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

Certification Date:	14 Nov 2024
Expiration Date:	14 Nov 2029

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 410	1255906			Tank Barge

Hailing Port	Hull Material	Horsepower	Propulsion
NEW ORLEANS, LA UNITED STATES	Steel		

Place Built	Delivery Date	Keel Laid Date	Gross Tons	Net Tons	DWT	Length
PALACIOS, TX UNITED STATES	04Sep2014	19Feb2014	R-1619 I-	R-1619 I-		R-297.5 I-0

Owner	Operator
FRANK W BANTA JR 2012 GRANTOR TRUST DTD 12/28/12 1237 HIGHWAY 75 SUNSHINE, LA 70780 UNITED STATES	CHEM CARRIERS LLC 1237 HIGHWAY 75 SUNSHINE, LA 70780 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 plus Limited Coastwise---

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 per 46 CFR 31.10-21(a)(2). If this vessel is operated in salt water more than 6 months in any 12 month period, the vessel must be inspected using salt water intervals per 46 CFR 31.10-21(a)(1) 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 Port Arthur, TX, UNITED STATES, the Officer in Charge, Marine Inspection, Marine Safety Unit Port Arthur 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

Date	Zone	A/P/R	Signature

This certificate issued by: Lia T. Woodman
L. L. WOODMAN, CDR, USCG, By direction

Officer in Charge, Marine Inspection
Marine Safety Unit Port Arthur

Inspection Zone

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

Certification Date:	14 Nov 2024
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Certificate of Inspection

Vessel Name: CCL 410

---Hull Exams---

Exam Type	Next Exam	Last Exam	Prior Exam
DryDock	30Nov2034	14Nov2024	04Sep2014
Internal Structure	30Nov2029	14Nov2024	12Sep2019

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

Authorization: FLAMMABLE/COMBUSTIBLE LIQUIDS AND SPECIFIED HAZARDOUS CARGOES

Total Capacity	Units	Highest Grade Type	Part151 Regulated	Part153 Regulated	Part154 Regulated
29218	Barrels	A	Yes	No	No

Hazardous Bulk Solids Authority

Not Authorized

Loading Constraints - Structural

Tank Number	Max Cargo Weight per Tank (short tons)	Maximum Density (lbs/gal)
1P	719	13.6
1S	719	13.6
2P	873	13.6
2S	873	13.6
3P	740	13.6
3S	740	13.6

Loading Constraints - Stability

Hull Type	Maximum Load (short tons)	Maximum Draft (ft/in)	Max Density (lbs/gal)	Route Description
II	4058	10ft 9in	13.6	LBS/LC
II	4058	10ft 9in	13.6	R
III	4431	11ft 6in	13.6	LBS/LC
III	4431	11ft 6in	13.6	R

Conditions Of Carriage

Only those specified hazardous cargoes named in the vessel's Cargo Authority Attachment (CAA), Serial #C1-1303733, dated 07FEB14, may be carried. The specified hazardous cargoes may be carried only in the tanks indicated.

Per 46 CFR 150.130, the person in charge of the vessel is responsible for ensuring the compatibility requirements of 46 CFR 150 are met. Cargoes must be checked for compatibility using figures, tables, and appendices of 46 CFR 150 in conjunction with the reactive group number from the "Compat Group No" column is listed in the vessel's CAA.

When the vessel is carrying cargoes containing 0.5% or greater benzene by volume, the person in charge is responsible for ensuring the provisions of 46 CFR 197, Subpart C, are applied.

Vapor Control Authorization

Per 46 CFR 39, excluding Part 39.4000, this vessel's vapor control system (VCS) has been inspected to the plans approved by Marine Safety Center letter serial Marine Safety Center letters Serial # C1-1303733, dated February 07, 2014, and found acceptable for collection of bulk liquid cargo vapors annotated with "Yes" in the CAA's VCS column.

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Certificate of Inspection

Vessel Name: CCL 410

Per 46 CFR 39.1017 and 39.5000(e), this vessel's VCS has been evaluated and approved for multi-breasted tandem loading with other vessels specifically approved to tandem load with this vessel.

Stability and Trim

Per 46 CFR 151.10(c)(2), the maximum tank weights listed above reflect uniform (within 5%) loading at the deepest draft allowed. When carrying subchapter "O" cargoes at shallower drafts, the barge should always be loaded uniformly.

The maximum design density of cargo which may be filled to the tank top is 8.54 lbs/gal. Cargoes with higher densities, up to 13.6 lbs/gal, may be carried as slack loads, but shall not exceed the tank weight limits as listed above.

--- Inspection Status ---

Cargo Tanks

	Internal Exam			External Exam		
Tank Id	Previous	Last	Next	Previous	Last	Next
1P	04Sep2014	14Nov2024	30Nov2034	-	-	-
1S	04Sep2014	14Nov2024	30Nov2034	-	-	-
2P	04Sep2014	14Nov2024	30Nov2034	-	-	-
2S	04Sep2014	14Nov2024	30Nov2034	-	-	-
3P	04Sep2014	14Nov2024	30Nov2034	-	-	-
3S	04Sep2014	14Nov2024	30Nov2034	-	-	-

		Hydro Test		
Tank Id	Safety Valves	Previous	Last	Next
1P	-	-	-	-
1S	-	-	-	-
2P	-	-	-	-
2S	-	-	-	-
3P	-	-	-	-
3S	-	-	-	-

---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

END

Department of Homeland Security
United States Coast Guard

Serial #: C1-1303733
Dated: 07-Feb-14

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: **CCL 410**
Official #: 1255906

Shipyard: Tres Palacios Marine
Hull #: 152

46 CFR 151 Tank Group Characteristics

Tank Group Information		Cargo Identification				Tanks				Cargo Transfer	Environmental Control			Fire Protection Provided	Special Requirements			
Tnk Grp	Tanks in Group	Density	Press.	Temp.	Hull Typ	Cargo Seg Tank	Type	Vent	Gauge	Pipe Class	Cont	Tanks	Handling Space		General	Materials of Construction	Elec Haz	Temp Cont
A	#1P/S, #2P/S, #3P/S	13.6	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Closed	II	G-1	NR	NA	Portable	.50-60, .50-70(a), .50-70(b), .50-73, .50-81(a), .50-81(b),	55-1(b), (c), (e), (f), (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				
								Vapor Recovery			
Name	Chem Code	Compat Group No	Sub Chapter	Grade	Hull Type	Tank Group	App'd (Y or N)	VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of	Insp. Period
Authorized Subchapter O Cargoes										
Acetonitrile	ATN	37	O	C	III	A	Yes	3	No	G
Acrylonitrile	ACN	15 [2]	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 [2]	O	NA	III	A	No	N/A	.50-81, .50-86	G
Aminoethylethanolamine	AEE	8	O	E	III	A	Yes	1	.55-1(b)	G
Ammonium bisulfite solution (70% or less)	ABX	43 [2]	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
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 [2]	O	C	III	A	Yes	1	.50-60	G
Benzene or hydrocarbon mixtures (containing Acetylene and 10% Benzene or more)	BHA	32 [2]	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
Carbon tetrachloride	CBT	36	O	NA	III	A	No	N/A	No	G
Caustic potash solution	CPS	5 [2]	O	NA	III	A	No	N/A	.50-73, .55-1(j)	G
Caustic soda solution	CSS	5 [2]	O	NA	III	A	No	N/A	.50-73, .55-1(j)	G
Chemical Oil (refined, containing phenolics)	COD	21	O	E	II	A	No	N/A	.50-73	G
Chlorobenzene	CRB	36	O	D	III	A	Yes	1	No	G
Chloroform	CRF	36	O	NA	III	A	Yes	3	No	G
Coal tar naphtha solvent	NCT	33	O	D	III	A	Yes	1	.50-73	G
Creosote	CCW	21 [2]	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		O	E	III	A	Yes	1	.55-1(f)	G
Crotonaldehyde	CTA	19 [2]	O	C	II	A	Yes	4	.55-1(h)	G
Crude hydrocarbon feedstock (containing Butyraldehydes and Ethylpropyl acrolein)	CHG		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 [2]	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

**** 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 410**
Official #: 1255906

Shipyard: Tres Palacios Marine
Hull #: 152

Cargo Identification						Conditions of Carriage				
							Vapor Recovery			
Name	Chem Code	Compat Group No	Sub Chapter	Grade	Hull Type	Tank Group	App'd (Y or N)	VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of	Insp. Period
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	Yes	5	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 [1,2]	O	A	III	A	No	N/A	.56-1(a), (b), (c), (g)	G
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution	DTI	43 [2]	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 [2]	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
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
Dodecyldimethylamine, Tetradecyldimethylamine 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
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 solution (72% or less)	EAN	7	O	A	II	A	No	N/A	.55-1(b)	G
N-Ethylbutylamine	EBA	7	O	D	III	A	Yes	3	.55-1(b)	G
N-Ethylcyclohexylamine	ECC	7	O	D	III	A	Yes	1	.55-1(b)	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 solution (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
Hexamethyleneimine	HMI	7	O	C	II	A	Yes	1	.56-1(b), (c)	G
Hydrocarbon 5-9	HFN		O	C	III	A	Yes	1	.50-70(a), .50-81(a), (b)	G
Isoprene	IPR	30	O	A	III	A	No	N/A	.50-70(a), .50-81(a), (b)	G

Department of Homeland Security
United States Coast Guard

Serial #: C1-1303733
Dated: 07-Feb-14

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: **CCL 410**
Official #: 1255906

Shipyard: Tres Palacios Marine
Hull #: 152

Cargo Identification						Conditions of Carriage				
							Vapor Recovery			
Name	Chem Code	Compat Group No	Sub Chapter	Grade	Hull Type	Tank Group	App'd (Y or N)	VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of	Insp. Period
Isoprene, Pentadiene mixture	IPN		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-ethylpyridine	MEP	9	O	E	III	A	Yes	1	.55-1(e)	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
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
1,3-Pentadiene	PDE	30	O	A	III	A	No	N/A	.50-70(a), .50-81	G
Perchloroethylene	PER	36	O	NA	III	A	No	N/A	No	G
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
iso-Propylamine	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
Sodium acetate, Glycol, Water mixture (3% or more Sodium Hydroxide)	SAP		O		III	A	No	N/A	.50-73, .55-1(j)	G
Sodium aluminate solution (45% or less)	SAU	5	O	NA	III	A	No	N/A	.50-73, .56-1(a), (b), (c)	G
Sodium chlorate solution (50% or less)	SDD	0 [1,2]	O	NA	III	A	No	N/A	.50-73	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 (H2S 15 ppm or less)	SSH	0 [1,2]	O	NA	III	A	Yes	1	.50-73, .55-1(b)	G
Sodium sulfide, hydrosulfide solution (H2S 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 (H2S greater than 200 ppm)	SSJ	0 [1,2]	O	NA	II	A	No	N/A	.50-73, .55-1(b)	G
Styrene (crude)	STX		O	D	III	A	Yes	2	No	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
Tetraethylenepentamine	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
Toluenediamine	TDA	9	O	E	II	A	No	N/A	.50-73, .56-1(a), (b), (c), (g)	G
1,2,4-Trichlorobenzene	TCB	36	O	E	III	A	Yes	1	No	G
1,1,2-Trichloroethane	TCM	36	O	NA	III	A	Yes	1	.50-73, .56-1(a)	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% NH3)	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 neodecanate	VND	13	O	E	III	A	No	N/A	.50-70(a), .50-81(a), (b)	G

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: **CCL 410**
Official #: 1255906

Shipyard: Tres Palacios Marine
Hull #: 152

Cargo Identification						Conditions of Carriage				
							Vapor Recovery			
Name	Chem Code	Compat Group No	Sub Chapter	Grade	Hull Type	Tank Group	App'd (Y or N)	VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of	Insp. Period
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(C12-C16) poly(1-6)ethoxylates	APU	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 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)	BFX	20	D	E		A	Yes	1		
Butyl acetate (all isomers)	BAX	34	D	D		A	Yes	1		
Butyl alcohol (iso-)	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		D	C		A	Yes	1		
Butyl benzyl phthalate	BPH	34	D	E		A	Yes	1		
Butyl toluene	BUE	32	D	D		A	Yes	1		
Caprolactam solutions	CLS	22	D	E		A	Yes	1		
Cyclohexane	CHX	31	D	C		A	Yes	1		
Cyclohexanol	CHN	20	D	E		A	Yes	1		
1,3-Cyclopentadiene dimer (molten)	CPD	30	D	D/E		A	Yes	2		
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		
Decene	DCE	30	D	D		A	Yes	1		
Decyl alcohol (all isomers)	DAX	20 [2]	D	E		A	Yes	1		
n-Decylbenzene, see Alkyl(C9+)benzenes	DBZ	32	D	E		A	Yes	1		
Diacetone alcohol	DAA	20 [2]	D	D		A	Yes	1		
ortho-Dibutyl phthalate	DPA	34	D	E		A	Yes	1		
Diethylbenzene	DEB	32	D	D		A	Yes	1		
Diethylene glycol	DEG	40 [2]	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		
Dioctyl 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		

Department of Homeland Security
United States Coast Guard

Serial #: C1-1303733
Dated: 07-Feb-14

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: **CCL 410**
Official #: 1255906

Shipyard: Tres Palacios Marine
Hull #: 152

Cargo Identification						Conditions of Carriage				
							Vapor Recovery			
Name	Chem Code	Compat Group No	Sub Chapter	Grade	Hull Type	Tank Group	App'd (Y or N)	VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of	Insp. Period
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 [2]	D	C		A	Yes	1		
Ethylbenzene	ETB	32	D	C		A	Yes	1		
Ethyl butanol	EBT	20	D	D		A	Yes	1		
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 [2]	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 [2]	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 [2]	D	E		A	Yes	1		
Heptane (all isomers), see Alkanes (C6-C9) (all isomers)	HMX	31	D	C		A	Yes	1		
Heptanoic acid	HEP	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 [2]	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 [2]	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 [2]	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		
Methyl tert-butyl ether	MBE	41 [2]	D	C		A	Yes	1		

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: **CCL 410**
Official #: 1255906

Shipyard: Tres Palacios Marine
Hull #: 152

Cargo Identification						Conditions of Carriage				
							Vapor Recovery			
Name	Chem Code	Compat Group No	Sub Chapter	Grade	Hull Type	Tank Group	App'd (Y or N)	VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of	Insp. Period
Methyl butyl ketone	MBK	18	D	C		A	Yes	1		
Methyl butyrate	MBU	34	D	C		A	Yes	1		
Methyl ethyl ketone	MEK	18 [2]	D	C		A	Yes	1		
Methyl heptyl ketone	MHK	18	D	D		A	Yes	1		
Methyl isobutyl ketone	MIK	18 [2]	D	C		A	Yes	1		
Methyl naphthalene (molten)	MNA	32	D	E		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 [2]	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 [2]	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. 5	OFV	33	D	D/E		A	Yes	1		
Oil, fuel: No. 6	OSX	33	D	E		A	Yes	1		
Oil, misc: Crude	OIL	33	D	C/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		
Pentane (all isomers)	PTY	31	D	A		A	Yes	5		
Pentene (all isomers)	PTX	30	D	A		A	Yes	5		
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		
iso-Propyl acetate	IAC	34	D	C		A	Yes	1		
n-Propyl acetate	PAT	34	D	C		A	Yes	1		
iso-Propyl alcohol	IPA	20 [2]	D	C		A	Yes	1		
n-Propyl alcohol	PAL	20 [2]	D	C		A	Yes	1		
Propylbenzene (all isomers)	PBY	32	D	D		A	Yes	1		
iso-Propylcyclohexane	IPX	31	D	D		A	Yes	1		

Department of Homeland Security
United States Coast Guard

Serial #: *C1-1303733*
Dated: *07-Feb-14*

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: **CCL 410**
Official #: 1255906

Shipyard: Tres Palacios Marine
Hull #: 152

Cargo Identification						Conditions of Carriage				
							Vapor Recovery			
Name	Chem Code	Compat Group No	Sub Chapter	Grade	Hull Type	Tank Group	App'd (Y or N)	VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of	Insp. Period
Propylene glycol	PPG	20 [2]	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 (less than 1% of the 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		
Trixylenyl phosphate	TRP	34	D	E		A	Yes	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		

Certificate of Inspection

Cargo Authority Attachment

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	The three letter designation assigned to the cargo in the Chemical Hazards Response Information System (CHRIS) Manual.
none	Certain mixtures of cargoes may not have a CHRIS Code assigned.
Compatability 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 compatability chart.
Subchapter	The subchapter in Title 46 Code of Federal Regulations under which the cargo has been classified.
Subchapter D	Those flammable and combustible liquids listed in 46 CFR Table 30.25-1.
Subchapter O	Those hazardous cargoes listed in 46 CFR Table 151.05 and 46 CFR Part 153 Table 2.
Note 3	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	Flammable liquid cargoes, as defined in 46 CFR 30-10.22.
D, E	Combustible liquid cargoes, as defined in 46 CFR 30-10.15.
Note 4	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	Those subchapter O cargoes which are not classified as a flammable or combustible liquid.
#	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	The required barge hull classification for carriage of the specified Subchapter O hazardous material cargo, see 46 CFR 151.10-1.
I	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).
II	Designed to carry products which require significant preventive measures to preclude the uncontrolled release of cargo. See 46 CFR 151.10-1(b)(3).
III	Designed to carry products of sufficeint hazard to require a moderate degree of control. See 46 CFR 151.10-1(b)(4).
NA	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 Approved (Y or N)	Yes: The vessel's VCS has been reviewed and approved by the MSC to control vapors of the specified cargo. 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 Approved (Y or N)	Yes: The vessel's VCS has been reviewed and approved by the MSC to control vapors of the specified cargo. 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 componenets 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 arrester.
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 1cargoes. 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.

DHS, USCG, CG-1270 (REV. 01-23)

OMB APPROVED
1625-0027

UNITED STATES OF AMERICA

DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD

NATIONAL VESSEL DOCUMENTATION CENTER

CERTIFICATE OF DOCUMENTATION

VESSEL NAME	OFFICIAL NUMBER	IMO OR OTHER NUMBER	YEAR COMPLETED
CCL 410	1255906	152	2014

HAILING PORT	HULL MATERIAL	MECHANICAL PROPULSION
NEW ORLEANS LA	STEEL	NO

GROSS TONNAGE	NET TONNAGE	LENGTH	BREADTH	DEPTH
1619 GRT	1619 NRT	297.5	54.0	12.0

PLACE BUILT

PALACIOS TX

OWNERS

D STEPHEN LAPLACE TRUSTEE FOR THE FRANK W BANTA JR 2012 TRUST

OPERATIONAL ENDORSEMENTS

COASTWISE

MANAGING OWNER

D STEPHEN LAPLACE
1237 HWY 75
SUNSHINE LA 70780

RESTRICTIONS

NONE

ENTITLEMENTS

NONE

REMARKS

None

ISSUE DATE

JULY 10, 2025

THIS CERTIFICATE EXPIRES

AUGUST 31, 2026

Christopher G. Wadsworth

DIRECTOR, NATIONAL VESSEL DOCUMENTATION CENTER

PREVIOUS EDITION OBSOLETE, THIS CERTIFICATE MAY NOT BE ALTERED

U.S. COAST GUARD

National Pollution Funds Center

Click on the Document Icon to the left of a record to display a COFR Confirmation in html. You may print the COFR Confirmation by right clicking your mouse and selecting "print" from the list.

VESSEL NAME	VESSEL TYPE	HULL TYPE	GROSS TONNAGE	COFR NUMBER	EFFECTIVE DATE	EXPIRATION DATE	COFR APPLICANT	VIN	INSURANCE CANCEL FLAG
CCL 410	TANKBARGE D		1619	841310 - 21	9/3/2023	9/3/2026	CHEM CARRIERS, L.L.C	D1255906	

< Prev Next >

Version 3.7 -- This version is designed for Internet Explorer, Edge, Chrome, Firefox and Safari.

Ksolv

BARGE PIPING LETTER

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

BARGE OWNER/BARGE NAME: CHEM CARRIERS / CCL-410

Letter expiration date (one year from test date): 9-22-2026

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

1. Cargo Piping and Valves (actual date of test): 9-22-25

   Test Pressure (188 psi): 188 psi

2. Cargo Relief Valve (actual date of test): 9-22-25

   Test Pressure (125 psi): 125 psi

3. Cargo Pressure Gauge (actual date of test): 9-22-25

   Percent of Accuracy (%): 98 %

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

   Test Pressure (125 psi): N/A

Signature of Tester:	Luis Lara
Printed Name of Tester:	Luis Lara
Company/Location of Tester:	KSOLV Maritime/Channelview TX

1015 Lakeside Dr, Channelview, TX 77530
Phone: 281-452-4000 Fax: 281-452-5523
Revised 10/03/2019

Ksolv

BARGE VAPOR TIGHTNESS LETTER

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

- Test date: 9-22-2025
- Barge owner: CHEM CARRIERS
- Barge Name/Official Number: CCL-410 / 1255906
- Maximum load rate (BPH): 5000 (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.

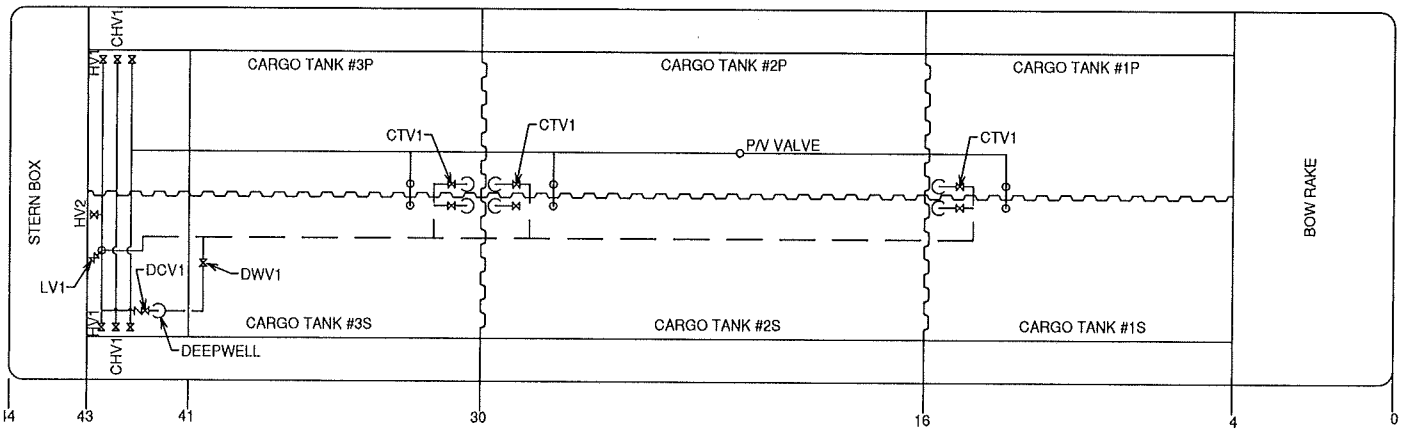
→ Start Time: 23:20 Beginning Pressure: 28"

→ End Time: 23:50 Ending Pressure: 27.8

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

Company of Tester:	Location:
KSOLV Maritime	Channelview TX
Name of Tester (Print):	Signature of Tester:
Luis Lara	Luis Lara
Name of Witness (Print):	Signature of Witness:
JUAN CRUZ	JUAN CRUZ
Affiliation/Company of Witness (Print)	
KSOLV / Foreman	

1015 Lakeside Dr, Channelview, TX 77530
Phone: 281-452-4000 Fax: 281-452-5523
Revised 10/03/2019



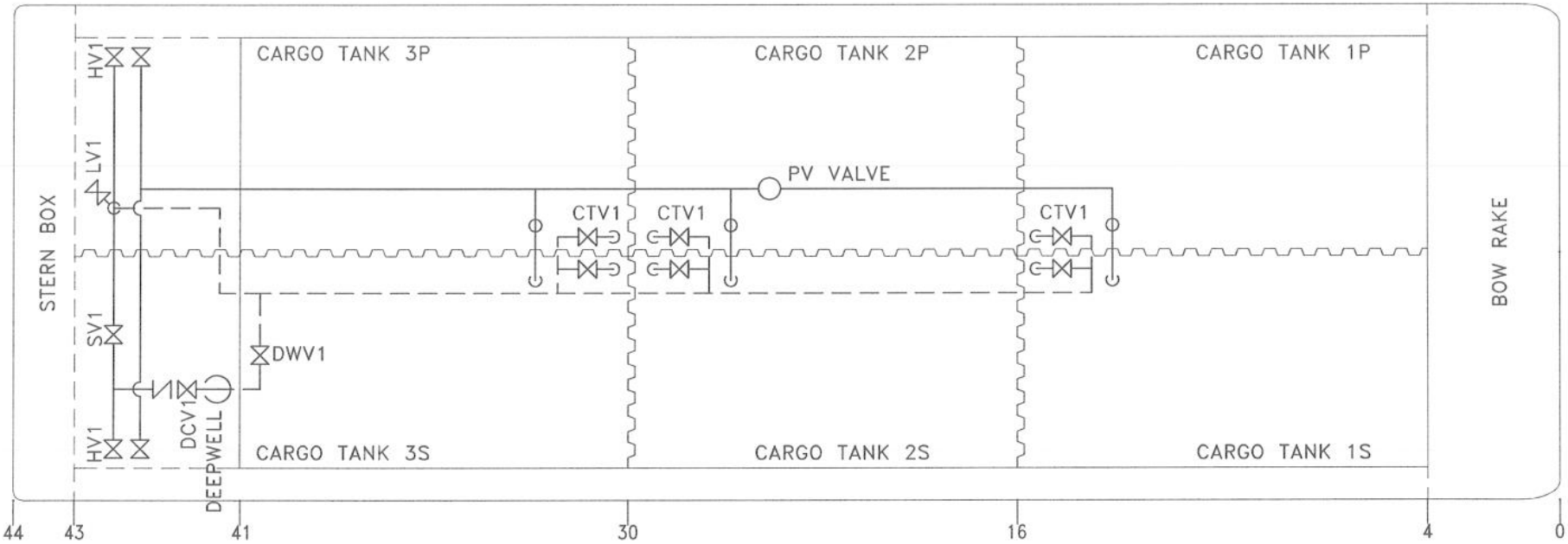
HV1 = CARGO HEADER VALVE
HV2 = BARGE TO BARGE
CHV1 = CROSS HEADER
LV1 = CARGO LOAD VALVE
DCV1 = CARGO PUMP DISCHARGE VALVE
DWV1 = DEEPWELL BLOCK VALVE
CTV1 = CARGO TANK LOAD/DISCHARGE VALVE

LOAD BAGRE
OPEN: HV1,LV1,CTV1
CLOSE: DWV1, DCV1

DISCHARGE BARGE
OPEN: DWV1, DCV1, HV1,CTV1
CLOSE: LV1

CARGO AND VAPOR PIPING

CHEM CARRIERS	297'-6" X 54' X 12' TANK BARGE - CCL 410 & 411	TANKERMAN'S PLAN	09/18/2014	E.R.C



HV1 – CARGO HEADER VALVE
LV1 – CARGO LOAD VALVE
CTV1 – CARGO TANK LOAD/DISCHARGE VALVE
DWV1 – DEEPWELL BLOCK VALVE
DCV1 – CARGO PUMP DISCHARGE VALVE
SV1 – SALVAGE VALVE

LOAD BARGE:
OPEN: HV1, LV1, CTV1, SV1
CLOSE: DWV1, DCV1

DISCHARGE BARGE:
OPEN: DWV1, DCV1, HV1, CTV1, SV1
CLOSE: LV1

CARGO AND VAPOR PIPING

CHEM CARRIERS	297'–6"X54'X12' TANK BARGE – CCL 408 & 409	TANKERMAN'S PLAN	DATE 07/13	DR. SRM

152

BARGE "CCL 410"

INNAGE TRIM TABLE (2" STANDPIPE)

	1 FT.		2 FT.		3 FT.		4 FT.		5 FT.		6 FT.	
	BOW	STERN	BOW	STERN	BOW	STERN	BOW	STERN	BOW	STERN	BOW	STERN
1 PORT	- 00-1/4	00-1/4	- 00-1/2	00-1/2	- 00-3/4	00-3/4	- 00-7/8	00-7/8	- 01-1/8	01-1/8	- 01-3/8	01-3/8
1 STBD	- 00-1/4	00-1/4	- 00-1/2	00-1/2	- 00-3/4	00-3/4	- 01-0/8	01-0/8	- 01-1/4	01-1/4	- 01-1/2	01-1/2
2 PORT	- 00-1/4	00-1/4	- 00-1/2	00-1/2	- 00-3/4	00-3/4	- 01-0/8	01-0/8	- 01-1/4	01-1/4	- 01-1/2	01-1/2
2 STBD	- 00-1/4	00-1/4	- 00-1/2	00-1/2	- 00-3/4	00-3/4	- 01-0/8	01-0/8	- 01-1/4	01-1/4	- 01-3/8	01-3/8
3 PORT	- 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	- 00-3/8	00-3/8
3 STBD	- 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	- 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 1 PORT IS 00-1/2"
FOR A MEASURED INNAGE GAUGE OF 4'-00" ON 1 PORT, THE TRIM CORRECTED INNAGE IS 4'-00 1/2'

LENGTH BETWEEN DRAFT MARKS: 231'-06"

May 28, 2014

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

http://www.pmacorp.net

CARGO TRANSFER PROCEDURES

CHEM CARRIERS L.L.C.

TRANSFER FROM BARGE TO DOCK

PARTS

Barge CCL 410

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 410 is equipped with a separate containment area for

the cargo trunk top and the aft 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 tankerman (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 409. 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 then 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 1-800-424-8802.
E. Notify Chem Carriers L.L.C. at (225) 642-0060
F. If loading, transfer the cargo from the leaking tank to an adjacent tank or back to the dock if safe to do so.
G. 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.

In case 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 4000 BBLS/HR for

subchapter "D" Cargoes and 4000 BBBLS/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.

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 410 (1255906) 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	LOWER MISSISSIPPI RIVER (MEMPHIS)	OHIO VALLEY	UPPER MISSISSIPPI RIVER (ST. LOUIS)
HOUMA	MOBILE	PORT ARTHUR AND LAKE CHARLES	
HOUSTON-GALVESTON	NEW ORLEANS		

Sincerely,

CHARRON MCCOMBS
Lieutenant Commander
Acting Chief, Domestic Preparedness & Planning Division
U.S. Coast Guard
By direction

The action has been thoroughly reviewed by the USCG, and determined to be categorically excluded under current USCG CE(s) # 31 from further environmental documentation, in accordance with Section 2.B.2. and Figure 2-1 of the National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts, COMDTINST M16475.1D, as authorized by DHS MD 5100.1.

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

Vessel Name	Official Number (O.N.)
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

Vessel Name	Official Number (O.N.)
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

A. NOTIFICATION CHECKLIST AND EMERGENCY PROCEDURES

1. Owner, Address and Contact Procedures

Chem Carriers, L.L.C. will act as the owner of this barge for the purpose of this Plan. Any oil spill response will be coordinated by Chem Carriers, L.L.C. in the person of the QI/AQI named Below. The QI will coordinate efforts with other companies as required by circumstances and existing legal agreement between the parties. Chem Carriers, L.L.C. mailing address:

Chem Carriers, L.L.C.
1247 Hwy. 75 Brookwood
Sunshine, LA 70780

Chem Carriers, L.L.C. will act as the Operator of the barges in this Plan. Their address is:

Chem Carriers, L.L.C.
1247 Hwy. 75 Brookwood
Sunshine, LA 70780
(225) 642-0060
(225) 642-9454 (fax)

2. QUALIFIED INDIVIDUAL (QI) 24 HOUR CONTACT PROCEDURES

Doug LeBlanc
(225) 642-0060 24 Hour Office
(225) 571-1944 Cell

ALTERNATE INDIVIDUAL (QI) 24 HOUR CONTACT PROCEDURES

John Williams
(225) 642-0060 24 Hour Office
(225) 439-6805 Cell
(225) 664-0062 Home

NOTIFICATION CHECKLIST
VESSEL

1. Chem Carriers, L.L.C. has a 24 hour number, it is (225) 642-0060, this number can be used to contact:

   a. Qualified Individual: Doug LeBlanc

   b. Alternate Qualified Individuals: John Williams

2. U.S. Coast Guard (NRC) (800) 424-8802 or (202) 267-2675

3. Any local U.S. Coast Guard Office in the area (See Geographic-Specific appendix in Section J of the Plan)

4. Any State/Local Agencies in the area (See Geographic-Specific appendix in Section J of the Plan)

NOTIFICATION CHECKLIST
SHORE BASED

QI/AQI receiving information from vessel should:

1. Get condition of the crew and the vessel

2. Amount of oil Onboard/Discharged

3. Size of spill and direction, and dispatch an environmental contractor to the scene (See geographic specific appendix in Section J of the Plan)

4. U.S. Coast Guard (NRC) (800) 424-8802 or (202) 267-2675

5. Any local U.S. Coast Guard Office in the area (See Geographic-Specific appendix in Section J of the Plan)

6. Any State/Local Agencies in the area (See Geographic-Specific appendix in Section J of the Plan)

7. Notify Cargo Owner representative

8. Notify Company owner representative

9. Notify Pollution Insurance Carrier (See Section F of this Plan)

10. Notify legal counsel if necessary

**** QI/AQI Should record the time and name of each person contacted on the Oil Spill Report Form.**

3. NATIONAL RESPONSE CENTER (NRC) CONTACT PROCEDURE

The QI or AQI is responsible for notifying the NRC at:

(800) 424-8802
(202) 267-2675

4. OIL SPILL REPORTING FORM

Information to be provided to the QI by the vessel personnel reporting a spill is summarized on the following page on the Oil Spill Reporting Form

5. RESPONSE ACTION STATEMENT

Where safety to human life is not jeopardized, the Captain of the towing vessel will direct the crew to gather the information listed in this Plan, to secure the barge to the safest extent possible, and to take steps to mitigate a spill or a threat of a spill.

The Captain will notify the QI of the nearest Coast Guard COTP and local traffic. The QI will arrange for mitigation of discharge and once response is underway will complete other agency notification.

U.S. Department of Homeland Security
United States Coast Guard

Commanding Officer
United States Coast Guard
Marine Safety Center

US Coast Guard Stop 7410
4200 Wilson Blvd., Ste 400
Arlington, VA 20598-7410
Staff Symbol: MSC-3
Phone: (703) 872-6731
Email: msc@uscg.mil

16710/P018541
Serial: C1-1403782
October 27, 2014

M. Dan Jones & Associates
Attn: Mr. M. Dan Jones
7519 Old Bridge Court
Sugar Land, TX 77479
Email: matdjones@aol.com

Subj: CCL 410, O.N. 1255906, Tres Palacios Marine Hull No. 152
CCL 411, O.N. 1255907, Tres Palacios Marine Hull No. 153
CCL 412, O.N. 1255908, Tres Palacios Marine Hull No. 154
297'-6" x 54' x 12'-6" Unmanned Double Hull Type II/III Tank Barges (D/O)
Grade A (max. 25 psia Reid) and Lower Flammable or Combustible Liquids Identified in 46 CFR Table 30.25-1 or 46 CFR Part 153 Table 2 and Specified Hazardous Cargoes
Design Density 8.7 lbs/gal; Maximum Density (slack load) 13.6 lbs/gal
Rivers; Lakes, Bays, and Sounds; Limited Coastwise on unmanned fair weather voyages only, not more than 12 miles offshore between St. Marks and Carrabelle, Florida
Multi-breasted Tandem Loading

Ref: (a) M. Dan Jones & Associates, Doc. No. 14-29(13-09), "Vapor Control Calculations on the Dual Loading of Tres Palacios Hulls: 152-154," 10 pages, dated September 25, 2014
(b) MSC letter Serial No. C1-1303733, dated February 7, 2014

Dear Mr. Jones:

In response to your email dated September 25, 2014 (MSC Document No. 1417431), we have reviewed the pressure drop calculations for multi-breasted tandem loading. Reference (a) is "**Examined.**"

These barges have vapor control systems previously approved by reference (b), and are acceptable for dual loading operations. Based on the calculations in reference (a), tandem loading is limited to simultaneous collection of those cargoes listed in the vessels' CAA at a maximum transfer rate of **6,000 bbl/hr** per barge.

For the OCMI's convenience, we have included the following recommended COI endorsement:

> In accordance with 46 CFR Part 39, excluding part 39.4000, this vessel's vapor collection system has been inspected to the plans approved by MSC Letter C1-1303733 dated February 7, 2014 and has been found acceptable for the collection of bulk liquid cargo

16710/P018541
Serial: C1-1403782
October 27, 2014

Subj: CCL 410, O.N. 1255906, Tres Palacios Marine Hull No. 152
CCL 411, O.N. 1255907, Tres Palacios Marine Hull No. 153
CCL 412, O.N. 1255908, Tres Palacios Marine Hull No. 154
Multi-breasted Tandem Loading

vapors annotated with "Yes" in the CAA's VCS column of the vessel's Cargo Authority Attachment.
The VCS system has been approved with a pressure side 3 psig P/V valve with Coast Guard Approval 162.017/167/4. The cargo tank top is suitable for a maximum allowable working pressure (MAWP) of 3.5 psi.

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 39.1017 and 39.5000(e) this vessel's VCS has been evaluated and approved for multi-breasted tandem loading with other vessels specifically approved to tandem load with this vessel.

If you have any questions concerning our review, please contact Lieutenant Dixon Whitley at the number listed above.

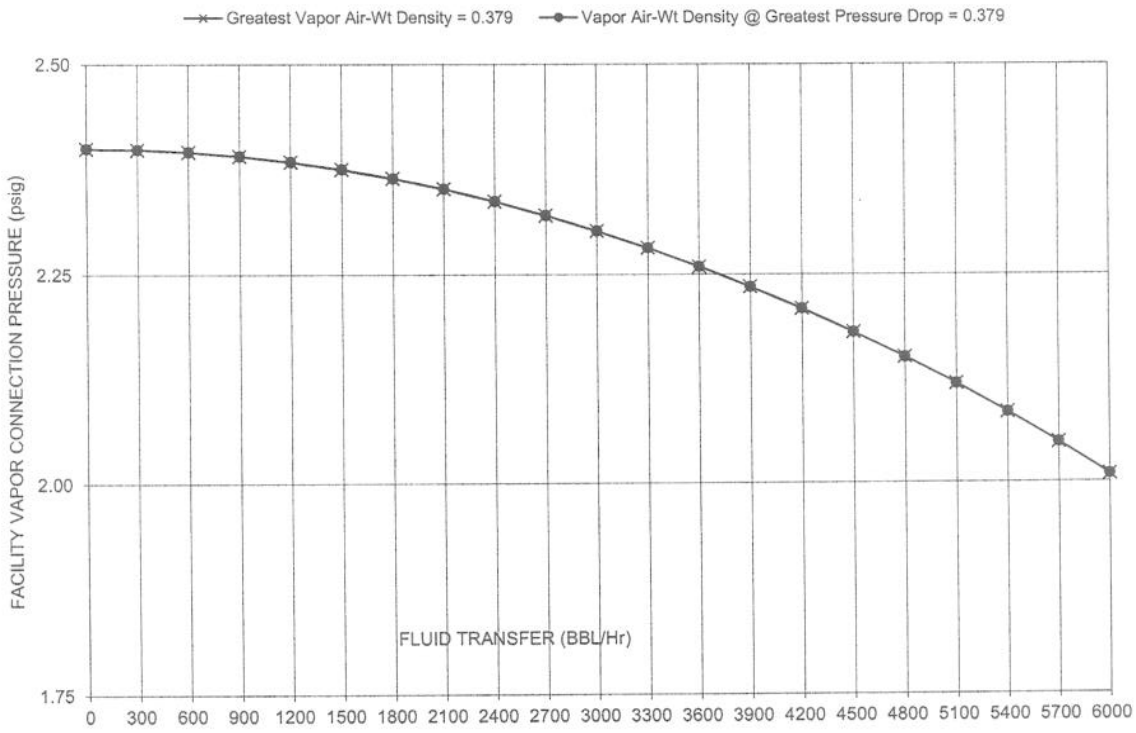
Sincerely,

M. J. SEXTON
Lieutenant, U. S. Coast Guard
Assistant Chief, Tank Vessel and Offshore Division
By direction

Copy: Commander, Coast Guard Sector Corpus Christi, Prevention Department

Vapor Control System (VCS)
Calculations

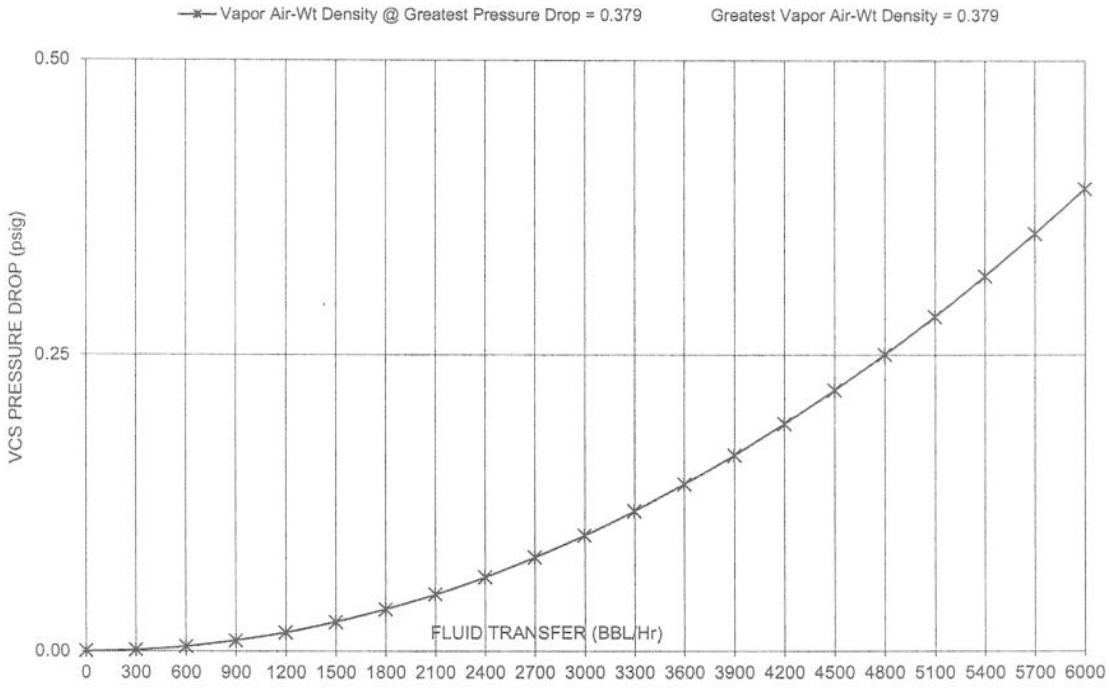
FIG. 2 - Facility Vapor Connection Pressure vs. Maximum Allowable Flowrate based on not Exceeding 80% of the Allowable P/V Valve Setting



CCL 410, 411

Vapor Control System (VCS)
Calculations

FIG. 1 - Pressure Drop vs. Flowrate from Farthest Tank to Facility Vapor Collection for Cargo with Maximum Pressure Drop



CEC 410, 411

BARGE "CCL 410"

1 PORT
INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-5 1/2"

IN	0 FT.	IN	1 FT.	IN	2 FT.	IN	3 FT.	IN	4 FT.	IN	5 FT.	IN	6 FT.	IN	7 FT.	IN	8 FT.	IN	9 FT.
0	652	0	11,060	0	23,049	0	36,009	0	49,832	0	63,770	0	77,709	0	91,647	0	105,586	0	119,525
1/4	771	1/4	11,300	1/4	23,310	1/4	36,289	1/4	50,122	1/4	64,061	1/4	77,999	1/4	91,938	1/4	105,876	1/4	119,815
1/2	890	1/2	11,540	1/2	23,571	1/2	36,570	1/2	50,412	1/2	64,351	1/2	78,290	1/2	92,228	1/2	106,167	1/2	120,105
3/4	1,009	3/4	11,780	3/4	23,833	3/4	36,851	3/4	50,703	3/4	64,641	3/4	78,580	3/4	92,519	3/4	106,457	3/4	120,396
1	1,127	1	12,020	1	24,094	1	37,131	1	50,993	1	64,932	1	78,870	1	92,809	1	106,748	1	120,686
1/4	1,315	1/4	12,262	1/4	24,367	1/4	37,414	1/4	51,284	1/4	65,222	1/4	79,161	1/4	93,099	1/4	107,038	1/4	120,977
1/2	1,504	1/2	12,504	1/2	24,620	1/2	37,696	1/2	51,574	1/2	65,513	1/2	79,451	1/2	93,390	1/2	107,328	1/2	121,267
3/4	1,692	3/4	12,746	3/4	24,883	3/4	37,979	3/4	51,864	3/4	65,803	3/4	79,742	3/4	93,680	3/4	107,619	3/4	121,557
2	1,880	2	12,987	2	25,146	2	38,261	2	52,155	2	66,093	2	80,032	2	93,971	2	107,909	2	121,848
1/4	2,098	1/4	13,231	1/4	25,411	1/4	38,545	1/4	52,445	1/4	66,384	1/4	80,322	1/4	94,261	1/4	108,200	1/4	122,138
1/2	2,317	1/2	13,475	1/2	25,676	1/2	38,830	1/2	52,735	1/2	66,674	1/2	80,613	1/2	94,551	1/2	108,490	1/2	122,429
3/4	2,536	3/4	13,718	3/4	25,941	3/4	39,114	3/4	53,026	3/4	66,964	3/4	80,903	3/4	94,842	3/4	108,780	3/4	122,719
3	2,755	3	13,962	3	26,206	3	39,398	3	53,316	3	67,255	3	81,193	3	95,132	3	109,071	3	123,009
1/4	2,977	1/4	14,207	1/4	26,472	1/4	39,685	1/4	53,607	1/4	67,545	1/4	81,484	1/4	95,423	1/4	109,361	1/4	123,300
1/2	3,199	1/2	14,452	1/2	26,739	1/2	39,972	1/2	53,897	1/2	67,836	1/2	81,774	1/2	95,713	1/2	109,652	1/2	123,590
3/4	3,421	3/4	14,698	3/4	27,005	3/4	40,259	3/4	54,187	3/4	68,126	3/4	82,065	3/4	96,003	3/4	109,942	3/4	123,881
4	3,643	4	14,943	4	27,272	4	40,546	4	54,478	4	68,416	4	82,355	4	96,294	4	110,232	4	124,171
1/4	3,868	1/4	15,190	1/4	27,540	1/4	40,835	1/4	54,768	1/4	68,707	1/4	82,645	1/4	96,584	1/4	110,523	1/4	124,461
1/2	4,093	1/2	15,437	1/2	27,809	1/2	41,123	1/2	55,059	1/2	68,997	1/2	82,936	1/2	96,874	1/2	110,813	1/2	124,752
3/4	4,318	3/4	15,684	3/4	28,077	3/4	41,412	3/4	55,349	3/4	69,288	3/4	83,226	3/4	97,165	3/4	111,103	3/4	125,042
5	4,542	5	15,931	5	28,345	5	41,701	5	55,639	5	69,578	5	83,517	5	97,455	5	111,394	5	125,332
1/4	4,769	1/4	16,180	1/4	28,614	1/4	41,991	1/4	55,930	1/4	69,868	1/4	83,807	1/4	97,746	1/4	111,684	1/4	125,623
1/2	4,996	1/2	16,429	1/2	28,883	1/2	42,281	1/2	56,220	1/2	70,159	1/2	84,097	1/2	98,036	1/2	111,975	1/2	125,913
3/4	5,224	3/4	16,678	3/4	29,152	3/4	42,572	3/4	56,511	3/4	70,449	3/4	84,388	3/4	98,326	3/4	112,265	3/4	126,204
6	5,451	6	16,927	6	29,421	6	42,862	6	56,801	6	70,740	6	84,678	6	98,617	6	112,555	6	126,494
1/4	5,680	1/4	17,177	1/4	29,692	1/4	43,153	1/4	57,091	1/4	71,030	1/4	84,969	1/4	98,907	1/4	112,846	1/4	126,784
1/2	5,909	1/2	17,428	1/2	29,962	1/2	43,443	1/2	57,382	1/2	71,320	1/2	85,259	1/2	99,198	1/2	113,136	1/2	127,075
3/4	6,138	3/4	17,679	3/4	30,233	3/4	43,733	3/4	57,672	3/4	71,611	3/4	85,549	3/4	99,488	3/4	113,427	3/4	127,365
7	6,367	7	17,929	7	30,504	7	44,024	7	57,962	7	71,901	7	85,840	7	99,778	7	113,717	7	127,656
1/4	6,598	1/4	18,182	1/4	30,775	1/4	44,314	1/4	58,253	1/4	72,191	1/4	86,130	1/4	100,069	1/4	114,007	1/4	127,946
1/2	6,830	1/2	18,434	1/2	31,047	1/2	44,605	1/2	58,543	1/2	72,482	1/2	86,420	1/2	100,359	1/2	114,298	1/2	128,236
3/4	7,061	3/4	18,687	3/4	31,319	3/4	44,896	3/4	58,834	3/4	72,772	3/4	86,711	3/4	100,649	3/4	114,588	3/4	128,527
8	7,292	8	18,939	8	31,591	8	45,186	8	59,124	8	73,063	8	87,001	8	100,940	8	114,878	8	128,817
1/4	7,525	1/4	19,193	1/4	31,864	1/4	45,476	1/4	59,414	1/4	73,353	1/4	87,292	1/4	101,230	1/4	115,169	1/4	129,108
1/2	7,757	1/2	19,447	1/2	32,138	1/2	45,766	1/2	59,705	1/2	73,643	1/2	87,582	1/2	101,521	1/2	115,459	1/2	129,398
3/4	7,990	3/4	19,702	3/4	32,411	3/4	46,057	3/4	59,995	3/4	73,934	3/4	87,872	3/4	101,811	3/4	115,750	3/4	129,688
9	8,223	9	19,956	9	32,685	9	46,347	9	60,286	9	74,224	9	88,163	9	102,101	9	116,040	9	129,979
1/4	8,458	1/4	20,212	1/4	32,960	1/4	46,637	1/4	60,576	1/4	74,515	1/4	88,453	1/4	102,392	1/4	116,330	1/4	130,269
1/2	8,693	1/2	20,468	1/2	33,235	1/2	46,928	1/2	60,866	1/2	74,805	1/2	88,744	1/2	102,682	1/2	116,621	1/2	130,559
3/4	8,927	3/4	20,724	3/4	33,511	3/4	47,218	3/4	61,157	3/4	75,096	3/4	89,034	3/4	102,973	3/4	116,911	3/4	130,850
10	9,162	10	20,980	10	33,786	10	47,508	10	61,447	10	75,386	10	89,324	10	103,263	10	117,202	10	131,140
1/4	9,398	1/4	21,237	1/4	34,063	1/4	47,799	1/4	61,737	1/4	75,676	1/4	89,615	1/4	103,553	1/4	117,492	1/4	131,431
1/2	9,635	1/2	21,495	1/2	34,340	1/2	48,089	1/2	62,028	1/2	75,967	1/2	89,905	1/2	103,844	1/2	117,782	1/2	131,721
3/4	9,871	3/4	21,753	3/4	34,617	3/4	48,380	3/4	62,318	3/4	76,257	3/4	90,196	3/4	104,134	3/4	118,073	3/4	132,011
11	10,108	11	22,011	11	34,894	11	48,670	11	62,609	11	76,547	11	90,486	11	104,425	11	118,363	11	132,302
1/4	10,346	1/4	22,270	1/4	35,172	1/4	48,960	1/4	62,899	1/4	76,838	1/4	90,776	1/4	104,715	1/4	118,654	1/4	132,592
1/2	10,584	1/2	22,530	1/2	35,451	1/2	49,251	1/2	63,189	1/2	77,128	1/2	91,067	1/2	105,005	1/2	118,944	1/2	132,883
3/4	10,822	3/4	22,789	3/4	35,730	3/4	49,541	3/4	63,480	3/4	77,418	3/4	91,357	3/4	105,296	3/4	119,234	3/4	133,173

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 TOP OF 2" DIAMETER PIPE.
GAUGE POINT: (2" PIPE) LOCATED 12'-06" OFF CENTERLINE AND 36'-03" FORWARD OF AFT BULKHEAD.

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 410"

1 PORT
INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-5 1/2"

IN	10 FT.	IN	11 FT.	IN	12 FT.	IN	13 FT.	IN	14 FT.	IN	15 FT.	IN	16 FT.	IN	17 FT.	IN	18 FT.	IN	19 FT.
0	133,463	0	147,401	0	161,337	0	175,261	0	188,633	0	201,104	0		0		0		0	
1/4	133,754	1/4	147,691	1/4	161,628	1/4	175,547	1/4	188,902	1/4	201,354	1/4		1/4		1/4		1/4	
1/2	134,044	1/2	147,981	1/2	161,918	1/2	175,834	1/2	189,172	1/2	201,604	1/2		1/2		1/2		1/2	
3/4	134,334	3/4	148,272	3/4	162,208	3/4	176,121	3/4	189,441	3/4	201,855	3/4		3/4		3/4		3/4	
1	134,625	1	148,562	1	162,499	1	176,407	1	189,710	1	202,105	1		1		1		1	
1/4	134,915	1/4	148,852	1/4	162,789	1/4	176,692	1/4	189,978	1/4	202,353	1/4		1/4		1/4		1/4	
1/2	135,206	1/2	149,143	1/2	163,079	1/2	176,977	1/2	190,245	1/2	202,601	1/2		1/2		1/2		1/2	
3/4	135,496	3/4	149,433	3/4	163,370	3/4	177,262	3/4	190,513	3/4	202,850	3/4		3/4		3/4		3/4	
2	135,786	2	149,724	2	163,660	2	177,547	2	190,780	2	203,098	2		2		2		2	
1/4	136,077	1/4	150,014	1/4	163,950	1/4	177,831	1/4	191,045	1/4	203,342	1/4		1/4		1/4		1/4	
1/2	136,367	1/2	150,304	1/2	164,241	1/2	178,115	1/2	191,309	1/2	203,586	1/2		1/2		1/2		1/2	
3/4	136,658	3/4	150,595	3/4	164,531	3/4	178,398	3/4	191,574	3/4	203,830	3/4		3/4		3/4		3/4	
3	136,948	3	150,885	3	164,822	3	178,682	3	191,839	3	204,074	3		3		3		3	
1/4	137,238	1/4	151,175	1/4	165,112	1/4	178,964	1/4	192,102	1/4	204,317	1/4		1/4		1/4		1/4	
1/2	137,529	1/2	151,466	1/2	165,402	1/2	179,246	1/2	192,365	1/2	204,560	1/2		1/2		1/2		1/2	
3/4	137,819	3/4	151,756	3/4	165,693	3/4	179,529	3/4	192,628	3/4	204,803	3/4		3/4		3/4		3/4	
4	138,110	4	152,046	4	165,983	4	179,811	4	192,891	4	205,046	4		4		4		4	
1/4	138,400	1/4	152,337	1/4	166,273	1/4	180,092	1/4	193,153	1/4	205,280	1/4		1/4		1/4		1/4	
1/2	138,690	1/2	152,627	1/2	166,564	1/2	180,372	1/2	193,415	1/2	205,515	1/2		1/2		1/2		1/2	
3/4	138,981	3/4	152,917	3/4	166,854	3/4	180,653	3/4	193,676	3/4	205,750	3/4		3/4		3/4		3/4	
5	139,271	5	153,208	5	167,144	5	180,934	5	193,938	5	205,984	5		5		5		5	
1/4	139,561	1/4	153,498	1/4	167,435	1/4	181,213	1/4	194,198	1/4	206,161	1/4		1/4		1/4		1/4	
1/2	139,852	1/2	153,788	1/2	167,725	1/2	181,493	1/2	194,459	1/2	206,338	1/2		1/2		1/2		1/2	
3/4	140,142	3/4	154,079	3/4	168,015	3/4	181,772	3/4	194,719	3/4		3/4		3/4		3/4		3/4	
6	140,432	6	154,369	6	168,306	6	182,051	6	194,979	6		6		6		6		6	
1/4	140,723	1/4	154,659	1/4	168,596	1/4	182,329	1/4	195,238	1/4		1/4		1/4		1/4		1/4	
1/2	141,013	1/2	154,950	1/2	168,886	1/2	182,607	1/2	195,497	1/2		1/2		1/2		1/2		1/2	
3/4	141,303	3/4	155,240	3/4	169,177	3/4	182,885	3/4	195,756	3/4		3/4		3/4		3/4		3/4	
7	141,594	7	155,530	7	169,467	7	183,163	7	196,014	7		7		7		7		7	
1/4	141,884	1/4	155,821	1/4	169,757	1/4	183,439	1/4	196,272	1/4		1/4		1/4		1/4		1/4	
1/2	142,175	1/2	156,111	1/2	170,048	1/2	183,716	1/2	196,529	1/2		1/2		1/2		1/2		1/2	
3/4	142,466	3/4	156,401	3/4	170,338	3/4	183,992	3/4	196,787	3/4		3/4		3/4		3/4		3/4	
8	142,755	8	156,692	8	170,628	8	184,268	8	197,044	8		8		8		8		8	
1/4	143,046	1/4	156,982	1/4	170,919	1/4	184,543	1/4	197,300	1/4		1/4		1/4		1/4		1/4	
1/2	143,336	1/2	157,273	1/2	171,209	1/2	184,818	1/2	197,556	1/2		1/2		1/2		1/2		1/2	
3/4	143,626	3/4	157,563	3/4	171,499	3/4	185,093	3/4	197,812	3/4		3/4		3/4		3/4		3/4	
9	143,917	9	157,853	9	171,790	9	185,368	9	198,068	9		9		9		9		9	
1/4	144,207	1/4	158,144	1/4	172,080	1/4	185,642	1/4	198,322	1/4		1/4		1/4		1/4		1/4	
1/2	144,497	1/2	158,434	1/2	172,370	1/2	185,915	1/2	198,577	1/2		1/2		1/2		1/2		1/2	
3/4	144,788	3/4	158,724	3/4	172,661	3/4	186,189	3/4	198,831	3/4		3/4		3/4		3/4		3/4	
10	145,078	10	159,015	10	172,951	10	186,462	10	199,086	10		10		10		10		10	
1/4	145,368	1/4	159,305	1/4	173,241	1/4	186,734	1/4	199,339	1/4		1/4		1/4		1/4		1/4	
1/2	145,659	1/2	159,595	1/2	173,530	1/2	187,007	1/2	199,592	1/2		1/2		1/2		1/2		1/2	
3/4	145,949	3/4	159,886	3/4	173,819	3/4	187,279	3/4	199,845	3/4		3/4		3/4		3/4		3/4	
11	146,239	11	160,176	11	174,109	11	187,551	11	200,098	11		11		11		11		11	
1/4	146,530	1/4	160,466	1/4	174,397	1/4	187,821	1/4	200,349	1/4		1/4		1/4		1/4		1/4	
1/2	146,820	1/2	160,757	1/2	174,685	1/2	188,092	1/2	200,601	1/2		1/2		1/2		1/2		1/2	
3/4	147,110	3/4	161,047	3/4	174,973	3/4	188,363	3/4	200,853	3/4		3/4		3/4		3/4		3/4	

STRAPPED: 05/28/2014 CL
CALCULATED: 05/28/2014 CL
PRINTED: 05/29/2014 SW

CANCELS AND SUPERCEDES
ALL PRIOR TO 05/2014

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

PRECISION MEASUREMENT
& ANALYSIS, INC.
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BARGE "CCL 410"

1 STBD

INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-6 1/4"

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	656	0	11,134	0	23,195	0	36,267	0	50,187	0	64,199	0	78,211	0	92,222	0	106,234	0	120,245
1/4	776	1/4	11,376	1/4	23,458	1/4	36,551	1/4	50,479	1/4	64,491	1/4	78,503	1/4	92,514	1/4	106,526	1/4	120,537
1/2	895	1/2	11,617	1/2	23,721	1/2	36,834	1/2	50,771	1/2	64,783	1/2	78,794	1/2	92,806	1/2	106,818	1/2	120,829
3/4	1,016	3/4	11,859	3/4	23,984	3/4	37,118	3/4	51,063	3/4	65,075	3/4	79,086	3/4	93,098	3/4	107,110	3/4	121,121
1	1,135	1	12,100	1	24,247	1	37,401	1	51,355	1	65,367	1	79,378	1	93,390	1	107,401	1	121,413
1/4	1,324	1/4	12,344	1/4	24,511	1/4	37,687	1/4	51,647	1/4	65,659	1/4	79,670	1/4	93,682	1/4	107,693	1/4	121,705
1/2	1,514	1/2	12,587	1/2	24,776	1/2	37,972	1/2	51,939	1/2	65,960	1/2	79,962	1/2	93,974	1/2	107,985	1/2	121,997
3/4	1,703	3/4	12,830	3/4	25,041	3/4	38,257	3/4	52,231	3/4	66,242	3/4	80,254	3/4	94,266	3/4	108,277	3/4	122,289
2	1,893	2	13,073	2	25,305	2	38,543	2	52,523	2	66,534	2	80,546	2	94,557	2	108,569	2	122,581
1/4	2,113	1/4	13,318	1/4	25,572	1/4	38,830	1/4	52,815	1/4	66,826	1/4	80,838	1/4	94,849	1/4	108,861	1/4	122,873
1/2	2,333	1/2	13,563	1/2	25,838	1/2	39,117	1/2	53,106	1/2	67,118	1/2	81,130	1/2	95,141	1/2	109,153	1/2	123,164
3/4	2,554	3/4	13,809	3/4	26,104	3/4	39,404	3/4	53,398	3/4	67,410	3/4	81,422	3/4	95,433	3/4	109,445	3/4	123,456
3	2,774	3	14,054	3	26,371	3	39,692	3	53,690	3	67,702	3	81,713	3	95,725	3	109,737	3	123,748
1/4	2,997	1/4	14,300	1/4	26,639	1/4	39,981	1/4	53,982	1/4	67,994	1/4	82,005	1/4	96,017	1/4	110,029	1/4	124,040
1/2	3,221	1/2	14,547	1/2	26,907	1/2	40,270	1/2	54,274	1/2	68,286	1/2	82,297	1/2	96,309	1/2	110,321	1/2	124,332
3/4	3,445	3/4	14,794	3/4	27,175	3/4	40,560	3/4	54,566	3/4	68,578	3/4	82,589	3/4	96,601	3/4	110,612	3/4	124,624
4	3,668	4	15,041	4	27,443	4	40,849	4	54,858	4	68,870	4	82,881	4	96,893	4	110,904	4	124,916
1/4	3,895	1/4	15,290	1/4	27,713	1/4	41,141	1/4	55,150	1/4	69,161	1/4	83,173	1/4	97,185	1/4	111,196	1/4	125,208
1/2	4,121	1/2	15,538	1/2	27,983	1/2	41,432	1/2	55,442	1/2	69,453	1/2	83,465	1/2	97,477	1/2	111,488	1/2	125,500
3/4	4,347	3/4	15,787	3/4	28,253	3/4	41,723	3/4	55,734	3/4	69,745	3/4	83,757	3/4	97,768	3/4	111,780	3/4	125,792
5	4,573	5	16,035	5	28,523	5	42,014	5	56,026	5	70,037	5	84,049	5	98,060	5	112,072	5	126,084
1/4	4,802	1/4	16,286	1/4	28,795	1/4	42,306	1/4	56,317	1/4	70,329	1/4	84,341	1/4	98,352	1/4	112,364	1/4	126,375
1/2	5,031	1/2	16,536	1/2	29,066	1/2	42,598	1/2	56,609	1/2	70,621	1/2	84,633	1/2	98,644	1/2	112,656	1/2	126,667
3/4	5,259	3/4	16,787	3/4	29,338	3/4	42,890	3/4	56,901	3/4	70,913	3/4	84,924	3/4	98,936	3/4	112,948	3/4	126,959
6	5,488	6	17,037	6	29,610	6	43,182	6	57,193	6	71,205	6	85,216	6	99,228	6	113,240	6	127,251
1/4	5,718	1/4	17,289	1/4	29,883	1/4	43,473	1/4	57,485	1/4	71,497	1/4	85,508	1/4	99,520	1/4	113,532	1/4	127,543
1/2	5,949	1/2	17,541	1/2	30,157	1/2	43,765	1/2	57,777	1/2	71,789	1/2	85,800	1/2	99,812	1/2	113,823	1/2	127,835
3/4	6,180	3/4	17,793	3/4	30,430	3/4	44,057	3/4	58,069	3/4	72,081	3/4	86,092	3/4	100,104	3/4	114,115	3/4	128,127
7	6,411	7	18,046	7	30,703	7	44,349	7	58,361	7	72,372	7	86,384	7	100,396	7	114,407	7	128,419
1/4	6,643	1/4	18,300	1/4	30,978	1/4	44,641	1/4	58,653	1/4	72,664	1/4	86,676	1/4	100,688	1/4	114,699	1/4	128,711
1/2	6,876	1/2	18,554	1/2	31,253	1/2	44,933	1/2	58,945	1/2	72,956	1/2	86,968	1/2	100,979	1/2	114,991	1/2	129,003
3/4	7,108	3/4	18,807	3/4	31,527	3/4	45,225	3/4	59,237	3/4	73,248	3/4	87,260	3/4	101,271	3/4	115,283	3/4	129,295
8	7,341	8	19,061	8	31,802	8	45,517	8	59,528	8	73,540	8	87,552	8	101,563	8	115,575	8	129,586
1/4	7,575	1/4	19,317	1/4	32,079	1/4	45,809	1/4	59,820	1/4	73,832	1/4	87,844	1/4	101,855	1/4	115,867	1/4	129,878
1/2	7,810	1/2	19,573	1/2	32,356	1/2	46,101	1/2	60,112	1/2	74,124	1/2	88,135	1/2	102,147	1/2	116,159	1/2	130,170
3/4	8,044	3/4	19,829	3/4	32,632	3/4	46,393	3/4	60,404	3/4	74,416	3/4	88,427	3/4	102,439	3/4	116,451	3/4	130,462
9	8,279	9	20,084	9	32,908	9	46,684	9	60,696	9	74,708	9	88,719	9	102,731	9	116,743	9	130,754
1/4	8,515	1/4	20,342	1/4	33,186	1/4	46,976	1/4	60,988	1/4	75,000	1/4	89,011	1/4	103,023	1/4	117,034	1/4	131,046
1/2	8,751	1/2	20,599	1/2	33,465	1/2	47,268	1/2	61,280	1/2	75,292	1/2	89,303	1/2	103,315	1/2	117,326	1/2	131,338
3/4	8,987	3/4	20,857	3/4	33,743	3/4	47,560	3/4	61,572	3/4	75,583	3/4	89,595	3/4	103,607	3/4	117,618	3/4	131,630
10	9,223	10	21,114	10	34,021	10	47,852	10	61,864	10	75,875	10	89,887	10	103,899	10	117,910	10	131,922
1/4	9,461	1/4	21,374	1/4	34,301	1/4	48,144	1/4	62,156	1/4	76,167	1/4	90,179	1/4	104,190	1/4	118,202	1/4	132,214
1/2	9,699	1/2	21,633	1/2	34,581	1/2	48,436	1/2	62,448	1/2	76,459	1/2	90,471	1/2	104,482	1/2	118,494	1/2	132,506
3/4	9,937	3/4	21,892	3/4	34,861	3/4	48,728	3/4	62,739	3/4	76,751	3/4	90,763	3/4	104,774	3/4	118,786	3/4	132,797
11	10,175	11	22,151	11	35,140	11	49,020	11	63,031	11	77,043	11	91,055	11	105,066	11	119,078	11	133,089
1/4	10,415	1/4	22,412	1/4	35,422	1/4	49,312	1/4	63,323	1/4	77,335	1/4	91,346	1/4	105,358	1/4	119,370	1/4	133,381
1/2	10,655	1/2	22,673	1/2	35,704	1/2	49,604	1/2	63,615	1/2	77,627	1/2	91,638	1/2	105,650	1/2	119,662	1/2	133,673
3/4	10,894	3/4	22,934	3/4	35,985	3/4	49,895	3/4	63,907	3/4	77,919	3/4	91,930	3/4	105,942	3/4	119,953	3/4	133,965

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 TOP OF 2" DIAMETER PIPE.
GAUGE POINT: (2" PIPE) LOCATED 12'-06" OFF CENTERLINE AND 35'-03" FORWARD OF AFT BULKHEAD.

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 410"

1 STBD

INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-6 1/4"

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	134,257	0	148,268	0	162,278	0	176,274	0	189,720	0	202,264	0		0		0		0	
1/4	134,549	1/4	148,560	1/4	162,570	1/4	176,563	1/4	189,991	1/4	202,515	1/4		1/4		1/4		1/4	
1/2	134,841	1/2	148,852	1/2	162,862	1/2	176,851	1/2	190,261	1/2	202,767	1/2		1/2		1/2		1/2	
3/4	135,133	3/4	149,144	3/4	163,154	3/4	177,139	3/4	190,532	3/4	203,019	3/4		3/4		3/4		3/4	
1	135,425	1	149,436	1	163,445	1	177,427	1	190,803	1	203,270	1		1		1		1	
1/4	135,717	1/4	149,728	1/4	163,737	1/4	177,713	1/4	191,072	1/4	203,520	1/4		1/4		1/4		1/4	
1/2	136,008	1/2	150,019	1/2	164,029	1/2	178,000	1/2	191,341	1/2	203,770	1/2		1/2		1/2		1/2	
3/4	136,300	3/4	150,311	3/4	164,321	3/4	178,287	3/4	191,610	3/4	204,020	3/4		3/4		3/4		3/4	
2	136,592	2	150,603	2	164,613	2	178,573	2	191,879	2	204,270	2		2		2		2	
1/4	136,884	1/4	150,895	1/4	164,905	1/4	178,858	1/4	192,145	1/4	204,515	1/4		1/4		1/4		1/4	
1/2	137,176	1/2	151,187	1/2	165,197	1/2	179,144	1/2	192,411	1/2	204,761	1/2		1/2		1/2		1/2	
3/4	137,468	3/4	151,479	3/4	165,489	3/4	179,429	3/4	192,677	3/4	205,007	3/4		3/4		3/4		3/4	
3	137,760	3	151,771	3	165,780	3	179,714	3	192,943	3	205,252	3		3		3		3	
1/4	138,052	1/4	152,063	1/4	166,072	1/4	179,998	1/4	193,208	1/4	205,497	1/4		1/4		1/4		1/4	
1/2	138,344	1/2	152,354	1/2	166,364	1/2	180,281	1/2	193,473	1/2	205,741	1/2		1/2		1/2		1/2	
3/4	138,636	3/4	152,646	3/4	166,656	3/4	180,565	3/4	193,738	3/4	205,985	3/4		3/4		3/4		3/4	
4	138,928	4	152,938	4	166,948	4	180,849	4	194,002	4	206,230	4		4		4		4	
1/4	139,220	1/4	153,230	1/4	167,240	1/4	181,131	1/4	194,266	1/4	206,466	1/4		1/4		1/4		1/4	
1/2	139,512	1/2	153,522	1/2	167,532	1/2	181,413	1/2	194,529	1/2	206,702	1/2		1/2		1/2		1/2	
3/4	139,804	3/4	153,814	3/4	167,824	3/4	181,696	3/4	194,792	3/4	206,938	3/4		3/4		3/4		3/4	
5	140,096	5	154,106	5	168,115	5	181,978	5	195,055	5	207,174	5		5		5		5	
1/4	140,388	1/4	154,398	1/4	168,407	1/4	182,259	1/4	195,317	1/4	207,352	1/4		1/4		1/4		1/4	
1/2	140,680	1/2	154,689	1/2	168,699	1/2	182,540	1/2	195,579	1/2	207,529	1/2		1/2		1/2		1/2	
3/4	140,971	3/4	154,981	3/4	168,991	3/4	182,821	3/4	195,841	3/4		3/4		3/4		3/4		3/4	
6	141,263	6	155,273	6	169,283	6	183,101	6	196,102	6		6		6		6		6	
1/4	141,555	1/4	155,565	1/4	169,575	1/4	183,381	1/4	196,363	1/4		1/4		1/4		1/4		1/4	
1/2	141,847	1/2	155,857	1/2	169,867	1/2	183,660	1/2	196,623	1/2		1/2		1/2		1/2		1/2	
3/4	142,139	3/4	156,149	3/4	170,159	3/4	183,940	3/4	196,883	3/4		3/4		3/4		3/4		3/4	
7	142,431	7	156,441	7	170,450	7	184,219	7	197,144	7		7		7		7		7	
1/4	142,723	1/4	156,732	1/4	170,742	1/4	184,497	1/4	197,403	1/4		1/4		1/4		1/4		1/4	
1/2	143,015	1/2	157,024	1/2	171,034	1/2	184,775	1/2	197,662	1/2		1/2		1/2		1/2		1/2	
3/4	143,306	3/4	157,316	3/4	171,326	3/4	185,053	3/4	197,920	3/4		3/4		3/4		3/4		3/4	
8	143,598	8	157,608	8	171,618	8	185,331	8	198,179	8		8		8		8		8	
1/4	143,890	1/4	157,900	1/4	171,910	1/4	185,607	1/4	198,437	1/4		1/4		1/4		1/4		1/4	
1/2	144,182	1/2	158,192	1/2	172,202	1/2	185,884	1/2	198,694	1/2		1/2		1/2		1/2		1/2	
3/4	144,474	3/4	158,484	3/4	172,493	3/4	186,160	3/4	198,952	3/4		3/4		3/4		3/4		3/4	
9	144,766	9	158,776	9	172,785	9	186,437	9	199,209	9		9		9		9		9	
1/4	145,058	1/4	159,067	1/4	173,077	1/4	186,712	1/4	199,465	1/4		1/4		1/4		1/4		1/4	
1/2	145,350	1/2	159,359	1/2	173,369	1/2	186,987	1/2	199,721	1/2		1/2		1/2		1/2		1/2	
3/4	145,641	3/4	159,651	3/4	173,661	3/4	187,262	3/4	199,977	3/4		3/4		3/4		3/4		3/4	
10	145,933	10	159,943	10	173,952	10	187,537	10	200,233	10		10		10		10		10	
1/4	146,225	1/4	160,235	1/4	174,243	1/4	187,810	1/4	200,488	1/4		1/4		1/4		1/4		1/4	
1/2	146,517	1/2	160,527	1/2	174,534	1/2	188,084	1/2	200,742	1/2		1/2		1/2		1/2		1/2	
3/4	146,809	3/4	160,819	3/4	174,825	3/4	188,358	3/4	200,997	3/4		3/4		3/4		3/4		3/4	
11	147,101	11	161,111	11	175,116	11	188,631	11	201,251	11		11		11		11		11	
1/4	147,393	1/4	161,402	1/4	175,406	1/4	188,903	1/4	201,504	1/4		1/4		1/4		1/4		1/4	
1/2	147,684	1/2	161,694	1/2	175,696	1/2	189,176	1/2	201,758	1/2		1/2		1/2		1/2		1/2	
3/4	147,976	3/4	161,986	3/4	175,985	3/4	189,448	3/4	202,011	3/4		3/4		3/4		3/4		3/4	

STRAPPED: 05/28/2014 CL
CALCULATED: 05/28/2014 CL
PRINTED: 05/29/2014 SW

CANCELS AND SUPERCEDES
ALL PRIOR TO 05/2014

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

PRECISION MEASUREMENT
& ANALYSIS, INC.
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BARGE "CCL 410"

2 PORT
INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-6 1/4"

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	802	0	16,470	0	32,353	0	48,473	0	64,795	0	81,116	0	97,437	0	113,759	0	130,080	0	146,401
1/4	1,025	1/4	16,810	1/4	32,679	1/4	48,813	1/4	65,135	1/4	81,456	1/4	97,777	1/4	114,099	1/4	130,420	1/4	146,741
1/2	1,248	1/2	17,150	1/2	33,006	1/2	49,153	1/2	65,475	1/2	81,796	1/2	98,117	1/2	114,439	1/2	130,760	1/2	147,081
3/4	1,471	3/4	17,490	3/4	33,333	3/4	49,493	3/4	65,815	3/4	82,136	3/4	98,457	3/4	114,779	3/4	131,100	3/4	147,421
1	1,694	1	17,830	1	33,660	1	49,833	1	66,155	1	82,476	1	98,797	1	115,119	1	131,440	1	147,761
1/4	1,996	1/4	18,170	1/4	33,987	1/4	50,173	1/4	66,495	1/4	82,816	1/4	99,137	1/4	115,459	1/4	131,780	1/4	148,101
1/2	2,299	1/2	18,510	1/2	34,314	1/2	50,513	1/2	66,835	1/2	83,156	1/2	99,477	1/2	115,799	1/2	132,120	1/2	148,441
3/4	2,601	3/4	18,850	3/4	34,641	3/4	50,853	3/4	67,175	3/4	83,496	3/4	99,817	3/4	116,139	3/4	132,460	3/4	148,781
2	2,903	2	19,190	2	34,968	2	51,193	2	67,515	2	83,836	2	100,157	2	116,479	2	132,800	2	149,121
1/4	3,239	1/4	19,530	1/4	35,296	1/4	51,533	1/4	67,855	1/4	84,176	1/4	100,497	1/4	116,819	1/4	133,140	1/4	149,461
1/2	3,575	1/2	19,870	1/2	35,623	1/2	51,874	1/2	68,195	1/2	84,516	1/2	100,838	1/2	117,159	1/2	133,480	1/2	149,802
3/4	3,911	3/4	20,210	3/4	35,950	3/4	52,214	3/4	68,535	3/4	84,856	3/4	101,178	3/4	117,499	3/4	133,820	3/4	150,142
3	4,247	3	20,550	3	36,277	3	52,554	3	68,875	3	85,196	3	101,518	3	117,839	3	134,160	3	150,482
1/4	4,584	1/4	20,888	1/4	36,606	1/4	52,894	1/4	69,215	1/4	85,536	1/4	101,858	1/4	118,179	1/4	134,500	1/4	150,822
1/2	4,922	1/2	21,227	1/2	36,935	1/2	53,234	1/2	69,555	1/2	85,876	1/2	102,198	1/2	118,519	1/2	134,840	1/2	151,162
3/4	5,260	3/4	21,565	3/4	37,264	3/4	53,574	3/4	69,895	3/4	86,216	3/4	102,538	3/4	118,859	3/4	135,180	3/4	151,502
4	5,598	4	21,903	4	37,592	4	53,914	4	70,235	4	86,556	4	102,878	4	119,199	4	135,520	4	151,842
1/4	5,937	1/4	22,230	1/4	37,932	1/4	54,254	1/4	70,575	1/4	86,896	1/4	103,218	1/4	119,539	1/4	135,860	1/4	152,182
1/2	6,275	1/2	22,557	1/2	38,272	1/2	54,594	1/2	70,915	1/2	87,236	1/2	103,558	1/2	119,879	1/2	136,200	1/2	152,522
3/4	6,614	3/4	22,884	3/4	38,612	3/4	54,934	3/4	71,255	3/4	87,576	3/4	103,898	3/4	120,219	3/4	136,540	3/4	152,862
5	6,953	5	23,211	5	38,952	5	55,274	5	71,595	5	87,916	5	104,238	5	120,559	5	136,880	5	153,202
1/4	7,292	1/4	23,537	1/4	39,292	1/4	55,614	1/4	71,935	1/4	88,256	1/4	104,578	1/4	120,899	1/4	137,220	1/4	153,542
1/2	7,632	1/2	23,864	1/2	39,633	1/2	55,954	1/2	72,275	1/2	88,597	1/2	104,918	1/2	121,239	1/2	137,561	1/2	153,882
3/4	7,971	3/4	24,190	3/4	39,973	3/4	56,294	3/4	72,615	3/4	88,937	3/4	105,258	3/4	121,579	3/4	137,901	3/4	154,222
6	8,311	6	24,517	6	40,313	6	56,634	6	72,955	6	89,277	6	105,598	6	121,919	6	138,241	6	154,562
1/4	8,651	1/4	24,843	1/4	40,653	1/4	56,974	1/4	73,295	1/4	89,617	1/4	105,938	1/4	122,259	1/4	138,581	1/4	154,902
1/2	8,990	1/2	25,170	1/2	40,993	1/2	57,314	1/2	73,635	1/2	89,957	1/2	106,278	1/2	122,599	1/2	138,921	1/2	155,242
3/4	9,330	3/4	25,496	3/4	41,333	3/4	57,654	3/4	73,975	3/4	90,297	3/4	106,618	3/4	122,939	3/4	139,261	3/4	155,582
7	9,670	7	25,823	7	41,673	7	57,994	7	74,315	7	90,637	7	106,958	7	123,279	7	139,601	7	155,922
1/4	10,010	1/4	26,149	1/4	42,013	1/4	58,334	1/4	74,655	1/4	90,977	1/4	107,298	1/4	123,619	1/4	139,941	1/4	156,262
1/2	10,350	1/2	26,476	1/2	42,353	1/2	58,674	1/2	74,995	1/2	91,317	1/2	107,638	1/2	123,959	1/2	140,281	1/2	156,602
3/4	10,690	3/4	26,802	3/4	42,693	3/4	59,014	3/4	75,335	3/4	91,657	3/4	107,978	3/4	124,299	3/4	140,621	3/4	156,942
8	11,030	8	27,129	8	43,033	8	59,354	8	75,675	8	91,997	8	108,318	8	124,639	8	140,961	8	157,282
1/4	11,370	1/4	27,455	1/4	43,373	1/4	59,694	1/4	76,015	1/4	92,337	1/4	108,658	1/4	124,979	1/4	141,301	1/4	157,622
1/2	11,710	1/2	27,782	1/2	43,713	1/2	60,034	1/2	76,356	1/2	92,677	1/2	108,998	1/2	125,320	1/2	141,641	1/2	157,962
3/4	12,050	3/4	28,108	3/4	44,053	3/4	60,374	3/4	76,696	3/4	93,017	3/4	109,338	3/4	125,660	3/4	141,981	3/4	158,302
9	12,390	9	28,434	9	44,393	9	60,714	9	77,036	9	93,357	9	109,678	9	126,000	9	142,321	9	158,642
1/4	12,730	1/4	28,760	1/4	44,733	1/4	61,054	1/4	77,376	1/4	93,697	1/4	110,018	1/4	126,340	1/4	142,661	1/4	158,982
1/2	13,070	1/2	29,087	1/2	45,073	1/2	61,394	1/2	77,716	1/2	94,037	1/2	110,358	1/2	126,680	1/2	143,001	1/2	159,322
3/4	13,410	3/4	29,413	3/4	45,413	3/4	61,734	3/4	78,056	3/4	94,377	3/4	110,698	3/4	127,020	3/4	143,341	3/4	159,662
10	13,750	10	29,739	10	45,753	10	62,074	10	78,396	10	94,717	10	111,038	10	127,360	10	143,681	10	160,002
1/4	14,090	1/4	30,066	1/4	46,093	1/4	62,414	1/4	78,736	1/4	95,057	1/4	111,378	1/4	127,700	1/4	144,021	1/4	160,342
1/2	14,430	1/2	30,393	1/2	46,433	1/2	62,754	1/2	79,076	1/2	95,397	1/2	111,718	1/2	128,040	1/2	144,361	1/2	160,682
3/4	14,770	3/4	30,719	3/4	46,773	3/4	63,094	3/4	79,416	3/4	95,737	3/4	112,058	3/4	128,380	3/4	144,701	3/4	161,022
11	15,110	11	31,046	11	47,113	11	63,434	11	79,756	11	96,077	11	112,398	11	128,720	11	145,041	11	161,362
1/4	15,450	1/4	31,372	1/4	47,453	1/4	63,774	1/4	80,096	1/4	96,417	1/4	112,738	1/4	129,060	1/4	145,381	1/4	161,702
1/2	15,790	1/2	31,699	1/2	47,793	1/2	64,115	1/2	80,436	1/2	96,757	1/2	113,079	1/2	129,400	1/2	145,721	1/2	162,043
3/4	16,130	3/4	32,026	3/4	48,133	3/4	64,455	3/4	80,776	3/4	97,097	3/4	113,419	3/4	129,740	3/4	146,061	3/4	162,383

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 TOP OF 2" DIAMETER PIPE.
GAUGE POINT: (2" PIPE) LOCATED 12'-06" OFF CENTERLINE AND 41'-09" FORWARD OF AFT BULKHEAD.

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 410"

2 PORT
INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-6 1/4"

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	162,723	0	179,043	0	195,362	0	211,666	0	227,326	0	241,933	0		0		0		0	
1/4	163,063	1/4	179,383	1/4	195,702	1/4	212,001	1/4	227,641	1/4	242,226	1/4		1/4		1/4		1/4	
1/2	163,403	1/2	179,723	1/2	196,042	1/2	212,337	1/2	227,956	1/2	242,519	1/2		1/2		1/2		1/2	
3/4	163,743	3/4	180,063	3/4	196,382	3/4	212,672	3/4	228,272	3/4	242,812	3/4		3/4		3/4		3/4	
1	164,083	1	180,403	1	196,722	1	213,008	1	228,587	1	243,105	1		1		1		1	
1/4	164,423	1/4	180,743	1/4	197,062	1/4	213,342	1/4	228,900	1/4	243,395	1/4		1/4		1/4		1/4	
1/2	164,763	1/2	181,083	1/2	197,402	1/2	213,675	1/2	229,214	1/2	243,686	1/2		1/2		1/2		1/2	
3/4	165,103	3/4	181,423	3/4	197,742	3/4	214,009	3/4	229,527	3/4	243,977	3/4		3/4		3/4		3/4	
2	165,443	2	181,763	2	198,082	2	214,343	2	229,840	2	244,268	2		2		2		2	
1/4	165,783	1/4	182,103	1/4	198,422	1/4	214,675	1/4	230,150	1/4	244,554	1/4		1/4		1/4		1/4	
1/2	166,123	1/2	182,443	1/2	198,762	1/2	215,008	1/2	230,460	1/2	244,840	1/2		1/2		1/2		1/2	
3/4	166,463	3/4	182,783	3/4	199,102	3/4	215,340	3/4	230,770	3/4	245,126	3/4		3/4		3/4		3/4	
3	166,803	3	183,123	3	199,442	3	215,672	3	231,080	3	245,412	3		3		3		3	
1/4	167,143	1/4	183,463	1/4	199,782	1/4	216,002	1/4	231,388	1/4	245,697	1/4		1/4		1/4		1/4	
1/2	167,483	1/2	183,803	1/2	200,122	1/2	216,333	1/2	231,696	1/2	245,981	1/2		1/2		1/2		1/2	
3/4	167,823	3/4	184,143	3/4	200,462	3/4	216,663	3/4	232,005	3/4	246,266	3/4		3/4		3/4		3/4	
4	168,163	4	184,483	4	200,802	4	216,994	4	232,313	4	246,550	4		4		4		4	
1/4	168,503	1/4	184,823	1/4	201,142	1/4	217,323	1/4	232,619	1/4	246,825	1/4		1/4		1/4		1/4	
1/2	168,843	1/2	185,163	1/2	201,482	1/2	217,651	1/2	232,926	1/2	247,100	1/2		1/2		1/2		1/2	
3/4	169,183	3/4	185,503	3/4	201,822	3/4	217,980	3/4	233,232	3/4	247,375	3/4		3/4		3/4		3/4	
5	169,523	5	185,843	5	202,162	5	218,309	5	233,539	5	247,649	5		5		5		5	
1/4	169,863	1/4	186,183	1/4	202,502	1/4	218,636	1/4	233,844	1/4	247,856	1/4		1/4		1/4		1/4	
1/2	170,203	1/2	186,523	1/2	202,842	1/2	218,963	1/2	234,149	1/2	248,063	1/2		1/2		1/2		1/2	
3/4	170,543	3/4	186,863	3/4	203,182	3/4	219,290	3/4	234,453	3/4		3/4		3/4		3/4		3/4	
6	170,883	6	187,203	6	203,522	6	219,617	6	234,758	6		6		6		6		6	
1/4	171,223	1/4	187,543	1/4	203,862	1/4	219,943	1/4	235,061	1/4		1/4		1/4		1/4		1/4	
1/2	171,563	1/2	187,882	1/2	204,202	1/2	220,268	1/2	235,366	1/2		1/2		1/2		1/2		1/2	
3/4	171,903	3/4	188,222	3/4	204,542	3/4	220,594	3/4	235,668	3/4		3/4		3/4		3/4		3/4	
7	172,243	7	188,562	7	204,882	7	220,919	7	235,971	7		7		7		7		7	
1/4	172,583	1/4	188,902	1/4	205,222	1/4	221,243	1/4	236,272	1/4		1/4		1/4		1/4		1/4	
1/2	172,923	1/2	189,242	1/2	205,562	1/2	221,566	1/2	236,574	1/2		1/2		1/2		1/2		1/2	
3/4	173,263	3/4	189,582	3/4	205,902	3/4	221,890	3/4	236,875	3/4		3/4		3/4		3/4		3/4	
8	173,603	8	189,922	8	206,242	8	222,214	8	237,177	8		8		8		8		8	
1/4	173,943	1/4	190,262	1/4	206,581	1/4	222,536	1/4	237,477	1/4		1/4		1/4		1/4		1/4	
1/2	174,283	1/2	190,602	1/2	206,921	1/2	222,858	1/2	237,776	1/2		1/2		1/2		1/2		1/2	
3/4	174,623	3/4	190,942	3/4	207,261	3/4	223,180	3/4	238,076	3/4		3/4		3/4		3/4		3/4	
9	174,963	9	191,282	9	207,601	9	223,502	9	238,376	9		9		9		9		9	
1/4	176,303	1/4	191,622	1/4	207,941	1/4	223,822	1/4	238,674	1/4		1/4		1/4		1/4		1/4	
1/2	175,643	1/2	191,962	1/2	208,281	1/2	224,143	1/2	238,972	1/2		1/2		1/2		1/2		1/2	
3/4	175,983	3/4	192,302	3/4	208,621	3/4	224,463	3/4	239,270	3/4		3/4		3/4		3/4		3/4	
10	176,323	10	192,642	10	208,961	10	224,783	10	239,568	10		10		10		10		10	
1/4	176,663	1/4	192,982	1/4	209,300	1/4	225,102	1/4	239,865	1/4		1/4		1/4		1/4		1/4	
1/2	177,003	1/2	193,322	1/2	209,639	1/2	225,421	1/2	240,161	1/2		1/2		1/2		1/2		1/2	
3/4	177,343	3/4	193,662	3/4	209,978	3/4	225,739	3/4	240,457	3/4		3/4		3/4		3/4		3/4	
11	177,683	11	194,002	11	210,317	11	226,058	11	240,754	11		11		11		11		11	
1/4	178,023	1/4	194,342	1/4	210,654	1/4	226,375	1/4	241,048	1/4		1/4		1/4		1/4		1/4	
1/2	178,363	1/2	194,682	1/2	210,991	1/2	226,692	1/2	241,343	1/2		1/2		1/2		1/2		1/2	
3/4	178,703	3/4	195,022	3/4	211,328	3/4	227,009	3/4	241,638	3/4		3/4		3/4		3/4		3/4	

STRAPPED: 05/28/2014 CL
CALCULATED: 05/28/2014 CL
PRINTED: 05/29/2014 SW

CANCELS AND SUPERCEDES
ALL PRIOR TO 05/2014

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

PRECISION MEASUREMENT
& ANALYSIS, INC.
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BARGE "CCL 410"

2 STBD
INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-5 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	799	0	16,411	0	32,659	0	48,921	0	65,184	0	81,446	0	97,709	0	113,972	0	130,235	0	146,498
1/4	1,022	1/4	16,750	1/4	32,998	1/4	49,260	1/4	65,522	1/4	81,785	1/4	98,048	1/4	114,311	1/4	130,674	1/4	146,837
1/2	1,244	1/2	17,089	1/2	33,336	1/2	49,598	1/2	65,861	1/2	82,124	1/2	98,387	1/2	114,650	1/2	130,913	1/2	147,176
3/4	1,466	3/4	17,427	3/4	33,675	3/4	49,937	3/4	66,200	3/4	82,463	3/4	98,726	3/4	114,989	3/4	131,251	3/4	147,514
1	1,688	1	17,766	1	34,013	1	50,276	1	66,539	1	82,802	1	99,065	1	115,327	1	131,590	1	147,853
1/4	1,989	1/4	18,105	1/4	34,352	1/4	50,615	1/4	66,878	1/4	83,140	1/4	99,403	1/4	115,666	1/4	131,929	1/4	148,192
1/2	2,290	1/2	18,444	1/2	34,691	1/2	50,954	1/2	67,216	1/2	83,479	1/2	99,742	1/2	116,005	1/2	132,268	1/2	148,531
3/4	2,591	3/4	18,783	3/4	35,029	3/4	51,292	3/4	67,555	3/4	83,818	3/4	100,081	3/4	116,344	3/4	132,607	3/4	148,870
2	2,892	2	19,121	2	35,368	2	51,631	2	67,894	2	84,157	2	100,420	2	116,683	2	132,946	2	149,208
1/4	3,227	1/4	19,460	1/4	35,707	1/4	51,970	1/4	68,233	1/4	84,496	1/4	100,759	1/4	117,021	1/4	133,284	1/4	149,547
1/2	3,662	1/2	19,799	1/2	36,046	1/2	52,309	1/2	68,572	1/2	84,835	1/2	101,097	1/2	117,360	1/2	133,623	1/2	149,886
3/4	3,897	3/4	20,138	3/4	36,385	3/4	52,648	3/4	68,910	3/4	85,173	3/4	101,436	3/4	117,699	3/4	133,962	3/4	150,225
3	4,231	3	20,476	3	36,724	3	52,986	3	69,249	3	85,512	3	101,775	3	118,038	3	134,301	3	150,564
1/4	4,568	1/4	20,815	1/4	37,062	1/4	53,325	1/4	69,588	1/4	85,851	1/4	102,114	1/4	118,377	1/4	134,640	1/4	150,902
1/2	4,905	1/2	21,154	1/2	37,401	1/2	53,664	1/2	69,927	1/2	86,190	1/2	102,453	1/2	118,716	1/2	134,978	1/2	151,241
3/4	5,241	3/4	21,493	3/4	37,740	3/4	54,003	3/4	70,266	3/4	86,529	3/4	102,791	3/4	119,054	3/4	135,317	3/4	151,580
4	5,578	4	21,832	4	38,079	4	54,342	4	70,605	4	86,867	4	103,130	4	119,393	4	135,656	4	151,919
1/4	5,915	1/4	22,170	1/4	38,418	1/4	54,680	1/4	70,943	1/4	87,206	1/4	103,469	1/4	119,732	1/4	135,995	1/4	152,258
1/2	6,253	1/2	22,509	1/2	38,756	1/2	55,019	1/2	71,282	1/2	87,545	1/2	103,808	1/2	120,071	1/2	136,334	1/2	152,596
3/4	6,590	3/4	22,848	3/4	39,095	3/4	55,358	3/4	71,621	3/4	87,884	3/4	104,147	3/4	120,410	3/4	136,672	3/4	152,935
5	6,928	5	23,186	5	39,434	5	55,697	5	71,960	5	88,223	5	104,486	5	120,748	5	137,011	5	153,274
1/4	7,266	1/4	23,525	1/4	39,773	1/4	56,036	1/4	72,299	1/4	88,561	1/4	104,824	1/4	121,087	1/4	137,350	1/4	153,613
1/2	7,605	1/2	23,863	1/2	40,112	1/2	56,375	1/2	72,637	1/2	88,900	1/2	105,163	1/2	121,426	1/2	137,689	1/2	153,952
3/4	7,943	3/4	24,202	3/4	40,450	3/4	56,713	3/4	72,976	3/4	89,239	3/4	105,502	3/4	121,765	3/4	138,028	3/4	154,291
6	8,281	6	24,540	6	40,789	6	57,052	6	73,315	6	89,578	6	105,841	6	122,104	6	138,366	6	154,629
1/4	8,620	1/4	24,878	1/4	41,128	1/4	57,391	1/4	73,654	1/4	89,917	1/4	106,180	1/4	122,442	1/4	138,705	1/4	154,968
1/2	8,958	1/2	25,217	1/2	41,467	1/2	57,730	1/2	73,993	1/2	90,255	1/2	106,518	1/2	122,781	1/2	139,044	1/2	155,307
3/4	9,297	3/4	25,555	3/4	41,806	3/4	58,069	3/4	74,331	3/4	90,594	3/4	106,857	3/4	123,120	3/4	139,383	3/4	155,646
7	9,635	7	25,893	7	42,145	7	58,407	7	74,670	7	90,933	7	107,196	7	123,459	7	139,722	7	155,985
1/4	9,974	1/4	26,232	1/4	42,483	1/4	58,746	1/4	75,009	1/4	91,272	1/4	107,535	1/4	123,798	1/4	140,061	1/4	156,323
1/2	10,313	1/2	26,570	1/2	42,822	1/2	59,085	1/2	75,348	1/2	91,611	1/2	107,874	1/2	124,136	1/2	140,399	1/2	156,662
3/4	10,652	3/4	26,908	3/4	43,161	3/4	59,424	3/4	75,687	3/4	91,950	3/4	108,212	3/4	124,475	3/4	140,738	3/4	157,001
8	10,990	8	27,247	8	43,500	8	59,763	8	76,025	8	92,288	8	108,551	8	124,814	8	141,077	8	157,340
1/4	11,329	1/4	27,585	1/4	43,839	1/4	60,101	1/4	76,364	1/4	92,627	1/4	108,890	1/4	125,153	1/4	141,416	1/4	157,679
1/2	11,668	1/2	27,923	1/2	44,177	1/2	60,440	1/2	76,703	1/2	92,966	1/2	109,229	1/2	125,492	1/2	141,755	1/2	158,017
3/4	12,007	3/4	28,261	3/4	44,516	3/4	60,779	3/4	77,042	3/4	93,305	3/4	109,568	3/4	125,831	3/4	142,093	3/4	158,356
9	12,346	9	28,600	9	44,855	9	61,118	9	77,381	9	93,644	9	109,906	9	126,169	9	142,432	9	158,695
1/4	12,684	1/4	28,938	1/4	45,194	1/4	61,457	1/4	77,720	1/4	93,982	1/4	110,245	1/4	126,508	1/4	142,771	1/4	159,034
1/2	13,023	1/2	29,276	1/2	45,533	1/2	61,795	1/2	78,058	1/2	94,321	1/2	110,584	1/2	126,847	1/2	143,110	1/2	159,373
3/4	13,362	3/4	29,614	3/4	45,871	3/4	62,134	3/4	78,397	3/4	94,660	3/4	110,923	3/4	127,186	3/4	143,449	3/4	159,712
10	13,701	10	29,952	10	46,210	10	62,473	10	78,736	10	94,999	10	111,262	10	127,525	10	143,787	10	160,050
1/4	14,040	1/4	30,291	1/4	46,549	1/4	62,812	1/4	79,075	1/4	95,338	1/4	111,601	1/4	127,863	1/4	144,126	1/4	160,389
1/2	14,378	1/2	30,629	1/2	46,888	1/2	63,151	1/2	79,414	1/2	95,676	1/2	111,939	1/2	128,202	1/2	144,465	1/2	160,728
3/4	14,717	3/4	30,968	3/4	47,227	3/4	63,490	3/4	79,752	3/4	96,015	3/4	112,278	3/4	128,541	3/4	144,804	3/4	161,067
11	15,056	11	31,306	11	47,565	11	63,828	11	80,091	11	96,354	11	112,617	11	128,880	11	145,143	11	161,406
1/4	15,395	1/4	31,644	1/4	47,904	1/4	64,167	1/4	80,430	1/4	96,693	1/4	112,956	1/4	129,219	1/4	145,481	1/4	161,744
1/2	15,733	1/2	31,983	1/2	48,243	1/2	64,506	1/2	80,769	1/2	97,032	1/2	113,295	1/2	129,557	1/2	145,820	1/2	162,083
3/4	16,072	3/4	32,321	3/4	48,582	3/4	64,845	3/4	81,108	3/4	97,370	3/4	113,633	3/4	129,896	3/4	146,159	3/4	162,422

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 TOP OF 2" DIAMETER PIPE.
GAUGE POINT: (2" PIPE) LOCATED 12'-06" OFF CENTERLINE AND 41'-09" FORWARD OF AFT BULKHEAD.

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 410"

2 STBD
INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-5 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	162,761	0	179,022	0	195,283	0	211,528	0	227,130	0	241,678	0		0		0		0	
1/4	163,100	1/4	179,361	1/4	195,622	1/4	211,862	1/4	227,444	1/4	241,970	1/4		1/4		1/4		1/4	
1/2	163,438	1/2	179,700	1/2	195,961	1/2	212,197	1/2	227,758	1/2	242,261	1/2		1/2		1/2		1/2	
3/4	163,777	3/4	180,039	3/4	196,299	3/4	212,531	3/4	228,072	3/4	242,553	3/4		3/4		3/4		3/4	
1	164,116	1	180,377	1	196,638	1	212,865	1	228,386	1	242,845	1		1		1		1	
1/4	164,455	1/4	180,716	1/4	196,977	1/4	213,198	1/4	228,698	1/4	243,135	1/4		1/4		1/4		1/4	
1/2	164,794	1/2	181,055	1/2	197,316	1/2	213,530	1/2	229,010	1/2	243,424	1/2		1/2		1/2		1/2	
3/4	165,132	3/4	181,394	3/4	197,654	3/4	213,863	3/4	229,322	3/4	243,714	3/4		3/4		3/4		3/4	
2	165,471	2	181,732	2	197,993	2	214,196	2	229,634	2	244,004	2		2		2		2	
1/4	165,810	1/4	182,071	1/4	198,332	1/4	214,527	1/4	229,943	1/4	244,288	1/4		1/4		1/4		1/4	
1/2	166,149	1/2	182,410	1/2	198,671	1/2	214,858	1/2	230,252	1/2	244,573	1/2		1/2		1/2		1/2	
3/4	166,488	3/4	182,749	3/4	199,009	3/4	215,189	3/4	230,560	3/4	244,858	3/4		3/4		3/4		3/4	
3	166,827	3	183,088	3	199,348	3	215,520	3	230,869	3	245,143	3		3		3		3	
1/4	167,165	1/4	183,426	1/4	199,687	1/4	215,849	1/4	231,176	1/4	245,426	1/4		1/4		1/4		1/4	
1/2	167,504	1/2	183,765	1/2	200,026	1/2	216,178	1/2	231,483	1/2	245,709	1/2		1/2		1/2		1/2	
3/4	167,843	3/4	184,104	3/4	200,364	3/4	216,507	3/4	231,790	3/4	245,993	3/4		3/4		3/4		3/4	
4	168,182	4	184,443	4	200,703	4	216,837	4	232,097	4	246,276	4		4		4		4	
1/4	168,521	1/4	184,781	1/4	201,042	1/4	217,164	1/4	232,402	1/4	246,550	1/4		1/4		1/4		1/4	
1/2	168,859	1/2	185,120	1/2	201,381	1/2	217,492	1/2	232,708	1/2	246,824	1/2		1/2		1/2		1/2	
3/4	169,198	3/4	185,459	3/4	201,720	3/4	217,819	3/4	233,013	3/4	247,098	3/4		3/4		3/4		3/4	
5	169,537	5	185,798	5	202,058	5	218,147	5	233,318	5	247,372	5		5		5		5	
1/4	169,876	1/4	186,136	1/4	202,397	1/4	218,473	1/4	233,622	1/4	247,578	1/4		1/4		1/4		1/4	
1/2	170,214	1/2	186,475	1/2	202,736	1/2	218,799	1/2	233,926	1/2	247,784	1/2		1/2		1/2		1/2	
3/4	170,553	3/4	186,814	3/4	203,075	3/4	219,125	3/4	234,229	3/4		3/4		3/4		3/4		3/4	
6	170,892	6	187,153	6	203,413	6	219,450	6	234,533	6		6		6		6		6	
1/4	171,231	1/4	187,491	1/4	203,752	1/4	219,775	1/4	234,835	1/4		1/4		1/4		1/4		1/4	
1/2	171,570	1/2	187,830	1/2	204,091	1/2	220,099	1/2	235,137	1/2		1/2		1/2		1/2		1/2	
3/4	171,908	3/4	188,169	3/4	204,430	3/4	220,423	3/4	235,439	3/4		3/4		3/4		3/4		3/4	
7	172,247	7	188,508	7	204,768	7	220,747	7	235,741	7		7		7		7		7	
1/4	172,586	1/4	188,846	1/4	205,107	1/4	221,070	1/4	236,041	1/4		1/4		1/4		1/4		1/4	
1/2	172,925	1/2	189,185	1/2	205,446	1/2	221,392	1/2	236,341	1/2		1/2		1/2		1/2		1/2	
3/4	173,263	3/4	189,524	3/4	205,785	3/4	221,716	3/4	236,641	3/4		3/4		3/4		3/4		3/4	
8	173,602	8	189,863	8	206,123	8	222,037	8	236,942	8		8		8		8		8	
1/4	173,941	1/4	190,202	1/4	206,462	1/4	222,358	1/4	237,240	1/4		1/4		1/4		1/4		1/4	
1/2	174,280	1/2	190,540	1/2	206,801	1/2	222,679	1/2	237,539	1/2		1/2		1/2		1/2		1/2	
3/4	174,618	3/4	190,879	3/4	207,140	3/4	223,000	3/4	237,837	3/4		3/4		3/4		3/4		3/4	
9	174,957	9	191,218	9	207,478	9	223,320	9	238,136	9		9		9		9		9	
1/4	175,296	1/4	191,557	1/4	207,817	1/4	223,640	1/4	238,433	1/4		1/4		1/4		1/4		1/4	
1/2	175,635	1/2	191,895	1/2	208,156	1/2	223,959	1/2	238,729	1/2		1/2		1/2		1/2		1/2	
3/4	175,973	3/4	192,234	3/4	208,494	3/4	224,278	3/4	239,026	3/4		3/4		3/4		3/4		3/4	
10	176,312	10	192,573	10	208,833	10	224,597	10	239,323	10		10		10		10		10	
1/4	176,651	1/4	192,912	1/4	209,171	1/4	224,914	1/4	239,618	1/4		1/4		1/4		1/4		1/4	
1/2	176,990	1/2	193,250	1/2	209,508	1/2	225,232	1/2	239,914	1/2		1/2		1/2		1/2		1/2	
3/4	177,329	3/4	193,589	3/4	209,846	3/4	225,549	3/4	240,209	3/4		3/4		3/4		3/4		3/4	
11	177,667	11	193,928	11	210,184	11	225,867	11	240,504	11		11		11		11		11	
1/4	178,006	1/4	194,267	1/4	210,520	1/4	226,182	1/4	240,797	1/4		1/4		1/4		1/4		1/4	
1/2	178,345	1/2	194,605	1/2	210,856	1/2	226,498	1/2	241,091	1/2		1/2		1/2		1/2		1/2	
3/4	178,684	3/4	194,944	3/4	211,192	3/4	226,814	3/4	241,384	3/4		3/4		3/4		3/4		3/4	

STRAPPED: 05/28/2014 CL
CALCULATED: 05/28/2014 CL
PRINTED: 05/29/2014 SW

CANCELS AND SUPERCEDES
ALL PRIOR TO 05/2014

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

PRECISION MEASUREMENT
& ANALYSIS, INC.
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Pearland, Texas 77588
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BARGE "CCL 410"

3 PORT
INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-6"

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	748	0	15,328	0	30,502	0	45,689	0	60,877	0	76,066	0	91,254	0	106,443	0	121,631	0	136,805
1/4	955	1/4	15,644	1/4	30,818	1/4	46,005	1/4	61,194	1/4	76,382	1/4	91,571	1/4	106,759	1/4	121,947	1/4	137,122
1/2	1,163	1/2	15,961	1/2	31,134	1/2	46,322	1/2	61,510	1/2	76,699	1/2	91,887	1/2	107,076	1/2	122,263	1/2	137,438
3/4	1,370	3/4	16,277	3/4	31,450	3/4	46,638	3/4	61,827	3/4	77,015	3/4	92,204	3/4	107,392	3/4	122,579	3/4	137,754
1	1,578	1	16,593	1	31,766	1	46,955	1	62,143	1	77,332	1	92,520	1	107,709	1	122,896	1	138,071
1/4	1,869	1/4	16,910	1/4	32,082	1/4	47,271	1/4	62,460	1/4	77,648	1/4	92,837	1/4	108,025	1/4	123,212	1/4	138,387
1/2	2,140	1/2	17,226	1/2	32,399	1/2	47,587	1/2	62,776	1/2	77,965	1/2	93,153	1/2	108,342	1/2	123,528	1/2	138,704
3/4	2,421	3/4	17,543	3/4	32,715	3/4	47,904	3/4	63,092	3/4	78,281	3/4	93,469	3/4	108,658	3/4	123,844	3/4	139,020
2	2,702	2	17,869	2	33,032	2	48,220	2	63,409	2	78,597	2	93,786	2	108,974	2	124,160	2	139,337
1/4	3,015	1/4	18,175	1/4	33,348	1/4	48,537	1/4	63,725	1/4	78,914	1/4	94,102	1/4	109,291	1/4	124,476	1/4	139,653
1/2	3,328	1/2	18,492	1/2	33,665	1/2	48,853	1/2	64,042	1/2	79,230	1/2	94,419	1/2	109,607	1/2	124,792	1/2	139,969
3/4	3,640	3/4	18,808	3/4	33,981	3/4	49,170	3/4	64,358	3/4	79,547	3/4	94,735	3/4	109,924	3/4	125,108	3/4	140,286
3	3,953	3	19,125	3	34,297	3	49,486	3	64,675	3	79,863	3	95,052	3	110,240	3	125,425	3	140,602
1/4	4,267	1/4	19,441	1/4	34,614	1/4	49,802	1/4	64,991	1/4	80,179	1/4	95,368	1/4	110,557	1/4	125,741	1/4	140,919
1/2	4,582	1/2	19,757	1/2	34,930	1/2	50,119	1/2	65,307	1/2	80,496	1/2	95,684	1/2	110,873	1/2	126,057	1/2	141,235
3/4	4,896	3/4	20,074	3/4	35,247	3/4	50,435	3/4	65,624	3/4	80,812	3/4	96,001	3/4	111,189	3/4	126,373	3/4	141,552
4	5,210	4	20,390	4	35,563	4	50,752	4	65,940	4	81,129	4	96,317	4	111,506	4	126,689	4	141,868
1/4	5,526	1/4	20,707	1/4	35,880	1/4	51,068	1/4	66,257	1/4	81,445	1/4	96,634	1/4	111,822	1/4	127,005	1/4	142,184
1/2	5,841	1/2	21,023	1/2	36,196	1/2	51,385	1/2	66,573	1/2	81,762	1/2	96,950	1/2	112,139	1/2	127,321	1/2	142,501
3/4	6,156	3/4	21,339	3/4	36,512	3/4	51,701	3/4	66,890	3/4	82,078	3/4	97,267	3/4	112,455	3/4	127,637	3/4	142,817
5	6,471	5	21,656	5	36,829	5	52,017	5	67,206	5	82,394	5	97,583	5	112,772	5	127,954	5	143,134
1/4	6,787	1/4	21,972	1/4	37,145	1/4	52,334	1/4	67,522	1/4	82,711	1/4	97,899	1/4	113,088	1/4	128,270	1/4	143,450
1/2	7,103	1/2	22,288	1/2	37,462	1/2	52,650	1/2	67,839	1/2	83,027	1/2	98,216	1/2	113,404	1/2	128,586	1/2	143,767
3/4	7,419	3/4	22,604	3/4	37,778	3/4	52,967	3/4	68,155	3/4	83,344	3/4	98,532	3/4	113,721	3/4	128,902	3/4	144,083
6	7,735	6	22,920	6	38,095	6	53,283	6	68,472	6	83,660	6	98,849	6	114,037	6	129,218	6	144,399
1/4	8,051	1/4	23,236	1/4	38,411	1/4	53,600	1/4	68,788	1/4	83,977	1/4	99,165	1/4	114,354	1/4	129,534	1/4	144,716
1/2	8,367	1/2	23,552	1/2	38,727	1/2	53,916	1/2	69,105	1/2	84,293	1/2	99,482	1/2	114,670	1/2	129,850	1/2	145,032
3/4	8,684	3/4	23,868	3/4	39,044	3/4	54,232	3/4	69,421	3/4	84,609	3/4	99,798	3/4	114,987	3/4	130,166	3/4	145,349
7	9,000	7	24,184	7	39,360	7	54,549	7	69,737	7	84,926	7	100,114	7	115,303	7	130,483	7	145,665
1/4	9,316	1/4	24,500	1/4	39,677	1/4	54,865	1/4	70,054	1/4	85,242	1/4	100,431	1/4	115,619	1/4	130,799	1/4	145,982
1/2	9,633	1/2	24,815	1/2	39,993	1/2	55,182	1/2	70,370	1/2	85,559	1/2	100,747	1/2	115,936	1/2	131,115	1/2	146,298
3/4	9,949	3/4	25,131	3/4	40,310	3/4	55,498	3/4	70,687	3/4	85,875	3/4	101,064	3/4	116,252	3/4	131,431	3/4	146,615
8	10,265	8	25,447	8	40,626	8	55,815	8	71,003	8	86,192	8	101,380	8	116,569	8	131,747	8	148,931
1/4	10,582	1/4	25,763	1/4	40,942	1/4	56,131	1/4	71,320	1/4	86,508	1/4	101,697	1/4	116,885	1/4	132,063	1/4	147,247
1/2	10,898	1/2	26,079	1/2	41,259	1/2	56,447	1/2	71,636	1/2	86,824	1/2	102,013	1/2	117,202	1/2	132,379	1/2	147,564
3/4	11,215	3/4	26,395	3/4	41,575	3/4	56,764	3/4	71,952	3/4	87,141	3/4	102,329	3/4	117,518	3/4	132,695	3/4	147,880
9	11,531	9	26,711	9	41,892	9	57,080	9	72,269	9	87,457	9	102,646	9	117,834	9	133,011	9	148,197
1/4	11,847	1/4	27,026	1/4	42,208	1/4	57,397	1/4	72,585	1/4	87,774	1/4	102,962	1/4	118,151	1/4	133,328	1/4	148,513
1/2	12,164	1/2	27,342	1/2	42,525	1/2	57,713	1/2	72,902	1/2	88,090	1/2	103,279	1/2	118,467	1/2	133,644	1/2	148,830
3/4	12,480	3/4	27,658	3/4	42,841	3/4	58,030	3/4	73,218	3/4	88,407	3/4	103,595	3/4	118,784	3/4	133,960	3/4	149,146
10	12,797	10	27,974	10	43,157	10	58,346	10	73,535	10	88,723	10	103,912	10	119,100	10	134,276	10	149,463
1/4	13,113	1/4	28,290	1/4	43,474	1/4	58,662	1/4	73,851	1/4	89,039	1/4	104,228	1/4	119,417	1/4	134,592	1/4	149,779
1/2	13,429	1/2	28,606	1/2	43,790	1/2	58,979	1/2	74,167	1/2	89,356	1/2	104,544	1/2	119,733	1/2	134,908	1/2	150,095
3/4	13,746	3/4	28,922	3/4	44,107	3/4	59,295	3/4	74,484	3/4	89,672	3/4	104,861	3/4	120,049	3/4	135,224	3/4	150,412
11	14,062	11	29,238	11	44,423	11	59,612	11	74,800	11	89,989	11	105,177	11	120,366	11	135,540	11	150,728
1/4	14,379	1/4	29,554	1/4	44,740	1/4	59,928	1/4	75,117	1/4	90,305	1/4	105,494	1/4	120,682	1/4	135,857	1/4	151,045
1/2	14,695	1/2	29,870	1/2	45,056	1/2	60,245	1/2	75,433	1/2	90,622	1/2	105,810	1/2	120,998	1/2	136,173	1/2	151,361
3/4	15,011	3/4	30,186	3/4	45,372	3/4	60,561	3/4	75,750	3/4	90,938	3/4	106,127	3/4	121,315	3/4	136,489	3/4	151,678

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 TOP OF 2" DIAMETER PIPE.
GAUGE POINT: (2" PIPE) LOCATED 12'-06" OFF CENTERLINE AND 42'-00" FORWARD OF AFT BULKHEAD.

PRECISION MEASUREMENT
& ANALYSIS, INC.
P.O. Box 2092
Pearland, Texas 77588
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BARGE "CCL 410"

3 PORT
INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-6"

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	161,994	0	164,525	0	176,217	0	187,899	0	199,118	0	209,578	0		0		0		0	
1/4	152,311	1/4	164,768	1/4	176,461	1/4	188,139	1/4	199,344	1/4	209,788	1/4		1/4		1/4		1/4	
1/2	152,627	1/2	165,012	1/2	176,704	1/2	188,379	1/2	199,570	1/2	209,998	1/2		1/2		1/2		1/2	
3/4	152,943	3/4	165,255	3/4	176,948	3/4	188,620	3/4	199,796	3/4	210,207	3/4		3/4		3/4		3/4	
1	153,260	1	165,499	1	177,192	1	188,860	1	200,022	1	210,417	1		1		1		1	
1/4	153,576	1/4	165,743	1/4	177,435	1/4	189,099	1/4	200,246	1/4	210,625	1/4		1/4		1/4		1/4	
1/2	153,893	1/2	165,986	1/2	177,679	1/2	189,339	1/2	200,471	1/2	210,834	1/2		1/2		1/2		1/2	
3/4	154,209	3/4	166,230	3/4	177,922	3/4	189,578	3/4	200,695	3/4	211,042	3/4		3/4		3/4		3/4	
2	154,526	2	166,473	2	178,166	2	189,817	2	200,920	2	211,250	2		2		2		2	
1/4	154,833	1/4	166,717	1/4	178,410	1/4	190,055	1/4	201,142	1/4	211,463	1/4		1/4		1/4		1/4	
1/2	155,140	1/2	166,961	1/2	178,653	1/2	190,293	1/2	201,363	1/2	211,675	1/2		1/2		1/2		1/2	
3/4	155,448	3/4	167,204	3/4	178,897	3/4	190,531	3/4	201,585	3/4	211,888	3/4		3/4		3/4		3/4	
3	155,755	3	167,448	3	179,140	3	190,769	3	201,807	3	212,101	3		3		3		3	
1/4	155,999	1/4	167,691	1/4	179,384	1/4	191,006	1/4	202,028	1/4	212,375	1/4		1/4		1/4		1/4	
1/2	156,242	1/2	167,935	1/2	179,628	1/2	191,242	1/2	202,249	1/2	212,649	1/2		1/2		1/2		1/2	
3/4	156,486	3/4	168,179	3/4	179,871	3/4	191,479	3/4	202,469	3/4	212,923	3/4		3/4		3/4		3/4	
4	156,729	4	168,422	4	180,115	4	191,716	4	202,690	4	213,197	4		4		4		4	
1/4	156,973	1/4	168,666	1/4	180,358	1/4	191,952	1/4	202,910	1/4	213,453	1/4		1/4		1/4		1/4	
1/2	157,217	1/2	168,909	1/2	180,602	1/2	192,187	1/2	203,129	1/2	213,708	1/2		1/2		1/2		1/2	
3/4	157,460	3/4	169,153	3/4	180,846	3/4	192,423	3/4	203,349	3/4	213,964	3/4		3/4		3/4		3/4	
5	157,704	5	169,397	5	181,089	5	192,658	5	203,568	5	214,220	5		5		5		5	
1/4	157,948	1/4	169,640	1/4	181,333	1/4	192,893	1/4	203,786	1/4	214,413	1/4		1/4		1/4		1/4	
1/2	158,191	1/2	169,884	1/2	181,576	1/2	193,127	1/2	204,005	1/2	214,605	1/2		1/2		1/2		1/2	
3/4	158,435	3/4	170,127	3/4	181,820	3/4	193,361	3/4	204,223	3/4		3/4		3/4		3/4		3/4	
6	158,678	6	170,371	6	182,064	6	193,596	6	204,441	6		6		6		6		6	
1/4	158,922	1/4	170,615	1/4	182,307	1/4	193,829	1/4	204,658	1/4		1/4		1/4		1/4		1/4	
1/2	159,166	1/2	170,858	1/2	182,551	1/2	194,062	1/2	204,876	1/2		1/2		1/2		1/2		1/2	
3/4	159,409	3/4	171,102	3/4	182,794	3/4	194,295	3/4	205,092	3/4		3/4		3/4		3/4		3/4	
7	159,653	7	171,345	7	183,038	7	194,528	7	205,309	7		7		7		7		7	
1/4	159,896	1/4	171,589	1/4	183,282	1/4	194,760	1/4	205,525	1/4		1/4		1/4		1/4		1/4	
1/2	160,140	1/2	171,833	1/2	183,525	1/2	194,992	1/2	205,741	1/2		1/2		1/2		1/2		1/2	
3/4	160,384	3/4	172,076	3/4	183,769	3/4	195,224	3/4	206,957	3/4		3/4		3/4		3/4		3/4	
8	160,627	8	172,320	8	184,012	8	195,456	8	206,173	8		8		8		8		8	
1/4	160,871	1/4	172,563	1/4	184,256	1/4	195,687	1/4	206,388	1/4		1/4		1/4		1/4		1/4	
1/2	161,114	1/2	172,807	1/2	184,500	1/2	195,917	1/2	206,602	1/2		1/2		1/2		1/2		1/2	
3/4	161,358	3/4	173,051	3/4	184,743	3/4	196,148	3/4	206,817	3/4		3/4		3/4		3/4		3/4	
9	161,602	9	173,294	9	184,987	9	196,379	9	207,031	9		9		9		9		9	
1/4	161,845	1/4	173,538	1/4	185,230	1/4	196,608	1/4	207,245	1/4		1/4		1/4		1/4		1/4	
1/2	162,089	1/2	173,781	1/2	185,474	1/2	196,838	1/2	207,458	1/2		1/2		1/2		1/2		1/2	
3/4	162,332	3/4	174,025	3/4	185,717	3/4	197,067	3/4	207,672	3/4		3/4		3/4		3/4		3/4	
10	162,576	10	174,268	10	185,961	10	197,297	10	207,885	10		10		10		10		10	
1/4	162,819	1/4	174,512	1/4	186,204	1/4	197,525	1/4	208,097	1/4		1/4		1/4		1/4		1/4	
1/2	163,063	1/2	174,756	1/2	186,446	1/2	197,753	1/2	208,310	1/2		1/2		1/2		1/2		1/2	
3/4	163,307	3/4	174,999	3/4	186,689	3/4	197,982	3/4	208,522	3/4		3/4		3/4		3/4		3/4	
11	163,550	11	175,243	11	186,932	11	198,210	11	208,734	11		11		11		11		11	
1/4	163,794	1/4	175,486	1/4	187,174	1/4	198,437	1/4	208,945	1/4		1/4		1/4		1/4		1/4	
1/2	164,037	1/2	175,730	1/2	187,415	1/2	198,664	1/2	209,156	1/2		1/2		1/2		1/2		1/2	
3/4	164,281	3/4	175,974	3/4	187,657	3/4	198,891	3/4	209,367	3/4		3/4		3/4		3/4		3/4	

STRAPPED: 05/28/2014 CL
CALCULATED: 05/28/2014 CL
PRINTED: 05/29/2014 SW

CANCELS AND SUPERCEDES
ALL PRIOR TO 05/2014

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

PRECISION MEASUREMENT
& ANALYSIS, INC.
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BARGE "CCL 410"

3 STBD

INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-6 1/4"

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	747	0	15,313	0	30,089	0	45,059	0	60,223	0	75,378	0	90,513	0	105,684	0	120,864	0	136,011
1/4	954	1/4	15,629	1/4	30,392	1/4	45,374	1/4	60,539	1/4	75,693	1/4	90,829	1/4	106,000	1/4	121,170	1/4	136,327
1/2	1,162	1/2	15,945	1/2	30,696	1/2	45,690	1/2	60,855	1/2	76,008	1/2	91,145	1/2	106,316	1/2	121,486	1/2	136,643
3/4	1,369	3/4	16,261	3/4	31,000	3/4	46,006	3/4	61,170	3/4	76,324	3/4	91,461	3/4	106,632	3/4	121,802	3/4	136,959
1	1,576	1	16,578	1	31,304	1	46,322	1	61,486	1	76,639	1	91,777	1	106,948	1	122,117	1	137,275
1/4	1,857	1/4	16,894	1/4	31,608	1/4	46,638	1/4	61,802	1/4	76,954	1/4	92,093	1/4	107,264	1/4	122,433	1/4	137,591
1/2	2,138	1/2	17,210	1/2	31,913	1/2	46,954	1/2	62,118	1/2	77,269	1/2	92,409	1/2	107,580	1/2	122,749	1/2	137,907
3/4	2,419	3/4	17,526	3/4	32,217	3/4	47,270	3/4	62,434	3/4	77,584	3/4	92,725	3/4	107,896	3/4	123,065	3/4	138,223
2	2,700	2	17,842	2	32,521	2	47,586	2	62,750	2	77,899	2	93,041	2	108,212	2	123,380	2	138,539
1/4	3,012	1/4	18,158	1/4	32,825	1/4	47,902	1/4	63,066	1/4	78,214	1/4	93,357	1/4	108,528	1/4	123,696	1/4	138,855
1/2	3,324	1/2	18,474	1/2	33,129	1/2	48,218	1/2	63,382	1/2	78,529	1/2	93,673	1/2	108,844	1/2	124,012	1/2	139,171
3/4	3,637	3/4	18,790	3/4	33,433	3/4	48,534	3/4	63,698	3/4	78,844	3/4	93,989	3/4	109,160	3/4	124,328	3/4	139,487
3	3,949	3	19,106	3	33,737	3	48,850	3	64,014	3	79,159	3	94,306	3	109,476	3	124,643	3	139,803
1/4	4,263	1/4	19,421	1/4	34,042	1/4	49,165	1/4	64,330	1/4	79,474	1/4	94,622	1/4	109,792	1/4	124,959	1/4	140,119
1/2	4,577	1/2	19,736	1/2	34,347	1/2	49,481	1/2	64,646	1/2	79,790	1/2	94,938	1/2	110,108	1/2	125,275	1/2	140,436
3/4	4,891	3/4	20,050	3/4	34,653	3/4	49,797	3/4	64,961	3/4	80,105	3/4	95,254	3/4	110,425	3/4	125,591	3/4	140,752
4	5,205	4	20,365	4	34,958	4	50,113	4	65,277	4	80,420	4	95,570	4	110,741	4	125,906	4	141,068
1/4	5,520	1/4	20,669	1/4	35,274	1/4	50,429	1/4	65,593	1/4	80,735	1/4	95,886	1/4	111,057	1/4	126,222	1/4	141,384
1/2	5,835	1/2	20,973	1/2	35,589	1/2	50,745	1/2	65,909	1/2	81,050	1/2	96,202	1/2	111,373	1/2	126,538	1/2	141,700
3/4	6,150	3/4	21,277	3/4	35,905	3/4	51,061	3/4	66,225	3/4	81,365	3/4	96,518	3/4	111,689	3/4	126,854	3/4	142,016
5	6,465	5	21,582	5	36,220	5	51,377	5	66,541	5	81,680	5	96,834	5	112,005	5	127,170	5	142,332
1/4	6,781	1/4	21,886	1/4	36,536	1/4	51,693	1/4	66,857	1/4	81,995	1/4	97,150	1/4	112,321	1/4	127,485	1/4	142,648
1/2	7,096	1/2	22,189	1/2	36,851	1/2	52,009	1/2	67,173	1/2	82,310	1/2	97,466	1/2	112,637	1/2	127,801	1/2	142,964
3/4	7,412	3/4	22,493	3/4	37,167	3/4	52,325	3/4	67,489	3/4	82,625	3/4	97,782	3/4	112,953	3/4	128,117	3/4	143,280
6	7,728	6	22,797	6	37,482	6	52,641	6	67,805	6	82,940	6	98,098	6	113,269	6	128,433	6	143,597
1/4	8,043	1/4	23,101	1/4	37,798	1/4	52,957	1/4	68,121	1/4	83,256	1/4	98,414	1/4	113,585	1/4	128,748	1/4	143,913
1/2	8,359	1/2	23,405	1/2	38,113	1/2	53,272	1/2	68,437	1/2	83,571	1/2	98,730	1/2	113,901	1/2	129,064	1/2	144,229
3/4	8,675	3/4	23,709	3/4	38,429	3/4	53,588	3/4	68,753	3/4	83,886	3/4	99,046	3/4	114,217	3/4	129,380	3/4	144,545
7	8,991	7	24,013	7	38,744	7	53,904	7	69,068	7	84,201	7	99,362	7	114,533	7	129,696	7	144,861
1/4	9,307	1/4	24,316	1/4	39,060	1/4	54,220	1/4	69,384	1/4	84,516	1/4	99,679	1/4	114,849	1/4	130,011	1/4	145,177
1/2	9,623	1/2	24,620	1/2	39,376	1/2	54,536	1/2	69,700	1/2	84,831	1/2	99,995	1/2	115,165	1/2	130,327	1/2	145,493
3/4	9,939	3/4	24,924	3/4	39,691	3/4	54,852	3/4	70,016	3/4	85,146	3/4	100,311	3/4	115,481	3/4	130,643	3/4	145,809
8	10,256	8	25,228	8	40,007	8	55,168	8	70,332	8	85,461	8	100,627	8	115,797	8	130,959	8	146,126
1/4	10,572	1/4	25,532	1/4	40,322	1/4	55,484	1/4	70,648	1/4	85,776	1/4	100,943	1/4	116,114	1/4	131,274	1/4	146,442
1/2	10,888	1/2	25,835	1/2	40,638	1/2	55,800	1/2	70,964	1/2	86,092	1/2	101,259	1/2	116,430	1/2	131,590	1/2	146,758
3/4	11,204	3/4	26,139	3/4	40,953	3/4	56,116	3/4	71,280	3/4	86,407	3/4	101,575	3/4	116,746	3/4	131,906	3/4	147,074
9	11,520	9	26,443	9	41,269	9	56,432	9	71,596	9	86,722	9	101,891	9	117,062	9	132,222	9	147,390
1/4	11,836	1/4	26,746	1/4	41,584	1/4	56,748	1/4	71,911	1/4	87,037	1/4	102,207	1/4	117,378	1/4	132,537	1/4	147,706
1/2	12,152	1/2	27,050	1/2	41,900	1/2	57,063	1/2	72,227	1/2	87,353	1/2	102,523	1/2	117,694	1/2	132,853	1/2	148,022
3/4	12,468	3/4	27,354	3/4	42,216	3/4	57,379	3/4	72,542	3/4	87,669	3/4	102,839	3/4	118,010	3/4	133,169	3/4	148,339
10	12,784	10	27,658	10	42,531	10	57,695	10	72,858	10	87,984	10	103,155	10	118,326	10	133,485	10	148,655
1/4	13,100	1/4	27,961	1/4	42,847	1/4	58,011	1/4	73,173	1/4	88,300	1/4	103,471	1/4	118,642	1/4	133,800	1/4	148,971
1/2	13,417	1/2	28,265	1/2	43,163	1/2	58,327	1/2	73,488	1/2	88,616	1/2	103,787	1/2	118,958	1/2	134,116	1/2	149,287
3/4	13,733	3/4	28,569	3/4	43,479	3/4	58,643	3/4	73,803	3/4	88,933	3/4	104,103	3/4	119,274	3/4	134,432	3/4	149,603
11	14,049	11	28,873	11	43,795	11	58,959	11	74,118	11	89,249	11	104,419	11	119,590	11	134,748	11	149,919
1/4	14,365	1/4	29,177	1/4	44,111	1/4	59,275	1/4	74,433	1/4	89,565	1/4	104,735	1/4	119,906	1/4	135,063	1/4	150,236
1/2	14,681	1/2	29,481	1/2	44,427	1/2	59,591	1/2	74,748	1/2	89,881	1/2	105,052	1/2	120,222	1/2	135,379	1/2	150,552
3/4	14,997	3/4	29,785	3/4	44,743	3/4	59,907	3/4	75,063	3/4	90,197	3/4	105,368	3/4	120,538	3/4	135,695	3/4	150,868

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 TOP OF 2" DIAMETER PIPE.
GAUGE POINT: (2" PIPE) LOCATED 12'-06" OFF CENTERLINE AND 42'-00" FORWARD OF AFT BULKHEAD.

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

PRECISION MEASUREMENT
& ANALYSIS, INC.
P.O. Box 2092
Pearland, Texas 77588
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BARGE "CCL 410"

3 STBD

INNAGE TABLE

CAPACITIES GIVEN IN WHOLE GALLONS

GAUGE HEIGHT 16'-6 1/4"

IN	10 FT.	IN	11 FT.	IN	12 FT.	IN	13 FT.	IN	14 FT.	IN	15 FT.	IN	16 FT.	IN	17 FT.	IN	18 FT.	IN	19 FT.
0	151,184	0	163,700	0	175,378	0	187,044	0	198,250	0	208,695	0		0		0		0	
1/4	151,500	1/4	163,943	1/4	175,621	1/4	187,285	1/4	198,475	1/4	208,904	1/4		1/4		1/4		1/4	
1/2	151,816	1/2	164,186	1/2	175,864	1/2	187,525	1/2	198,701	1/2	209,114	1/2		1/2		1/2		1/2	
3/4	152,132	3/4	164,430	3/4	176,108	3/4	187,765	3/4	198,926	3/4	209,323	3/4		3/4		3/4		3/4	
1	152,448	1	164,673	1	176,351	1	188,005	1	199,152	1	209,533	1		1		1		1	
1/4	152,765	1/4	164,916	1/4	176,594	1/4	188,244	1/4	199,376	1/4	209,741	1/4		1/4		1/4		1/4	
1/2	153,081	1/2	165,159	1/2	176,837	1/2	188,483	1/2	199,600	1/2	209,948	1/2		1/2		1/2		1/2	
3/4	153,397	3/4	165,403	3/4	177,081	3/4	188,722	3/4	199,824	3/4	210,156	3/4		3/4		3/4		3/4	
2	153,713	2	165,646	2	177,324	2	188,960	2	200,049	2	210,364	2		2		2		2	
1/4	154,020	1/4	165,889	1/4	177,567	1/4	189,198	1/4	200,270	1/4	210,576	1/4		1/4		1/4		1/4	
1/2	154,327	1/2	166,133	1/2	177,811	1/2	189,436	1/2	200,492	1/2	210,789	1/2		1/2		1/2		1/2	
3/4	154,634	3/4	166,376	3/4	178,054	3/4	189,674	3/4	200,713	3/4	211,001	3/4		3/4		3/4		3/4	
3	154,941	3	166,619	3	178,297	3	189,911	3	200,935	3	211,214	3		3		3		3	
1/4	155,184	1/4	166,863	1/4	178,540	1/4	190,148	1/4	201,155	1/4	211,488	1/4		1/4		1/4		1/4	
1/2	155,428	1/2	167,106	1/2	178,784	1/2	190,384	1/2	201,376	1/2	211,761	1/2		1/2		1/2		1/2	
3/4	155,671	3/4	167,349	3/4	179,027	3/4	190,621	3/4	201,596	3/4	212,035	3/4		3/4		3/4		3/4	
4	155,914	4	167,592	4	179,270	4	190,857	4	201,817	4	212,309	4		4		4		4	
1/4	156,158	1/4	167,836	1/4	179,514	1/4	191,092	1/4	202,036	1/4	212,564	1/4		1/4		1/4		1/4	
1/2	156,401	1/2	168,079	1/2	179,757	1/2	191,328	1/2	202,255	1/2	212,820	1/2		1/2		1/2		1/2	
3/4	156,644	3/4	168,322	3/4	180,000	3/4	191,563	3/4	202,474	3/4	213,075	3/4		3/4		3/4		3/4	
5	156,888	5	168,566	5	180,243	5	191,798	5	202,693	5	213,331	5		5		5		5	
1/4	157,131	1/4	168,809	1/4	180,487	1/4	192,032	1/4	202,911	1/4	213,523	1/4		1/4		1/4		1/4	
1/2	157,374	1/2	169,052	1/2	180,730	1/2	192,266	1/2	203,129	1/2	213,715	1/2		1/2		1/2		1/2	
3/4	157,618	3/4	169,295	3/4	180,973	3/4	192,500	3/4	203,347	3/4		3/4		3/4		3/4		3/4	
6	157,861	6	169,539	6	181,217	6	192,734	6	203,565	6		6		6		6		6	
1/4	158,104	1/4	169,782	1/4	181,460	1/4	192,967	1/4	203,782	1/4		1/4		1/4		1/4		1/4	
1/2	158,347	1/2	170,025	1/2	181,703	1/2	193,200	1/2	203,999	1/2		1/2		1/2		1/2		1/2	
3/4	158,591	3/4	170,269	3/4	181,946	3/4	193,433	3/4	204,216	3/4		3/4		3/4		3/4		3/4	
7	158,834	7	170,512	7	182,190	7	193,666	7	204,432	7		7		7		7		7	
1/4	159,077	1/4	170,755	1/4	182,433	1/4	193,897	1/4	204,648	1/4		1/4		1/4		1/4		1/4	
1/2	159,321	1/2	170,998	1/2	182,676	1/2	194,129	1/2	204,863	1/2		1/2		1/2		1/2		1/2	
3/4	159,564	3/4	171,242	3/4	182,920	3/4	194,361	3/4	205,079	3/4		3/4		3/4		3/4		3/4	
8	159,807	8	171,485	8	183,163	8	194,592	8	205,294	8		8		8		8		8	
1/4	160,050	1/4	171,728	1/4	183,406	1/4	194,823	1/4	205,509	1/4		1/4		1/4		1/4		1/4	
1/2	160,294	1/2	171,972	1/2	183,649	1/2	195,053	1/2	205,723	1/2		1/2		1/2		1/2		1/2	
3/4	160,537	3/4	172,215	3/4	183,893	3/4	195,283	3/4	205,937	3/4		3/4		3/4		3/4		3/4	
9	160,780	9	172,458	9	184,136	9	195,514	9	206,152	9		9		9		9		9	
1/4	161,024	1/4	172,701	1/4	184,379	1/4	195,743	1/4	206,365	1/4		1/4		1/4		1/4		1/4	
1/2	161,267	1/2	172,945	1/2	184,623	1/2	195,972	1/2	206,578	1/2		1/2		1/2		1/2		1/2	
3/4	161,510	3/4	173,188	3/4	184,866	3/4	196,201	3/4	206,791	3/4		3/4		3/4		3/4		3/4	
10	161,753	10	173,431	10	185,109	10	196,431	10	207,004	10		10		10		10		10	
1/4	161,997	1/4	173,675	1/4	185,352	1/4	196,659	1/4	207,216	1/4		1/4		1/4		1/4		1/4	
1/2	162,240	1/2	173,918	1/2	185,594	1/2	196,887	1/2	207,428	1/2		1/2		1/2		1/2		1/2	
3/4	162,483	3/4	174,161	3/4	185,837	3/4	197,115	3/4	207,640	3/4		3/4		3/4		3/4		3/4	
11	162,727	11	174,404	11	186,079	11	197,343	11	207,852	11		11		11		11		11	
1/4	162,970	1/4	174,648	1/4	186,320	1/4	197,569	1/4	208,063	1/4		1/4		1/4		1/4		1/4	
1/2	163,213	1/2	174,891	1/2	186,562	1/2	197,796	1/2	208,273	1/2		1/2		1/2		1/2		1/2	
3/4	163,456	3/4	175,134	3/4	186,803	3/4	198,023	3/4	208,484	3/4		3/4		3/4		3/4		3/4	

CERTIFIED CHART FOR THE ABOVE NAMED TANK ONLY.

STRAPPED: 05/28/2014 CL
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CANCELS AND SUPERCEDES
ALL PRIOR TO 05/2014

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