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

Certification Date:	11 Mar 2022
Expiration Date:	11 Mar 2027

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 406	1236866			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
MADISONVILLE, LA UNITED STATES	13Jan2012	12Dec2011	R-1619 I-	R-1619 I-		R-297.5 I-0

Owner	Operator
CHEM CARRIERS LLC 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 Engineer	
0 Third Mates	0 Able Seamen	0 Third Assistant Engineers	
0 Master First Class Pilot	0 Ordinary Seamen	0 Licensed Engineers	
0 Mate First Class Pilots	0 Deckhands	0 Qualified Member Engineer	

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

Route Permitted And Conditions Of Operation:

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

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

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

SEE NEXT PAGE FOR ADDITIONAL CERTIFICATE INFORMATION

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

Annual/Periodic/Re-Inspection

Date	Zone	A/P/R	Signature
03Mar2023	SEC CorpChr	A	OLIVARES STEVE
31Jan2024	SEC HouGalvstn	A	STRAYER DAVID
22MAY25	SECHOU-GAL	P	
11 MAY 26	MSU Port Arthur	A	

This Amended certificate issued by:

Joseph W. Morgens, CDR, USCG, By Direction

Officer in Charge, Marine Inspection

Sector Houston-Galveston

Inspection Zone

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

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Certificate of Inspection

Vessel Name: CCL 406

---Hull Exams---

Exam Type	Next Exam	Last Exam	Prior Exam
DryDock	13Jan2032	14Feb2022	13Jan2012
Internal Structure	31Dec2026	14Feb2022	27Dec2016

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

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

Total Capacity	Units	Highest Grade Type	Part151 Regulated	Part153 Regulated	Part154 Regulated
30400	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)
1 P/S	900	13.60
2 P/S	849	13.60
3 P/S	784	13.60

Loading Constraints - Stability

Hull Type	Maximum Load (short tons)	Maximum Draft (ft/in)	Max Density (lbs/gal)	Route Description
II	3943	10ft 0in	13.6	LBS
III	4823	11ft 9in	13.6	LBS

Conditions Of Carriage

Only those cargoes named in the vessel's Cargo Authority Attachment Serial# C1-1103914, dated November 22, 2011 and Grade "A" and lower cargoes may be carried, and then only in the tanks indicated.

Per 46 CFR 150.130, The Person in Charge of the vessel is responsible for ensuring that the compatibility requirements of 46 CFR 150 are met. Cargoes must be checked for compatibility using the figures, tables, and appendices of 46 CFR 150 in conjunction with the compatibility group numbers from the "COMPAT GRP" column listed in the vessel's Cargo Authority Attachment.

Vapor Control Authorization

In accordance with 46 CFR, Part 39, excluding part 39.4000, this vessel's vapor control system has been inspected to the plans approved by Marine Safety Center letters Serial # C1-1103914 dated November 22, 2011 and the list of authorized cargoes on the CAA, Serial C1-1103914 dated November 22, 2011 and found acceptable for collection of bulk liquid cargo vapors annotated with "Yes" in the CAA's VCS column.

When the vessel is carrying cargoes containing greater than 0.5% benzene, the Person in Charge is responsible for ensuring the provisions of 46 CFR 197, Subpart C are applied.

--- Inspection Status ---

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

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Certificate of Inspection

Vessel Name: CCL 406

Cargo Tanks

	Internal Exam			External Exam		
Tank Id	Previous	Last	Next	Previous	Last	Next
1 P/S	13Jan2012	14Feb2022	31Jan2032	-	-	-
2 P/S	13Jan2012	14Feb2022	31Jan2032	-	-	-
3 P/S	13Jan2012	14Feb2022	31Jan2032	-	-	-

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

---Conditional Portable Fire Extinguisher Requirements---

Required Only During Transfer of Cargo or Operation of Barge Machinery

--- Fire Fighting Equipment ---

Number of Fireman Outfits - 0

Fire Extinguishers - Hand portable and semi-portable

Quantity	Class Type
2	40-B

END

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103914
Dated: 22-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: **CCL 406**

Official #: 1236866

Shipyard: Trinity Marine, Madisonville

Hull #: 2199-1

46 CFR 151 Tank Group Characteristics

Tank Group Information		Cargo Identification			Hull Typ	Cargo Seg Tank	Tanks			Cargo Transfer	Environmental Control			Fire Protection Provided	Special Requirements		Elec Haz	Temp Cont
Tnk Grp	Tanks in Group	Density	Press.	Temp.			Type	Vent	Gauge	Pipe Class	Cont	Tanks	Handling Space		General	Materials of Construction		
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	No	N/A	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

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

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103914
Dated: 22-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: **CCL 406**

Official #: 1236866

Shipyard: Trinity Marine, Madisonville

Hull #: 2199-1

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
Cyclohexylamine	CHA	7	O	D	III	A	Yes	1	.58-1(a), (b), (c), (g)	G
Cyclopentadiene, Styrene, Benzene mixture	CSB	30	O	D	III	A	Yes	1	.50-60, .56-1(b)	G
iso-Decyl acrylate	IAI	14	O	E	III	A	Yes	2	.50-70(a), .50-81(a), (b), .55-1(c)	G
Dichlorobenzene (all isomers)	DBX	36	O	E	III	A	Yes	3	.56-1(a), (b)	G
1,1-Dichloroethane	DCH	36	O	C	III	A	Yes	1	No	G
2,2'-Dichloroethyl ether	DEE	41	O	D	II	A	Yes	1	.55-1(f)	G
Dichloromethane	DCM	36	O	NA	III	A	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

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Cargo Authority Attachment

Vessel Name: CCL 406

Official #: 1236866

Shipyard: Trinity Marine, Madisonville

Hull #: 2199-1

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	IPR	30	O	A	III	A	No	N/A	.50-70(a), .50-81(a), (b)	G
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

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Cargo Authority Attachment

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Shipyard: Trinity Marine, Madisonville

Official #: 1236866

Hull #: 2199-1

Cargo Identification						Conditions of Carriage				
Name	Chem Code	Compat Group No	Sub Chapter	Grade	Hull Type	Tank Group	Vapor Recovery App'd (Y or N)	Vapor Recovery VCS Category	Special Requirements in 46 CFR 151 General and Mat'ls of .50-70(a), .50-81, .58-1(a), (b), (c), (	Insp. Period
Vinyltoluene	VNT	13	O	D	III	A	Yes	2		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		

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: **CCL 406**

Official #: 1236866

Shipyard: Trinity Marine, Madisonville

Hull #: 2199-1

Cargo Identification						Conditions of Carriage			
Name	Chem Code	Compat Group No	Sub Chapter	Grade	Hull Type	Tank Group	Vapor Recovery App'd (Y or N)	Vapor Recovery 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		

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103914
Dated: 22-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: CCL 406

Official #: 1236866

Shipyard: Trinity Marine, Madisonville

Hull #: 2199-1

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 #: C1-1103914
Dated: 22-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: **CCL 406**

Official #: 1236866

Shipyard: Trinity Marine, Madisonville

Hull #: 2199-1

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
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 406	1236866	2199-1	2012

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

MADISONVILLE LA

OWNERS

CHEM CARRIERS LLC
COMPRISED OF ONE MEMBER

OPERATIONAL ENDORSEMENTS

COASTWISE

MANAGING OWNER

CHEM CARRIERS LLC
1237 HIGHWAY 75
SUNSHINE LA 70780

RESTRICTIONS

NONE

ENTITLEMENTS

NONE

REMARKS

NONE

ISSUE DATE

JULY 10, 2025

THIS CERTIFICATE EXPIRES

AUGUST 31, 2026

Christopher G. Washburn

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 406	TANKBARGE D		1691	841310 - 21	1/27/2024	1/27/2027	CHEM CARRIERS, L.L.C	D1236866	

< Prev Next >

Ksolv

BARGE PIPING LETTER

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

BARGE OWNER/BARGE NAME: Chem Carriers / CCL406

Letter expiration date (one year from test date): 9-04-26

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

1. Cargo Piping and Valves (actual date of test): 9-04-25

   Test Pressure (188 psi): 188psi

2. Cargo Relief Valve (actual date of test): 9-04-25

   Test Pressure (125 psi): 125psi

3. Cargo Pressure Gauge (actual date of test): 9-04-25

   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:	Jacob Saucedo
Printed Name of Tester:	Jacob Saucedo
Company/Location of Tester:	K-solv 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: 09-04-25
- Barge owner: ChemCarriers
- Barge Name/Official Number: CCL406
- Maximum load rate (BPH): 51500 (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.

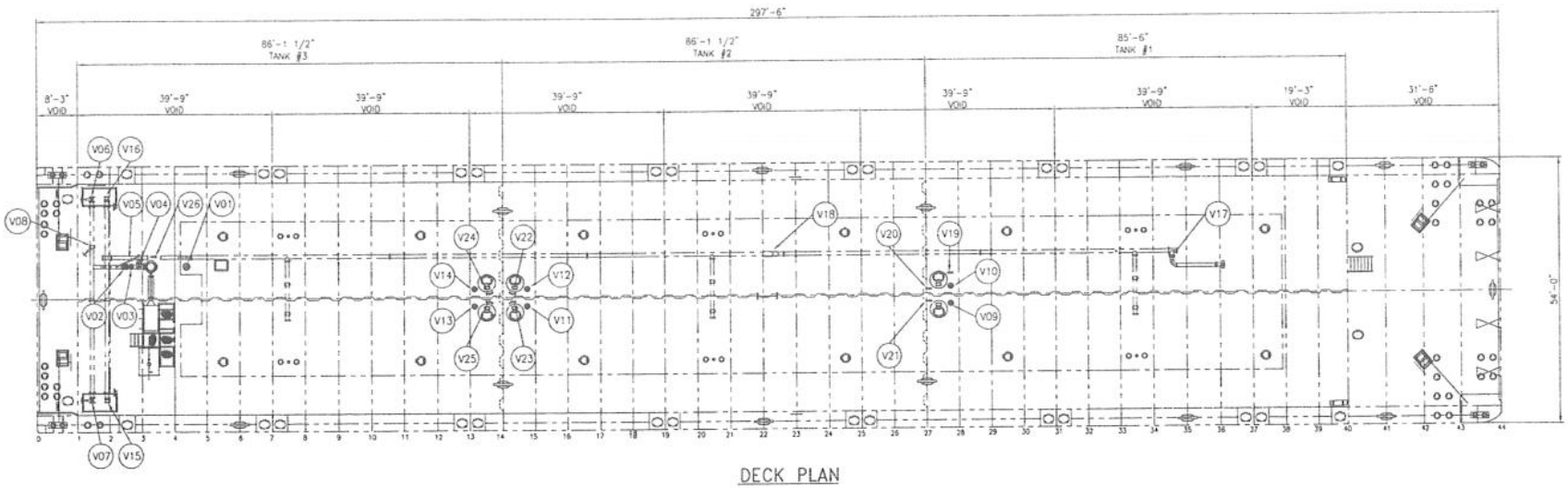
→ Test cargo tanks and Vapor System to 28" inches of water.

→ Start Time: 15:00 Beginning Pressure: 28"

→ End Time: 15:30 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:
K-Sdv Maritime	Channelview TX
Name of Tester (Print):	Signature of Tester:
Jacob Saucedo	Jacob Saucedo
Name of Witness (Print):	Signature of Witness:
Edgar Quiroz	Edgar Quiroz
Affiliation/Company of Witness (Print)	
K-Sdv / Supervisor	



DECK PLAN

CARGO SYSTEM

V01 CARGO PUMP SUCTION VALVE
V02 CARGO PUMP DISCHARGE VALVE
V03 CARGO PUMP DISCHARGE CHECK VALVE
V04 CARGO PUMP RELIEF VALVE
V05 CARGO PUMP BYPASS VALVE
V06 PORT TRANS CARGO HDR BLOCK VALVE
V07 STBD TRANS CARGO HDR BLOCK VALVE
V08 CARGO LOADING VALVE
V09 CARGO SUCTION VALVE-TANK #1S
V10 CARGO SUCTION VALVE-TANK #1P
V11 CARGO SUCTION VALVE-TANK #2S
V12 CARGO SUCTION VALVE-TANK #2P
V13 CARGO SUCTION VALVE-TANK #3S
V14 CARGO SUCTION VALVE-TANK #3P

VAPOR SYSTEM

V15 STBD TRANS VAPOR HDR BLOCK VALVE
V16 PORT TRANS VAPOR HDR BLOCK VALVE
V17 VAPOR STACK BLOCK VALVE
V18 VAPOR P/V VALVE

STRIPPING SYSTEM

V19 STRIPPING VALVE-CARGO HEADER
V20 STRIPPING VALVE-TANK #1P
V21 STRIPPING VALVE-TANK #1S
V22 STRIPPING VALVE-TANK #2P
V23 STRIPPING VALVE-TANK #2S
V24 STRIPPING VALVE-TANK #3P
V25 STRIPPING VALVE-TANK #3S
V26 STRIPPING VALVE-CARGO PUMPWELL

REV	ITEM	DESCRIPTION	DATE	BY
AB		AS-BUILT	1/13/11	MD

REVISIONS

TRINITY MARINE PRODUCTS, INC.
P.O. BOX 700 - Walkerville, La. 70447

CHEM CARRIERS, LLC.

297'-6" X 54'-0" X 12'-0" DOUBLE SKIN TANK BARGE

VALVE LABEL PLATE DIAGRAM

SCALE: 3/32" = 1'-0"	DATE: 10/21/10		DWG NO.
DRAWN BY: SDB	CK'D BY: DG		P-01
YARD: ASHLAND CITY	TAG NO. 96180		SHT 1 OF 1
HULL NO. 4772-4773	SHOP ORDER:		REV AB

PUB 138

Marine Safety Center Form for Tank Vessels Installing a Vapor Control System

1. Vessel Name	CCL 406	Shipyard	Trinity Marine Products, Madisonville, LA
Official Number	Pending	Hull #	2199-1

2. **Purpose:** This form consolidates the information required for VCS approval. Entering the requested information will expedite your approval and significantly decrease the probability the MSC will return the submission for revision.

3. **Tank Design:** Raised Trunk [X] Maximum Design Working Pressure: 3.50 psig

Flush Deck [ ] Existing Raised Trunk Barges need MSC approval letter serial number and date which approved its MDWP

4. Requested Maximum Cargo Transfer Rates

5,000	bbl/hr loading
5,000	bbl/hr discharging

5. Requested Maximum Cargo-Air Mixture Vapor Density:

List the requested cargoes with the (a) highest vapor density and (b) highest pressure drop. They are not always the same cargo.

a. Cargo Name	PTY iso-Pentane	0.378	lbm/ft3
b. Cargo Name	PTY iso-Pentane	0.378	lbm/ft3

6. VCS Categories Requested (list): 5

7. Pressure Drop for the cargo(es) from Section 5 for the following scenarios:

	Cargo A psi	Cargo B psi
a. Most Remote Cargo Tank to P/V valve	0.292	0.292
b. Most Remote Cargo Tank to VCS Facility Connection	0.442	0.442
c. ΔP across P/V valve @ cargoes' Maximum Transfer Rate	3.139	3.139
d. ΔP across Vacuum P/V @ MTR or Max. Discharge Rate	2.488	
e. ΔP across Spill Valve for Max. Density Cargo at MTR	NA	

8. Pressure Vacuum Valve:

Manufacturer	ERL
Model/Size	SUPERAC
CG Approval Number	162.017/0000167/3

Settings in psig:

Pressure-side	3.0
Vacuum-side	3.0

Include the Manufacturer's ΔP versus Flow for both parts of P/V & **Spill Valve:** [x]

9. VCS Pipe Sizes:

Longitudinal Header 8 **Inches** Transverse Headers 8 **Inches**

10. Closed Gauging [x]

Check the box to signify the vessel will have closed gauging meeting 46 CFR 151.151-10(c). MSC Electrical Branch and the OCMI will verify the closed gauging meets these requirements.

11. Tank Overfill Protection System (check appropriate box or boxes and list make/model)

a. High Level/Tank Overfill Alarm	[x]	ERL Level Alert II	**Setting in psig**
b. Overfill Control Shutdown	[x]	ERL Level Alert II	
c. Spill Valve	[ ]		Meets ASTM F1271 [ ]
d. Rupture Disk	[ ]		

If applicalble, Calculations demonstrate compliance with 39.20-9(b)(2). [x]

12. Submittal Includes a Graph or Table showing the ΔP through the VCS piping from the most remote cargo tank to the facility connection as a function of liquid transfer rate for **both** cargoes in Section 5. [X]

13. Submittal Includes a Graph or Table showing the Facility Pressure @ the vessel's vapor connect versus allowable transfer rate. This graph demonstrates the barge can satisfy 46 CFR 39.30-1(d)(3). See MSC "Guidelines" at www.msc.uscg\hq\msc for an example. [X]

14. Previous VCS approval letters**:**

OWNER: Chem Carriers, LLC **CONTRACT: 38193**

DESCRIPTION: Double Skin Trail Rake Inland Tank Barge **BY: MEC**

SIZE: 297'-6"x54'-0"x12'-0" **DATE: 26-Oct-2011**

HULL/NAME: 2199-1/CCL 406

TABLE 1 - VAPOR CONTROL SYSTEM CALCULATIONS

	CHRIS CODE	NAME	COMP GROUP	SUB CHAP	GRADE	HULL TYPE	VCS CAT	REST.	LIQ SG	VAPOR PRESS	VAPOR SG	VAPOR AIR WEIGHT DENSITY	VAPOR GROWTH RATE	VAPOR FLOW RATE (bbl/h)	AIR EQUIV FLOW RATE (bbl/hr)	PRESSURE DROP TO PV VALVE IN VCS (LOADING) (psig)	PRESSURE DROP TO SHORE CONN IN VCS (LOADING)* (psig)
1	ABX	Ammonium bisulfite solution (70% or less)	43	O	NA	III	N/A	.50-73, .56-1(a), (b), (c)	0.880	0.330	4.480	0.088	1.007	5033	5192	0.044	0.067
2	ACN	Acrylonitrile	15	O	C	II	4	.50-70(a), .55-1(e)	0.810	5.000	1.800	0.102	1.100	5500	6088	0.061	0.092
3	ADN	Adiponitrile	37	O	E	II	1	No	0.950	0.010	3.730	0.083	1.000	5001	5003	0.041	0.062
4	AEE	Aminoethylethanolamine	8	O	E	III	1	.55-1(b)	1.030	0.010	3.590	0.083	1.000	5001	5003	0.041	0.062
5	AHO	Anthracene oil (Coal tar fraction)	33	O	NA	II	N/A	No	1.030	0.010	3.590	0.083	1.000	5001	5003	0.041	0.062
6	AMH	Ammonium hydroxide (28% or less NH3)	6	O	NA	III	N/A	.56-1(a), (b), (c), (f), (g)	0.940	10.600	2.640	0.165	1.212	6060	8529	0.119	0.181
7	ATN	Acetonitrile	37	O	C	III	3	No	0.780	0.030	1.410	0.083	1.001	5003	5003	0.041	0.062
8	BAR	Butyl acrylate (all isomers)	14	O	D	III	2	.50-70(a), .50-81(a), (b)	0.880	0.600	4.420	0.093	1.012	5060	5344	0.047	0.071
9	BHA	Benzene or hydrocarbon mixtures (containing Acetylene and 10% Benzene or more)	32	O	NA	III	1	.50-60, .56-1(b), (d), (f), (g)	0.880	0.800	4.000	0.094	1.250	6250	6658	0.073	0.110
10	BHB	Benzene or hydrocarbon mixtures (having 10% Benzene or more)	32	O	NA	III	1	.50-60	0.880	0.800	4.000	0.094	1.250	6250	6658	0.073	0.110
11	BMN	Butyl Methacrylate	14	O	D	III	2	.50-70(a), .50-81(a), (b)	0.880	0.290	4.900	0.088	1.006	5029	5186	0.044	0.067
12	BNZ	Benzene	32	O	C	III	1	.50-60	0.880	4.500	2.800	0.121	1.250	6250	7544	0.093	0.142
13	BTX	Benzene, Toluene, Xylene mixtures (10% Benzene or more)	32	O	B/C	III	1	.50-60	0.840	7.300	2.800	0.145	1.250	6250	8248	0.112	0.169
14	CBT	Carbon tetrachloride	36	O	NA	III	N/A	No	1.590	5.400	5.490	0.197	1.108	5540	8526	0.119	0.181
15	CCH	Cyclohexanone	18	O	D	III	1	.56-1(a), (b)	0.950	0.200	3.400	0.085	1.004	5020	5086	0.042	0.064
16	CCW	Creosote	21	O	E	III	1	No	0.950	0.200	3.400	0.085	1.004	5020	5086	0.042	0.064
17	CHA	Cyclohexylamine	7	O	D	III	1	.56-1(a), (b), (c), (g)	0.870	0.620	3.420	0.090	1.012	5062	5271	0.046	0.069
18	DCM	Dichloromethane	36	O	NA	III	N/A	No	1.340	19.000	3.000	0.322	1.250	6250	12304	0.248	0.376
19	DEE	2,2'-Dichloroethyl ether	41	O	D	II	1	.55-1(f)	1.220	0.040	4.900	0.084	1.001	5004	5025	0.041	0.063
20	DEN	Diethylamine	7	O	C	III	3	.55-1(c)	0.710	1.000	2.500	0.090	1.020	5100	5310	0.046	0.070
21	DET	Diethylenetriamine	7	O	E	III	1	.55-1(c)	0.950	0.040	3.480	0.083	1.001	5004	5017	0.041	0.063
22	DIA	Diisopropylamine	7	O	C	II	3	.55-1(c)	0.720	3.700	3.500	0.126	1.074	5370	6624	0.072	0.109
23	DIP	Diisopropanolamine	8	O	E	III	1	.55-1(c)	0.980	0.010	4.590	0.083	1.000	5001	5005	0.041	0.062
24	DMB	Dimethylethanolamine	8	O	D	III	1	.56-1(b), (c)	0.890	0.516	3.030	0.088	1.010	5052	5197	0.044	0.067
25	DMF	Dimethylformamide	10	O	D	III	1	.55-1(e)	0.950	0.300	2.510	0.085	1.006	5030	5093	0.043	0.064
26	DMX	Dichloropropene, Dichloropropane mixtures.	15	O	NA	II	1	No	0.892	9.200	1.550	0.107	1.184	5920	6711	0.074	0.112
27	DNA	Di-n-propylamine	7	O	C	II	3	.55-1(c)	0.740	1.450	3.500	0.100	1.029	5145	5646	0.052	0.079
28	DOT	Dodecyldimethylamine, Tetradecyldimethylamine mixture	7	O	E	III	N/A	.56-1(b)	0.990	0.010	13.450	0.084	1.000	5001	5017	0.041	0.063
29	DPB	1,1-Dichloropropane	36	O	C	III	3	No	1.040	1.800	3.000	0.100	1.036	5180	5681	0.053	0.080
30	DPC	1,3-Dichloropropane	36	O	C	III	3	No	1.040	1.800	3.000	0.100	1.036	5180	5681	0.053	0.080
31	DPP	1,2-Dichloropropane	36	O	C	III	3	No	1.160	2.500	3.890	0.117	1.050	5250	6228	0.064	0.096
32	DPU	1,3-Dichloropropene	15	O	D	II	4	No	1.230	5.500	3.840	0.156	1.110	5550	7613	0.095	0.144
33	DTI	2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution.	43	O	NA	III	N/A	.56-1(a), (b), (c), (g)	1.180	0.010	5.300	0.083	1.000	5001	5006	0.041	0.062
34	EAC	Ethyl acrylate	14	O	C	III	2	.50-70(a), .50-81(a), (b)	0.930	2.000	3.500	0.106	1.040	5200	5887	0.057	0.086
35	EAI	2-Ethylhexyl acrylate	14	O	E	III	2	.50-70(a), .50-81(a), (b)	0.890	0.015	6.350	0.083	1.000	5002	5011	0.041	0.062
36	EAN	Ethylamine solution (72% or less)	7	O	A	II	N/A	.55-1(b)	0.800	15.500	1.560	0.137	1.250	6250	8014	0.105	0.160
37	EBA	N-Ethylbutylamine	7	O	D	III	3	.55-1(b)	0.719	1.598	0.286	0.078	1.032	5160	4989	0.041	0.062
38	ECC	N-Ethylcyclohexylamine	7	O	D	III	1	.55-1(b)	0.850	0.585	4.400	0.092	1.012	5059	5334	0.047	0.071
39	EDA	Ethylenediamine	7	O	D	III	1	.55-1(c)	0.910	0.900	2.100	0.088	1.018	5090	5229	0.045	0.068
40	EDC	Ethylene dichloride	36	O	C	III	1	No	1.260	4.000	3.420	0.128	1.080	5400	6714	0.074	0.112
41	EGC	Ethylene glycol monoalkyl ethers	40	O	D/E	III	1	No	0.970	0.200	4.720	0.087	1.004	5020	5123	0.043	0.065
42	EGH	Ethylene glycol hexyl ether	40	O	E	III	N/A	No	0.930	0.170	3.100	0.085	1.003	5017	5066	0.042	0.064
43	EGP	Ethylene glycol propyl ether	40	O	E	III	1	No	0.908	0.025	3.600	0.083	1.001	5003	5010	0.041	0.062
44	EPA	2-Ethyl-3-propylacrolein	19	O	E	III	1	No	0.850	0.120	4.350	0.085	1.002	5012	5067	0.042	0.064
45	ETC	Ethylene cyanohydrin	20	O	E	III	1	No	1.040	0.010	2.450	0.083	1.000	5001	5002	0.041	0.062
46	ETM	Ethyl methacrylate	14	O	D/E	III	2	.50-70(a)	0.920	1.000	3.940	0.097	1.020	5100	5506	0.050	0.075
47	GTA	Glutaraldehyde solution (50% or less)	19	O	NA	III	N/A	No	1.124	0.010	3.400	0.083	1.000	5001	5003	0.041	0.062

OWNER: Chem Carriers, LLC **CONTRACT: 38193**

DESCRIPTION: Double Skin Trail Rake Inland Tank Barge **BY: MEC**

SIZE: 297'-6"x54'-0"x12'-0" **DATE: 26-Oct-2011**

HULL/NAME: 2199-1/CCL 406

TABLE 1 - VAPOR CONTROL SYSTEM CALCULATIONS

	CHRIS CODE	NAME	COMP GROUP	SUB CHAP	GRADE	HULL TYPE	VCS CAT	REST.	LIQ SG	VAPOR PRESS	VAPOR SG	VAPOR AIR WEIGHT DENSITY	VAPOR GROWTH RATE	VAPOR FLOW RATE (bbl/h)	AIR EQUIV FLOW RATE (bbl/hr)	PRESSURE DROP TO PV VALVE IN VCS (LOADING) (psig)	PRESSURE DROP TO SHORE CONN IN VCS (LOADING)* (psig)
48	HMC	Hexamethylenediamine solution	7	O	E	III	1	.55-1(c)	1.210	10.500	1.260	0.096	1.210	6050	6498	0.069	0.105
49	HMI	Hexamethyleneimine	7	O	C	II	1	.56-1(b), (c)	0.880	5.600	0.104	0.059	1.112	5560	4705	0.036	0.055
50	IAI	iso-Decyl acrylate	14	O	E	III	2	.50-70(a), .50-81(a), (b), .55-1(c)	0.890	0.010	7.300	0.083	1.000	5001	5008	0.041	0.062
51	IPP	iso-Propylamine	7	O	A	II	5	.55-1(c)	0.690	23.100	2.030	0.265	1.250	6250	11160	0.204	0.310
52	IPR	Isoprene	30	O	A	III	N/A	.50-70(a), .50-81(a), (b)	0.672	11.300	1.772	0.124	1.226	6130	7488	0.092	0.139
53	KPL	Kraft pulping liquors (free alkali content 3% or more) (including: Black, Green, or White liquor)	5	O	NA	III	N/A	.50-73, .56-1(a), (c), (g)	0.800	10.060	2.960	0.175	1.201	6006	8730	0.125	0.190
54	MAM	Methyl acrylate	14	O	C	III	2	.50-70(a), .50-81(a), (b)	0.950	4.100	3.000	0.121	1.082	5410	6542	0.070	0.106
55	MCK	Methylcyclopentadiene dimer	30	O	C	III	1	No	0.941	0.040	0.930	0.083	1.001	5004	5002	0.041	0.062
56	MEA	Ethanolamine	8	O	E	III	1	.55-1(c)	1.020	0.030	2.100	0.083	1.001	5003	5006	0.041	0.062
57	MEP	2-Methyl-5-ethylpyridine	9	O	E	III	1	.55-1(e)	0.920	0.160	4.180	0.085	1.003	5016	5086	0.042	0.064
58	MMM	Methyl methacrylate	14	O	C	III	2	.50-70(a), .50-81(a), (b)	0.940	2.020	3.450	0.106	1.040	5202	5883	0.057	0.086
59	MPA	iso-Propanolamine	8	O	E	III	1	.55-1(c)	0.960	0.080	2.590	0.084	1.002	5008	5025	0.041	0.063
60	MPL	Morpholine	7	O	D	III	1	.55-1(c)	1.000	0.800	3.000	0.091	1.016	5080	5303	0.046	0.070
61	MPR	2-Methylpyridine	9	O	D	III	3	.55-1(c)	0.940	2.065	3.200	0.104	1.041	5207	5835	0.056	0.085
62	MSO	Mesityl oxide	18	O	D	III	1	No	0.860	0.670	3.500	0.091	1.013	5067	5300	0.046	0.070
63	MSR	alpha-Methylstyrene	30	O	D	III	2	.50-70(a), .50-81(a), (b)	0.890	0.400	4.080	0.089	1.008	5040	5211	0.045	0.068
64	NCT	Coal tar naphtha solvent	33	O	D	III	1	.50-73	1.410	3.600	2.170	0.103	1.072	5360	5962	0.058	0.088
65	NPM	1- or 2-Nitropropane	42	O	D	III	1	.50-81	0.990	1.050	3.060	0.093	1.021	5105	5406	0.048	0.073
66	PAX	Propanolamine (iso-, n-)	8	O	E	III	1	.56-1(b), (c)	0.870	1.900	3.520	0.105	1.038	5190	5848	0.056	0.085
67	PDE	1,3-Pentadiene	30	O	A	III	N/A	.50-70(a), .50-81	0.680	17.060	2.360	0.227	1.250	6250	10341	0.176	0.266
68	PEB	Polyethylene polyamines	7	O	E	III	1	.55-1(e)	0.994	8.300	4.550	0.221	1.166	5830	9514	0.149	0.225
69	PER	Perchloroethylene	36	O	NA	III	N/A	No	1.620	1.230	5.830	0.111	1.025	5123	5919	0.058	0.087
70	PRD	Pyridine	9	O	C	III	1	.55-1(e)	0.980	1.300	2.720	0.093	1.026	5130	5443	0.049	0.074
71	SAU	Sodium aluminate solution (45% or less)	5	O	NA	III	N/A	.50-73, .56-1(a), (b), (c)	0.850	0.010	0.010	0.083	1.000	5001	4998	0.041	0.062
72	SDD	Sodium chlorate solution (50% or less)	0	O	NA	III	N/A	.50-73	0.850	0.010	0.010	0.083	1.000	5001	4998	0.041	0.062
73	SSH	Sodium sulfide, hydrosulfide solution (H2S 15 ppm or less)	0	O	NA	III	1	.50-73, .55-1(b)	1.280	1.510	1.170	0.084	1.030	5151	5187	0.044	0.067
74	SSI	Sodium sulfide, hydrosulfide solution (H2S greater than 15 ppm but less than 200 ppm)	0	O	NA	III	N/A	.50-73, .55-1(b)	1.280	1.510	1.170	0.084	1.030	5151	5187	0.044	0.067
75	SSJ	Sodium sulfide, hydrosulfidesolutions (H2S greater than200ppm)	0	O	NA	II	N/A	.50-73, .55-1(b)	1.280	1.510	1.170	0.084	1.030	5151	5187	0.044	0.067
76	STY	Styrene monomer	30	O	D	III	2	.50-70(a), .50-81(a), (b)	0.920	0.400	3.600	0.088	1.008	5040	5185	0.044	0.067
77	TCB	1,2,4-Trichlorobenzene	36	O	E	III	1	No	1.450	0.010	6.260	0.083	1.000	5001	5007	0.041	0.062
78	TCL	Trichloroethylene	36	O	NA	III	1	No	1.470	3.500	4.540	0.141	1.070	5350	6974	0.080	0.121
79	TCM	1,1,2-Trichloroethane	36	O	NA	III	1	.50-73, .56-1(a)	1.430	0.010	4.550	0.083	1.000	5001	5005	0.041	0.062
80	TCN	1,2,3-Trichloropropane	36	O	E	II	3	.50-73, .56-1(a)	1.390	0.150	5.600	0.086	1.003	5015	5110	0.043	0.065
81	TEA	Triethanolamine	8	O	E	III	1	.55-1(b)	1.130	0.010	5.140	0.083	1.000	5001	5005	0.041	0.062
82	TEC	1,1,2,2-Tetrachloroethane	36	O	NA	III	N/A	No	1.600	1.000	5.800	0.106	1.020	5100	5748	0.054	0.082
83	TEN	Triethylamine	7	O	C	II	3	.55-1(e)	0.730	2.500	3.490	0.112	1.050	5250	6102	0.061	0.093
84	TET	Triethylenetetramine	7	O	E	III	1	.55-1(b)	0.980	0.010	5.040	0.083	1.000	5001	5005	0.041	0.062
85	THF	Tetrahydrofuran	41	O	C	III	1	.50-70(b)	0.890	8.500	1.350	0.097	1.170	5850	6321	0.066	0.099
86	TPB	Triphenylborane (10% or less), caustic soda solution	5	O	NA	III	N/A	.56-1(a), (b), (c)	0.870	1.500	3.140	0.098	1.030	5150	5596	0.051	0.078
87	UAS	Urea, Ammonium nitrate solution (containing more than 2% NH3)	6	O	NA	III	N/A	.56-1(b)	1.000	0.010	6.800	0.083	1.000	5001	5008	0.041	0.062
88	VAM	Vinyl acetate	13	O	C	III	2	.50-70(a), .50-81(a), (b)	0.940	5.800	2.970	0.137	1.116	5580	7156	0.084	0.127
89	VNT	Vinyltoluene	13	O	D	III	2	.50-70(a), .50-81, .56-1(a), (b), (c), (g)	0.900	0.120	4.080	0.085	1.002	5012	5063	0.042	0.064
90	ACP	Acetophenone	18	D	E	NA	1	NA	1.030	0.600	4.140	0.092	1.012	5060	5321	0.046	0.070
91	ACT	Acetone	18	D	C	NA	1	NA	0.790	10.000	2.000	0.130	1.200	6000	7504	0.092	0.140
92	BAL	Benzyl alcohol	21	D	E	NA	1	NA	1.050	0.100	3.730	0.084	1.002	5010	5047	0.042	0.063
93	BAN	Butyl alcohol (n-)	0	D	D	NA	1	NA	0.810	0.500	2.600	0.087	1.010	5050	5161	0.044	0.066

OWNER: Chem Carriers, LLC **CONTRACT: 38193**

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94	BAS	Butyl alcohol (sec-)	0	D	C	NA	1	NA	0.810	1.300	2.600	0.093	1.026	5130	5422	0.048	0.073
95	BAT	Butyl alcohol (tert-)	0	D	C	NA	1	NA	0.780	2.800	2.600	0.104	1.056	5280	5909	0.057	0.087
96	BAX	Butyl acetate (all isomers)	34	D	D	NA	1	NA	0.870	0.600	4.000	0.091	1.012	5060	5310	0.046	0.070
97	BPH	Butyl benzyl phthalate	34	D	E	NA	1	NA	1.120	0.010	10.800	0.083	1.000	5001	5013	0.041	0.063
98	BUE	Butyl toluene	32	D	D	NA	1	NA	0.850	0.100	5.110	0.085	1.002	5010	5066	0.042	0.064
99	CHN	Cyclohexanol	20	D	E	NA	1	NA	0.940	0.200	3.500	0.085	1.004	5020	5089	0.043	0.064
100	CHX	Cyclohexane	31	D	C	NA	1	NA	0.780	4.500	2.900	0.123	1.090	5450	6635	0.072	0.109
101	CLS	Caprolactam solutions	22	D	E	NA	1	NA	1.060	0.700	3.900	0.093	1.014	5070	5351	0.047	0.071
102	CMP	p-Cymene	32	D	D	NA	1	NA	0.860	0.460	4.620	0.091	1.009	5046	5277	0.046	0.069
103	CPD	1,3-Cyclopentadiene dimer (molten)	30	D	D/E	NA	2	NA	0.690	0.250	4.550	0.087	1.005	5025	5148	0.044	0.066
104	DAA	Diacetone alcohol	20	D	E	NA	1	NA	0.940	0.100	4.000	0.084	1.002	5010	5051	0.042	0.063
105	DAX	Decyl alcohol (all isomers)	20	D	E	NA	1	NA	0.830	5.800	2.970	0.137	1.116	5580	7156	0.084	0.127
106	DBL	Diisobutylene	30	D	C	NA	1	NA	0.720	2.200	3.970	0.114	1.044	5220	6106	0.061	0.093
107	DCE	Decene	30	D	D	NA	1	NA	0.740	0.120	5.300	0.085	1.002	5012	5083	0.042	0.064
108	DDB	Dodecylbenzene, see Alkyl(C9+)benzenes	32	D	E	NA	1	NA	0.860	4.700	8.400	0.246	1.094	5470	9416	0.146	0.220
109	DDO	Diphenyl, Diphenyl ether mixtures	33	D	E	NA	1	NA	1.070	0.010	5.870	0.083	1.000	5001	5006	0.041	0.062
110	DEB	Diethylbenzene	32	D	D	NA	1	NA	0.870	0.080	4.620	0.084	1.002	5008	5047	0.042	0.063
111	DEG	Diethylene glycol	40	D	E	NA	1	NA	1.120	0.010	3.660	0.083	1.000	5001	5003	0.041	0.062
112	DIK	Diisobutyl ketone	18	D	D	NA	1	NA	0.810	0.480	4.900	0.092	1.010	5048	5307	0.046	0.070
113	DOP	Dioctyl phthalate	34	D	E	NA	1	NA	0.990	0.010	13.450	0.084	1.000	5001	5017	0.041	0.063
114	DPG	Dipropylene glycol	40	D	E	NA	1	NA	1.030	0.070	4.630	0.084	1.001	5007	5041	0.042	0.063
115	EAL	Ethyl alcohol	20	D	C	NA	1	NA	0.790	3.500	1.600	0.093	1.070	5350	5657	0.053	0.080
116	EBT	Ethyl butanol	20	D	D	NA	1	NA	0.830	0.140	3.400	0.085	1.003	5014	5060	0.042	0.064
117	EGL	Ethylene glycol	20	D	E	NA	1	NA	1.130	0.010	2.210	0.083	1.000	5001	5001	0.041	0.062
118	EGY	Ethylene glycol diacetate	34	D	E	NA	1	NA	1.130	0.010	1.000	0.083	1.000	5001	5000	0.041	0.062
119	EHX	2-Ethylhexanol	20	D	E	NA	1	NA	0.830	0.015	4.500	0.083	1.000	5002	5008	0.041	0.062
120	ETA	Ethyl acetate	34	D	C	NA	1	NA	0.900	4.500	3.040	0.126	1.090	5450	6714	0.074	0.112
121	ETB	Ethylbenzene	32	D	C	NA	1	NA	0.870	0.600	3.660	0.090	1.012	5060	5282	0.046	0.069
122	ETG	Ethoxy triglycol (crude)	40	D	E	NA	1	NA	1.020	0.010	6.140	0.083	1.000	5001	5007	0.041	0.062
123	FAL	Furfuryl alcohol	20	D	E	NA	1	NA	1.290	0.100	3.370	0.084	1.002	5010	5042	0.042	0.063
124	GAT	Gasolines: Automotive (containing not over 4.23 grams lead per gallon)	33	D	C	NA	1	NA	0.760	12.500	3.400	0.224	1.250	6250	10257	0.173	0.262
125	GCR	Glycerine	20	D	E	NA	1	NA	1.260	0.010	3.170	0.083	1.000	5001	5003	0.041	0.062
126	HMX	Heptane (all isomers), see Alkanes (C6-C9) (all isomers)	31	D	C	NA	1	NA	0.680	2.500	3.450	0.112	1.050	5250	6089	0.061	0.092
127	HPX	Heptene (all isomers)	30	D	C	NA	2	NA	0.700	2.900	3.400	0.116	1.058	5290	6242	0.064	0.097
128	HXG	Hexylene glycol	20	D	E	NA	1	NA	0.920	0.010	4.000	0.083	1.000	5001	5004	0.041	0.062
129	HXN	Hexanol	20	D	D	NA	1	NA	0.820	1.000	3.520	0.095	1.020	5100	5449	0.049	0.074
130	IAC	iso-Propyl acetate	34	D	C	NA	1	NA	0.880	3.100	3.520	0.120	1.062	5310	6373	0.067	0.101
131	IAL	Butyl alcohol (iso-)	20	D	D	NA	1	NA	0.810	0.900	2.600	0.090	1.018	5090	5292	0.046	0.070
132	IDA	iso-Decaldehyde	19	D	E	NA	1	NA	0.830	0.060	5.380	0.084	1.001	5006	5042	0.042	0.063
133	IPA	iso-Propyl alcohol	20	D	C	NA	1	NA	0.790	3.000	2.070	0.098	1.060	5300	5759	0.054	0.082
134	IPH	Isophorone	18	D	E	NA	1	NA	0.930	0.010	4.750	0.083	1.000	5001	5005	0.041	0.062
135	KRS	Kerosene	33	D	D	NA	1	NA	0.810	0.150	4.500	0.085	1.003	5015	5087	0.042	0.064
136	MAC	Methylamyl acetate	34	D	D	NA	1	NA	0.860	0.340	5.000	0.089	1.007	5034	5222	0.045	0.068
137	MAL	Methyl alcohol	20	D	C	NA	1	NA	0.790	7.000	1.100	0.086	1.140	5700	5810	0.055	0.084
138	MBE	Methyl tert-butyl ether	41	D	C	NA	1	NA	0.740	0.040	3.100	0.083	1.001	5004	5014	0.041	0.063
139	MEK	Methyl ethyl ketone	18	D	C	NA	1	NA	0.800	4.500	2.500	0.115	1.090	5450	6404	0.067	0.102
140	MIK	Methyl isobutyl ketone	18	D	C	NA	1	NA	0.800	1.200	3.450	0.097	1.024	5120	5527	0.050	0.076
141	MNS	Mineral spirits	33	D	D	NA	1	NA	0.750	0.200	4.300	0.086	1.004	5020	5111	0.043	0.065
142	MTT	Methyl acetate	34	D	D	NA	1	NA	0.920	6.100	2.600	0.129	1.122	5610	6986	0.080	0.121
143	NNP	Nonyl phenol	21	D	E	NA	1	NA	0.940	0.010	7.590	0.083	1.000	5001	5009	0.041	0.062
144	NSS	Naphtha: Stoddard solvent	33	D	D	NA	1	NA	0.780	0.200	0.010	0.082	1.004	5020	4990	0.041	0.062
145	NSV	Naphtha: Solvent	33	D	D	NA	1	NA	0.870	0.200	3.500	0.085	1.004	5020	5089	0.043	0.064

OWNER: Chem Carriers, LLC **CONTRACT: 38193**

DESCRIPTION: Double Skin Trail Rake Inland Tank Barge **BY: MEC**

SIZE: 297'-6"x54'-0"x12'-0" **DATE: 26-Oct-2011**

HULL/NAME: 2199-1/CCL 406

TABLE 1 - VAPOR CONTROL SYSTEM CALCULATIONS

	CHRIS CODE	NAME	COMP GROUP	SUB CHAP	GRADE	HULL TYPE	VCS CAT	REST.	LIQ SG	VAPOR PRESS	VAPOR SG	VAPOR AIR WEIGHT DENSITY	VAPOR GROWTH RATE	VAPOR FLOW RATE (bbl/h)	AIR EQUIV FLOW RATE (bbl/hr)	PRESSURE DROP TO PV VALVE IN VCS (LOADING) (psig)	PRESSURE DROP TO SHORE CONN IN VCS (LOADING)* (psig)
146	NVM	Naphtha: Varnish makers and painters (75%)	33	D	C	NA	1	NA	0.770	0.190	0.010	0.082	1.004	5019	4991	0.041	0.062
147	ODS	Oil, misc: Diesel	33	D	D/E	NA	1	NA	0.900	5.800	2.970	0.137	1.116	5580	7156	0.084	0.127
148	OIL	Oil, misc: Crude	33	D	C/D	NA	1	NA	0.950	5.800	2.970	0.137	1.116	5580	7156	0.084	0.127
149	OSX	Oil, fuel: No. 6	33	D	E	NA	1	NA	0.950	0.149	2.970	0.084	1.003	5015	5055	0.042	0.064
150	OTW	Oil, fuel: No. 2	33	D	D/E	NA	1	NA	0.880	0.560	8.000	0.101	1.011	5056	5586	0.051	0.078
151	PAL	n-Propyl alcohol	20	D	C	NA	1	NA	0.800	1.200	2.070	0.089	1.024	5120	5301	0.046	0.070
152	PAT	n-Propyl acetate	34	D	C	NA	1	NA	0.870	1.900	3.520	0.105	1.038	5190	5848	0.056	0.085
153	PBY	Propylbenzene (all isomers)	32	D	D	NA	1	NA	0.860	0.600	4.200	0.092	1.012	5060	5326	0.047	0.071
154	PLB	Polybutene	30	D	E	NA	1	NA	0.910	0.010	0.010	0.083	1.000	5001	4998	0.041	0.062
156	PTE	Pentene (all isomers)	31	D	A	III	5	NA	0.637	24.945	2.500	0.352	1.250	6250	12870	0.272	0.412
155	PTY	iso-Pentane	30	D	A	III	5	NA	0.620	27.000	2.480	0.378	1.250	6250	13335	0.292	0.442
157	TCP	Tricresyl phosphate (less than 1% of the ortho isomer)	34	D	E	NA	1	NA	1.170	0.010	12.700	0.084	1.000	5001	5016	0.041	0.063
158	TEB	Triethylbenzene	32	D	E	NA	1	NA	0.860	0.050	5.600	0.084	1.001	5005	5036	0.042	0.063
159	TEG	Triethylene glycol	40	D	E	NA	1	NA	1.120	0.010	5.170	0.083	1.000	5001	5005	0.041	0.062
160	THN	Tetrahydronaphthalene	32	D	E	NA	1	NA	0.980	0.040	4.550	0.084	1.001	5004	5023	0.041	0.063
161	TOL	Toluene	32	D	C	NA	1	NA	0.870	1.500	3.140	0.098	1.030	5150	5596	0.051	0.078
162	TTG	Tetraethylene glycol	40	D	E	NA	1	NA	1.130	0.010	6.700	0.083	1.000	5001	5008	0.041	0.062
Max Vapor Density Cargo		PTY iso-Pentane	30	D	A	III	5	NA	0.620	27.000	2.480	0.378	1.250	6250	13335	0.292	0.442
Max Pressure Drop Cargo		PTY iso-Pentane	30	D	A	III	5	NA	0.620	27.000	2.480	0.378	1.250	6250	13335	0.292	0.442

CARGO TRANSFER PROCEDURES

CHEM CARRIERS L.L.C.

TRANSFER FROM BARGE TO DOCK

PARTS

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

Barge CCL 406

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 406 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 406. 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 1-800-424-9300.
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 406 (1236866) 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

FORM 1/4L15W REV #2 7/98

INSPECTORATE
ISO 9001: 2000

Barge "CCL-406"

CHEM CARRIERS, LLC

INNAGE TABLE

1 PORT OR STAR

BARGE SHOULD BE ON EVEN-LEVEL KEEL WHEN GAUGES ARE TAKEN

HULL NO. 2199-1

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.	IN	10 FT.	IN	11 FT.	IN	12 FT.	IN	13 FT.	IN	14 FT.
0	* 696	0	14,307	0	30,248	0	46,453	0	62,657	0	78,862	0	95,066	0	111,270	0	127,475	0	143,679	0	159,884	0	176,088	0	192,292	0	208,497	0	224,701
1/4	880	1/4	14,626	1/4	30,586	1/4	46,790	1/4	62,995	1/4	79,199	1/4	95,404	1/4	111,608	1/4	127,812	1/4	144,017	1/4	160,221	1/4	176,426	1/4	192,630	1/4	208,834	1/4	225,039
1/2	1,064	1/2	14,946	1/2	30,923	1/2	47,128	1/2	63,332	1/2	79,537	1/2	95,741	1/2	111,946	1/2	128,150	1/2	144,354	1/2	160,559	1/2	176,763	1/2	192,968	1/2	209,172	1/2	225,376
3/4	1,248	3/4	15,265	3/4	31,261	3/4	47,466	3/4	63,670	3/4	79,874	3/4	96,079	3/4	112,283	3/4	128,488	3/4	144,692	3/4	160,896	3/4	177,101	3/4	193,305	3/4	209,510	3/4	225,714
1	1,432	1	15,584	1	31,599	1	47,803	1	64,008	1	80,212	1	96,416	1	112,621	1	128,825	1	145,030	1	161,234	1	177,438	1	193,643	1	209,847	1	226,052
1/4	1,677	1/4	15,904	1/4	31,936	1/4	48,141	1/4	64,345	1/4	80,550	1/4	96,754	1/4	112,958	1/4	129,163	1/4	145,367	1/4	161,572	1/4	177,776	1/4	193,980	1/4	210,185	1/4	226,361
1/2	1,922	1/2	16,223	1/2	32,274	1/2	48,478	1/2	64,683	1/2	80,887	1/2	97,092	1/2	113,296	1/2	129,500	1/2	145,705	1/2	161,909	1/2	178,114	1/2	194,318	1/2	210,522	1/2	226,671
3/4	2,167	3/4	16,542	3/4	32,611	3/4	48,816	3/4	65,020	3/4	81,225	3/4	97,429	3/4	113,634	3/4	129,838	3/4	146,042	3/4	162,247	3/4	178,451	3/4	194,656	3/4	210,860	3/4	226,980
2	2,412	2	16,862	2	32,949	2	49,153	2	65,358	2	81,562	2	97,767	2	113,971	2	130,176	2	146,380	2	162,584	2	178,789	2	194,993	2	211,198	2	227,290
1/4	2,695	1/4	17,188	1/4	33,287	1/4	49,491	1/4	65,695	1/4	81,900	1/4	98,104	1/4	114,309	1/4	130,513	1/4	146,718	1/4	162,922	1/4	179,126	1/4	195,331	1/4	211,535	1/4	227,543
1/2	2,978	1/2	17,515	1/2	33,624	1/2	49,829	1/2	66,033	1/2	82,237	1/2	98,442	1/2	114,646	1/2	130,851	1/2	147,055	1/2	163,260	1/2	179,464	1/2	195,668	1/2	211,873	1/2	227,796
3/4	3,261	3/4	17,842	3/4	33,962	3/4	50,166	3/4	66,371	3/4	82,575	3/4	98,779	3/4	114,984	3/4	131,188	3/4	147,393	3/4	163,597	3/4	179,802	3/4	196,006	3/4	212,210	3/4	228,049
3	3,543	3	18,168	3	34,299	3	50,504	3	66,708	3	82,913	3	99,117	3	115,321	3	131,526	3	147,730	3	163,935	3	180,139	3	196,344	3	212,548	3	228,302
1/4	3,826	1/4	18,495	1/4	34,637	1/4	50,841	1/4	67,046	1/4	83,250	1/4	99,455	1/4	115,659	1/4	131,864	1/4	148,068	1/4	164,272	1/4	180,477	1/4	196,681	1/4	212,886	1/4	228,499
1/2	4,109	1/2	18,821	1/2	34,975	1/2	51,179	1/2	67,383	1/2	83,588	1/2	99,792	1/2	115,997	1/2	132,201	1/2	148,406	1/2	164,610	1/2	180,814	1/2	197,019	1/2	213,223	1/2	228,696
3/4	4,392	3/4	19,148	3/4	35,312	3/4	51,517	3/4	67,721	3/4	83,925	3/4	100,130	3/4	116,334	3/4	132,539	3/4	148,743	3/4	164,948	3/4	181,152	3/4	197,356	3/4	213,561	3/4	228,893
4	4,674	4	19,475	4	35,650	4	51,854	4	68,059	4	84,263	4	100,467	4	116,672	4	132,876	4	149,081	4	165,285	4	181,490	4	197,694	4	213,898	4	229,090
1/4	4,964	1/4	19,809	1/4	35,987	1/4	52,192	1/4	68,396	1/4	84,601	1/4	100,805	1/4	117,009	1/4	133,214	1/4	149,418	1/4	165,623	1/4	181,827	1/4	198,032	1/4	214,236	1/4	229,231
1/2	5,254	1/2	20,142	1/2	36,325	1/2	52,529	1/2	68,734	1/2	84,938	1/2	101,143	1/2	117,347	1/2	133,551	1/2	149,756	1/2	165,960	1/2	182,165	1/2	198,369	1/2	214,574	1/2	229,371
3/4	5,544	3/4	20,476	3/4	36,663	3/4	52,867	3/4	69,071	3/4	85,276	3/4	101,480	3/4	117,685	3/4	133,889	3/4	150,093	3/4	166,298	3/4	182,502	3/4	198,707	3/4	214,911	3/4	229,512
5	5,835	5	20,810	5	37,000	5	53,205	5	69,409	5	85,613	5	101,818	5	118,022	5	134,227	5	150,431	5	166,635	5	182,840	5	199,044	5	215,249	5	229,653
1/4	6,125	1/4	21,144	1/4	37,338	1/4	53,542	1/4	69,747	1/4	85,951	1/4	102,155	1/4	118,360	1/4	134,564	1/4	150,769	1/4	166,973	1/4	183,177	1/4	199,382	1/4	215,586	1/4	229,737
1/2	6,415	1/2	21,478	1/2	37,675	1/2	53,880	1/2	70,084	1/2	86,289	1/2	102,493	1/2	118,697	1/2	134,902	1/2	151,106	1/2	167,311	1/2	183,515	1/2	199,719	1/2	215,924	1/2	229,821
3/4	6,705	3/4	21,812	3/4	38,013	3/4	54,217	3/4	70,422	3/4	86,626	3/4	102,831	3/4	119,035	3/4	135,239	3/4	151,444	3/4	167,648	3/4	183,853	3/4	200,057	3/4	216,262	3/4	229,906
6	6,995	6	22,146	6	38,351	6	54,555	6	70,759	6	86,964	6	103,168	6	119,373	6	135,577	6	151,781	6	167,986	6	184,190	6	200,395	6	216,599	6	229,990
1/4	7,292	1/4	22,484	1/4	38,688	1/4	54,893	1/4	71,097	1/4	87,301	1/4	103,506	1/4	119,710	1/4	135,915	1/4	152,119	1/4	168,323	1/4	184,528	1/4	200,732	1/4	216,937	1/4	230,018
1/2	7,590	1/2	22,821	1/2	39,026	1/2	55,230	1/2	71,435	1/2	87,639	1/2	103,843	1/2	120,048	1/2	136,252	1/2	152,457	1/2	168,661	1/2	184,865	1/2	201,070	1/2	217,274	1/2	230,047
3/4	7,887	3/4	23,159	3/4	39,363	3/4	55,568	3/4	71,772	3/4	87,977	3/4	104,181	3/4	120,385	3/4	136,590	3/4	152,794	3/4	168,999	3/4	185,203	3/4	201,407	3/4	217,612	3/4	230,075
7	8,184	7	23,496	7	39,701	7	55,905	7	72,110	7	88,314	7	104,519	7	120,723	7	136,927	7	153,132	7	169,336	7	185,541	7	201,745	7	217,949	7	230,103
1/4	8,482	1/4	23,834	1/4	40,038	1/4	56,243	1/4	72,447	1/4	88,652	1/4	104,856	1/4	121,061	1/4	137,265	1/4	153,469	1/4	169,674	1/4	185,878	1/4	202,083	1/4	218,287	1/4	
1/2	8,779	1/2	24,172	1/2	40,376	1/2	56,580	1/2	72,785	1/2	88,989	1/2	105,194	1/2	121,398	1/2	137,603	1/2	153,807	1/2	170,011	1/2	186,216	1/2	202,420	1/2	218,625	1/2	
3/4	9,076	3/4	24,509	3/4	40,714	3/4	56,918	3/4	73,122	3/4	89,327	3/4	105,531	3/4	121,736	3/4	137,940	3/4	154,145	3/4	170,349	3/4	186,553	3/4	202,758	3/4	218,962	3/4	
8	9,374	8	24,847	8	41,051	8	57,256	8	73,460	8	89,665	8	105,869	8	122,073	8	138,278	8	154,482	8	170,687	8	186,891	8	203,095	8	219,300	8	
1/4	9,678	1/4	25,184	1/4	41,389	1/4	57,593	1/4	73,798	1/4	90,002	1/4	106,207	1/4	122,411	1/4	138,615	1/4	154,820	1/4	171,024	1/4	187,229	1/4	203,433	1/4	219,637	1/4	
1/2	9,983	1/2	25,522	1/2	41,726	1/2	57,931	1/2	74,135	1/2	90,340	1/2	106,544	1/2	122,749	1/2	138,953	1/2	155,157	1/2	171,362	1/2	187,566	1/2	203,771	1/2	219,975	1/2	
3/4	10,288	3/4	25,860	3/4	42,064	3/4	58,268	3/4	74,473	3/4	90,677	3/4	106,882	3/4	123,086	3/4	139,291	3/4	155,495	3/4	171,699	3/4	187,904	3/4	204,108	3/4	220,313	3/4	
9	10,592	9	26,197	9	42,402	9	58,606	9	74,810	9	91,015	9	107,219	9	123,424	9	139,628	9	155,833	9	172,037	9	188,241	9	204,446	9	220,650	9	
1/4	10,897	1/4	26,535	1/4	42,739	1/4	58,944	1/4	75,148	1/4	91,352	1/4	107,557	1/4	123,761	1/4	139,966	1/4	156,170	1/4	172,375	1/4	188,579	1/4	204,783	1/4	220,988	1/4	
1/2	11,202	1/2	26,872	1/2	43,077	1/2	59,281	1/2	75,486	1/2	91,690	1/2	107,894	1/2	124,099	1/2	140,303	1/2	156,508	1/2	172,712	1/2	188,917	1/2	205,121	1/2	221,325	1/2	
3/4	11,507	3/4	27,210	3/4	43,414	3/4	59,619	3/4	75,823	3/4	92,028	3/4	108,232	3/4	124,436	3/4	140,641	3/4	156,845	3/4	173,050	3/4	189,254	3/4	205,459	3/4	221,663	3/4	
10	11,811	10	27,548	10	43,752	10	59,956	10	76,161	10	92,365	10	108,570	10	124,774	10	140,978	10	157,183	10	173,387	10	189,592	10	205,796	10	222,001	10	
1/4	12,123	1/4	27,885	1/4	44,090	1/4	60,294	1/4	76,498	1/4	92,703	1/4	108,907	1/4	125,112	1/4	141,316	1/4	157,520	1/4	173,725	1/4	189,929	1/4	206,134	1/4	222,338	1/4	
1/2	12,435	1/2	28,223	1/2	44,427	1/2	60,632	1/2	76,836	1/2	93,040	1/2	109,245	1/2	125,449	1/2	141,654	1/2	157,858	1/2	174,063	1/2	190,267	1/2	206,471	1/2	222,676	1/2	
3/4	12,747	3/4	28,560	3/4	44,765	3/4	60,969	3/4	77,174	3/4	93,378	3/4	109,582	3/4	125,787	3/4	141,991	3/4	158,196	3/4	174,400	3/4	190,605	3/4	206,809	3/4	223,013	3/4	
11	13,059	11	28,898	11	45,102	11	61,307	11	77,511	11	93,716	11	109,920	11	126,124	11	142,329	11	158,533	11	174,738	11	190,942	11	207,147	11	223,351	11	
1/4	13,371	1/4	29,236	1/4	45,440	1/4	61,644	1/4	77,849	1/4	94,053	1/4	110,258	1/4	126,462	1/4	142,666	1/4	158,871	1/4	175,075	1/4	191,280	1/4	207,484	1/4	223,689	1/4	
1/2	13,683	1/2	29,573	1/2	45,778	1/2	61,982	1/2	78,186	1/2	94,391	1/2	110,595	1/2	126,800	1/2	143,004	1/2	159,208	1/2	175,413	1/2	191,617	1/2	207,822	1/2	224,026	1/2	
3/4	13,995	3/4	29,911	3/4	46,115	3/4	62,320	3/4	78,524	3/4	94,728	3/4	110,933	3/4	127,137	3/4	143,342	3/4	159,546	3/4	175,750	3/4	191,955	3/4	208,159	3/4	224,364	3/4	

CAPACITIES GIVEN U.S. GALLONS

* CAPACITY BELOW STRIKE POINT.

PORT REFERENCE GAUGE HEIGHT : 15'-8 1/2" (TO RIM OF 2" DIAMETER BALL VALVE LOCATED NEAR CENTER OF TANK)

STAR REFERENCE GAUGE HEIGHT : 15'-8 3/4" (TO RIM OF 2" DIAMETER BALL VALVE LOCATED NEAR CENTER OF TANK)

STRAPPED: 1/2/12

WE CERTIFY ALL MEASUREMENTS AND COMPUTATIONS ARE IN ACCORDANCE WITH APPLICABLE API STANDARDS AND ARE TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE.

INSPECTORATE AMERICA CORPORATION

FORM 1/4L15W REV #2 7/98

INSPECTORATE
ISO 9001: 2000

Barge "CCL-406"

CHEM CARRIERS, LLC

INNAGE TABLE

2 PORT OR STAR

BARGE SHOULD BE ON EVEN-LEVEL KEEL WHEN GAUGES ARE TAKEN

HULL NO. 2199-1

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.	IN	10 FT.	IN	11 FT.	IN	12 FT.	IN	13 FT.	IN	14 FT.
0	* 640	0	15,098	0	30,186	0	45,273	0	60,361	0	75,449	0	90,537	0	105,625	0	120,713	0	135,801	0	150,889	0	165,977	0	181,064	0	196,152	0	211,240
1/4	836	1/4	15,412	1/4	30,500	1/4	45,588	1/4	60,676	1/4	75,764	1/4	90,851	1/4	105,939	1/4	121,027	1/4	136,115	1/4	151,203	1/4	166,291	1/4	181,379	1/4	196,467	1/4	211,555
1/2	1,033	1/2	15,726	1/2	30,814	1/2	45,902	1/2	60,990	1/2	76,078	1/2	91,166	1/2	106,254	1/2	121,342	1/2	136,429	1/2	151,517	1/2	166,605	1/2	181,693	1/2	196,781	1/2	211,869
3/4	1,229	3/4	16,041	3/4	31,129	3/4	46,216	3/4	61,304	3/4	76,392	3/4	91,480	3/4	106,568	3/4	121,656	3/4	136,744	3/4	151,832	3/4	166,920	3/4	182,007	3/4	197,095	3/4	212,183
1	1,425	1	16,355	1	31,443	1	46,531	1	61,619	1	76,707	1	91,794	1	106,882	1	121,970	1	137,058	1	152,146	1	167,234	1	182,322	1	197,410	1	212,498
1/4	1,700	1/4	16,669	1/4	31,757	1/4	46,845	1/4	61,933	1/4	77,021	1/4	92,109	1/4	107,197	1/4	122,285	1/4	137,372	1/4	152,460	1/4	167,548	1/4	182,636	1/4	197,724	1/4	212,785
1/2	1,975	1/2	16,984	1/2	32,072	1/2	47,159	1/2	62,247	1/2	77,335	1/2	92,423	1/2	107,511	1/2	122,599	1/2	137,687	1/2	152,775	1/2	167,863	1/2	182,950	1/2	198,038	1/2	213,073
3/4	2,250	3/4	17,298	3/4	32,386	3/4	47,474	3/4	62,562	3/4	77,650	3/4	92,737	3/4	107,825	3/4	122,913	3/4	138,001	3/4	153,089	3/4	168,177	3/4	183,265	3/4	198,353	3/4	213,361
2	2,524	2	17,612	2	32,700	2	47,788	2	62,876	2	77,964	2	93,052	2	108,140	2	123,228	2	138,315	2	153,403	2	168,491	2	183,579	2	198,667	2	213,649
1/4	2,839	1/4	17,927	1/4	33,015	1/4	48,102	1/4	63,190	1/4	78,278	1/4	93,366	1/4	108,454	1/4	123,542	1/4	138,630	1/4	153,718	1/4	168,806	1/4	183,893	1/4	198,981	1/4	213,885
1/2	3,153	1/2	18,241	1/2	33,329	1/2	48,417	1/2	63,505	1/2	78,593	1/2	93,680	1/2	108,768	1/2	123,856	1/2	138,944	1/2	154,032	1/2	169,120	1/2	184,208	1/2	199,296	1/2	214,120
3/4	3,467	3/4	18,555	3/4	33,643	3/4	48,731	3/4	63,819	3/4	78,907	3/4	93,995	3/4	109,083	3/4	124,171	3/4	139,258	3/4	154,346	3/4	169,434	3/4	184,522	3/4	199,610	3/4	214,356
3	3,782	3	18,870	3	33,958	3	49,045	3	64,133	3	79,221	3	94,309	3	109,397	3	124,485	3	139,573	3	154,661	3	169,749	3	184,836	3	199,924	3	214,591
1/4	4,096	1/4	19,184	1/4	34,272	1/4	49,360	1/4	64,448	1/4	79,536	1/4	94,623	1/4	109,711	1/4	124,799	1/4	139,887	1/4	154,975	1/4	170,063	1/4	185,151	1/4	200,239	1/4	214,775
1/2	4,410	1/2	19,498	1/2	34,586	1/2	49,674	1/2	64,762	1/2	79,850	1/2	94,938	1/2	110,026	1/2	125,114	1/2	140,201	1/2	155,289	1/2	170,377	1/2	185,465	1/2	200,553	1/2	214,958
3/4	4,725	3/4	19,813	3/4	34,901	3/4	49,988	3/4	65,076	3/4	80,164	3/4	95,252	3/4	110,340	3/4	125,428	3/4	140,516	3/4	155,604	3/4	170,692	3/4	185,779	3/4	200,867	3/4	215,141
4	5,039	4	20,127	4	35,215	4	50,303	4	65,391	4	80,479	4	95,566	4	110,654	4	125,742	4	140,830	4	155,918	4	171,006	4	186,094	4	201,182	4	215,324
1/4	5,353	1/4	20,441	1/4	35,529	1/4	50,617	1/4	65,705	1/4	80,793	1/4	95,881	1/4	110,969	1/4	126,057	1/4	141,144	1/4	156,232	1/4	171,320	1/4	186,408	1/4	201,496	1/4	215,455
1/2	5,668	1/2	20,756	1/2	35,844	1/2	50,931	1/2	66,019	1/2	81,107	1/2	96,195	1/2	111,283	1/2	126,371	1/2	141,459	1/2	156,547	1/2	171,635	1/2	186,722	1/2	201,810	1/2	215,586
3/4	5,982	3/4	21,070	3/4	36,158	3/4	51,246	3/4	66,334	3/4	81,422	3/4	96,509	3/4	111,597	3/4	126,685	3/4	141,773	3/4	156,861	3/4	171,949	3/4	187,037	3/4	202,125	3/4	215,717
5	6,296	5	21,384	5	36,472	5	51,560	5	66,648	5	81,736	5	96,824	5	111,912	5	127,000	5	142,087	5	157,175	5	172,263	5	187,351	5	202,439	5	215,848
1/4	6,611	1/4	21,699	1/4	36,787	1/4	51,874	1/4	66,962	1/4	82,050	1/4	97,138	1/4	112,226	1/4	127,314	1/4	142,402	1/4	157,490	1/4	172,578	1/4	187,665	1/4	202,753	1/4	215,926
1/2	6,925	1/2	22,013	1/2	37,101	1/2	52,189	1/2	67,277	1/2	82,365	1/2	97,452	1/2	112,540	1/2	127,628	1/2	142,716	1/2	157,804	1/2	172,892	1/2	187,980	1/2	203,068	1/2	216,005
3/4	7,239	3/4	22,327	3/4	37,415	3/4	52,503	3/4	67,591	3/4	82,679	3/4	97,767	3/4	112,855	3/4	127,942	3/4	143,030	3/4	158,118	3/4	173,206	3/4	188,294	3/4	203,382	3/4	216,083
6	7,554	6	22,642	6	37,730	6	52,817	6	67,905	6	82,993	6	98,081	6	113,169	6	128,257	6	143,345	6	158,433	6	173,520	6	188,608	6	203,696	6	216,162
1/4	7,868	1/4	22,956	1/4	38,044	1/4	53,132	1/4	68,220	1/4	83,307	1/4	98,395	1/4	113,483	1/4	128,571	1/4	143,659	1/4	158,747	1/4	173,835	1/4	188,923	1/4	204,011	1/4	216,188
1/2	8,182	1/2	23,270	1/2	38,358	1/2	53,446	1/2	68,534	1/2	83,622	1/2	98,710	1/2	113,798	1/2	128,885	1/2	143,973	1/2	159,061	1/2	174,149	1/2	189,237	1/2	204,325	1/2	216,214
3/4	8,497	3/4	23,585	3/4	38,672	3/4	53,760	3/4	68,848	3/4	83,936	3/4	99,024	3/4	114,112	3/4	129,200	3/4	144,288	3/4	159,376	3/4	174,463	3/4	189,551	3/4	204,639	3/4	216,240
7	8,811	7	23,899	7	38,987	7	54,075	7	69,163	7	84,250	7	99,338	7	114,426	7	129,514	7	144,602	7	159,690	7	174,778	7	189,866	7	204,954	7	216,267
1/4	9,125	1/4	24,213	1/4	39,301	1/4	54,389	1/4	69,477	1/4	84,565	1/4	99,653	1/4	114,741	1/4	129,828	1/4	144,916	1/4	160,004	1/4	175,092	1/4	190,180	1/4	205,268	1/4	
1/2	9,440	1/2	24,528	1/2	39,615	1/2	54,703	1/2	69,791	1/2	84,879	1/2	99,967	1/2	115,055	1/2	130,143	1/2	145,231	1/2	160,319	1/2	175,406	1/2	190,494	1/2	205,582	1/2	
3/4	9,754	3/4	24,842	3/4	39,930	3/4	55,018	3/4	70,106	3/4	85,193	3/4	100,281	3/4	115,369	3/4	130,457	3/4	145,545	3/4	160,633	3/4	175,721	3/4	190,809	3/4	205,897	3/4	
8	10,068	8	25,156	8	40,244	8	55,332	8	70,420	8	85,508	8	100,596	8	115,684	8	130,771	8	145,859	8	160,947	8	176,035	8	191,123	8	206,211	8	
1/4	10,383	1/4	25,471	1/4	40,558	1/4	55,646	1/4	70,734	1/4	85,822	1/4	100,910	1/4	115,998	1/4	131,086	1/4	146,174	1/4	161,262	1/4	176,349	1/4	191,437	1/4	206,525	1/4	
1/2	10,697	1/2	25,785	1/2	40,873	1/2	55,961	1/2	71,049	1/2	86,136	1/2	101,224	1/2	116,312	1/2	131,400	1/2	146,488	1/2	161,576	1/2	176,664	1/2	191,752	1/2	206,840	1/2	
3/4	11,011	3/4	26,099	3/4	41,187	3/4	56,275	3/4	71,363	3/4	86,451	3/4	101,539	3/4	116,627	3/4	131,714	3/4	146,802	3/4	161,890	3/4	176,978	3/4	192,066	3/4	207,154	3/4	
9	11,326	9	26,414	9	41,501	9	56,589	9	71,677	9	86,765	9	101,853	9	116,941	9	132,029	9	147,117	9	162,205	9	177,292	9	192,380	9	207,468	9	
1/4	11,640	1/4	26,728	1/4	41,816	1/4	56,904	1/4	71,992	1/4	87,079	1/4	102,167	1/4	117,255	1/4	132,343	1/4	147,431	1/4	162,519	1/4	177,607	1/4	192,695	1/4	207,783	1/4	
1/2	11,954	1/2	27,042	1/2	42,130	1/2	57,218	1/2	72,306	1/2	87,394	1/2	102,482	1/2	117,570	1/2	132,657	1/2	147,745	1/2	162,833	1/2	177,921	1/2	193,009	1/2	208,097	1/2	
3/4	12,269	3/4	27,357	3/4	42,444	3/4	57,532	3/4	72,620	3/4	87,708	3/4	102,796	3/4	117,884	3/4	132,972	3/4	148,060	3/4	163,148	3/4	178,235	3/4	193,323	3/4	208,411	3/4	
10	12,583	10	27,671	10	42,759	10	57,847	10	72,935	10	88,022	10	103,110	10	118,198	10	133,286	10	148,374	10	163,462	10	178,550	10	193,638	10	208,726	10	
1/4	12,897	1/4	27,985	1/4	43,073	1/4	58,161	1/4	73,249	1/4	88,337	1/4	103,425	1/4	118,513	1/4	133,600	1/4	148,688	1/4	163,776	1/4	178,864	1/4	193,952	1/4	209,040	1/4	
1/2	13,212	1/2	28,300	1/2	43,387	1/2	58,475	1/2	73,563	1/2	88,651	1/2	103,739	1/2	118,827	1/2	133,915	1/2	149,003	1/2	164,091	1/2	179,178	1/2	194,266	1/2	209,354	1/2	
3/4	13,526	3/4	28,614	3/4	43,702	3/4	58,790	3/4	73,878	3/4	88,965	3/4	104,053	3/4	119,141	3/4	134,229	3/4	149,317	3/4	164,405	3/4	179,493	3/4	194,581	3/4	209,669	3/4	
11	13,840	11	28,928	11	44,016	11	59,104	11	74,192	11	89,280	11	104,368	11	119,456	11	134,543	11	149,631	11	164,719	11	179,807	11	194,895	11	209,983	11	
1/4	14,155	1/4	29,243	1/4	44,330	1/4	59,418	1/4	74,506	1/4	89,594	1/4	104,682	1/4	119,770	1/4	134,858	1/4	149,946	1/4	165,034	1/4	180,121	1/4	195,209	1/4	210,297	1/4	
1/2	14,469	1/2	29,557	1/2	44,645	1/2	59,733	1/2	74,821	1/2	89,908	1/2	104,996	1/2	120,084	1/2	135,172	1/2	150,260	1/2	165,348	1/2	180,436	1/2	195,524	1/2	210,612	1/2	
3/4	14,783	3/4	29,871	3/4	44,959	3/4	60,047	3/4	75,135	3/4	90,223	3/4	105,311	3/4	120,399	3/4	135,486	3/4	150,574	3/4	165,662	3/4	180,750	3/4	195,838	3/4	210,926	3/4	

CAPACITIES GIVEN U.S. GALLONS

STRAPPED: 1/2/12

* CAPACITY BELOW STRIKE POINT.

REFERENCE GAUGE HEIGHT : 15'-9" (TO RIM OF 2" DIAMETER BALL VALVE LOCATED NEAR CENTER OF TANK)

WE CERTIFY ALL MEASUREMENTS AND COMPUTATIONS ARE IN ACCORDANCE WITH APPLICABLE API STANDARDS AND ARE TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE.

INSPECTORATE AMERICA CORPORATION

FORM 1/4L15W REV #2 7/58

INSPECTORATE
ISO 9001: 2000

Barge "CCL-406"

CHEM CARRIERS, LLC

INNAGE TABLE

3 PORT OR STAR

BARGE SHOULD BE ON EVEN-LEVEL KEEL WHEN GAUGES ARE TAKEN

HULL NO. 2199-1

N	0 FT.	N	1 FT.	N	2 FT.	N	3 FT.	N	4 FT.	N	5 FT.	N	6 FT.	N	7 FT.	N	8 FT.	N	9 FT.	N	10 FT.	N	11 FT.	N	12 FT.	N	13 FT.	N	14 FT.
0	* 639	0	15,087	0	30,165	0	45,243	0	60,321	0	75,399	0	90,477	0	105,556	0	120,634	0	135,712	0	149,398	0	160,973	0	172,345	0	183,698	0	195,052
1/4	835	1/4	15,401	1/4	30,479	1/4	45,557	1/4	60,635	1/4	75,714	1/4	90,792	1/4	105,870	1/4	120,948	1/4	136,026	1/4	149,641	1/4	161,214	1/4	172,581	1/4	183,935	1/4	195,289
1/2	1,031	1/2	15,715	1/2	30,793	1/2	45,871	1/2	60,950	1/2	76,028	1/2	91,106	1/2	106,184	1/2	121,262	1/2	136,340	1/2	149,883	1/2	161,455	1/2	172,818	1/2	184,171	1/2	195,525
3/4	1,228	3/4	16,029	3/4	31,107	3/4	46,186	3/4	61,264	3/4	76,342	3/4	91,420	3/4	106,498	3/4	121,576	3/4	136,654	3/4	150,124	3/4	161,696	3/4	173,054	3/4	184,408	3/4	195,762
1	1,424	1	16,344	1	31,422	1	46,500	1	61,578	1	76,656	1	91,734	1	106,812	1	121,890	1	136,968	1	150,366	1	161,937	1	173,291	1	184,645	1	195,998
1/4	1,698	1/4	16,658	1/4	31,736	1/4	46,814	1/4	61,892	1/4	76,970	1/4	92,048	1/4	107,126	1/4	122,204	1/4	137,282	1/4	150,607	1/4	162,174	1/4	173,527	1/4	184,881	1/4	196,215
1/2	1,973	1/2	16,972	1/2	32,050	1/2	47,128	1/2	62,206	1/2	77,284	1/2	92,362	1/2	107,440	1/2	122,518	1/2	137,597	1/2	150,848	1/2	162,410	1/2	173,764	1/2	185,118	1/2	196,431
3/4	2,247	3/4	17,286	3/4	32,364	3/4	47,442	3/4	62,520	3/4	77,598	3/4	92,676	3/4	107,754	3/4	122,833	3/4	137,911	3/4	151,089	3/4	162,647	3/4	174,000	3/4	185,354	3/4	196,648
2	2,522	2	17,600	2	32,678	2	47,756	2	62,834	2	77,912	2	92,990	2	108,069	2	123,147	2	138,225	2	151,330	2	162,883	2	174,237	2	185,591	2	196,864
1/4	2,836	1/4	17,914	1/4	32,992	1/4	48,070	1/4	63,148	1/4	78,227	1/4	93,305	1/4	108,383	1/4	123,461	1/4	138,539	1/4	151,571	1/4	163,120	1/4	174,473	1/4	185,827	1/4	197,040
1/2	3,150	1/2	18,228	1/2	33,306	1/2	48,384	1/2	63,463	1/2	78,541	1/2	93,619	1/2	108,697	1/2	123,775	1/2	138,853	1/2	151,812	1/2	163,356	1/2	174,710	1/2	186,064	1/2	197,217
3/4	3,464	3/4	18,542	3/4	33,620	3/4	48,699	3/4	63,777	3/4	78,855	3/4	93,933	3/4	109,011	3/4	124,089	3/4	139,167	3/4	152,053	3/4	163,593	3/4	174,947	3/4	186,300	3/4	197,393
3	3,778	3	18,857	3	33,935	3	49,013	3	64,091	3	79,169	3	94,247	3	109,325	3	124,403	3	139,481	3	152,294	3	163,829	3	175,183	3	186,537	3	197,569
1/4	4,093	1/4	19,171	1/4	34,249	1/4	49,327	1/4	64,405	1/4	79,483	1/4	94,561	1/4	109,639	1/4	124,717	1/4	139,795	1/4	152,535	1/4	164,066	1/4	175,420	1/4	186,773	1/4	197,705
1/2	4,407	1/2	19,485	1/2	34,563	1/2	49,641	1/2	64,719	1/2	79,797	1/2	94,875	1/2	109,953	1/2	125,031	1/2	140,110	1/2	152,776	1/2	164,302	1/2	175,656	1/2	187,010	1/2	197,841
3/4	4,721	3/4	19,799	3/4	34,877	3/4	49,955	3/4	65,033	3/4	80,111	3/4	95,189	3/4	110,267	3/4	125,346	3/4	140,424	3/4	153,017	3/4	164,539	3/4	175,893	3/4	187,246	3/4	197,977
4	5,035	4	20,113	4	35,191	4	50,269	4	65,347	4	80,425	4	95,504	4	110,582	4	125,660	4	140,738	4	153,258	4	164,775	4	176,129	4	187,483	4	198,113
1/4	5,349	1/4	20,427	1/4	35,505	1/4	50,583	1/4	65,661	1/4	80,740	1/4	95,818	1/4	110,896	1/4	125,974	1/4	141,052	1/4	153,499	1/4	165,012	1/4	176,366	1/4	187,719	1/4	198,209
1/2	5,663	1/2	20,741	1/2	35,819	1/2	50,897	1/2	65,976	1/2	81,054	1/2	96,132	1/2	111,210	1/2	126,288	1/2	141,366	1/2	153,741	1/2	165,249	1/2	176,602	1/2	187,956	1/2	198,305
3/4	5,977	3/4	21,055	3/4	36,134	3/4	51,212	3/4	66,290	3/4	81,368	3/4	96,446	3/4	111,524	3/4	126,602	3/4	141,680	3/4	153,982	3/4	165,485	3/4	176,839	3/4	188,193	3/4	198,401
5	6,291	5	21,370	5	36,448	5	51,526	5	66,604	5	81,682	5	96,760	5	111,838	5	126,916	5	141,994	5	154,223	5	165,722	5	177,075	5	188,429	5	198,497
1/4	6,606	1/4	21,684	1/4	36,762	1/4	51,840	1/4	66,918	1/4	81,996	1/4	97,074	1/4	112,152	1/4	127,230	1/4	142,308	1/4	154,464	1/4	165,958	1/4	177,312	1/4	188,666	1/4	198,553
1/2	6,920	1/2	21,998	1/2	37,076	1/2	52,154	1/2	67,232	1/2	82,310	1/2	97,388	1/2	112,466	1/2	127,544	1/2	142,623	1/2	154,705	1/2	166,195	1/2	177,548	1/2	188,902	1/2	198,608
3/4	7,234	3/4	22,312	3/4	37,390	3/4	52,468	3/4	67,546	3/4	82,624	3/4	97,702	3/4	112,780	3/4	127,859	3/4	142,937	3/4	154,946	3/4	166,431	3/4	177,785	3/4	189,139	3/4	198,664
6	7,548	6	22,626	6	37,704	6	52,782	6	67,860	6	82,938	6	98,017	6	113,095	6	128,173	6	143,251	6	155,187	6	166,668	6	178,022	6	189,375	6	198,720
1/4	7,862	1/4	22,940	1/4	38,018	1/4	53,096	1/4	68,174	1/4	83,253	1/4	98,331	1/4	113,409	1/4	128,487	1/4	143,565	1/4	155,428	1/4	166,904	1/4	178,258	1/4	189,612	1/4	198,735
1/2	8,176	1/2	23,254	1/2	38,332	1/2	53,410	1/2	68,489	1/2	83,567	1/2	98,645	1/2	113,723	1/2	128,801	1/2	143,879	1/2	155,669	1/2	167,141	1/2	178,495	1/2	189,848	1/2	198,751
3/4	8,490	3/4	23,568	3/4	38,647	3/4	53,725	3/4	68,803	3/4	83,881	3/4	98,959	3/4	114,037	3/4	129,115	3/4	144,137	3/4	155,910	3/4	167,377	3/4	178,731	3/4	190,085	3/4	198,766
7	8,804	7	23,883	7	38,961	7	54,039	7	69,117	7	84,195	7	99,273	7	114,351	7	129,429	7	144,395	7	156,151	7	167,614	7	178,968	7	190,321	7	198,782
1/4	9,119	1/4	24,197	1/4	39,275	1/4	54,353	1/4	69,431	1/4	84,509	1/4	99,587	1/4	114,665	1/4	129,743	1/4	144,652	1/4	156,392	1/4	167,850	1/4	179,204	1/4	190,558	1/4	
1/2	9,433	1/2	24,511	1/2	39,589	1/2	54,667	1/2	69,745	1/2	84,823	1/2	99,901	1/2	114,979	1/2	130,057	1/2	144,910	1/2	156,633	1/2	168,087	1/2	179,441	1/2	190,794	1/2	
3/4	9,747	3/4	24,825	3/4	39,903	3/4	54,981	3/4	70,059	3/4	85,137	3/4	100,215	3/4	115,294	3/4	130,372	3/4	145,165	3/4	156,875	3/4	168,324	3/4	179,677	3/4	191,031	3/4	
8	10,061	8	25,139	8	40,217	8	55,295	8	70,373	8	85,451	8	100,530	8	115,608	8	130,686	8	145,420	8	157,116	8	168,560	8	179,914	8	191,268	8	
1/4	10,375	1/4	25,453	1/4	40,531	1/4	55,609	1/4	70,687	1/4	85,766	1/4	100,844	1/4	115,922	1/4	131,000	1/4	145,674	1/4	157,357	1/4	168,797	1/4	180,150	1/4	191,504	1/4	
1/2	10,689	1/2	25,767	1/2	40,845	1/2	55,924	1/2	71,002	1/2	86,080	1/2	101,158	1/2	116,236	1/2	131,314	1/2	145,929	1/2	157,598	1/2	169,033	1/2	180,387	1/2	191,741	1/2	
3/4	11,003	3/4	26,081	3/4	41,160	3/4	56,238	3/4	71,316	3/4	86,394	3/4	101,472	3/4	116,550	3/4	131,628	3/4	146,181	3/4	157,839	3/4	169,270	3/4	180,623	3/4	191,977	3/4	
9	11,317	9	26,396	9	41,474	9	56,552	9	71,630	9	86,708	9	101,786	9	116,864	9	131,942	9	146,432	9	158,080	9	169,506	9	180,860	9	192,214	9	
1/4	11,632	1/4	26,710	1/4	41,788	1/4	56,866	1/4	71,944	1/4	87,022	1/4	102,100	1/4	117,178	1/4	132,256	1/4	146,684	1/4	158,321	1/4	169,743	1/4	181,096	1/4	192,450	1/4	
1/2	11,946	1/2	27,024	1/2	42,102	1/2	57,180	1/2	72,258	1/2	87,336	1/2	102,414	1/2	117,492	1/2	132,570	1/2	146,936	1/2	158,562	1/2	169,979	1/2	181,333	1/2	192,687	1/2	
3/4	12,260	3/4	27,338	3/4	42,416	3/4	57,494	3/4	72,572	3/4	87,650	3/4	102,728	3/4	117,807	3/4	132,885	3/4	147,185	3/4	158,803	3/4	170,216	3/4	181,570	3/4	192,923	3/4	
10	12,574	10	27,652	10	42,730	10	57,808	10	72,886	10	87,964	10	103,043	10	118,121	10	133,199	10	147,433	10	159,044	10	170,452	10	181,806	10	193,160	10	
1/4	12,888	1/4	27,966	1/4	43,044	1/4	58,122	1/4	73,200	1/4	88,279	1/4	103,357	1/4	118,435	1/4	133,513	1/4	147,682	1/4	159,285	1/4	170,689	1/4	182,043	1/4	193,396	1/4	
1/2	13,202	1/2	28,280	1/2	43,358	1/2	58,437	1/2	73,515	1/2	88,593	1/2	103,671	1/2	118,749	1/2	133,827	1/2	147,931	1/2	159,526	1/2	170,925	1/2	182,279	1/2	193,633	1/2	
3/4	13,516	3/4	28,594	3/4	43,673	3/4	58,751	3/4	73,829	3/4	88,907	3/4	103,985	3/4	119,063	3/4	134,141	3/4	148,176	3/4	159,767	3/4	171,162	3/4	182,516	3/4	193,869	3/4	
11	13,830	11	28,909	11	43,987	11	59,065	11	74,143	11	89,221	11	104,299	11	119,377	11	134,455	11	148,422	11	160,008	11	171,398	11	182,752	11	194,106	11	
1/4	14,145	1/4	29,223	1/4	44,301	1/4	59,379	1/4	74,457	1/4	89,535	1/4	104,613	1/4	119,691	1/4	134,769	1/4	148,667	1/4	160,250	1/4	171,635	1/4	182,989	1/4	194,342	1/4	
1/2	14,459	1/2	29,537	1/2	44,615	1/2	59,693	1/2	74,771	1/2	89,849	1/2	104,927	1/2	120,005	1/2	135,084	1/2	148,913	1/2	160,491	1/2	171,872	1/2	183,225	1/2	194,579	1/2	
3/4	14,773	3/4	29,851	3/4	44,929	3/4	60,007	3/4	75,085	3/4	90,163	3/4	105,241	3/4	120,320	3/4	135,398	3/4	149,156	3/4	160,732	3/4	172,108	3/4	183,462	3/4	194,816	3/4	

CAPACITIES GIVEN U.S. GALLONS

STRAPPED: 1/2/12

* CAPACITY BELOW STRIKE POINT.

PORT REFERENCE GAUGE HEIGHT : 15'-8 1/4" (TO RIM OF 2" DIAMETER BALL VALVE LOCATED NEAR CENTER OF TANK)

STAR REFERENCE GAUGE HEIGHT : 15'-8 1/2" (TO RIM OF 2" DIAMETER BALL VALVE LOCATED NEAR CENTER OF TANK)

WE CERTIFY ALL MEASUREMENTS AND COMPUTATIONS ARE IN ACCORDANCE WITH APPLICABLE API STANDARDS AND ARE TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE.

INSPECTORATE AMERICA CORPORATION

OWNER: Chem Carriers LLC
DESCRIPTION Double Skin, Trail Rake, Inland Tank Barge
SIZE: 297'-6"x54'-0"x12'-0"

CONTRACT: 38193
HULL: 2199-1
NAME: CCL 406
DATE: 8-Jul-11

PRELIMINARY

VESSEL DISPLACEMENT AND CARGO DEADWEIGHT TABLE (FRESH WATER)

	DRAFT	1 FT	2 FT	3 FT	4 FT	5 FT	6 FT	7 FT	8 FT	9 FT	10 FT	11 FT
DISPLACEMENT	0 IN		933	1400	1875	2355	2841	3332	3827	4327	4829	5332
DEADWEIGHT			47	514	988	1469	1955	2446	2941	3440	3943	4446
DISPLACEMENT	1 IN		972	1440	1915	2396	2882	3373	3869	4369	4871	5374
DEADWEIGHT			85	553	1028	1509	1996	2487	2982	3482	3985	4488
DISPLACEMENT	2 IN		1010	1479	1955	2436	2923	3414	3910	4411	4913	5416
DEADWEIGHT			124	593	1068	1550	2036	2528	3024	3524	4027	4530
DISPLACEMENT	3 IN		1049	1518	1994	2476	2964	3456	3952	4452	4955	5458
DEADWEIGHT			163	632	1108	1590	2077	2569	3065	3566	4069	4571
DISPLACEMENT	4 IN		1088	1558	2034	2517	3004	3497	3993	4494	4997	5500
DEADWEIGHT			202	671	1148	1630	2118	2610	3107	3608	4111	4613
DISPLACEMENT	5 IN		1127	1597	2074	2557	3045	3538	4035	4536	5039	5542
DEADWEIGHT			240	711	1188	1671	2159	2651	3149	3650	4152	4655
DISPLACEMENT	6 IN		1166	1637	2114	2598	3086	3579	4077	4578	5081	5584
DEADWEIGHT			279	750	1228	1711	2200	2693	3190	3692	4194	4697
DISPLACEMENT	7 IN		1205	1676	2155	2638	3127	3620	4118	4620	5123	5626
DEADWEIGHT			318	790	1268	1752	2241	2734	3232	3733	4236	4739
DISPLACEMENT	8 IN		1244	1716	2195	2679	3168	3662	4160	4662	5165	5667
DEADWEIGHT			357	830	1308	1792	2282	2775	3273	3775	4278	4781
DISPLACEMENT	9 IN		1283	1756	2235	2719	3209	3703	4202	4704	5206	5709
DEADWEIGHT			396	869	1348	1833	2323	2817	3315	3817	4320	4823
DISPLACEMENT	10 IN		1322	1795	2275	2760	3250	3745	4243	4746	5248	
DEADWEIGHT			436	909	1388	1874	2364	2858	3357	3859	4362	
DISPLACEMENT	11 IN	895	1361	1835	2315	2801	3291	3786	4285	4787	5290	
DEADWEIGHT		8	475	949	1429	1914	2405	2899	3399	3901	4404	

DISPLACEMENT & DEADWEIGHT ARE IN SHORT TONS. ONE SHORT TON (S.TON) = 2000 POUNDS
LIGHTSHIP WEIGHT (LWT) IS DERIVED FROM FREEBOARD READINGS LWT = 886 S.TON

NOTES:

1. TABLE DATA IS BASED ON DRAFTS IN FRESH WATER AT 32.05 (CU. FT. PER S. TON) OR 62.4 (LBS PER CU. FT.).
2. TO OBTAIN DISPLACEMENT IN SEA WATER AT 31.25 (CU. FT. PER S. TON) OR 64.0 (LBS PER CU. FT.), MULTIPLY THE TABLE DISPLACEMENT BY 1.025, TO OBTAIN THE CORRESPONDING CARGO DEADWEIGHT, SUBTRACT THE LIGHTSHIP WEIGHT (LWT) FROM THE CALCULATED DISPLACEMENT IN SEA WATER.
3. ACTUAL DISPLACEMENTS AND DEADWEIGHTS MAY VARY DUE TO ACCURACY OF DRAFT READINGS, WEATHER CONDITIONS, SPECIFIC GRAVITY OF WATER, DECK LOADS, RESIDUE IN BILGES ALTERATIONS OR CHANGES TO THE VESSEL SINCE REFERENCE FREEBOARD READINGS WERE TAKEN, etc.
4. ALL DATA IS BASED ON ZERO TRIM.

Shell Deer Park Refinery Company

A Division of Shell Oil Products Company

Vessel Marine Vapor Recovery System Checklist

Richard.arnold@shell.com

E-mail To gxsdprlogisticscargoinspectors@shell.com

Note: Vessels MUST arrive with tank IG pressure of LESS than 300 mm WG/
0.4 psi or vessel will not be accepted.

1. Name of Vessel: CCL 406
   a. Vessel Flag/Registry: United States
   b. Vessel Owner/Operator: Chem Carriers LLC
2. Is Certificate of Inspection or Certificate of Compliance on board? (Yes) No
3. Is vessel Marine Vapor Recovery System USCG approved? (Yes) No
4. Is Certificate of Tightness on board? (Yes) No
   (Photocopy must be faxed prior to arrival at SDPRC)
5. What is vessel Vapor header flange size? 8" inches
   (Facility has capability to connect to either 6", 8" or 12" flange size)
6. What is vessel liquid header flange size? 8" inches
7. Regulated products minimum loading rate?
   1. Product N/A bbls / hour
   2. Product _____ bbls / hour
   3. Product _____ bbls / hour
8. Regulated products maximum loading rate?
   1. Product 4,000 bbls / hour
   2. Product _____ bbls / hour
   3. Product _____ bbls / hour
9. Vessel pressure safety valve setting – high? 3 LB. psig
10. Vessel pressure safety valve setting – low? 3 LB. psig
11. Vessel manifold pressure drop at vessel maximum loading rate? 1 LB. psig
12. Type of vessel overfill protection?
    a. Overfill connection (5 pin plug cable connection) YES
    b. Spill Valve
    c. Independent alarm
13. Prior Cargo ? NAPHTHA
14. Condition of cargo tanks prior to being loaded (i.e. cleaned, washed, gas freed, etc.)?
    Cargo Tanks have NOT been cleaned or stripped Liquid Free

John Williams 2/2/2013
Chem Carriers

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

Commanding Officer
United States Coast Guard
Marine Safety Center

2100 2nd Street, S.W. Stop 7102
Washington, DC 20593-7102
Staff Symbol: MSC-3
Phone: (202) 475-3403
Fax: (202) 475-3920
Email: msc@uscg.mil

16710/P016203
Serial: C1-1303247
September 23, 2013

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

Subj: CCL 403, O.N. 1231311, Trinity Ashland City Hull 4772
CCL 404, O.N. 1231312, Trinity Ashland City Hull 4773
CCL 405, O.N. 1236867, Trinity Ashland City Hull 2196-1
CCL 406, O.N. 1236866, Trinity Ashland City Hull 2199-1
297' x 54' x 12' Unmanned Double Hull Type II/III Tank Barges (O/D)
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. 13-36-2, "Vapor Collection Calculation on the Dual Loading of Trinity Marine Products, Inc. Hulls 2196 & 2199" dated September 16, 2013
(b) Marine Safety Center Letter Serial: C1-1100183, dated January 21, 2011
(c) Marine Safety Center Letter Serial: C1-1103805, dated November 14, 2011
(d) Marine Safety Center Letter Serial: C1-1103914, dated November 22, 2011

Dear Mr. Jones:

In response to your electronic submission dated September 16, 2013, we have reviewed the pressure drop calculations for multi-breasted tandem loading. Reference (a) is "**Examined**". Calculations such as these are not normally marked approved, but are used to verify that the system meets the applicable regulations.

These barges have vapor control systems previously approved by references (b) through (d), 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 **5000 bbl/hr** per barge.

For final approval you must submit your request to Commandant (CG-ENG-5) with the name of the facility where the vessels will be conducting dual loading operations. For more information, please email the Coast Guard Hazardous Materials Standards division at HazmatStandards@uscg.mil.

16710/P016203
Serial: C1-1303247
September 23, 2013

Subj: CCL 403, O.N. 1231311, Trinity Ashland City Hull 4772
CCL 404, O.N. 1231312, Trinity Ashland City Hull 4773
CCL 405, O.N. 1236867, Trinity Ashland City Hull 2196-1
CCL 406, O.N. 1236866, Trinity Ashland City Hull 2199-1
Multi-breasted Tandem Loading

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

Sincerely,

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

Copy: Supervisor, Coast Guard Marine Safety Detachment Nashville
Commandant, U. S. Coast Guard (CG-ENG-5)

TRINITY MARINE PRODUCTS, INC.

ASHLAND CITY, TN - MADISONVILLE, LA

CARUTHERSVILLE, MO – PORT ALLEN, LA

VAPOR CONTROL SYSTEM (VCS) CALCULATIONS

FOR

SINGLE LOADING AND DISCHARGE

OF

SUBCHAPTER "D" & "O" PRODUCTS

FOR

Chem Carriers, LLC

TRINITY MARINE PRODUCTS TAG No.: 38193

TRINITY - MADISONVILLE HULL No.: 2199-1

USCG MSC PROJECT No.: Pending

October 26, 2011

Prepared By:

Matthew Crist P.E.
Naval Architect
Trinity Marine Products
1050 Trinity Rd, Ashland City, TN 37015
Phone: 615.792.4320 - Fax: 615.792.8251
E-Mail:matthew.crist@trin.net

OWNER: Chem Carriers, LLC **CONTRACT: 38193**
DESCRIPTION: Double Skin Trail Rake Inland Tank Barge **BY: MEC**
SIZE: 297'-6"x54'-0"x12'-0" **DATE: 26-Oct-11**
HULL/NAME: 2199-1/CCL 406

VCS SYSTEM INFORMATION

1. GENERAL DESCRIPTION OF VESSEL:

A. TMP HULL NUMBERS	2199-1		
B. NAME (S):	CCL 406		
C. OFFICIAL NUMBER:	Pending		
D. USCG MSC FILE NUMBER:	Pending		
E. DIMENSIONS:	297'-6"x54'-0"x12'-0"		
F. SERVICE:	Rivers, Lakes, Bays and Sounds, Subchapter "D" and "O"		
G. MAX. ALLOWABLE WORKING PRESSURE:	3.50 psig		
H. PV VALVE PRESSURE SETTING:	3.00 psig		
I. PV VALVE VACUUM SETTING:	3.00 psi		
J. MAX. DISCHARGE RATE:	5000 bbl/hr	468cuft/min	
K. MAX. LIQUID LOADING RATE:	5000 bbl/hr	468cuft/min	

2. VAPOR CONTROL SYSTEM

A. PIPE DIAMETER: 7.981 in
B. PIPE LENGTHS: See Trinity Drawing 38193P-06
C. P/V VALVE ERL SUPERAC II PV-6

COMP	MAX FLOW @ PRESSURE SETTING	MAX PRESSURE DROP ACROSS VALVE @ MAX TRANSFER
ERL SUPERAC II PV-6	18875bbl/hr @ 3.0psi	3.139psi @ 13335bbl/hr Air
ERL SUPERAC II PV-6	17169bbl/hr @ 3.0psi	2.488psi @ 5000bbl/hr Air

D. MAX. VAPOR-AIR MIXTURE DENSITY: 0.378 lbs/ft^3

F. VCS CARGOES: SEE TABLE 1
G. SPILL VALVE None Installed
H. ADDITIONAL INFORMATION:

46CFR39.20-1(a)(4)	SYSTEM IS DESIGNED WITH SEVERAL LOW POINT CONDENSATE DRAINS.
46CFR39.20-1(a)(5)	SYSTEM IS ELECTRICALLY BONDED TO THE VESSEL DUE TO WELDED STEEL CONSTRUCTION
46CFR39.20-1(c)	SYSTEM INCLUDES AN ISOLATION VALVE, MANUALLY OPERATED BUTTERFLY VALVE, AT EACH FACILITY CONNECTION
46CFR39.20-1(d)	VAPOR HEADER MARKED AS SHOWN IN TRINITY DWG P-6 (SUBMITTED SEPARATELY)
46CFR39.20-1(e)	FACILITY CONNECTION FLANGE FITTED WITH 1/2" STUD 1" LONG AT LOCATION OUTLINED IN REGULATION
	SYSTEM IS DESIGNED TO ACCOMMODATE INTERNAL VISUAL INSPECTION AS REQUIRED FOR CARRIAGE OF POLYMERIZING CARGOES.

VCS CALCULATIONS

1. CARGO AUTHORITY:

The vapor collection system installed on this vessel is designed to carry the cargoes listed in Table 1. These Cargoes are to be listed on the vessel's Certificate of Inspection.

2. DETERMINING VAPOR AIR MIXTURE DENSITY AND VAPOR GROWTH RATE:

iso-Pentane has the heaviest vapor-air mixture density. iso-Pentane has the highest vapor growth rate (see Table 1 for Calculations)

3. THE MAXIMUM LIQUID TRANSFER RATE AS IMPOSED BY THE CAPACITY OF THE CARGO VENTING SYSTEM 46CFR39.30-1:

A: PRESSURE DROP FROM TANK TO PV VALVE

Tank 3 is the farthest tank from the P/V valve. Using Crane's Technical Paper No. 410, the total equivalent length (L) for the path is shown in Table 2.

TABLE 2

PIPE/FITTINGS	QUANTITY	K	D (in)	UNIT EQ. LENGTH (FT)	TOTAL EQ. LENGTH (FT)	
Entrance, Projecting	1.00	0.78	7.981	37.05	37.05	
Straight Pipe	12.75		7.981	1.00	12.75	
Tee Branch Con	2.00	1.10	7.981	52.26	104.51	Tank Drop
Tee Run Con	1.00	0.55	7.981	26.13	26.13	180.45
Straight Pipe	99.00		7.981	1.00	99.00	
Tee Branch Con	2.00	1.10	7.981	52.26	104.51	
Tee Branch Div	1.00	1.04	6.065	37.55	37.55	
Straight Pipe	3.50		6.065	3.00	10.49	
				Total	432.00	

Using Darcy's Equation, with a 0.014 friction factor and the maximum liquid transfer rate, the pressure drop along the VCS piping between the #3 cargo tank and the P/V valve for each cargo is shown in Table 1.

Using a 5000 bbl/h liquid transfer rate, the vapor-air mixture and air-equivalent volumetric flow rate for each cargo are given in Table 1. At a setting of 3.0 psig, the ERL SUPERAC II PV-6 has an adequate pressure relieving capacity of air for each cargo listed in Table 1. The maximum pressure in the tank, 3.1 psi, based on a pressure drop of 0.0 psig in piping and 3.1 psig across the PV Valve at 1038 bbl air equivalant, does not exceed the cargo tank maximum design working pressure of 3.5 psi.

Pressure Drop of Air Flow Into Tanks During Discharge

NAME	ρ @ 115°f (LBS/CUFT)	f	PIPE DIA (FT)	TOTAL EQ. LENGTH (FT)	FLOW RATE (CUFT/SEC)	V (FT/SEC)	PRESSURE DROP (PSI)
Air	0.069	0.014	0.665	432.00	7.80	22.45	0.034

Using a 5000 bbl/h liquid transfer rate as the air flow rate. At a setting of 3.0 psig, the ERL SUPERAC II PV-6 has an adequate pressure relieving capacity of air. The maximum vacuum in the tank, 2.5 psi based on a pressure drop of 0.0 psig in piping and 2.5 psig across the PV Valve at 5000 bbl air, does not exceed the cargo tank maximum design working pressure of 3.5 psi.

VCS CALCULATIONS (CONT)

B: PRESSURE DROP FROM TANK TO FACILITY VAPOR CONNECTION

The sum of the pressure drop along the longest path and the pressure at the facility vapor connection may not exceed 80 percent of the P/V valve setting. The total equivalent length from cargo tank #1 to the vapor connection is given in Table 3.

TABLE 3

PIPE/FITTINGS	QUANTITY	K	D (in)	UNIT EQ. LENGTH (FT)	TOTAL EQ. LENGTH (FT)	
Tank Drop	180.45		7.981	1.00	180.45	(From Above)
Straight Pipe	209.00		7.981	1.00	209.00	
Tee Run Con	2.00	0.550	7.981	26.13	52.26	
Tee Branch Con	1.00	1.100	7.981	52.26	52.26	
Tee Branch Div	1.00	1.040	7.981	49.41	49.41	
Tee Branch Div	1.00	1.040	6.065	37.55	37.55	
45° Long Radius Elbow	1.00	0.224	7.981	10.64	10.64	
Straight Pipe	33.00		7.981	1.00	33.00	
8" Butterfly Valve	1.00	0.630	7.981	29.93	29.93	
				Total	654.481	

Pressure drop at the maximum liquid loading rate of 5000bbl/h from Tank 1 to the Vapor Header Connection for each cargo is given in Table 1.

The largest pressure drop (0.4psi) does not exceed 80 percent of the P/V valve pressure setting (2.4psig).

4. THE MAXIMUM LIQUID TRANSFER RATE AS IMPOSED BY THE RELIEVING CAPACITY OF THE CARGO TANK SPILL VALVE OR RUPTURE DISK.

MANUFACTURER / MODEL: None Installed

5. THE MAXIMUM LIQUID TRANSFER RATE AS IMPOSED BY THE SET POINT OF THE OVERFILL ALARM

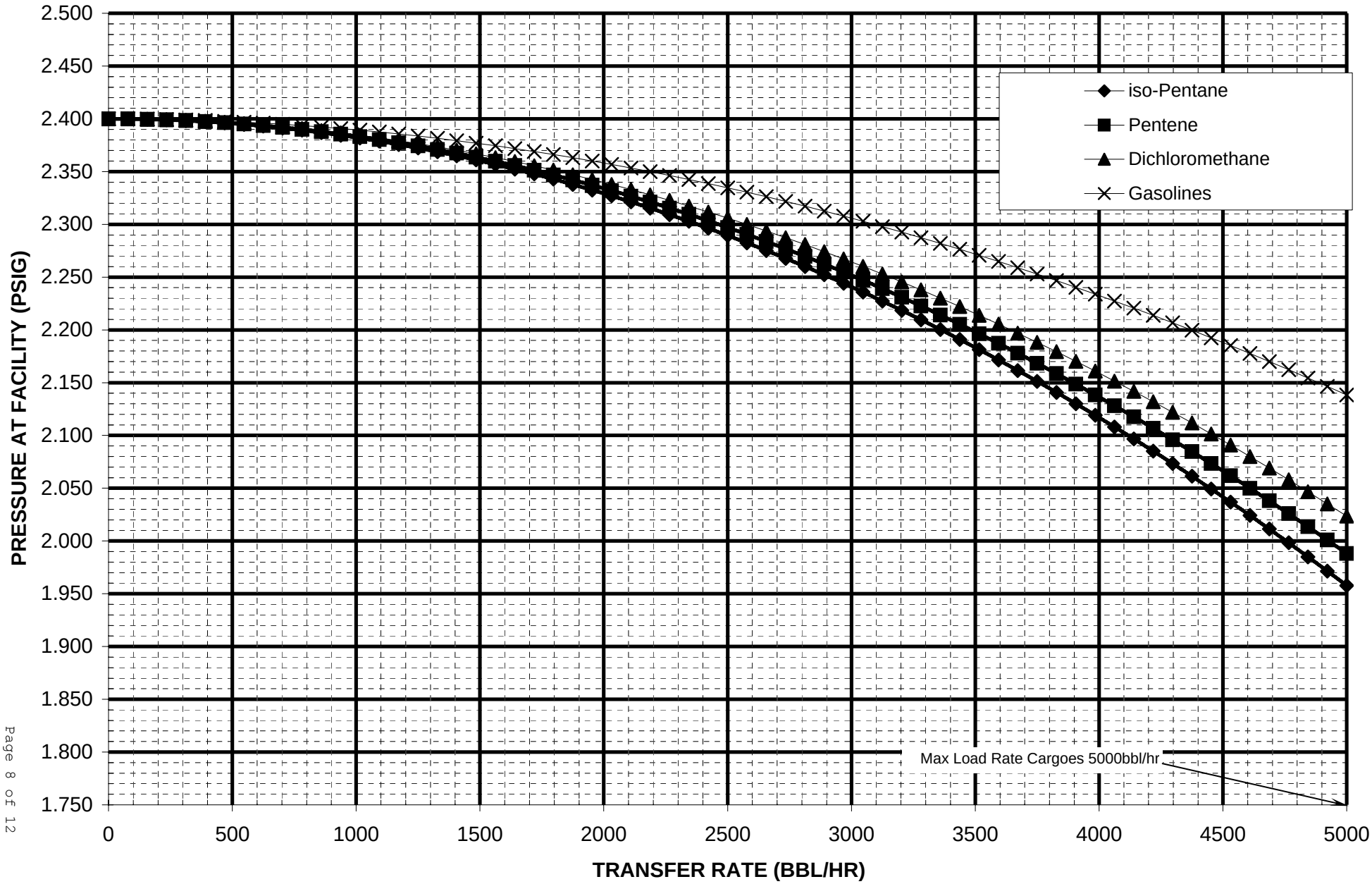
SMALLEST TANK:	Tank No. 3
SET POINT OF OVERFILL SHUTDOWN:	9.60* IN ULLAGE FROM GAUGE FLANGE
REMAINING CAPACITY AT SHUTDOWN:	469 CUFT
MAX LOAD RATE:	468 CUFT/MIN
MAX LOAD RATE PER TANK:	5000 BBL/HR
TIME REMAINING FOR SHUTDOWN	1.0 MIN
TIME REQUIRED BY 46CFR39.20-9:	1.0 MIN
MARGIN:	0.0 MIN

*Note: Setpoint is minimum required setpoint. Actual setting will be done by Owner prior to COI.

The #3 cargo tank has a set point for the overfill shutdown set at 0.80ft BELOW THE FLANGE OF THE GAUGE. The tank capacity above this level is 469cuft. With a liquid transfer rate of 5000 bbl/h per tank based on loading into a single tank only, the person in charge of transfer operations has at least 1 minute to stop the transfer operation before the tank overflows. Thus the VCS meets the requirements of 46CFR 39.20-9.

LIQUID TRANSFER RATE vs FACILITY PRESSURE FOR SINGLE LOADING

BASED ON PRESSURE DROP FROM CARGO TANK #1 TO FACILITY CONNECTION



PORT TANKS SHOWN STBD TANK SIMILAR

TANK LIST

Part	Type	Reference Point Long	Trans	Vert
CT1.P	INTACT TANK	75.62a	12.75p	17.44
CT2.P	INTACT TANK	161.75a	12.75p	17.44
CT3.P	INTACT TANK	247.83a	12.75p	17.44

Distances in FEET.

FULL LOAD TANKS AT 100%
TANK STATUS
Trim: zero, Heel: zero

Part	BBLs.	SpGr	Weight(ST)	LCG	TCG	VCG	RefHt
CT1.P	5414.6	1.050	996.38	71.67a	11.61p	9.85	
CT2.P	5105.3	1.050	939.46	160.47a	11.61p	9.78	
CT3.P	4714.1	1.050	867.47	243.77a	11.60p	9.39	
Total Tanks--------->			2,803.31	154.69a	11.60p	9.69	

Distances in FEET.

HIGH LEVEL SETPOINT AT 0.95 OF FULL LOAD 46CFR39.20-7(c)(1)
TANK STATUS
Trim: zero, Heel: zero

Part	BBLs.	SpGr	Weight(ST)	LCG	TCG	VCG	RefHt
CT1.P	5143.9	1.050	946.56	71.67a	11.69p	9.50	1.21
CT2.P	4850.1	1.050	892.49	160.44a	11.69p	9.42	1.22
CT3.P	4478.4	1.050	824.10	244.18a	11.67p	9.02	1.36
Total Tanks--------->			2,663.15	154.80a	11.68p	9.32	

Distances in FEET.

OVERFILL SETPOINT BASED ON 0.985 OF FULL LOAD 46CFR39.30-1(e)(1)
TANK STATUS
Trim: zero, Heel: zero

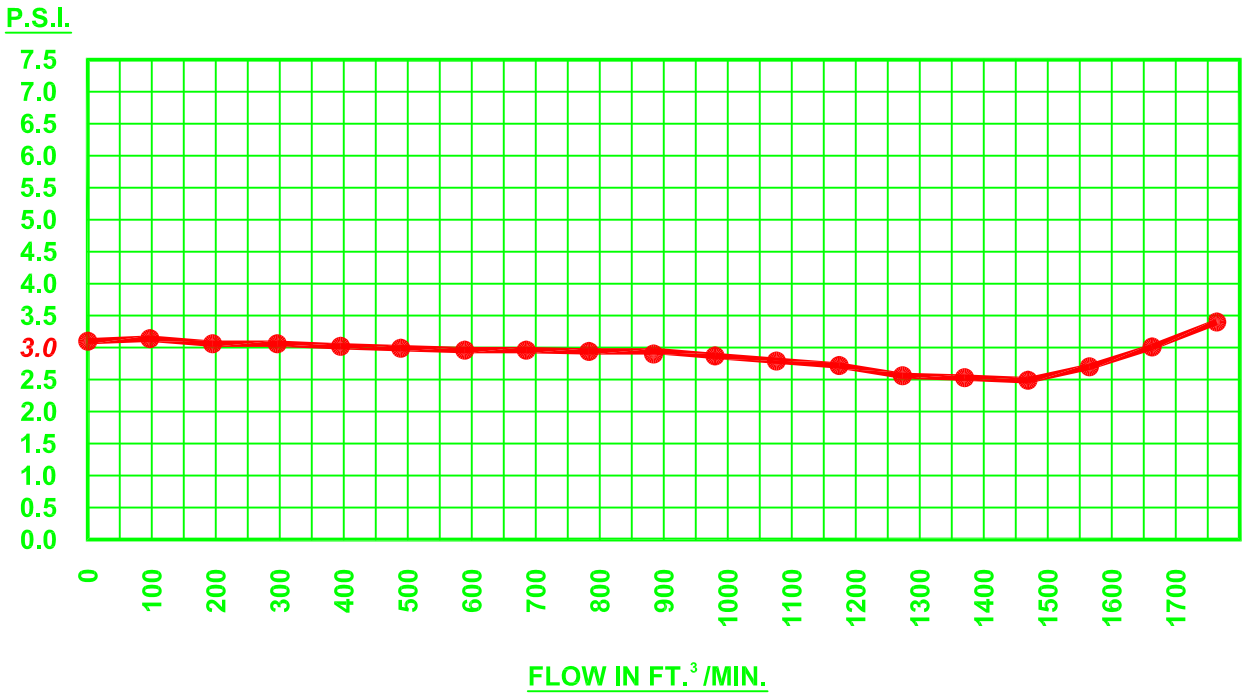
Part	BBLs.	SpGr	Weight(ST)	LCG	TCG	VCG	RefHt
CT1.P	5333.1	1.050	981.37	71.65a	11.68p	9.74	0.71
CT2.P	5028.4	1.050	925.31	160.44a	11.68p	9.67	0.71
CT3.P	4642.8	1.050	854.34	243.91a	11.67p	9.28	0.76
Total Tanks--------->			2,761.02	154.71a	11.68p	9.58	

Distances in FEET.

OVERFILL SETPOINT BASED ON 60SEC AT 5000BBL/HR 46CFR39.20-9(b)(2)
TANK STATUS
Trim: zero, Heel: zero

Part	BBLs.	SpGr	Weight(ST)	LCG	TCG	VCG	RefHt
CT1.P	5331.0	1.050	980.99	71.65a	11.68p	9.74	0.71
CT2.P	5021.8	1.050	924.10	160.44a	11.69p	9.66	0.73
CT3.P	4630.5	1.050	852.10	243.93a	11.67p	9.26	0.80
Total Tanks--------->			2,757.18	154.65a	11.68p	9.57	

Distances in FEET.



BARRELS PER HOUR	FLOW FT.³ per MIN.	P.S.I.
0	0	3.10
1038	97	3.14
2086	195	3.06
3167	296	3.06
4227	395	3.02
5232	489	2.99
6302	589	2.96
7330	685	2.96
8378	783	2.94
9459	884	2.90
10486	980	2.87
11513	1076	2.79
12562	1174	2.72
13621	1273	2.56
14659	1370	2.53
15718	1469	2.49
16746	1565	2.70
17794	1663	3.01
18875	1764	3.40

Curve for *PRESSURE* side of 6" PV Valve - *3.0 PSI*

CEESI - Colorado Engineering

data based on air flow

ELECTROMECHANICAL RESEARCH LABORATORIES, INC.
P.O. 1026 NEW ALBANY, IN 47150

DATE 7/12/10	DRAWN D. URBAN	PART NAME Flow Curve 3.0 PSI Pressure	
TOLERANCES .0= +/- .030 .00= +/- .015 .000= +/- .005	APPROVED	UNIT NAME 6" PV Valve MDII	
	SCALE / JOB NO.	DRAWING NO. 193V152B	ITEM NO.

Calibration of a Valve
Model: Serial Number: 2422
For: ERL Commercial Marine, Inc. Order: 00062654
Data File: 09ERL2-0007_1 Job: CE08812 Date: 10 March 2009
Inlet Diameter: 6.0 inches Throat Diameter: 6.0 inches
Test gas: AIR Standard density= 0.074895 lbm/ft³
 at standard conditions of 529.67 °R, and 14.696 Psia
Press: Meter INLET static pressure in psia
Temp: INLET temperature, degrees Rankine
LBMS: Mass flowrate in pounds mass per second
SCFM: Mass flowrate in standard cubic feet per minute
dP (psid): Differential Pressure across valve in psid
dP (psid): Differential Pressure across valve in inches of water at 68° F

Pt.	Press1	Temp	LBMS	SCFM	Press2	dP Psid	dP " of H20
1	15.539	540.8	2.0054	1606.6	12.051	3.488	96.722
2	14.797	538.2	1.754	1405.2	12.051	2.746	76.147
3	14.32	536.4	1.5007	1202.2	12.051	2.269	62.919
4	14.423	535.1	1.2487	1000.3	12.051	2.372	65.776
5	14.466	534	1.0015	802.35	12.051	2.415	66.968
6	14.447	533.1	0.87634	702.05	12.051	2.396	66.441
7	14.495	532.5	0.74991	600.77	12.051	2.444	67.772
8	14.52	532	0.62513	500.8	12.051	2.469	68.465
9	14.567	531.7	0.50097	401.33	12.051	2.516	69.769
10	14.131	531.6	0.37586	301.11	12.051	2.08	57.678
11	14.834	531.7	0.25052	200.7	12.051	2.783	77.173
12	14.802	531.7	0.12535	100.42	12.048	2.754	76.368
13	14.793	531.7	0.093596	74.982	12.048	2.745	76.119

Average values for above results:
Press: 14.626 Psia Density: 0.073943 lbm/ft³
Temp: 533.89 °R Viscosity: 1.0312E-06 lbm/(inch*sec)
Compressibility factor: 0.99969