3/4 | 65,650 | 3/4 | 76,064 | 3/4 | 86,477 | 3/4 | 96,891  |
| 4   | 3,409  | 4   | 13,806 | 4   | 24,212 | 4   | 34,626 | 4   | 45,040 | 4   | 55,453 | 4   | 65,867 | 4   | 76,281 | 4   | 86,694 | 4   | 97,108  |
| 1/4 | 3,624  | 1/4 | 14,023 | 1/4 | 24,429 | 1/4 | 34,843 | 1/4 | 45,257 | 1/4 | 55,670 | 1/4 | 66,084 | 1/4 | 76,497 | 1/4 | 86,911 | 1/4 | 97,325  |
| 1/2 | 3,839  | 1/2 | 14,240 | 1/2 | 24,646 | 1/2 | 35,060 | 1/2 | 45,474 | 1/2 | 55,887 | 1/2 | 66,301 | 1/2 | 76,714 | 1/2 | 87,128 | 1/2 | 97,542  |
| 3/4 | 4,055  | 3/4 | 14,457 | 3/4 | 24,863 | 3/4 | 35,277 | 3/4 | 45,691 | 3/4 | 56,104 | 3/4 | 66,518 | 3/4 | 76,931 | 3/4 | 87,345 | 3/4 | 97,759  |
| 5   | 4,270  | 5   | 14,674 | 5   | 25,080 | 5   | 35,494 | 5   | 45,907 | 5   | 56,321 | 5   | 66,735 | 5   | 77,148 | 5   | 87,562 | 5   | 97,976  |
| 1/4 | 4,486  | 1/4 | 14,891 | 1/4 | 25,297 | 1/4 | 35,711 | 1/4 | 46,124 | 1/4 | 56,538 | 1/4 | 66,952 | 1/4 | 77,365 | 1/4 | 87,779 | 1/4 | 98,192  |
| 1/2 | 4,702  | 1/2 | 15,108 | 1/2 | 25,514 | 1/2 | 35,928 | 1/2 | 46,341 | 1/2 | 56,755 | 1/2 | 67,169 | 1/2 | 77,582 | 1/2 | 87,996 | 1/2 | 98,409  |
| 3/4 | 4,918  | 3/4 | 15,325 | 3/4 | 25,731 | 3/4 | 36,145 | 3/4 | 46,558 | 3/4 | 56,972 | 3/4 | 67,386 | 3/4 | 77,799 | 3/4 | 88,213 | 3/4 | 98,626  |
| 6   | 5,133  | 6   | 15,542 | 6   | 25,948 | 6   | 36,362 | 6   | 46,775 | 6   | 57,189 | 6   | 67,602 | 6   | 78,016 | 6   | 88,430 | 6   | 98,843  |
| 1/4 | 5,350  | 1/4 | 15,758 | 1/4 | 26,165 | 1/4 | 36,579 | 1/4 | 46,992 | 1/4 | 57,406 | 1/4 | 67,819 | 1/4 | 78,233 | 1/4 | 88,647 | 1/4 | 99,060  |
| 1/2 | 5,566  | 1/2 | 15,975 | 1/2 | 26,382 | 1/2 | 36,796 | 1/2 | 47,209 | 1/2 | 57,623 | 1/2 | 68,036 | 1/2 | 78,450 | 1/2 | 88,864 | 1/2 | 99,277  |
| 3/4 | 5,783  | 3/4 | 16,192 | 3/4 | 26,599 | 3/4 | 37,013 | 3/4 | 47,426 | 3/4 | 57,840 | 3/4 | 68,253 | 3/4 | 78,667 | 3/4 | 89,081 | 3/4 | 99,494  |
| 7   | 5,999  | 7   | 16,409 | 7   | 26,816 | 7   | 37,229 | 7   | 47,643 | 7   | 58,057 | 7   | 68,470 | 7   | 78,884 | 7   | 89,298 | 7   | 99,711  |
| 1/4 | 6,216  | 1/4 | 16,626 | 1/4 | 27,033 | 1/4 | 37,446 | 1/4 | 47,860 | 1/4 | 58,274 | 1/4 | 68,687 | 1/4 | 79,101 | 1/4 | 89,514 | 1/4 | 99,928  |
| 1/2 | 6,432  | 1/2 | 16,843 | 1/2 | 27,250 | 1/2 | 37,663 | 1/2 | 48,077 | 1/2 | 58,491 | 1/2 | 68,904 | 1/2 | 79,318 | 1/2 | 89,731 | 1/2 | 100,145 |
| 3/4 | 6,649  | 3/4 | 17,060 | 3/4 | 27,467 | 3/4 | 37,880 | 3/4 | 48,294 | 3/4 | 58,708 | 3/4 | 69,121 | 3/4 | 79,535 | 3/4 | 89,948 | 3/4 | 100,362 |
| 8   | 6,866  | 8   | 17,277 | 8   | 27,684 | 8   | 38,097 | 8   | 48,511 | 8   | 58,924 | 8   | 69,338 | 8   | 79,752 | 8   | 90,165 | 8   | 100,579 |
| 1/4 | 7,083  | 1/4 | 17,493 | 1/4 | 27,901 | 1/4 | 38,314 | 1/4 | 48,728 | 1/4 | 59,141 | 1/4 | 69,555 | 1/4 | 79,969 | 1/4 | 90,382 | 1/4 | 100,796 |
| 1/2 | 7,300  | 1/2 | 17,710 | 1/2 | 28,118 | 1/2 | 38,531 | 1/2 | 48,945 | 1/2 | 59,358 | 1/2 | 69,772 | 1/2 | 80,188 | 1/2 | 90,599 | 1/2 | 101,013 |
| 3/4 | 7,516  | 3/4 | 17,927 | 3/4 | 28,335 | 3/4 | 38,748 | 3/4 | 49,162 | 3/4 | 59,575 | 3/4 | 69,989 | 3/4 | 80,403 | 3/4 | 90,816 | 3/4 | 101,230 |
| 9   | 7,733  | 9   | 18,144 | 9   | 28,551 | 9   | 38,965 | 9   | 49,379 | 9   | 59,792 | 9   | 70,208 | 9   | 80,620 | 9   | 91,033 | 9   | 101,447 |
| 1/4 | 7,950  | 1/4 | 18,360 | 1/4 | 28,768 | 1/4 | 39,182 | 1/4 | 49,596 | 1/4 | 60,009 | 1/4 | 70,423 | 1/4 | 80,836 | 1/4 | 91,250 | 1/4 | 101,664 |
| 1/2 | 8,167  | 1/2 | 18,577 | 1/2 | 28,985 | 1/2 | 39,399 | 1/2 | 49,813 | 1/2 | 60,226 | 1/2 | 70,640 | 1/2 | 81,053 | 1/2 | 91,467 | 1/2 | 101,881 |
| 3/4 | 8,384  | 3/4 | 18,794 | 3/4 | 29,202 | 3/4 | 39,616 | 3/4 | 50,030 | 3/4 | 60,443 | 3/4 | 70,857 | 3/4 | 81,270 | 3/4 | 91,684 | 3/4 | 102,098 |
| 10  | 8,601  | 10  | 19,011 | 10  | 29,419 | 10  | 39,833 | 10  | 50,246 | 10  | 60,660 | 10  | 71,074 | 10  | 81,487 | 10  | 91,901 | 10  | 102,315 |
| 1/4 | 8,818  | 1/4 | 19,227 | 1/4 | 29,636 | 1/4 | 40,050 | 1/4 | 50,463 | 1/4 | 60,877 | 1/4 | 71,291 | 1/4 | 81,704 | 1/4 | 92,118 | 1/4 | 102,531 |
| 1/2 | 9,035  | 1/2 | 19,444 | 1/2 | 29,853 | 1/2 | 40,267 | 1/2 | 50,680 | 1/2 | 61,094 | 1/2 | 71,508 | 1/2 | 81,921 | 1/2 | 92,335 | 1/2 | 102,748 |
| 3/4 | 9,252  | 3/4 | 19,661 | 3/4 | 30,070 | 3/4 | 40,484 | 3/4 | 50,897 | 3/4 | 61,311 | 3/4 | 71,725 | 3/4 | 82,138 | 3/4 | 92,552 | 3/4 | 102,965 |
| 11  | 9,469  | 11  | 19,878 | 11  | 30,287 | 11  | 40,701 | 11  | 51,114 | 11  | 61,528 | 11  | 71,942 | 11  | 82,355 | 11  | 92,769 | 11  | 103,182 |
| 1/4 | 9,685  | 1/4 | 20,094 | 1/4 | 30,504 | 1/4 | 40,918 | 1/4 | 51,331 | 1/4 | 61,745 | 1/4 | 72,158 | 1/4 | 82,572 | 1/4 | 92,986 | 1/4 | 103,399 |
| 1/2 | 9,902  | 1/2 | 20,311 | 1/2 | 30,721 | 1/2 | 41,135 | 1/2 | 51,548 | 1/2 | 61,962 | 1/2 | 72,375 | 1/2 | 82,789 | 1/2 | 93,203 | 1/2 | 103,616 |
| 3/4 | 10,119 | 3/4 | 20,528 | 3/4 | 30,938 | 3/4 | 41,352 | 3/4 | 51,765 | 3/4 | 62,179 | 3/4 | 72,592 | 3/4 | 83,006 | 3/4 | 93,420 | 3/4 | 103,833 |

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 ON CENTERLINE AND 27'-08" FORWARD OF AFT BULKHEAD.

PRECISION MEASUREMENT  
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*The Pearson*



# BARGE "CCL 20"

## 3 CENTER INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-01"

| 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   | 104,050 | 0   | 114,464 | 0   | 124,877 | 0   | 135,291 | 0   | 145,704 | 0   | 155,573 | 0   |        | 0   |        | 0   |        | 0   |        |
| 1/4 | 104,267 | 1/4 | 114,681 | 1/4 | 125,094 | 1/4 | 135,508 | 1/4 | 145,921 | 1/4 | 155,860 | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 104,484 | 1/2 | 114,898 | 1/2 | 125,311 | 1/2 | 135,725 | 1/2 | 146,138 | 1/2 | 155,746 | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 104,701 | 3/4 | 115,115 | 3/4 | 125,528 | 3/4 | 135,942 | 3/4 | 146,355 | 3/4 | 155,833 | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 1   | 104,918 | 1   | 115,332 | 1   | 125,745 | 1   | 136,159 | 1   | 146,572 | 1   | 155,920 | 1   |        | 1   |        | 1   |        | 1   |        |
| 1/4 | 105,135 | 1/4 | 115,548 | 1/4 | 125,962 | 1/4 | 136,376 | 1/4 | 146,788 | 1/4 | 155,963 | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 105,352 | 1/2 | 115,765 | 1/2 | 126,179 | 1/2 | 136,593 | 1/2 | 147,005 | 1/2 | 156,007 | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 105,569 | 3/4 | 115,982 | 3/4 | 126,396 | 3/4 | 136,810 | 3/4 | 147,222 | 3/4 | 156,050 | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 2   | 105,786 | 2   | 116,199 | 2   | 126,613 | 2   | 137,027 | 2   | 147,439 | 2   | 156,093 | 2   |        | 2   |        | 2   |        | 2   |        |
| 1/4 | 106,003 | 1/4 | 116,416 | 1/4 | 126,830 | 1/4 | 137,243 | 1/4 | 147,656 | 1/4 | 156,104 | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 106,220 | 1/2 | 116,633 | 1/2 | 127,047 | 1/2 | 137,460 | 1/2 | 147,873 | 1/2 | 156,115 | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 106,437 | 3/4 | 116,850 | 3/4 | 127,264 | 3/4 | 137,677 | 3/4 | 148,090 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 3   | 106,654 | 3   | 117,067 | 3   | 127,481 | 3   | 137,894 | 3   | 148,307 | 3   |         | 3   |        | 3   |        | 3   |        | 3   |        |
| 1/4 | 106,870 | 1/4 | 117,284 | 1/4 | 127,698 | 1/4 | 138,111 | 1/4 | 148,524 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 107,087 | 1/2 | 117,501 | 1/2 | 127,915 | 1/2 | 138,328 | 1/2 | 148,741 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 107,304 | 3/4 | 117,718 | 3/4 | 128,132 | 3/4 | 138,545 | 3/4 | 148,958 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 4   | 107,521 | 4   | 117,935 | 4   | 128,349 | 4   | 138,762 | 4   | 149,174 | 4   |         | 4   |        | 4   |        | 4   |        | 4   |        |
| 1/4 | 107,738 | 1/4 | 118,152 | 1/4 | 128,565 | 1/4 | 138,979 | 1/4 | 149,391 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 107,955 | 1/2 | 118,369 | 1/2 | 128,782 | 1/2 | 139,196 | 1/2 | 149,608 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 108,172 | 3/4 | 118,586 | 3/4 | 128,999 | 3/4 | 139,413 | 3/4 | 149,825 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 5   | 108,389 | 5   | 118,803 | 5   | 129,216 | 5   | 139,630 | 5   | 150,042 | 5   |         | 5   |        | 5   |        | 5   |        | 5   |        |
| 1/4 | 108,606 | 1/4 | 119,020 | 1/4 | 129,433 | 1/4 | 139,847 | 1/4 | 150,259 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 108,823 | 1/2 | 119,237 | 1/2 | 129,650 | 1/2 | 140,064 | 1/2 | 150,476 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 109,040 | 3/4 | 119,454 | 3/4 | 129,867 | 3/4 | 140,281 | 3/4 | 150,693 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 6   | 109,257 | 6   | 119,671 | 6   | 130,084 | 6   | 140,498 | 6   | 150,910 | 6   |         | 6   |        | 6   |        | 6   |        | 6   |        |
| 1/4 | 109,474 | 1/4 | 119,887 | 1/4 | 130,301 | 1/4 | 140,715 | 1/4 | 151,127 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 109,691 | 1/2 | 120,104 | 1/2 | 130,518 | 1/2 | 140,932 | 1/2 | 151,344 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 109,908 | 3/4 | 120,321 | 3/4 | 130,735 | 3/4 | 141,149 | 3/4 | 151,560 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 7   | 110,125 | 7   | 120,538 | 7   | 130,952 | 7   | 141,366 | 7   | 151,777 | 7   |         | 7   |        | 7   |        | 7   |        | 7   |        |
| 1/4 | 110,342 | 1/4 | 120,755 | 1/4 | 131,169 | 1/4 | 141,582 | 1/4 | 151,994 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 110,559 | 1/2 | 120,972 | 1/2 | 131,386 | 1/2 | 141,799 | 1/2 | 152,211 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 110,776 | 3/4 | 121,189 | 3/4 | 131,603 | 3/4 | 142,016 | 3/4 | 152,428 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 8   | 110,993 | 8   | 121,406 | 8   | 131,820 | 8   | 142,233 | 8   | 152,645 | 8   |         | 8   |        | 8   |        | 8   |        | 8   |        |
| 1/4 | 111,209 | 1/4 | 121,623 | 1/4 | 132,037 | 1/4 | 142,450 | 1/4 | 152,862 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 111,426 | 1/2 | 121,840 | 1/2 | 132,254 | 1/2 | 142,667 | 1/2 | 153,079 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 111,643 | 3/4 | 122,057 | 3/4 | 132,471 | 3/4 | 142,884 | 3/4 | 153,296 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 9   | 111,860 | 9   | 122,274 | 9   | 132,688 | 9   | 143,101 | 9   | 153,513 | 9   |         | 9   |        | 9   |        | 9   |        | 9   |        |
| 1/4 | 112,077 | 1/4 | 122,491 | 1/4 | 132,904 | 1/4 | 143,318 | 1/4 | 153,724 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 112,294 | 1/2 | 122,708 | 1/2 | 133,121 | 1/2 | 143,535 | 1/2 | 153,936 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 112,511 | 3/4 | 122,925 | 3/4 | 133,338 | 3/4 | 143,752 | 3/4 | 154,147 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 10  | 112,728 | 10  | 123,142 | 10  | 133,555 | 10  | 143,969 | 10  | 154,359 | 10  |         | 10  |        | 10  |        | 10  |        | 10  |        |
| 1/4 | 112,945 | 1/4 | 123,359 | 1/4 | 133,772 | 1/4 | 144,186 | 1/4 | 154,532 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 113,162 | 1/2 | 123,576 | 1/2 | 133,989 | 1/2 | 144,402 | 1/2 | 154,706 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 113,379 | 3/4 | 123,793 | 3/4 | 134,206 | 3/4 | 144,619 | 3/4 | 154,879 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |
| 11  | 113,596 | 11  | 124,010 | 11  | 134,423 | 11  | 144,836 | 11  | 155,063 | 11  |         | 11  |        | 11  |        | 11  |        | 11  |        |
| 1/4 | 113,813 | 1/4 | 124,226 | 1/4 | 134,640 | 1/4 | 145,053 | 1/4 | 155,183 | 1/4 |         | 1/4 |        | 1/4 |        | 1/4 |        | 1/4 |        |
| 1/2 | 114,030 | 1/2 | 124,443 | 1/2 | 134,857 | 1/2 | 145,270 | 1/2 | 155,313 | 1/2 |         | 1/2 |        | 1/2 |        | 1/2 |        | 1/2 |        |
| 3/4 | 114,247 | 3/4 | 124,660 | 3/4 | 135,074 | 3/4 | 145,487 | 3/4 | 155,443 | 3/4 |         | 3/4 |        | 3/4 |        | 3/4 |        | 3/4 |        |

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