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

Certification Date:	10 Mar 2022
Expiration Date:	10 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
HFL 435	1236563			Tank Barge

Hailing Port	Hull Material	Horsepower	Propulsion
NASHVILLE, TN UNITED STATES	Steel		

Place Built	Delivery Date	Keel Laid Date	Gross Tons	Net Tons	DWT	Length
ASHLAND CITY, TN UNITED STATES	20Jan2012	14Dec2011	R-1619 I-	R-1619 I-		R-297.5 I-0

Owner
HINES FURLONG LINE INC
4015 HILLSBORO PIKE STE 202
NASHVILLE, TN 37215
UNITED STATES

Operator
CHEM CARRIERS LLC
1237 HIGHWAY 75
SUNSHINE, LA 70780
UNITED STATES

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

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

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

Route Permitted And Conditions Of Operation:

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

Also, in fair weather only, coastwise, 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 31.10-21(a)(2). If this vessel is operated in salt water more than 6 months in any 12 month period, the vessel must be inspected using salt water intervals as per 46 CFR 31.10-21(a)(1), and the cognizant OCMI must be 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 Houston, TX, UNITED STATES, the Officer in Charge, Marine Inspection, Sector Houston-Galveston 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
23 MAY 23	HOU-GAL	A	CWO2
30 MAY 24	MSU PA	A	GS 12
27 MAY 25	SEC CC	P	CWO2

This certificate issued by:
Joseph W. Morgans 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

Certification Date:	10 Mar 2022
Expiration Date:	10 Mar 2027

Certificate of Inspection

Vessel Name: HFL 435

---Hull Exams---

Exam Type	Next Exam	Last Exam	Prior Exam
DryDock	31Mar2027	23Mar2017	20Jan2012
Internal Structure	28Feb2027	28Feb2022	23Mar2017

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

Authorization: FLAMMABLE / COMBUSTIBLE LIQUIDS AND SPECIFIED HAZARDOUS CARGOES

Total Capacity	Units	Highest Grade Type	Part151 Regulated	Part153 Regulated	Part154 Regulated
29500	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	925	13.57
2 P/S	939	13.57
3 P/S	851	13.57

Loading Constraints - Stability

Hull Type	Maximum Load (short tons)	Maximum Draft (ft/in)	Max Density (lbs/gal)	Route Description
II	4697	10ft 0in	13.57	R, LBS, LC 0-12
III	5567	11ft 9in	13.57	R, LBS, LC 0-12

Conditions Of Carriage

Only those cargoes named in the vessel's cargo authority attachment, serial # C1-1103918, dated November 09, 2011, may be carried and then only in the tanks indicated

As per 46 CFR 150.130, the Person In Charge of the vessel is responsible for ensuring that the compatibility requirements of 46 CFR, Part150, are met. Cargoes must be checked for compatibility using the figures, tables, and appendices of 46 CFR, Part 150, in conjunction with the reactive group numbers from the "Compat Group No" column listed in the vessel's Cargo Authority.

The maximum design density of cargo which may be filled to the tank top is 8.74 lbs/gal.

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

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 letter Serial #C1-1103918, dated November 09, 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 by volume, the person in charge is responsible for ensuring the provisions of 46 CFR Part 197, Subpart C are applicable.

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

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

Certification Date:	10 Mar 2022
Expiration Date:	10 Mar 2027

Certificate of Inspection

Vessel Name: HFL 435

--- Inspection Status ---

Fuel Tanks

	Internal Examinations		
Tank ID	Previous	Last	Next
Machinery deck	-	20Jan2012	-
Aft slop tank	-	20Jan2012	-
Fwd slop tank	-	20Jan2012	-

Cargo Tanks

	Internal Exam			External Exam		
Tank Id	Previous	Last	Next	Previous	Last	Next
1 P/S	20Jan2012	23Mar2017	31Mar2027	-	-	-
2 P/S	20Jan2012	23Mar2017	31Mar2027	-	-	-
3 P/S	20Jan2012	23Mar2017	31Mar2027	-	-	-

		Hydro Test		
Tank Id	Safety Valves	Previous	Last	Next
1 P/S	-	-	20Jan2012	-
2 P/S	-	-	20Jan2012	-
3 P/S	-	-	20Jan2012	-

---Conditional Portable Fire Extinguisher Requirements---

Required Only During Transfer of Cargo or Operation of Barge Machinery

--- Fire Fighting Equipment ---

Fire Extinguishers - Hand portable and semi-portable

Quantity	Class Type
2	40-B

END

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103918
Dated: 09-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HFL 435
Official #: 1236563

Shipyard: Trinity Marine
Hull #: 4859

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(c), (e), (h), 56-1(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 Matls 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
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), (l), (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	.56-1(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
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
Crotonaldehyde	CTA	19 [2]	O	C	II	A	Yes	4	.56-1(h)	G
Crude hydrocarbon feedstock (containing Butyraldehydes and Ethylpropyl acrolein)	CHG		O	C	III	A	No	N/A	No	G
Cyclohexanone, Cyclohexanol mixture	CYX	18 [2]	O	E	III	A	Yes	1	.56-1 (b)	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(e)	G
1,1-Dichloroethane	DCH	36	O	C	III	A	Yes	1	No	G
Dichloromethane	DCM	36	O	NA	III	A	Yes	5	No	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

*** *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 #: C1-1103918
Dated: 09-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HFL 435
Official #: 1236563

Shipyard: Trinity Marine
Hull #: 4859

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
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(c)	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
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	.55-1(b), (c)	G
Hydrocarbon 5-9	HFN		O	C	III	A	Yes	1	.50-70(a), .50-81(a), (b)	G
Isoprene	IPR	30	O	A	III	A	Yes	7	.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
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	.55-1(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	Yes	7	.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(c)	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

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103918
Dated: 09-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HFL 435
Official #: 1236563

Shipyard: Trinity Marine
Hull #: 4859

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
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(a)	G
Sodium chlorate solution (50% or less)	SDD	0 [1,2]	O	NA	III	A	No	N/A	.50-73	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
1,2,4-Trichlorobenzene	TCB	36	O	E	III	A	Yes	1	No	G
Trichloroethylene	TCL	36 [2]	O	NA	III	A	Yes	1	No	G
Triethylamine	TEN	7	O	C	II	A	Yes	3	.55-1(c)	G
Urea, Ammonium nitrate solution (containing more than 2% NH3)	UAS	6	O	NA	III	A	No	N/A	.55-1(b)	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
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		

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103918
Dated: 09-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HFL 435
Official #: 1236563

Shipyard: Trinity Marine
Hull #: 4859

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
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(C8+)benzenes	DDB	32	D	E		A	Yes	1		
2-Ethoxyethyl acetate	EEA	34	D	D		A	Yes	1		
Ethoxy triglycol (crude)	ETG	40	D	E		A	Yes	1		
Ethyl acetate	ETA	34	D	C		A	Yes	1		
Ethyl acetoacetate	EAA	34	D	E		A	Yes	1		
Ethyl alcohol	EAL	20 [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		

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103918
Dated: 09-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HFL 435
Official #: 1236563

Shipyard: Trinity Marine
Hull #: 4859

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
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		
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		

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103918
Dated: 09-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: **HFL 435**
Official #: 1236563

Shipyard: Trinity Marine
Hull #: 4859

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
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		
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-)	MIX	32	D	D		A	Yes	1		

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

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) 372-1426.

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 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 sufficient 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 components and restricting vapor flow which could lead to cargo tank overpressurization. The vessel's owner must develop a method of ensuring all VCS safety components are functional and polymer build-up is not causing an unsafe condition due to increased pressure in the vapor control piping and cargo tanks. The method shall be acceptable to the local Officer in Charge, Marine Inspection. This is in addition to the requirements of Category 1. Please note that a material not normally considered a monomer can be a problem in detonation arrester.

Category 3 — (Highly toxic) VCSs for these toxic cargoes cannot use a spill valve or rupture disk as the primary means to meet the overfill protection requirement of 46 CFR 39.20-9. This requirement is in addition to the requirements of Category 1.

Category 4 — (Polymerizes and highly toxic) Must comply with requirements of Categories 1, 2 and 3.

Category 5 — (High vapor pressure) VCS pressure drop calculations for cargoes with a vapor pressure greater than 14.7 psia at 115 F must take into account increased vapor-air mixture densities and vapor growth rates as compared to Category 1cargoes. Consult the Marine Safety Center's VCS Guidelines for further information. This requirement is in addition to the requirements of Category 1.

Category 6 — (High vapor pressure and highly toxic) Must comply with requirements of Categories 1, 3 and 5.

Category 7 — (High vapor pressure and polymerizes) Must comply with requirements of Categories 1, 2 and 5.

none — The cargo has not been evaluated/classified for use in vapor control systems.

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103918
Dated: 09-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HFL 435
Official #: 1236563

Shipyard: Trinity Marine
Hull #: 4859

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(c), (e), (h), 56-1(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 Matls 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
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), (l), (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	.56-1(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
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
Crotonaldehyde	CTA	19 [2]	O	C	II	A	Yes	4	.56-1(h)	G
Crude hydrocarbon feedstock (containing Butyraldehydes and Ethylpropyl acrolein)	CHG		O	C	III	A	No	N/A	No	G
Cyclohexanone, Cyclohexanol mixture	CYX	18 [2]	O	E	III	A	Yes	1	.56-1 (b)	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(e)	G
1,1-Dichloroethane	DCH	36	O	C	III	A	Yes	1	No	G
Dichloromethane	DCM	36	O	NA	III	A	Yes	5	No	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

*** *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 #: C1-1103918
Dated: 09-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HFL 435
Official #: 1236563

Shipyard: Trinity Marine
Hull #: 4859

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
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(c)	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
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	.55-1(b), (c)	G
Hydrocarbon 5-9	HFN		O	C	III	A	Yes	1	.50-70(a), .50-81(a), (b)	G
Isoprene	IPR	30	O	A	III	A	Yes	7	.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
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	.55-1(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	Yes	7	.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(c)	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

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103918
Dated: 09-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HFL 435
Official #: 1236563

Shipyard: Trinity Marine
Hull #: 4859

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
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(a)	G
Sodium chlorate solution (50% or less)	SDD	0 [1,2]	O	NA	III	A	No	N/A	.50-73	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
1,2,4-Trichlorobenzene	TCB	36	O	E	III	A	Yes	1	No	G
Trichloroethylene	TCL	36 [2]	O	NA	III	A	Yes	1	No	G
Triethylamine	TEN	7	O	C	II	A	Yes	3	.55-1(c)	G
Urea, Ammonium nitrate solution (containing more than 2% NH3)	UAS	6	O	NA	III	A	No	N/A	.55-1(b)	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
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		

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103918
Dated: 09-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HFL 435
Official #: 1236563

Shipyard: Trinity Marine
Hull #: 4859

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
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(C8+)benzenes	DDB	32	D	E		A	Yes	1		
2-Ethoxyethyl acetate	EEA	34	D	D		A	Yes	1		
Ethoxy triglycol (crude)	ETG	40	D	E		A	Yes	1		
Ethyl acetate	ETA	34	D	C		A	Yes	1		
Ethyl acetoacetate	EAA	34	D	E		A	Yes	1		
Ethyl alcohol	EAL	20 [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		

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103918
Dated: 09-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: HFL 435
Official #: 1236563

Shipyard: Trinity Marine
Hull #: 4859

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
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		
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		

Department of Homeland Security
United States Coast Guard

Serial #: C1-1103918
Dated: 09-Nov-11

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: **HFL 435**
Official #: 1236563

Shipyard: Trinity Marine
Hull #: 4859

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
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		
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-)	MIX	32	D	D		A	Yes	1		

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

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
HFL 435	1236563	4859	2012

HAILING PORT	HULL MATERIAL	MECHANICAL PROPULSION
NASHVILLE TN	STEEL	NO

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

PLACE BUILT
ASHLAND CITY TN

OWNERS
HINES FURLONG LINE INC

OPERATIONAL ENDORSEMENTS
COASTWISE

MANAGING OWNER
HINES FURLONG LINE INC
4015 HILLSBORO PIKE STE 202
NASHVILLE TN 37215

RESTRICTIONS
NONE

ENTITLEMENTS
NONE

REMARKS
NONE

ISSUE DATE
JANUARY 13, 2026

THIS CERTIFICATE EXPIRES
FEBRUARY 28, 2027

DIRECTOR, NATIONAL VESSEL DOCUMENTATION CENTER

PREVIOUS EDITION OBSOLETE, THIS CERTIFICATE MAY NOT BE ALTERED

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
HFL 435	TANKBARGE D		1619	867267 - 20	3/2/2023	3/2/2026	KIRBY CORPORATION	D1236563	
HFL 435	TANKBARGE D		1619	841310 - 21	5/16/2024	5/16/2027	CHEM CARRIERS, L.L.C	D1236563	

< 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 / HFL-435

Letter expiration date (one year from test date): 12-12-2026

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

1. Cargo Piping and Valves (actual date of test): 12-12-2025

   Test Pressure (188 psi): 188 psi

2. Cargo Relief Valve (actual date of test): 12-12-2025

   Test Pressure (125 psi): 125 psi

3. Cargo Pressure Gauge (actual date of test): 12-12-2025

   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:	Jose Rojas
Printed Name of Tester:	Jose Rojas
Company/Location of Tester:	KSOLV/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: 12-12-2025
- Barge owner: CHEM CARRIERS
- Barge Name/Official Number: HFL-435 / 1236563
- Maximum load rate (BPH): 5000 (BPH)

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

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

→ Start Time: 00:15 Beginning Pressure: 28

→ End Time: 00:45 Ending Pressure: 27.8

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

Company of Tester:	Location:
KSOLV Maritime	Channelview TX
Name of Tester (Print):	Signature of Tester:
Jose Rojas	Jose Rojas
Name of Witness (Print):	Signature of Witness:
FELIX HUIZAR	
Affiliation/Company of Witness (Print)	
Supervisor / KSOLV	

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

SAVAGE

Cargo / Vapor / Fuel Hose Test

Note: Test Results are valid for 1 year from date of test.

Hose Test Date:	January 2, 2020	**Serial (Hose) Number:**	70376-1
Hose MFG Date: **see below	December 18, 2017	**Hose Size:**	8" x 25'
Vendor doing test:	Cummings Marine	**Hose Type :**	Vapor

If MFG date exceeds 5 years, or is not known, hose must be discarded, DO NOT RETEST!!

Test Results

Burst PSI:	1000 psi	**Max Temp (F)**	
Tested PSI:	150 psi	**Working PSI:**	100 psi

Signatures

THE COMPETENT PERSON'S SIGNATURE BELOW CERTIFIES THAT TESTING OF THIS CARGO HOSE HAS BEEN PERFORMED IN ACCORDANCE WITH USCG REGULATIONS 33 CFR PART 154 - FACILITIES TRANSFERRING OIL OR HAZARDOUS MATERIAL IN BULK, SUBPART C - EQUIPMENT REQUIREMENTS, 154.500 – HOSE ASSEMBLIES, AND PART 156 – SUBPART A - OIL AND HAZARDOUS MATERIAL TRANSFER OPERATIONS, 156.170 - EQUIPMENT TEST AND INSPECTIONS.

Tested By (Print Name):	Nicholas Davila
Signature:	Nicholas Davila
Witnessed By (Print Name):	Jason Binsted
Signature:	Jason Binsted

SAVAGE

Cargo / Vapor / Fuel Hose Test

Note: Test Results are valid for 1 year from date of test.

Hose Test Date:	January 2, 2020	**Serial (Hose) Number:**	70648-1
Hose MFG Date: **see below	January 12, 2018	**Hose Size:**	6" x 25'
Vendor doing test:	Cummings Marine	**Hose Type:**	Cargo

If MFG date exceeds 5 years, or is not known, hose must be discarded, DO NOT RETEST!!

Test Results

Burst PSI:		**Max Temp (F)**	
Tested PSI:		**Working PSI:**	

Signatures

THE COMPETENT PERSON'S SIGNATURE BELOW CERTIFIES THAT TESTING OF THIS CARGO HOSE HAS BEEN PERFORMED IN ACCORDANCE WITH USCG REGULATIONS 33 CFR PART 154 - FACILITIES TRANSFERRING OIL OR HAZARDOUS MATERIAL IN BULK, SUBPART C - EQUIPMENT REQUIREMENTS, 154.500 – HOSE ASSEMBLIES, AND PART 156 – SUBPART A - OIL AND HAZARDOUS MATERIAL TRANSFER OPERATIONS, 156.170 - EQUIPMENT TEST AND INSPECTIONS.

Tested By (Print Name):	Nicholas Davila
Signature:	Nicholas Davila
Witnessed By (Print Name):	Joseph Binstead
Signature:	Joseph Binstead

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-3
Phone: (202) 795-6731
Email: msc@uscg.mil

16710/P022656/jdm1
Serial: C1-2103027
September 28, 2020

Marine Solutions, Inc.
Attn: Mr. Chetan Kumaria
P.O. Box 218197
Nashville, TN 37221
marinesolinc@aol.com

Subj: Hines Furlong and Chem Carrier Barges (Listed in Enclosure 1)
Multi-breasted Tandem Loading

Ref: (a) MSI Doc, Rev. 0, "Tandem Calculations for Hines Furlong Barges and Chem Carrier Barges," 60 pages, dated September 8, 2021
(b) Navigation and Vessel Inspection Circular (NVIC) 10-92, Change 2, "Coast Guard Recognition of Registered Professional Engineer Certification of Compliance with Coast Guard Requirements"
(c) Marine Safety Information bulletin 11-14, dated July 18, 2014

Dear Mr. Kumaria:

We reviewed reference (a), submitted by your email dated September 15, 2021 (MSC Document No. 2116097), under the provisions of reference (b), for compliance with 46 CFR Part 39.5000 for multi-breasted tandem loading. Reference (a) received full technical review by the Marine Safety Center for compliance with 46 CFR Subpart 39.5000. Reference (a) is **Examined in accordance with NVIC 10-92, CH-2**. Calculations such as these are not normally approved but are examined to verify compliance with appropriate regulations. The barges listed in enclosure (1) have previously approved vapor control systems. Based on the calculations in reference (a), multi-breasted tandem loading operations are authorized for the barges listed in enclosure (1). The following comments apply:

1. Multi-breasted tandem loading operations are limited to simultaneous collection of those cargoes listed in each vessel's CAA at the lower of the two maximum transfer rates noted in enclosure (1) for each barge pair.

2. Multi-breasted tandem loading approval is contingent on the vessels being owned or operated by the same entity, in accordance with 46 CFR 39.5001(a).

3. The facility pressure-vacuum valve must be set at the lower of the two settings noted in enclosure (1) for each barge pair.

Subj: Hines Furlong and Chem Carrier Barges
Multi-breasted Tandem Loading

16710/P022656/jdm1
Serial: C1-2103027
September 28, 2021

Please note that in accordance with reference (c), tandem loading shall be approved by the local Officer in Charge, Marine Inspection (OCMI) and may be subject to additional operational requirements.

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

> In accordance with 46 CFR Part 39.5000, this vessel's VCS has been evaluated and approved for multi-breasted tandem loading with other vessels specifically approved by Marine Safety Center letter Serial No. C1-2103027 dated September 28, 2021.

As an agreed-upon condition of your participation in the Marine Safety Center's electronic commerce program, you must provide the OCMI with a copy of this letter and identical paper copies of reference (a).

Our Project Number for this multi-breasted tandem fleet is P022656. Please ensure that all future correspondence includes the Project Number and the Official Numbers that are noted in enclosure (1).

Please contact LT Joel MacArthur at (202) 795-6779 with questions concerning our review.

Sincerely,

K. C. HEINE
Lieutenant Commander, U. S. Coast Guard
Chief, Vessel and Cargo Branch
By direction

Encl: (1) List of Applicable Barges

Copy: Commander, Coast Guard Sector Houston-Galveston, Prevention Department

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-1 (VRP)
Phone: (202) 372-1005
Fax: (202) 372-8376
Email: vrp@uscg.mil

16460
September 2, 2021

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 Shipboard Oil Pollution Emergency Plan (SOPEP), Control Number 56041, for HFL 435 (1236563), has been reviewed and found to be in compliance with the requirements of Regulation 37 of Annex I of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78).

This approval will remain valid until **March 21, 2025**. You must review your plan annually within one (1) month of the anniversary date of the plan's expiration date and submit a letter to this office certifying that the review has been completed. Any alteration or revision made to the plan, with the exception of those made to the appendices and non-mandatory provisions, must be submitted to this office for review and approval prior to the implementation of the revision. Further, the entire plan must be resubmitted to the Coast Guard for reapproval six (6) months before the end of the approval period of the plan.

I remind you that your plan is a vital working document and that implementing the plan will help ensure effective response and mitigation in the event of an oil pollution incident. Please be sure that all parties with responsibilities under the plan are familiar with the plan's procedures and requirements.

This letter shall be maintained onboard the vessel and placed in the front of the plan.

Sincerely,

W.W. ALVAREZ
Lieutenant Commander, U.S. Coast Guard
Vessel Response Plan Program
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.

List of Barges for C1-2103027								
Barge Name	**O.N.**	**Shipyard**	**Hull No.**	**MAWP (psi)**	**P/V Valve Press/Vac Setting**	**Loading/ Discharge Rates**	**Previous MSC Approval Letter**	**Approval Date**
CCL 403	1231311	Trinity Ashland City	4772	6.5	6/3	5000/5000	C1-1100183	January 21, 2011
CCL 404	1231312	Trinity Ashland City	4773	6.5	6/3	5000/5000	C1-1100183	January 21, 2011
CCL 405	1236867	Trinity Madisonville	2196-1	3.5	3/3	5000/5000	C1-1103805	November 14, 2011
CCL 406	1236866	Trinity Madisonville	2199-1	3.5	3/3	5000/5000	C1-1103914	November 22, 2011
CCL 407	1246320	Three Rivers B&B	121512	3.5	3/2	5000/5000	C1-1203487	July 30, 2012
CCL 408	1246097	Tres Palacios Marine	144	3.5	3/2	6000/6000	C1-1301141	April 12, 2013
CCL 409	1246098	Tres Palacios Marine	145	3.5	3/2	6000/6000	C1-1301141	April 12, 2013
CCL 410	1255906	Tres Palacios Marine	152	3.5	3/2	6000/6000	C1-1303733	February 7, 2014
CCL 411	1255907	Tres Palacios Marine	153	3.5	3/2	6000/6000	C1-1303733	February 7, 2014
CCL 415-T	1262942	Trinity Ashland City	5154	3.5	3/2	5000/5000	C1-1503553	August 17, 2015
CCL 414-L	1262941	Trinity Ashland City	5153	3.5	3/2	5000/5000	C1-1503484	August 10, 2015
CCL 416-T	1264691	Tres Palacios Marine	160	3.5	3/2	6000/6000	C1-1504017	September 17, 2015
CCL 417 T	1298307	West Gulf Marine	285	6.5	6/0.5	4000/4576	C1-1901188	April 23, 2019
HFL 413	1237482	Arcosa Ashland City	4857	3.5	3/0.5	5000/5000	C1-1104850	December 21, 2011
HFL 415	1237483	Arcosa Ashland City	4858	3.5	3/0.5	5000/5000	C1-1104850	December 21, 2011
HFL 435	1236563	Arcosa Ashland City	4859	3	1.5/0.5	6000/6000	C1-1103918	November 9, 2011
HFL 605	1237484	Arcosa Ashland City	4853	3.5	3/0.5	5000/5000	C1-1104533	December 9, 2011

HINES FURLONG LINE

TANK BARGE
CARGO TRANSFER PROCEDURES

HFL 435

As required by 33 CFR 155.750(a)

Operator:

Chem Carriers LLC.

1237 Hwy 75
Sunshine LA 70780

REPORT ALL SPILLS TO:

U.S. Coast Guard National Response Center
(800) 424-8802

Hines Furlong Line, Inc.

HFL 435 CARGO TRANSFER PROCEDURES

Barge Name:	HFL 435
Official Number:	1236563
Home Port:	Nashville, TN
Builder / Year:	TRINITY / 2012
Hull #:	4859
Gross Tons:	1619
Length (Molded):	297' 6"
Breadth (Molded):	54'-00"
Depth (Molded, Deck at Side):	12'-00"
Cargo Tank Capacity (100%):	29,802 Barrels

155.750(a) (1) PRODUCTS TO BE TRANSFERRED:

A. The products that are authorized to be carried by each barge are listed on the Certificate of Inspection. The Certificate of Inspection is available on the barge and a copy of each Certificate is available from the Hines Furlong Line office.

B. For loading operations consult loading plans or other instructions issued by the shore facility operator to determine the names of the petroleum or chemicals to be loaded. Before beginning transfer operations, obtain information on safety, fire and personnel protection from cargo information cards and Safety Data Sheets (SDS) received from shore facility personnel. The information must be in written form and on board the vessel. Only products authorized by the Certificate Of Inspection may be loaded.

C. For Unloading Operations consult the barge cargo manifest and / or shipping papers for the names of the petroleum or chemicals to be unloaded. For hazard and reactivity data see the Cargo Information Card and / or the SDS.

155.750(a) (2) DESCRIPTION OF TRANSFER SYSTEM:

A. The barge is a 297'6"X54'X12' double hull, Rake Bow (lead), Box Stern, internally framed tank barge with 6 integral gravity cargo tanks arranged in pairs, 1 through 3 Port and Starboard. All transfer connection points are located near the Stern. The barge is equipped with 2 ea. 2,000 gal. transverse residual product tanks located in the trunk over the aft end of the #3 port and starboard cargo tanks.

B. CARGO PIPING & VALVES: The cargo tanks are fitted with below deck fixed piping connected to the cargo pump. The piping system can be isolated from the pump by closing the Pump Suction Valve located on the suction side of the pump. An isolation valve is located in each cargo tank near the suction bell. Two 8-in. cross headers connecting to the below deck piping via risers are located above deck on the stern, near the pump engine. Each outboard end of the cross headers is equipped with a valve. The pump can be isolated from the discharge cross header by closing the Pump Discharge Valve located on the discharge side of the pump. The below deck piping can be isolated from the Loading cross header by closing the loading header drop valve. An 8-in. vapor header is located forward of the cargo cross headers which is connected to a longitudinal vapor collection pipeline with drops to each cargo tank.

C. CARGO VENTING: A High Velocity Pressure Vacuum Relief valve (P/V valve) is mounted on the vapor collection header to provide the required venting when loading. This design considered the maximum loading and discharge rate of 3,500 gallons per minute (4,285 Barrels per hour) vs the flow rates of the P/V valve. The P/V valve is constructed with integral, internal, stainless steel, 30X30 mesh flame screens. It is set to relieve at +1.5 PSI Pressure and -0.5 PSI Vacuum. The settings are verified by bench testing at five-year intervals. If the barge carries a polymerizing cargo during any 12-month period since bench testing, the PV Valve will be bench tested at the next scheduled US Coast Guard inspection or sooner if deemed necessary. This model valve is equipped with a check feature to allow manual verification of the operation of the valve. The P/V Valve is equipped to swivel down to the horizontal position for low overhead clearance situations. The forward end of the vapor header is equipped with a retractable vent riser that is isolated by a gate valve. The riser can be raised and lowered and is equipped with a stainless steel, 30X30 mesh flame screen. Each residual product tank is equipped with a 2-1/2" low velocity P/V Valve set to relieve at +1.5 PSI Pressure and -0.5 PSI Vacuum.

155.750(a) (2) DESCRIPTION OF TRANSFER SYSTEM: (continued)

D. CARGO PUMP - The vessel is equipped with a fixed, vertical lift cargo pump located in the #3S cargo tank, driven by a diesel engine. The engine is located on deck and connected to the pump via a right-angle drive gear system. The emergency shut down pull is located near amidships on the #2P cargo tank trunk.

E. DISCHARGE CONTAINMENT: The discharge containment consists of two large semi-enclosed tanks; one located at each end of the header lines. Each tank has a capacity of at least 9 barrels and is equipped with a drain line for the removal of liquid collected in them. Prior to any transfer operation, check to ensure that containment areas are properly drained and the plugs or caps are installed. Never drain the containment on deck. The containment should be empty at the start of the transfer. All liquid must be stripped or drained off before the attending towboat leaves the barge. The outer perimeter of the cargo tank and machinery areas have a 6-in. high secondary containment barrier with drain openings that are equipped with scupper plugs. The plugs must be securely installed in place prior to transfer of cargo.

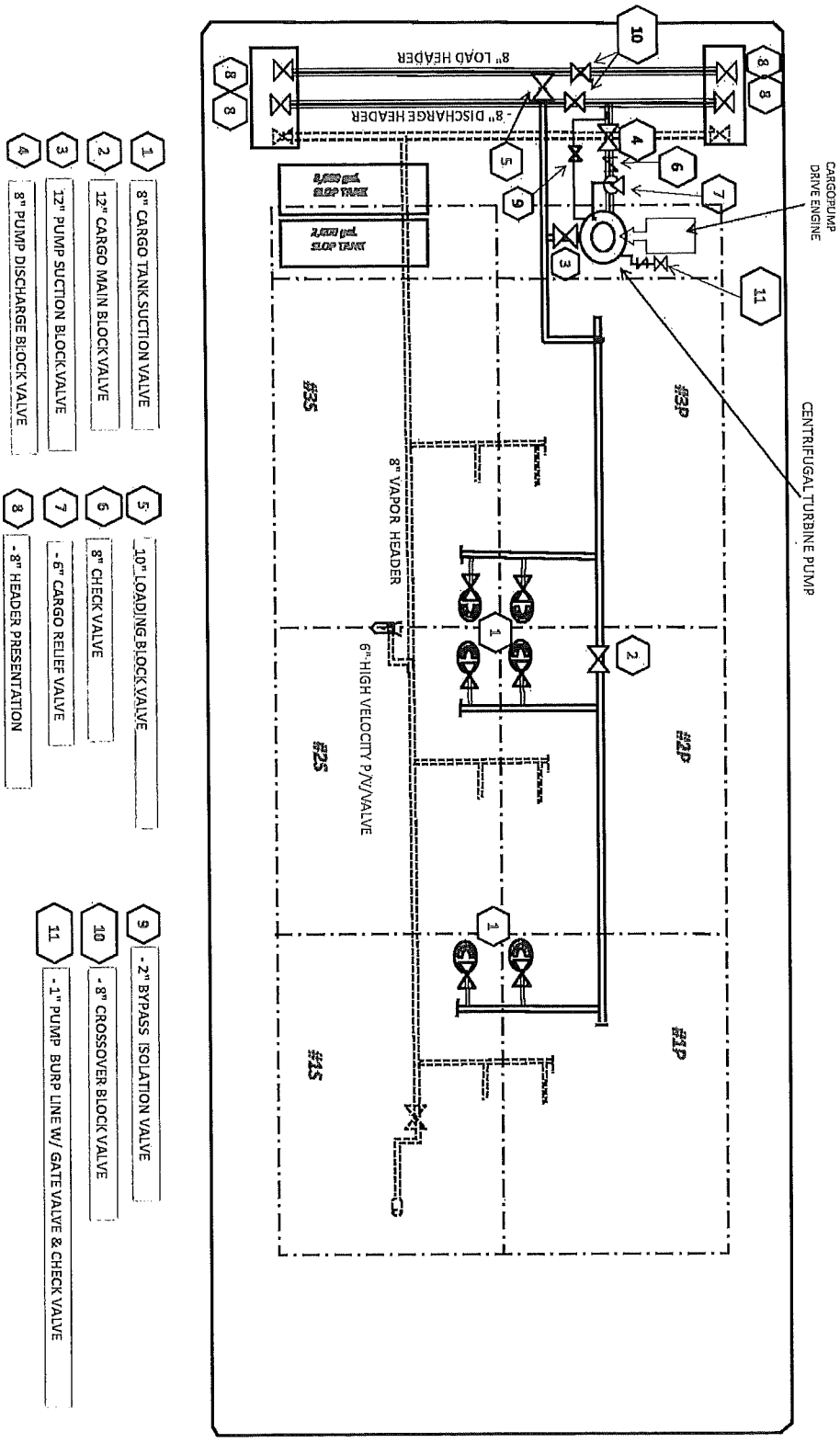
F. CARGO GAUGING - Each cargo tank is equipped with a "Hermetic" valve to facilitate a closed gauging device. Each cargo tank is equipped with a gauge tree located beneath a sight glass at the expansion dome measuring the upper 6 ft. of the tank. Each cargo tank is also fitted with a 1 Meter stick gauge, located near the center point. They provide a visual indication of high level and overfill in the cargo tank.

G. This barge is equipped with internal steam coils in each tank to permit cargo heating using an external steam source when required.
Description:
The system consists of a 4 in. longitudinal pipe above deck with 2" drops into each cargo tank. The supply to the coils in each pair of cargo tanks can be isolated by closing the 2" valves located on deck. The internal coils are located near the cargo tank floor of each tank and surround the sump. The coils are also connected to the cargo pump in the 3P cargo tank.

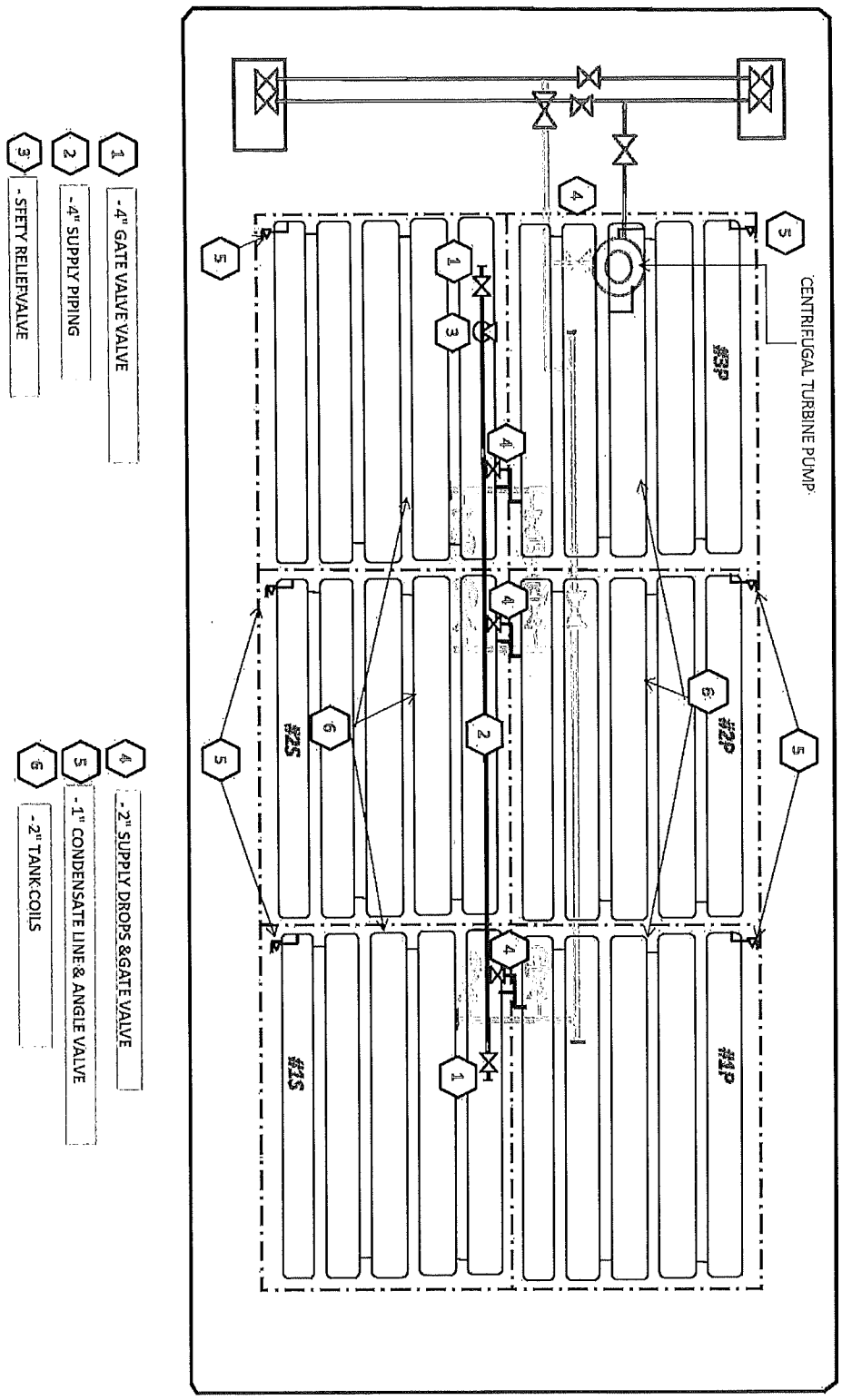
H. The Port and Starboard Tanks must be transferred (Loaded or Unloaded) simultaneously to maintain an Even Keel.

For details of these piping systems, consult the attached piping diagrams.

CARGO PIPING DIAGRAM



STEAM PIPING DIAGRAM



155.750(a) (2) DESCRIPTION OF TRANSFER SYSTEM: (continued)

I. STRIPPING SYSTEM

This barge is equipped with a stripping system capable of removing residual clingage and heels that the cargo piping is incapable of stripping.

Description:

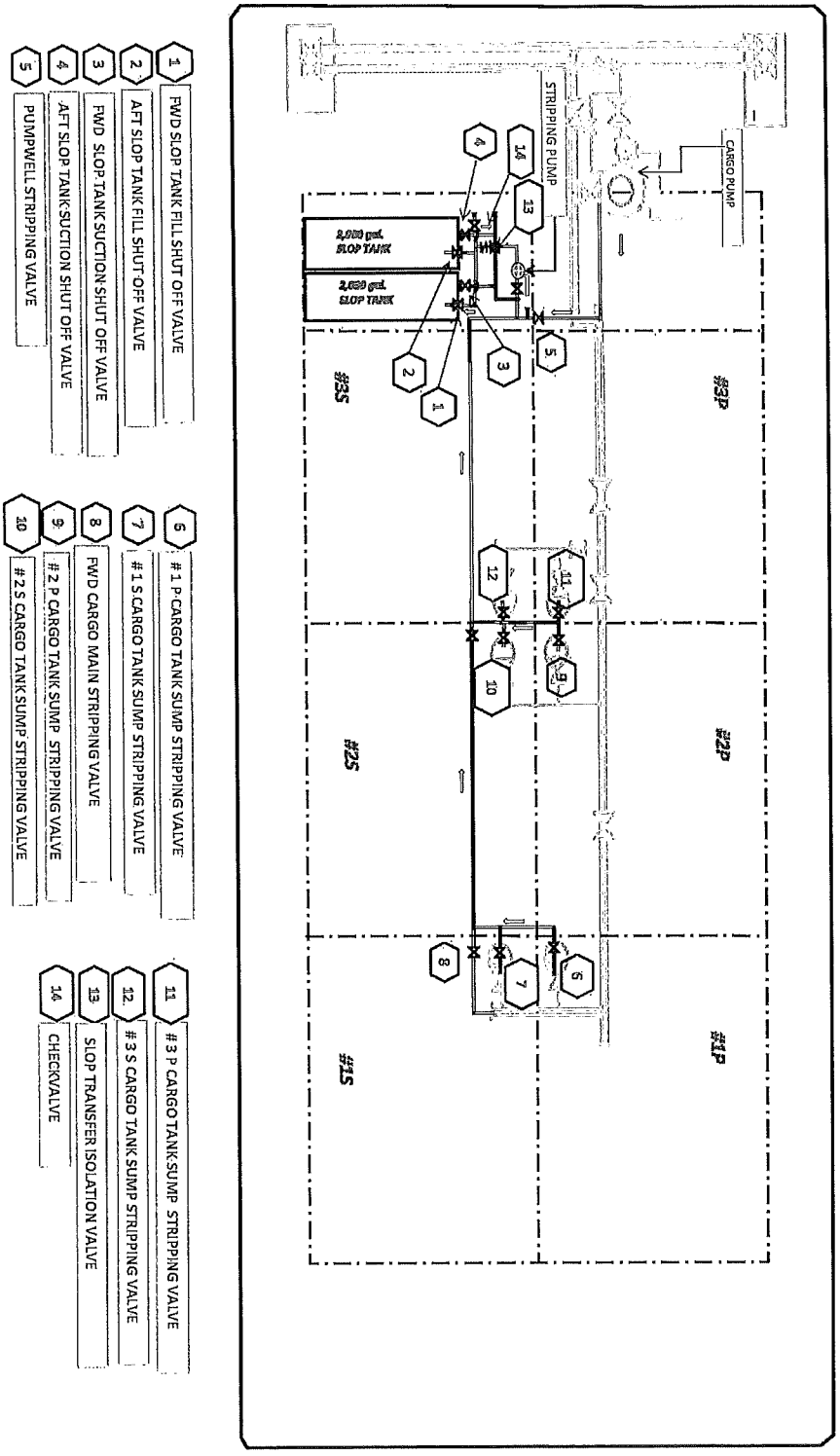
The system consists of a 2 in. longitudinal pipe above deck with drops into each cargo tank sump and to the end of the branch pipe in the #3S cargo tank. The pump well and slop tank are also connected to the system, which can be used to either strip them or fill them. All pipe drops can be isolated by closing the above deck valves. The system is equipped with a hydraulically operated pump driven from the barge pump engine. The piping is connected to integral transverse "slop" tanks located in the trunk section over the aft end of the #3 S cargo tanks. The "slop" tanks are equipped with low velocity P/V valves set to +1.5 PSI pressure and -0.5 PSI vacuum. See the attached schematic drawing for details of the system.

Operation:

Regulate the rate of discharge to ensure that the #1 P&S tanks will empty first with progressively more cargo remaining in the other tanks towards the stern. The rate should be adjusted so the #3S tank will make empty last.

1) When the tanks are nearing the empty point, open the stripping valves to the tanks and the valve on the cargo pump priming line, close the pump stripping suction line valve and the valves on the slop tank supply and discharge lines.
2) After the valves are lined up as described in "1" engage the hydraulic stripping pump.
3) As soon as the system is primed, close the stripping valves to the #2 P&S and #3 P&S cargo tanks.
4) Strip the #1 P&S tanks first. The operation should start as the cargo level in the #1 P&S tanks becomes too low to maintain suction through the cargo piping. Manipulate the tank stripping valves to draw out as much cargo as possible. When the tank is as empty as possible, close the stripping valves tightly.
5) Strip the #2 P&S tanks next. Follow the same procedure as for the #1 P&S tanks.
6) Continue the same procedure for the #3 P&S tanks, stripping the #3P completely before the #3S. When
7) When the #3S tank has been stripped as much as possible, close all valves and disengage the stripping pump.
8) Shore line and header residue should be drained to the #3S tank.
9) Strip the remaining residue in the #3S tank to the slop tank as follows:
   a) Check to ensure all stripping system valves are closed.
   b) Open the valves on the slop tank supply line and pump stripping line.
   c) Engage the hydraulic stripping pump.
   d) Manipulate the #3S tank stripping and pump stripping valves to draw out as much cargo as possible.
   e) When the pump well and tank are as empty as possible, close the stripping valves tightly and disengage the stripping pump.

STRIPPING PIPING DIAGRAM



155.750(a) (3) PERSONS REQUIRED:

At least two qualified persons are required for cargo transfer: One person on the barge and one person on the dock. The person on the barge shall be the Person In Charge of the transfer. The Person In Charge of the transfer shall have a Merchant Mariner's Credential issued by the U.S. Coast Guard, which is endorsed as Person In Charge for Dangerous Liquid Transfers (Barge).

When the terminal at which the barge is being loaded has received specific approval from the U.S. Coast Guard to do so, two barges may be loaded/unloaded simultaneously with one Person In Charge (PIC) on each barge.

Special Requirements: The Person In Charge (PIC) shall ensure only necessary personnel who are properly trained and PPE equipped are on board during transfer of the following products: formic acid, amines, acrylonitrile, adiponitrile, acetonitrile, or aniline.

155.730 (4) DUTIES OF THE PERSON IN CHARGE:

A. Prior To Transfer:

1) Check all barge moorings to ensure that they are properly secured and in satisfactory condition. Reference section 155.750(a)(5) as to number and size.

2) Examine deck and hull. Open and look into all void spaces to ascertain that there are no abnormal conditions that could affect the safe transfer of the cargo. All man way hatches are to be secured upon completion of this examination.

3) Check U.S. Coast Guard Certificate of Inspection to ensure

   a) It is on board, valid and endorsed for the product being transferred.

   b) The annual inspections have been completed and endorsed.

4) Examine the Cargo Information Card or SDS to obtain information concerning cargo hazards, reactivity and safety and whether or not this cargo requires vapor control.

5) Complete and sign the "Declaration of Inspection" together with the other PIC.

6) Confirm with the Hines Furlong Line Office/Facility PIC to determine whether or not this cargo requires a nitrogen blanket and/or pad. Identify which hoses or lines must be blown down with nitrogen.

7) Review static electricity precautions and the initial transfer rate found on page 18 of these procedures.

8) Visually inspect cargo and vapor piping and containment systems for cleanliness, remaining cargo and abnormal conditions. The PIC must not break seals or vapor tightness without approval of the facility/ Hines Furlong Line office and must wear appropriate PPE.

9) Place on board two, approved type, B-II portable fire extinguishers.

10) Check the grounding cable (if used) to ensure that it is properly connected or that an isolating flange has been properly installed

11) Confirm with the facility Person In Charge on whether or not a sample is to be drawn. If needed, the sample will be drawn at the barge tanks prior to loading or discharging cargo in a tank. If the sample is approved by the customer's surveyor the cargo transfer can commence, if not the cargo is to be slopped until a good sample is received and approved.

DUTIES OF THE PERSON IN CHARGE: (continued)

12) Check the valve on the opposite (unused) side of the headers to ensure that they are closed and that a blind is secured tool tight on the flange using a full set of bolts and proper gasket.

13) Check the operation of the P/V valve.

a) Operate the handle on the side of the valve to check that mechanism is free and operating properly. Check the operation of both the pressure and vacuum side. Push down the handle to check the vacuum relief and lift the handle to check the pressure relief.

b) Check the condition of the flame screens to ensure it is clean and there are no holes or tears.

c) If the mechanism is not operating properly, the valve will require dismantling for cleaning or repair.

14) Connect cargo hoses or loading arms from dock to appropriate header on the stern of the barge. Use a full set of flange bolts and the proper size new gasket for each connection. Both liquid and vapor lines must be securely bolted, tool tight, with a bolt in every hole.

15) For unloading cargo transfers, start the pump drive engine and test the emergency shut down to insure proper operation Establish a means for continuous communications with the Person In Charge at the facility. The method selected must be effective during all phases of the transfer.

16) Consult with the Facility Person In Charge concerning details of the transfer and ensure that each Person In Charge understands the following details of the transfer operation:

a)The sequence of transfer operations.

b)The transfer rate; both the initial rate and maximum rate.

c)The name or title and location of each person participating in the transfer operation.

d)Details of the transferring and receiving systems.

e) Critical stages of the transfer operation.

f)Federal, state, and local rules that apply to the transfer of oil or hazardous material.

g)Emergency procedures.

h)Discharge containment procedures.

i) Discharge reporting procedures.

j)Watch or shift change arrangement.

k)Transfer shutdown procedures.

17) Check to ensure that the proper warning signs and signals are displayed.

a) Red warning signals: a red signal (flag by day and approved lantern at night) shall be so placed that it will be visible on all sides

b) Warning sign on the barge: The sign shall state in letters not less than 2 inches high:
Warning
No open lights.
No smoking.
No visitors

DUTIES OF THE PERSON IN CHARGE: (continued)

18) After the inspector has approved as ready for transfer, open the cargo control valves at the cargo tanks (seven (7) turns initially, then as required to control the flow). Ensure a proper flame screen is in place on all tank openings. Check that they fit tightly, are clean and have no rips or tears.

19) Uncap the stick gauges and engage the stick gauge magnet with the float magnet.

20) Inform the facility Person In Charge that the barge is ready for transfer.

21) When the facility Person In Charge informs you that the facility is ready for transfer, open the cargo control valves on the headers.

22) Confirm cargo is transferring to the proper cargo tanks.

B. During Transfer:

1. When the transfer begins, check all connections and components of the transfer system to ensure that there are no leaks or drips. If leaks or drips are discovered, stop the transfer immediately and correct the situation.
2. Check mooring lines frequently, at intervals of not more than 15 minutes and adjust as necessary. In conditions where the barge is surging due to passing vessels or high winds, additional mooring lines will be used to ensure a secure mooring.
3. Check the transfer hoses continuously to ensure that they are properly supported and are not under strain.
4. Monitor cargo levels in the tank by observing the ladder rungs, gauge trees and stick gauges at the gauging tubes. Make sure to inspect wing voids for any water accumulation during the loading or unloading process.
5. The Port and Starboard Tanks Must Be transferred (Loaded or Unloaded) simultaneously to maintain an Even Keel.
6. No cargo transfer operations will be conducted when electrical or thunderstorms are in the vicinity.
7. Constantly monitor cargo transfer operation to guard against an accidental discharge of oil. Minimize the number of tank openings to prevent contamination of cargo containment spaces.
8. During watch change, the Person In Charge arriving on watch shall conduct an inspection of the cargo tank levels, mooring lines and all elements of the duties listed in section "A", including complete and sign a "Declaration Of Inspection" prior to assuming the duties of Person In Charge of the transfer.
9. If at any time during the transfer the Person In Charge believes that a situation is occurring or about to occur that will endanger the transfer or is unsafe, he should immediately shut down the transfer and notify Hines Furlong Line office (615-352-6935)

DUTIES OF THE PERSON IN CHARGE: (continued)

LOADING PROCEDURE:

1) Ensure that the following valves are in the closed position:
   a. Pump Suction Valve
   b. Cargo Pump Vent Valve
   c. Discharge Valve
2) Prior to loading, after the inspector has approved as ready for transfer, ensure that the Load Line and / or Drop Valves, all Cargo Tank Valves are in the open position.
3) Begin loading at a slow rate in accordance with the static electricity precautions and the initial transfer rate found on page 17 of these procedures.
4) Recheck all connections for leaks.
5) Notify the Facility Person In Charge when you are receiving product.
6) After you determine that there is no more surface turbulence in a cargo tank and all connections are leak free, the flow rate can be increased to a good flow of product, then recheck all transfer system components.
7) After all tanks are receiving a good flow of product, increase the transfer rate slowly to the maximum rate as determined in the Pre-Transfer Conference.
8) Monitor the cargo levels in all tanks constantly throughout the transfer and keep them loading uniformly. Be especially aware of the cargo level in the aftermost Port and Starboard tanks (nearest the machinery deck) as these tanks are smaller.
9) If the transfer is shut down, the Person In Charge will close the header (presentation) valve at the dock connection. If the transfer is delayed for over one (1) hour, the Person In Charge must contact Hines Furlong Line office: 615-352-6935.

TANDEM LOADING PROCEDURE (two barges breasted up, loading through the same header):

1) Three qualified persons are required for cargo transfer: One person on each barge and one person on the dock. The person on the inboard barge shall be the Person In Charge of the transfer. Both Persons In Charge shall have a Merchant Mariner's Credential issued by the U.S. Coast Guard, which is endorsed as Person In Charge for Dangerous Liquid Transfers (Barge).
2) Both Vessel Persons In Charge shall conduct an inspection of the barge, transfer system, mooring lines and all elements of the duties listed in section "A", including complete and sign a "Declaration Of Inspection"
3) Place a bumper between barges prior to loading to ensure that the rub rails between the barges do not get hung up.
4) The procedures identified in "Loading Procedure" above apply to both barges.
5) All tank valves should be opened at least seven (7) rounds.
6) Normally product will start flowing into the inside barge first. When the flow of product begins to the inside barge, pinch back on the Drop Valve until product begins to flow on the outside barge.
7) When the product is flowing to both barges fully open the Drop Valves on both barges.
8) Control loading so that the outside barge tops off first (approximately forty-five (45) minutes prior to the inside barge. Follow "Procedures For Topping Off Tanks" (section "C")

DUTIES OF THE PERSON IN CHARGE:
During Transfer – Tandem Loading: (continued)

9) When the outside barge loading is completed, close the outside barge Load Line Valve, all Cargo Tank Valves and Header Valves, including the Header Valve on the inside barge leading to the crossover hose.
10) Check all cargo tank levels on the outside barge until the transfer is complete to ensure that cargo levels are not rising.
11) Complete loading the inside barge. Follow "Procedures For Topping Off Tanks" (section "C")

C. 155.750(a) (7) PROCEDURES FOR TOPPING OFF TANKS

1) The Person In Charge (PIC) of the loading shall not perform other duties simultaneously with the topping off process, as this is a critical stage of the transfer.
    a. If a watch change falls during the topping off process, both PIC's will be involved in the process. The on-watch PIC shall be in charge of the transfer with the relieving PIC as assistant.
2) The Person In Charge (PIC) of the loading will determine cargo compartment(s) and sequences to be used during the topping off procedures. The PIC must consider such factors as cargo compartment size, outage space, cargo amount to be topped off, vessel trim, vessel draft, cargo compartment openings before selecting the cargo compartment to be topped off. The topping off procedure must be done without spillage of any cargo outside the cargo compartment while maintaining proper vessel trim/draft.
3) Definite agreement with the Facility PIC concerning the rate of flow for topping off and final shut down must be reached prior to the topping off operation.
4) When cargo tanks are nearing the desired loading, regulate the cargo rate using the cargo control valves at each tank and / or slowing the rate of flow from the dock as required. When full capacity load is required, top the appropriate tanks first either from bow to stern or from stern to bow. Advise the Facility Person In Charge approximately 1 hour, 30 minutes, 15 minutes, and 5 minutes prior to completing top off.
5) When full capacity load is required, top the appropriate tanks first, either from bow to stern or from stern to bow by pinching down the cargo control valves at each tank that you wish to top off first. When cargo levels reach ½ to ¾ of full capacity, start the topping off process.
6) Check all cargo tank levels continually when Topping Off. Be especially aware of the cargo level in the aftermost Port and Starboard tanks (nearest the machinery deck) as these tanks are smaller.

DUTIES OF THE PERSON IN CHARGE:

PROCEDURES FOR TOPPING OFF TANKS (continued)

7) Choose the first set of tanks to top off (either bow or stern tanks). When topping off from the stern tanks first, the procedure is as follows, when topping off from the bow tanks first, reverse the procedure:
   a. Continuously check draft readings throughout the process.
   b. Ensure the stern tanks' (#3 P&S) cargo control valves are fully opened.
   c. Decrease the flow rate into the next set of tanks forward (#2P&S).
   d. Decrease the flow rate into the next set of tanks forward (#1P&S).
   e. The objective is to top off the stern tanks prior to the #2P&S tank levels reaching 5 ft. from the deck and the #1 P&S tank levels reaching 5 ft. from the deck when the #2 P&S top off.
   f. When the #3 P&S tank levels are approximately 15 in. from the deck, check the #2P&S tank levels (they should be approximately 5 ft. from the deck) and open the cargo control valves in the #2P&S tanks to prevent back pressure.
   g. Return to the #3 P&S and regulate the flow by manipulating the cargo control valves and close them tightly when the product reaches 12 in. from the deck or the maximum draft allowed or specified.
   h. Recheck the #2P&S and #1 P&S tank levels and product flow.
   i. When the #2 P&S tank levels are approximately 15 in. from the deck, check the #1P&S tank levels (they should be approximately 5 ft. from the deck) and open the cargo control valves in the #1P&S tanks to prevent back pressure.
   j. Return to the #2 P&S and regulate the flow by manipulating the cargo control valves and close them tightly when the product reaches 12 in. from the deck.
   k. Return to the #1 P&S and regulate the flow by manipulating the cargo control valves and close them tightly when the product reaches 12 in. from the deck or the maximum draft allowed or specified.
8) As each tank is topped off, the compartment and associated control valves should be closed.
9) When the required barge draft or tank level is achieved, notify the Facility Person In Charge to shut down the transfer.
10) Continually monitor all cargo tanks with visual checks through the sight glasses and stick gauges in all tanks that you have closed to ensure that the levels are not rising. If you detect an increase in the level in any tank that you have closed, shut down the transfer immediately.
11) Do not load the tanks so as to exceed the loading restrictions on the Certificate Of Inspection. Adequate room to permit expansion of the product should remain in each tank. In no case should a tank be loaded above 12 in. from the deck (ullage) at the gauge point, unless directed by the Hines Furlong Line Office. Never exceed 98.5% of tank capacity.
12) When topping off is complete, close the header valves after confirming with the Facility PIC.
13) When the transfer is complete, drain the hoses, close all header valves, close all deck and cargo tank openings and close Vapor Line Stack Valves
14) Install a blind secured tool tight on the flanges of all manifolds and hoses using a full set of bolts and proper new gasket.

DUTIES OF THE PERSON IN CHARGE:

UNLOADING PROCEDURE:

1) All elements and the duties listed in section "A "and section "B" apply.
2) Ensure that the loading valves on the manifold are tightly closed.
3) Ensure that the pump vent valve is closed.
4) Check the valves on the opposite (unused) side of the headers to ensure that they are closed and that a blind is secured tool tight on the flange using a full set of bolts and proper gasket. Ensure that all unused header and piping ends have a blind secured tool tight on the flange using a full set of bolts and proper gasket.
5) After the inspector has approved the transfer:
   a. Open the Pump Suction valve.
   b. Open the Pump Discharge valve.
   c. Open the Vapor Stack Valve if not under vapor control or vapor balancing.
   d. Start and warm up the pump drive engine.
6) When the facility or receiving unit is ready to receive cargo and the inspector has approved the transfer, open the proper cargo tank, Pump Suction and Pump Discharge valves.
7) Engage the pump. Start pumping slowly. Gradually increase the speed until the desired rate is achieved. Recheck all connections for leaks.
8) When nearing completion of the discharge, close the cargo control valves in the first (usually #1 P&S) tanks after opening the cargo control valves in the next set of tanks.
9) Ensure that the cargo control valves in the next tank to empty are open.
10) Open the stripping valves in the first tank and pinch down until the tank is stripped.
11) When the tank has been stripped, close the stripping valves.
12) Repeat steps #10, #11, #12 & #13 for the remaining tanks.
13) When all tanks have been stripped, close all cargo control valves.
14) When the transfer is complete and the inspector has gauged the barge tanks, drain the hoses, close all headers, close all deck and cargo tank openings and close Vapor Line Stack Valves
15) Install a blind secured tool tight on the flange of all manifolds and hoses using a full set of bolts and proper new gasket.

TANDEM UNLOADING PROCEDURE (two barges breasted up, discharging through the same header):

1) Three qualified persons are required for cargo transfer: One person on each barge and one person on the dock. The person on the inboard barge shall be the Person In Charge of the transfer. Both Persons In Charge shall have a Merchant Mariner's Credential issued by the U.S. Coast Guard, which is endorsed as Person In Charge for Dangerous Liquid Transfers (Barge).
2) Both Persons In Charge shall conduct an inspection of the barges, transfer systems, mooring lines and all elements of the duties listed in section "A", including complete and sign a "Declaration Of Inspection"

TANDEM UNLOADING PROCEDURE (continued):

3) All appropriate steps for single barge unloading apply.
4) Place a bumper between barges prior to loading to ensure that the rub rails between the barges do not get hung up.
5) The objective is to synchronize the pumps on both barges so that one does not pump into the other. Although the barges do have check valves, the risk of cargo back flow is possible.
6) Ensure that the Header Valve on the outside barge is closed.
7) Ensure that the Bleeder Valves on the both barges are closed and capped / plugged tool tight.
8) Start the inside barge first.
9) When the inside barge is pumping correctly, recheck all connections to ensure they are leak free and confirmed with the Facility PIC that they are receiving cargo, increase the speed of the pump, then recheck all connections to ensure they are leak free.
10) Pump a minimum of 5 ft. (from the deck) of cargo from all tanks on the inside barge.
11) When the cargo level of inside barge has reached 5 ft. from the deck in all tanks, notify the Facility PIC, stop the discharge from the inside barge and close the Pump Discharge valve.
12) Open the Pump Suction Valve, Header Valve, Pump Discharge Valve and Cargo Control Valve in the set of tanks nearest the pump on the outside barge.
13) Inform the Facility PIC that the transfer is ready to restart.
14) Engage the pump on the outside barge at a slow rate of speed recheck all connections to ensure they are leak free.
15) Increase the pump speed on the outside barge to medium speed and IMMEDIATELY confirm that the inside barge is not receiving cargo by communication with the inside barge PIC.
16) Pump a minimum of 5 ft. (from the deck) of cargo from all tanks on the outside barge.
17) When the cargo level of outside barge has reached 5 ft. from the deck in all tanks, slow the pump to medium speed.
18) Open the Pump Discharge Valve and Cargo Control Valve in the set of tanks nearest the pump on the inside barge.
19) Start the pump on the inside barge and bring to medium speed and IMMEDIATELY confirm that the inside barge is not receiving cargo from the outside barge.
20) When both PIC's have confirmed that both barges are pumping to the Facility and are not pumping into each other, increase the pump speed to the appropriate speed to discharge both barges and recheck all connections to ensure they are leak free.
21) When both barge pumps have been synchronized and the maximum RPM's are reached, recheck both barges for vacuum in the cargo tanks with a rag over the ullage opening flame screen.
22) Continue the discharge and stripping of both barges as with a single barge unloading.

POST TRANSFER BLOW BACK PROCEDURE:

1) All cargo hatches are to be dogged down tool tight and checked for vapor leaks.
2) When the transfer is complete, check to ensure all cargo tank control valves are closed.
    a. **Single Barge Transfer**: Open the #1P&S Cargo Tank Control Valves and Load Valve slowly (not more than 5 turns) until the line is cleared of cargo.
    b. **Tandem Barge Transfer**:
        i. Inside barge: Close all valves except the header valves
        ii. Outside Barge: Open the Header Valve that is connected to the crossover hose, Loading Drop Valve and #1P&S Cargo Tank Control Valves.
    c. After the cargo header lines and crossover lines are cleared, check the crossover hose to ensure that all product has been cleared.
    d. When the PIC is satisfied that the crossover hose is free of product, close the Loading Drop Valve #1P&S Cargo Tank Control Valves and Header Valves.
    e. Disconnect the dock arm or hose and crossover hose.
    f. Disconnect the bonding cable.
    g. Install blinds on the flanges of the dock arm or hose, using a new gasket and a full set of bolts, tool tight.

UPON COMPLETION OF TRANSFER:

1) Close and dog down all cargo hatch covers, ullage opening covers and gauge tube plugs.
2) Check all cargo control valves to ensure they are tightly closed.
3) Disconnect cargo hoses or loading arms from the headers and secure the ends tool tight with a suitable blind flange, new gasket and full set of bolts.
4) Check all void tanks for water or product.
5) Drip Pans must be empty of water, product, rags, nuts, bolts, etc.
6) Oil dry on the deck must be swept up and deposited in a proper container.
7) Ensure that the pump is free of grease, rags and oil dry, especially in the vicinity of the packing gland and base.
8) Clean up all leaks and drips under the engine, around hatches, ullage points and headers.

D. 155.750(a) (8) PROCEDURES FOR ENSURING VALVES ARE CLOSED

1) Close and dog down all cargo hatch covers, ullage opening covers and gauge tube plugs.

2) Check all cargo control valves to ensure they are tightly closed.

3) Disconnect cargo hoses or loading arms from the headers and secure the ends with a suitable blind flange, new gasket and full set of bolts, tool tight.

155.750(a) (5) TENDING OF MOORING LINES

Upon boarding the barge, it shall be the responsibility of the Person-in-Charge to check the mooring lines to see that they are in good condition, adequate in number and properly secured. Present and expected conditions of wind, weather, tide, and draft changes due to cargo loading shall be taken into account when checking mooring lines. PIC shall meet all facility mooring requirements of number and size of lines before transferring cargo. A Minimum of six (6) lines shall be used.

Promptly report any frayed or broken mooring lines so that they may be replaced. When shift boats other than Hines Furlong Line or Hunter Marine's boats are used, be sure that they place sufficient lines on the barge before dismissing the shift boat. If for any reason the shift boat refuses to leave sufficient lines, notify the Hines Furlong Line dispatcher immediately.

155.750(a) (6) EMERGENCY SHUTDOWN AND COMMUNICATIONS

Emergency Shut Down:

This vessel is equipped with a pump driven by a diesel engine. In the event of an emergency during unloading operations, the flow of cargo may be stopped by pulling the remote shut down cable located near the center of the barge and marked with a sign or disengaging the gear, whichever is closest. The PIC must verify the shut down operates before each transfer.

The PIC shall discuss emergency shutdown procedures for the vessel or facility prior to the transfer of cargo. This discussion should include:

1) Circumstances requiring the transfer to stop immediately,

2) Primary and secondary means of communication,

3) Valves to be closed, location of the shutdown cable, and other actions to be taken in the event of an emergency,

4) How long it will take for the shutdown to take effect (is it immediate or does it take several minutes in order to avoid rupturing lines)

Communications:

Communications shall be established, between the terminal (or vessel) and the barge before the transfer hoses are hooked up. Communications must be maintained until the transfer is complete and hoses are disconnected. PIC must routinely check communication at least every 2 hours. If portable radio devices are used, they must be intrinsically safe and meet the requirements of 46 CFR § 110.15-100(I) Class I, Division I, Group D as defined in 46 CFR § 111.80

If at any time during transfer operations communications are interrupted, STOP ALL TRANSFER OPERATIONS and do not resume until communications have been re-established.

155.750(a) (9) PROCEDURES FOR REPORTING DISCHARGES OR OIL OR HAZARDOUS MATERIAL

In the event of any irregularities, perceived unsafe conditions or emergencies on board this barge prior to, during or after cargo transfer operations, immediate notice must be given to Hines Furlong Line, Inc. 4017 Hillsboro Pike STE 402 PO Box 150809 Nashville, TN 37215 (615-352-6935)

In the event of a cargo spill into the water immediately notify:

1. The receiving vessel or facility to stop the transfer.
2. U.S. Coast Guard National Response Center **(800) 424-8802**
3. Chem Carriers LLC. Qualified Individual: **225-642-0060**

155.750(a) (10) PROCEDURES FOR CLOSING AND OPENING VESSEL OPENINGS

Only the Person-in-Charge of the transfer, or a person designated by the Person-in-Charge, may open or close any vessel opening that maintains the seaworthy condition of the tank vessel and prevents the inadvertent release of cargo in the event of an accident. All vessel openings must be closed after the cargo transfer is complete.

155.750(a) (11) TRANSFER HOSES

155.750(a) (11) TRANSFER HOSES

If a transfer hose is used it must be marked with the Maximum Allowable Pressure, test date, date of manufacture and the words "OIL SERVICE" or for hazardous cargoes, the name of the product for which it can be used, or the words ``HAZMAT SERVICE-SEE LIST" followed immediately by a letter, number or other symbol that corresponds to a list or chart. If the hose product is not specifically marked, then before it is hooked up the PIC must verify the test date and compatible products which can be transferred through the hose. This is done by comparing the hose identification with the list of compatible products. These documents may be found in the mailbox on the barge or the Pilot House of the attending boat. Hoses are to be tested annually in accordance with 33 CFR 156.170.

STATIC ELECTRICITY PRECAUTIONS

Precautions against static electricity may be necessary when the cargo being transferred is known as an accumulator of static electricity. Clean oils (distillates) are generally accumulators of static electricity. They require precautions at the beginning of transfers. These oils are: natural gasoline, kerosene, white spirits, motor and aviation gasoline, jet fuels, clean diesel oils, heating oils, heavy gas oils, naphtha, and lubricating oils. when any of these products are being transferred these procedures shall be followed:

1. At the beginning of cargo flow into EACH cargo tank the flow rate should not exceed 730 bbls/hr.
2. After you determine that there is no more splashing and surface turbulence in a cargo tank the flow rate can be increased to the maximum allowable transfer rate.
3. During - and for 30 minutes after completing the loading - ullaging and sampling equipment must not be put into the tank. Ropes or lines used to lower equipment into the cargo tank must be only NATURAL fiber-cotton, sisal, hemp or flax. Synthetic line such as nylon must NEVER be used.
4. Operations performed through restricted gauging tubes are permissible at any time during transfer unless not allowed by vapor emission restrictions.
5. If the cargo tank atmosphere is maintained inert no anti-static precautions are necessary.

155.480 (b) (2) OVERFILL DEVICES

Stick Gauge Overfill Devices:

1 Meter stick gauges are located approximately near the center point of each cargo tank. They provide a visual indication of high level and overfill in the cargo tank. Follow these checks before a transfer:

1. Uncap the stick gauges
2. Grasp the gauge firmly and pull it up carefully to the fully raised position.
3. Lower the stick until it engages the float magnet. This will be near at the bottom of the stick's travel. The stick must engage the magnet in each tank in order to begin the transfer.
4. When the cargo in each tank reaches approximately 1-meter ullage, the float and gauge stick will begin to rise. It is important to make sure that the stick continues to rise as the tank fills. This will help provide the best indication of the internal cargo level.
5. The gauge sticks are marked with a green band which extends to the 6 in. before overfill level, followed by a 6 in. yellow band extending to the overfill level. The remainder of the stick is colored red. When loading cargo, the green color on the stick indicates the normal loading of the tank, the yellow indicates near over fill (high level) and the red means a dangerous over fill condition and the compartment cargo valve should be closed immediately.

SPECIAL OPERATIONS – *Tandem loading operations*

The vapor control system of this barge is acceptable for dual (tandem) loading operations. Tandem loading is limited to simultaneous collection of those cargoes listed in the vessels' Cargo Authority Attachment (CAA) to the barge's Certificate of Inspection (COI), at a maximum vapor-air mixture density of 0.247 lbm/ft3, and a maximum combined liquid transfer rate of 7,000 bbl./hr.

The following additional procedures will apply:

1) Read the COI and CAA and verify the following information:
   a) The product listed on the CAA.
   b) Tandem loading is authorized by the Facility's Operation Manual
   c) Continuous communication is maintained between both Persons In Charge and the Person In Charge at the facility. The method selected must be effective during all phases of the transfer.
   d) Determine any special requirements for topping off (e.g. May the PIC top off the outboard barge while loading the inboard barge continues).
2) Comply with standard Cargo Transfer Procedures in this document.
3) One Person In Charge (PIC) is required to be on board each barge.
4) Use a minimum of six (6) mooring lines with fenders between the barges to absorb any shock in case the barges slam together. The mooring lines must be examined frequently during transfer operations and tended accordingly.
5) There shall be no sharp bends in the crossover hoses that would cause undue strain on the connecting flanges.
6) The dogs must be removed from hatches where the crossover hose may rest to prevent damage to the hose.
7) The hoses must never rest on a drip pan edge.
8) If the barges are different sizes, the smaller of the two barges should be the outboard barge

SPECIAL OPERATIONS - *Benzene Requirements*

(and cargo mixtures containing benzene such as: pyrolysis gasoline, gasoline, cracked naphtha and hardcut reformate)

Federal Regulations (46 CFR 151.50-60) concerning benzene require that the licensed officer, certified PIC or Person-in-Charge of a barge ensure no person on the barge is exposed to an airborne concentration of benzene in excess of one part per million (1 PPM) as an eight-hour time weighted average (TWA) or five parts per million (5 PPM) TWA over any 15-minute period. Since these limits may be exceeded during barge loading, it is Hines Furlong Line's requirement that the following precautions be taken while sampling cargo, connecting or disconnecting a hose, opening a cargo tank, Butterworth hatch, ullage opening, sounding tube or any other opening if the product contains more than 0.5% (1/2 of 1%) benzene:

1. Respirators meeting 29 CFR 1910.134 must be worn. See the specific requirements for the particular operation involved. Cartridges must be changed every eight hours, at the end of a shift, when the wearer experiences "break through", or if they become difficult to breathe with - whichever comes first.
2. Connections, disconnections, or any other operation with the possibility of a splash hazard must be done only by personnel with at full face mask respirator, "splash suit" or slicker jacket, rubber gloves, rubber boots and full-face mask respirator. In addition, if the product contains 50% or more Benzene, the PIC should wear a slicker suit.
3. Post a sign stating:
   BENZENE CANCER HAZARD IN THIS AREA
   PROTECTIVE EQUIPMENT MAY BE REQUIRED
   AUTHORIZED PERSONNEL ONLY
4. Observe safe work practices by remaining upwind of the tanks, pumps, and piping system whenever possible. Use common sense to minimize exposure.
5. Restrict visitor access during the transfer.
6. **LOADING:** When loading products containing more than 0.5% benzene a full-face mask is to be worn during the entire operation. These products are normally loaded using vapor recovery equipment. If the SDS indicates the product contains 5% or more benzene and the customer does not require vapor recovery loading, the PIC shall load the barge closed hatch. All tanks will be vented through the vent stack located near the bow.
7. **DISCHARGING:** When discharging products containing more than 0.5% benzene a full-face mask is to be worn during the entire operation. Products containing more than 0.5% benzene will normally be discharged closed hatch and all tanks will be vented through the vent stack located on the forward end of the barge. Final stripping of the barge may be performed open hatch, **using the installed stripping system,** while the PIC wears the appropriate personal protective equipment with at least a full-face respirator.

Products containing more than 50% Benzene will be discharged closed hatch. All tanks will be vented through the gooseneck vent located on the forward end of the barge. Final stripping of the barge may be performed open hatch, **using the installed stripping system**. However, the PIC performing the stripping must wear a full-face respirator.

8. **STRIPPING OVER THE TOP:** Products containing less than 50% Benzene may be stripped over the top. In order to perform this operation, the PIC must wear a full-face respirator, slicker suit, rubber gloves and rubber boots. This operation must not be performed underway. The barge must be put into a bank, dock or mooring with the boat tied alongside, upwind from the barge.

Barges containing more than 50% benzene, or with possible concentrations of more than 50% benzene, will not be stripped over the top underway. This operation may be performed at a shore side facility if the PIC wears a supplied air respirator, rubber gloves, rubber boots and slicker suit.

SPECIAL OPERATIONS - *Ethylene Dichloride (EDC)*

Ethylene Dichloride (EDC) will be loaded using the Vapor Recovery System. Nitrogen is used to minimize the amount of moisture that comes in contact with cargo. As an added benefit, it reduces the amount of cargo vapors to a minimum. In addition to this precaution and normal cargo loading procedures, the measures listed below will also be taken:

1. Empty tanks will be purged with Nitrogen after every discharge.
2. Once the tanks are loaded, a nitrogen pad will be added on top of the cargo.
3. All hose connections and disconnections will be performed by a PIC wearing the following personal protective equipment:
    a. Respirator (provided)
    b. Chemical resistant gloves (provided)
    c. Rain slicker
    d. Rubber boots
4. Cargo hoses will be blown back to the barges using nitrogen.
5. Since EDC is heavier than water, barges will be loaded to a **maximum draft** of 10' 6" and tanks will not be full.
6. Wood covers will be provided for drip pans. Pans will be kept covered when not loading cargo.
7. Drip pans will be stripped to the residual tanks **only** when necessary. When stripping, PIC's must wear the protective equipment listed above.
8. The dispatcher will be notified every time stripping is performed since the slops are considered hazardous waste and must be disposed of at an approved facility.
9. **No person shall enter any cargo tank or void of a barge that has been loaded with EDC or purged with Nitrogen until the barge is cleaned and gas-free!**

SPECIAL OPERATIONS - *Hydrogen Sulfide (H2S)*

Certain products loaded on Hines Furlong Line's barges may contain hydrogen sulfide; this can most easily be determined when checking the Safety Data Sheet during the initial pre-transfer conference. If the PIC suspects that H2S may be present the following procedures will be followed:

1. Carry a full-face mask respirator and Hydrogen Sulfide monitor on your person, the monitor is set for 10 PPM. The monitor must be worn on the front of your body within one foot of your face; this area is called the "breathing zone."
   a. Do not place the monitor inside cargo hatches or lower it into tanks. If you do you may burn out the sensor and not get an accurate reading later on.
   b. The H^2S monitor should be tested daily and before each use.
2. While preparing to commence the transfer take note of wind speed and direction. During the transfer you must be aware of any change, such as a passing vessel blocking the wind.
3. Look for escape routes beforehand. Identify the safe routes that you will follow to get access to the dock or adjoining vessels. If in an escape situation go crosswind from the source of the H2S exposure.
4. Make sure that the monitor is in place and turned on throughout the transfer, continuously check it.
5. Observe safe work practices by remaining upwind of the tanks, pumps, and piping system whenever possible. Use commonsense to minimize exposure.
6. Restrict visitor access during the transfer.
7. Because H2S is flammable all ignition sources must be eliminated and No Smoking Rules strictly observed.
8. If the monitor alarm goes off immediately put on your mask and move crosswind until out of the H2S. Remember that H2S can kill your sense of smell. In a safe area (one without (H2S) clear the alarm - this should happen automatically as the H2S level drops - then call Hines Furlong Line office. **If the level rises above 10 PPM STOP THE TRANSFER AND CALL FOR A SHORE PIC.**

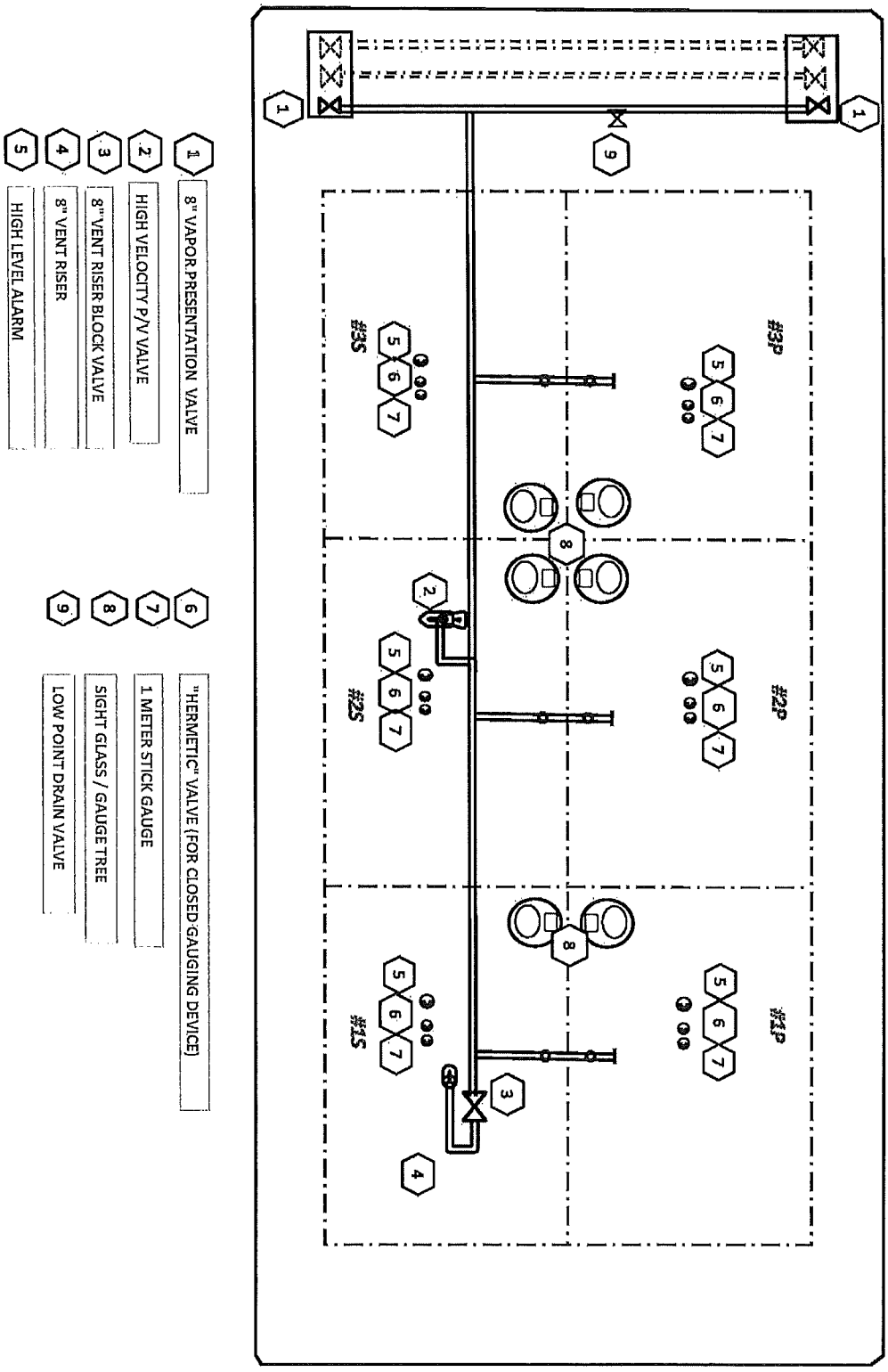
USING THE VAPOR RECOVERY SYSTEM

DESCRIPTION:

The vapor recovery system on this vessel consists of the following:

1. An eight-inch longitudinal header with a drop into each cargo tank that joins a transverse header positioned above the cargo headers at the stern.
   a. The outboard end of each side of the transverse header is equipped with a rising stem gate valve.
   b. The last 3.3 feet of vapor piping before the vessel vapor connection is painted red/ yellow/ red bands and labeled "VAPOR" for ease of identification in the manner required by federal regulations.
   c. Each vapor connection flange is equipped with a 0.5-inch diameter, 1-inch long stud to prevent connecting a cargo hose or loading arm to the vapor system.
2. A High Velocity Pressure Vacuum Relief Valve (P/V valve) is mounted on the vapor collection header to provide the required venting when loading. The P/V Valve is set to relieve at +1.5 PSI Pressure and -0.5 PSI Vacuum
3. Each cargo tank is equipped with a high level and overfill alarm sensor. The Overfill alarm set point is at least 60 seconds before the tank is liquid full when loading at the maximum rate. The High-Level alarm set point is at least 120 seconds before the tank is liquid full when loading at the maximum rate. The sensors connect to the facilities alarm system or Portable Alarm Unit (PAU) by a API connection located near the stern
4. Each cargo tank is equipped with a stick gauge overfill warning device. This system consists of a magnetic stick gauge that measures the top 1-meter of the tank.
5. Each cargo tank is equipped with a gauge tree with paddles indicating each 1 ft. increments of tank innage and paddles indicating high level and overfill conditions
6. An ERL, model SGM -1, sight glass is located on each cargo dome in such a position so as to permit viewing both the gauge tree and the sump at the end of the cargo piping.

155.750 (d) (1) VAPOR COLLECTION SYSTEM LINE DIAGRAMS



155.750 (d)(2) LOCATION OF SPILL VALVES

This vessel is not equipped with Spill Valves.

155.750 (d)(6) RELIEF SETTINGS FOR VALVES AND P/Vs

A. This Barge has a High Velocity Pressure Vacuum Relief Valve mounted on the vapor collection header. The P/V Valve is set to relieve at +1.5 PSI Pressure and -0.5 PSI Vacuum

B. Each residual product tank is equipped with a 2-1/2" low velocity P/V Valve set to relieve at +1.5 PSI Pressure and -0.5 PSI Vacuum.

155.750 (d)(3) MAXIMUM ALLOWABLE TRANSFER RATE

The vapor collection system installed on this vessel is recommended for a maximum loading rate of 4,900 gallons per minute (7,000 Barrels per hour). However, the maximum loading rate authorized by Hines Furlong Line is 3,500 gallons per minute (5,000 Barrels per hour).

155.750 (d)(4) INITIAL TRANSFER RATES

1. The initial flow rate should not exceed 730 bbl./hr. per tank:

2. Vessel Person In Charge of the Transfer must monitor pressure/vacuum gauges at the vapor connection to ensure pressure and/or vacuum are normal.

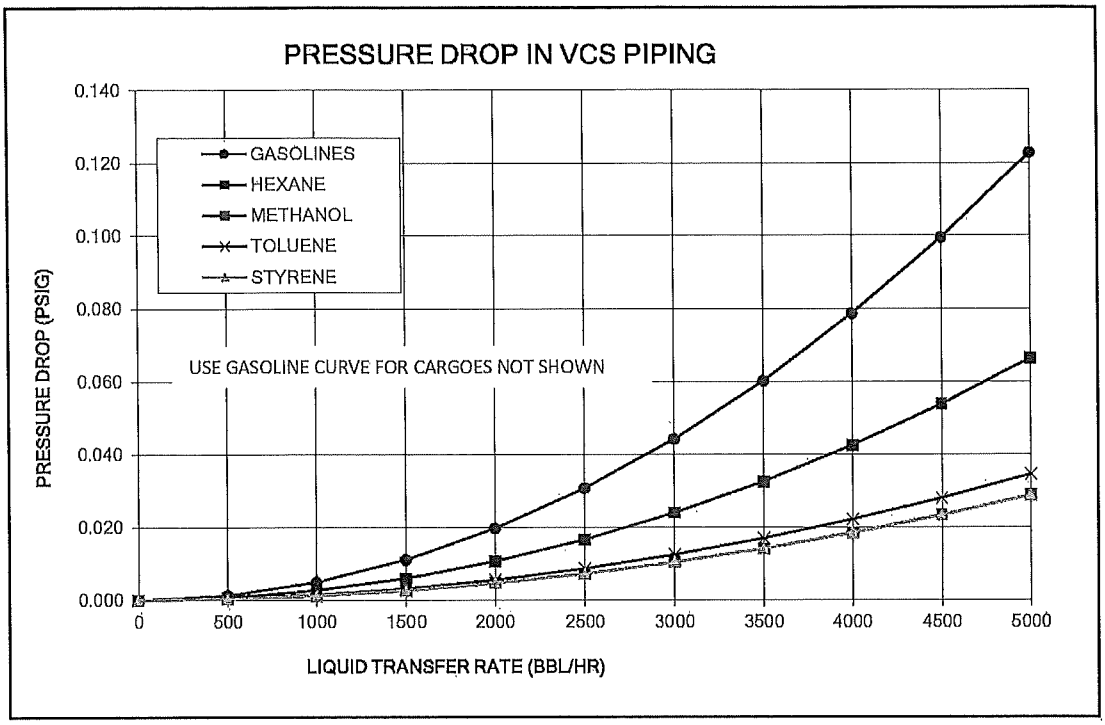
When it has been determined that there is no surface turbulence in a cargo tank and the systems are operating properly, the flow rate can be increased to the maximum allowable transfer rate.155.750 (d)(5)

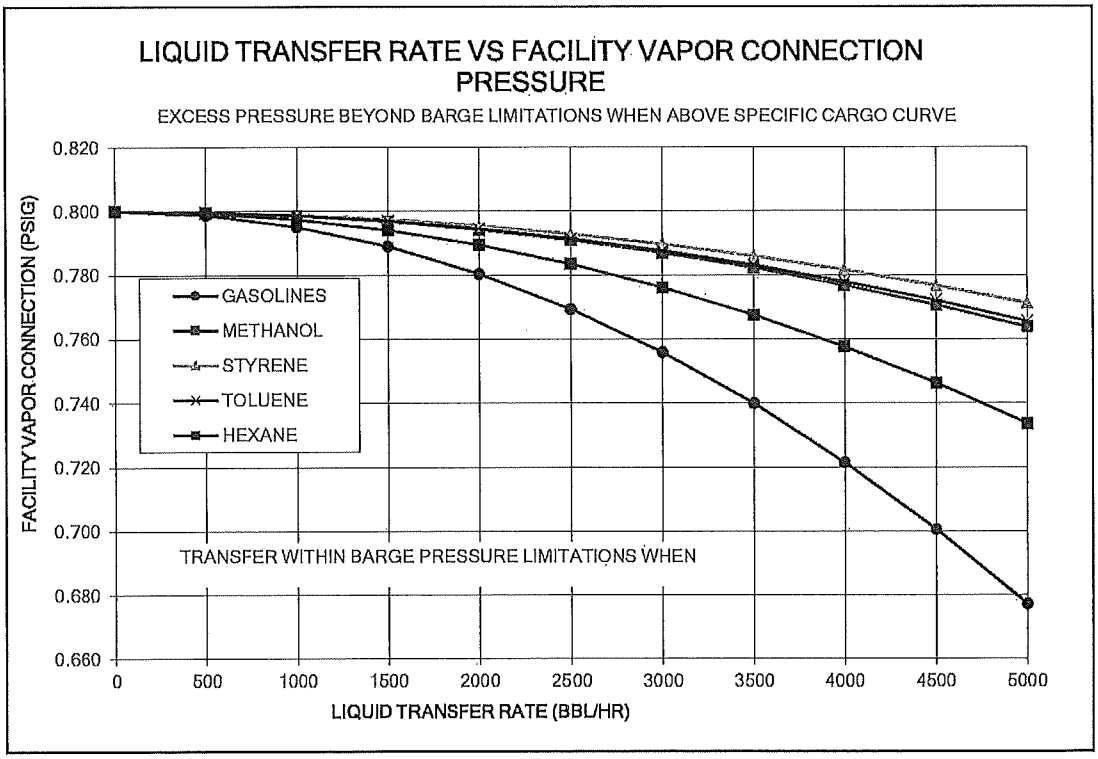
155.750 (d)(5) VAPOR COLLECTION SYSTEM PRESSURE DROP CALCULATIONS

Transfer rates and pressure drop calculations and charts are included in these procedures. The top chart shows the anticipated maximum pressure drop in the vessels piping system for the various cargo transfer rates. The top curve line represents the maximum pressure drop for all cargoes approved for vapor collection on this vessel (gasoline). There are also representative curves for specific cargoes typically carried on Hines Furlong Line's vapor barges.

To read this chart, find the cargo transfer rate on the horizontal chart line, and then read up the chart vertically to the appropriate curve. This point indicates the expected pressure drop from the farthest point in the vapor piping system to the shore vapor connection point. The shore's vapor piping pressure setting should then be reduced by the pressure drop. Under no circumstances should the vessel vapor connection point be greater than 80 percent of the vessel's pressure/vacuum relief valve set point.

The bottom chart can also be used to find pressure drop without the need of calculations. For any given facility vapor connection pressure, the corresponding liquid transfer rate is given... The chart applies to all cargoes listed for vapor recovery on the vessels Certificate of Inspection. It was prepared using the cargo that created the biggest pressure drop in the vapor piping. You must know the facility vapor connection pressure and the liquid flow rate to the barge. Cargo vapor growth rate, cargo vapor specific gravity, and cargo saturated vapor pressure are not required. To read the chart, simply find the facility vapor connection pressure on the left side of the chart and follow the corresponding line across the chart. Then find your anticipated liquid transfer rate on the bottom of the chart, follow the corresponding line up. Any combination of liquid transfer rate and facility vapor connection pressure below the specific cargo curve is within the barge limitations. Any combination of liquid transfer rate and facility connection pressure above the specific cargo curve is in excess of barge limitations.


PRESSURE DROP IN VCS PIPING
PRESSURE DROP (PSIG)
0.140
0.120
0.100
0.080
0.060
0.040
0.020
0.000
GASOLINES
HEXANE
METHANOL
TOLUENE
STYRENE
USE GASOLINE CURVE FOR CARGOES NOT SHOWN
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
LIQUID TRANSFER RATE (BBL/HR)


LIQUID TRANSFER RATE VS FACILITY VAPOR CONNECTION PRESSURE
EXCESS PRESSURE BEYOND BARGE LIMITATIONS WHEN ABOVE SPECIFIC CARGO CURVE
FACILITY VAPOR CONNECTION (PSIG)
0.820
0.800
0.780
0.760
0.740
0.720
0.700
0.680
0.660
GASOLINES
METHANOL
STYRENE
TOLUENE
HEXANE
TRANSFER WITHIN BARGE PRESSURE LIMITATIONS WHEN
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
LIQUID TRANSFER RATE (BBL/HR)

155.750(c) (7) VAPOR COLLECTION SYSTEM PROCEDURES

Vapors are dispersed and disposed of through hose connections to shore facilities. Vapor hose connections at either side of the transverse header vent vapors to shore during loading operations.

Before a transfer using this vessel's vapor recovery system the following steps must be followed:

1. Check the operation of the P/V valves.
   a. Operate the handle on the side of the valve to check that mechanism is free and operating properly. Check the operation of both the pressure and vacuum side. Push down the handle to check the vacuum relief and lift the handle to check the pressure relief.
   b. Check the condition of the flame screen to ensure it is clean and there are no holes or tears.
   c. If the mechanism is not operating properly, the valve will require dismantling for cleaning or repair.
2. All valves on cargo and vapor line shall be tested for free operation. Any stiff operating valves shall be inspected for damage, failure, or polymerization and repaired prior to transferring vapors.
3. Check to ensure that the vent riser isolation valve is fully closed.
4. Vapor and cargo manifold shall be inspected for polymerization by removing blind flanges and examining the manifold with explosion proof lighting before making cargo and vapor hose connections.
5. Ullages and domes shall be inspected for product polymerization prior to vapor collection. This should be done when personnel exposure is below STEL for the specific cargo to be transferred.
6. Vapor and cargo piping will be visually inspected quarterly. This should be done when personnel exposure is below STEL for the specific cargo to be transferred. If the level is not below the STEL then the inspection will be deferred until the next gas free. If a non-gas free inspection must be made before the next gas free because of suspected polymerization, appropriate steps will be taken to reduce personnel exposure below STEL limits. These steps may include vapor vacuuming, respiratory devices, transparent barriers or other sufficient means.

Annually, the vapor piping will be presented to a Coast Guard Inspector for inspection. Precaution shall be taken to ensure that the personnel exposure is below the STEL. This may be accomplished by providing a gas free certificate, or other means such as vapor vacuuming, transparent barrier, remote camera, etc.

During this inspection, all blinds are to be removed and piping shall be visually inspected for obstructions.

155.750(e) OVERFILL PROTECTIONS SYSTEM

Stick Gauge Overfill Devices:

1 Meter stick gauges are located approximately near the center point of each cargo tank. They provide a visual indication of high level and overfill in the cargo tank. Follow these checks before a transfer:

1. Uncap the stick gauges
2. Grasp the gauge firmly and pull it up carefully to the fully raised position.
3. Lower the stick until it engages the float magnet. This will be near at the bottom of the stick's travel. The stick must engage the magnet in each tank in order to begin the transfer.
4. When the cargo in each tank reaches approximately 1-meter ullage, the float and gauge stick will begin to rise. It is important to make sure that the stick continues to rise as the tank fills. This will help provide the best indication of the internal cargo level.
5. The gauge sticks are marked with a green band which extends to the 6" before overfill level, followed by a 6" yellow band extending to the overfill level. The remainder of the stick is colored red. When loading cargo, the green color on the stick indicates the normal loading of the tank, the yellow indicates near over fill (high level) and the red means a dangerous over fill condition and the compartment cargo valve should be closed immediately.

155.750(e)(1) ALARM SYSTEM

Each cargo tank is equipped with cargo tank High Level/Overfill Shutdown sensors. The High-Level sensors will activate when the product level reaches 96.5 percent of its capacity. This will occur when the product level in the tank is approximately 12" below the deck. The Overflow Shutdown System will activate at 98 percent capacity or 60 seconds before the tank becomes 100% full at the maximum transfer rate. This will occur when the product level in the tank is approximately 6" below the deck. These sensors must be connected to the appropriate system before a visual or audio alarm will activate.

155.750(e)(1) GAUGE TREE

Each cargo tank is equipped with a gauge tree located directly under each sight glass. This tree will indicate the product level while the vessel is being loaded. The top rung of the gauge tree is at deck level. The space between each descending paddle is 12" with the bottom paddle being 6'0" below the deck level. The ladder can also serve as a gauge as the space between each descending rung is 12".

THE ALARM SYSTEM OR GAUGE TREE DOES NOT RELIEVE THE PERSON-IN-CHARGE FROM ANY OF THEIR RESPONSIBILITIES OR DUTIES BUT ARE TO BE USED AS ADDITIONAL SAFEGUARDS ONLY.

155.750 (e)(2) PRE-TRANSFER INSPECTION AND TEST REQUIREMENTS

Before a transfer using this vessel's vapor recovery system the following steps must be followed:

1. All pressure/vacuum valves shall be checked for free operation. The P/V valves should be checked for free operation in the pressure and vacuum settings and the flame screen is clean with no rips or tears.
2. All valves on cargo and vapor line shall be tested for free operation. Any stiff operating valves shall be inspected for damage, failure, or polymerization and repaired prior to transferring vapors.
3. Vapor and cargo manifold shall be inspected for polymerization by removing blind flanges and examining the manifold with explosion proof lighting before making cargo and vapor hose connections.
4. Ullages and domes shall be inspected for product polymerization prior to vapor collection. This should be done when personnel exposure is below STEL for the specific cargo to be transferred.
5. 1 Meter stick gauges are located approximately near the center point of each cargo tank. They provide a visual indication of high level and overfill in the cargo tank. Follow these checks before a transfer:
    a. Uncap the stick gauges
    b. Grasp the gauge firmly and pull it up carefully to the fully raised position.
    c. Lower the stick until it engages the float magnet. This will be near at the bottom of the stick's travel. The stick must engage the magnet in each tank in order to begin the transfer.
    d. When the cargo in each tank reaches approximately 39 inches Ullage, the float and gauge stick will begin to rise. It is important to make sure that the stick continues to rise as the tank fills. This will help provide the best indication of the internal cargo level.
6. Test the High Level / Overfill Alarm System for proper operation.
7. Connect the system to the terminal alarm system or PAU at the API connection.
8. Activate the alarm on each tank by operating the manual float lifting device until each alarm has activated in both the High level and overfill positions.
9. All sight glasses into cargo tanks shall be inspected to ensure glass is clear and unobstructed. This inspection includes the checking of wipers.
10. The initial loading rate shall be slowed while the Person-in-Charge and shore facility PIC ensure the return of vapors back to the shore facility.
11. Throughout cargo and vapor transfer and especially at the initial loading, the Person In Charge of the Transfer must monitor pressure/vacuum gauges at the vapor connection to ensure pressure and/or vacuum are below the maximum design of the vessel.
12. After discharging cargo and before disconnection of shore line, the vapor header shall be purged of vapors. Manually depress the farthest vapor header pressure relief valve for approximately 1.5 minutes to clear header of all vapors. To equalize atmospheric pressure inside the cargo tanks, depress pressure relief valve.

All points outlined above are part of this vessel's transfer procedures. The declaration of inspection must be reviewed and verified by the Person-in-Charge before starting the transfer.

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 Shipboard Oil Pollution Emergency Plan (SOPEP), Control Number 56041, for HFL 435 (1236563), has been reviewed and found to be in compliance with the requirements of Regulation 37 of Annex I of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78).

This approval will remain valid until **March 21, 2030**. You must review your plan annually within one (1) month of the anniversary date of the plan's expiration date and submit a letter to this office certifying that the review has been completed. Any alteration or revision made to the plan, with the exception of those made to the appendices and non-mandatory provisions, must be submitted to this office for review and approval prior to the implementation of the revision. Further, the entire plan must be resubmitted to the Coast Guard for reapproval six (6) months before the end of the approval period of the plan.

I remind you that your plan is a vital working document and that implementing the plan will help ensure effective response and mitigation in the event of an oil pollution incident. Please be sure that all parties with responsibilities under the plan are familiar with the plan's procedures and requirements.

This letter shall be maintained onboard the vessel and placed in the front of the plan.

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

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 HFL 435 (1236563) 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

EMPTY BARGE LINES III	HFL 435	REFERENCE: 96189
TANK BARGE, RIVERS		HULL No: 4859
297'-6" X 54'-0" X 12'-0"		DATE: 01/20/2012 Clean

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	O IN			1348	1811	2280	2754	3234	3717	4205	4697	5193
DEADWEIGHT			0	448	911	1380	1855	2334	2817	3305	3797	4293
DISPLACEMENT	1 IN		930	1387	1850	2320	2794	3274	3758	4246	4738	5235
DEADWEIGHT			30	487	950	1420	1894	2374	2858	3346	3838	4335
DISPLACEMENT	2 IN		968	1425	989	2359	2834	3314	3798	4287	4780	5276
DEADWEIGHT			68	525	970	1459	1934	2414	2898	3387	3880	4376
DISPLACEMENT	3 IN		1006	1464	1928	2398	2874	3354	3839	4328	4821	5318
DEADWEIGHT			106	564	1028	1498	1974	2454	2939	3428	3921	4418
DISPLACEMENT	4 IN		1044	1502	1967	2438	2914	3394	3880	4369	4862	5359
DEADWEIGHT			144	602	1067	1538	2014	2494	2980	3469	3962	4459
DISPLACEMENT	5 IN		1082	1540	2006	2477	2954	3435	3920	4410	4903	5401
DEADWEIGHT			182	641	1106	1577	2054	2535	3020	3510	4003	4501
DISPLACEMENT	6 IN		1120	1579	2045	2517	2993	3475	3961	4451	4945	5442
DEADWEIGHT			220	679	1145	1617	2094	2575	3061	3551	4045	4542
DISPLACEMENT	7 IN		1158	1618	2084	2556	3033	3515	4001	4492	4986	5484
DEADWEIGHT			258	718	1184	1656	2133	2615	3101	3592	4086	4584
DISPLACEMENT	8 IN		1196	1656	2123	2596	3073	3556	4042	4533	5027	5526
DEADWEIGHT			296	756	1223	1696	2173	2656	3142	3633	4127	4626
DISPLACEMENT	9 IN		1234	1695	2162	2635	3113	3596	4083	4574	5069	5568
DEADWEIGHT			334	795	1262	1735	2213	2696	3183	3674	4169	4668
DISPLACEMENT	10 IN		1272	1734	2202	2675	3154	3636	4124	4615	5110	
DEADWEIGHT			372	834	1302	1775	2254	2736	3224	3715	4210	
DISPLACEMENT	11 IN		1310	1772	2241	2715	3194	3677	4164	4656	5152	
DEADWEIGHT			410	872	1341	1815	2294	2777	3264	3756	4252	

THE DISPLACEMENT AND THE DEADWEIGHT ARE IN SHORT TONS. ONE SHORT TON IS = 2000 POUNDS

THE LIGHTSHIP WEIGHT IS ESTIMATED = 900 S.TONS (LWT)

FORM 1/4L15W REV #2 7/58

INSPECTORATE
ISO 9001: 2000

BARGE "HFL-435"
HINES FURLONG LINE

INNAGE TABLE

1 PORT OR STAR

HULL NO. 4859

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

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	* 1.56	0	284.19	0	640.15	0	997.80	0	1,355.44	0	1,713.09	0	2,070.74	0	2,428.39	0	2,786.04	0	3,143.68	0	3,501.33	0	3,858.98	0	4,216.63	0	4,574.28	0	4,931.92
1/4	2.84	1/4	291.39	1/4	647.60	1/4	1,005.25	1/4	1,362.89	1/4	1,720.54	1/4	2,078.19	1/4	2,435.84	1/4	2,793.49	1/4	3,151.13	1/4	3,508.78	1/4	3,866.43	1/4	4,224.08	1/4	4,581.73	1/4	4,939.37
1/2	4.12	1/2	298.60	1/2	655.05	1/2	1,012.70	1/2	1,370.35	1/2	1,727.99	1/2	2,085.64	1/2	2,443.29	1/2	2,800.94	1/2	3,158.59	1/2	3,516.23	1/2	3,873.88	1/2	4,231.53	1/2	4,589.18	1/2	4,946.83
3/4	5.40	3/4	305.80	3/4	662.50	3/4	1,020.15	3/4	1,377.80	3/4	1,735.44	3/4	2,093.09	3/4	2,450.74	3/4	2,808.39	3/4	3,166.04	3/4	3,523.68	3/4	3,881.33	3/4	4,238.98	3/4	4,596.63	3/4	4,954.28
1	8.40	1	313.00	1	669.95	1	1,027.60	1	1,385.25	1	1,742.90	1	2,100.54	1	2,458.19	1	2,815.84	1	3,173.49	1	3,531.14	1	3,888.78	1	4,246.43	1	4,604.08	1	4,961.73
1/4	11.41	1/4	320.21	1/4	677.40	1/4	1,035.05	1/4	1,392.70	1/4	1,750.35	1/4	2,107.99	1/4	2,465.64	1/4	2,823.29	1/4	3,180.94	1/4	3,538.59	1/4	3,896.23	1/4	4,253.88	1/4	4,611.53	1/4	4,969.18
1/2	14.41	1/2	327.41	1/2	684.85	1/2	1,042.50	1/2	1,400.15	1/2	1,757.80	1/2	2,115.45	1/2	2,473.09	1/2	2,830.74	1/2	3,188.39	1/2	3,546.04	1/2	3,903.69	1/2	4,261.33	1/2	4,618.98	1/2	4,976.63
3/4	17.42	3/4	334.62	3/4	692.30	3/4	1,049.95	3/4	1,407.60	3/4	1,765.25	3/4	2,122.90	3/4	2,480.54	3/4	2,838.19	3/4	3,195.84	3/4	3,553.49	3/4	3,911.14	3/4	4,268.78	3/4	4,626.43	3/4	4,984.08
2	22.03	2	341.94	2	699.76	2	1,057.40	2	1,415.05	2	1,772.70	2	2,130.35	2	2,488.00	2	2,845.64	2	3,203.29	2	3,560.94	2	3,918.59	2	4,276.24	2	4,633.88	2	4,991.15
1/4	26.64	1/4	349.27	1/4	707.21	1/4	1,064.85	1/4	1,422.50	1/4	1,780.15	1/4	2,137.80	1/4	2,495.45	1/4	2,853.09	1/4	3,210.74	1/4	3,568.39	1/4	3,926.04	1/4	4,283.69	1/4	4,641.33	1/4	4,998.22
1/2	31.26	1/2	356.60	1/2	714.66	1/2	1,072.31	1/2	1,429.95	1/2	1,787.60	1/2	2,145.25	1/2	2,502.90	1/2	2,860.55	1/2	3,218.19	1/2	3,575.84	1/2	3,933.49	1/2	4,291.14	1/2	4,648.79	1/2	5,005.30
3/4	35.87	3/4	363.93	3/4	722.11	3/4	1,079.76	3/4	1,437.40	3/4	1,795.05	3/4	2,152.70	3/4	2,510.35	3/4	2,868.00	3/4	3,225.64	3/4	3,583.29	3/4	3,940.94	3/4	4,298.59	3/4	4,656.24	3/4	5,012.37
3	41.78	3	371.26	3	729.56	3	1,087.21	3	1,444.86	3	1,802.50	3	2,160.15	3	2,517.80	3	2,875.45	3	3,233.10	3	3,590.74	3	3,948.39	3	4,306.04	3	4,663.69	3	5,018.31
1/4	47.58	1/4	378.58	1/4	737.01	1/4	1,094.66	1/4	1,452.31	1/4	1,809.95	1/4	2,167.60	1/4	2,525.25	1/4	2,882.90	1/4	3,240.55	1/4	3,598.19	1/4	3,955.84	1/4	4,313.49	1/4	4,671.14	1/4	5,024.25
1/2	54.02	1/2	385.91	1/2	744.46	1/2	1,102.11	1/2	1,459.76	1/2	1,817.41	1/2	2,175.05	1/2	2,532.70	1/2	2,890.35	1/2	3,248.00	1/2	3,605.65	1/2	3,963.29	1/2	4,320.94	1/2	4,678.59	1/2	5,030.19
3/4	60.36	3/4	393.24	3/4	751.91	3/4	1,109.56	3/4	1,467.21	3/4	1,824.86	3/4	2,182.50	3/4	2,540.15	3/4	2,897.80	3/4	3,255.45	3/4	3,613.10	3/4	3,970.74	3/4	4,328.39	3/4	4,686.04	3/4	5,036.14
4	66.82	4	400.69	4	759.36	4	1,117.01	4	1,474.66	4	1,832.31	4	2,189.96	4	2,547.60	4	2,905.25	4	3,262.90	4	3,620.55	4	3,978.20	4	4,335.84	4	4,693.49	4	5,040.94
1/4	73.29	1/4	408.14	1/4	766.81	1/4	1,124.46	1/4	1,482.11	1/4	1,839.76	1/4	2,197.41	1/4	2,555.05	1/4	2,912.70	1/4	3,270.35	1/4	3,628.00	1/4	3,985.65	1/4	4,343.29	1/4	4,700.94	1/4	5,045.75
1/2	79.75	1/2	415.60	1/2	774.27	1/2	1,131.91	1/2	1,489.56	1/2	1,847.21	1/2	2,204.86	1/2	2,562.51	1/2	2,920.15	1/2	3,277.80	1/2	3,635.45	1/2	3,993.10	1/2	4,350.75	1/2	4,708.39	1/2	5,050.55
3/4	86.22	3/4	423.05	3/4	781.72	3/4	1,139.36	3/4	1,497.01	3/4	1,854.66	3/4	2,212.31	3/4	2,569.96	3/4	2,927.60	3/4	3,285.25	3/4	3,642.90	3/4	4,000.55	3/4	4,358.20	3/4	4,715.84	3/4	5,055.36
5	92.68	5	430.50	5	789.17	5	1,146.82	5	1,504.46	5	1,862.11	5	2,219.76	5	2,577.41	5	2,935.06	5	3,292.70	5	3,650.35	5	4,008.00	5	4,365.65	5	4,723.30	5	5,059.03
1/4	99.14	1/4	437.95	1/4	796.62	1/4	1,154.27	1/4	1,511.91	1/4	1,869.56	1/4	2,227.21	1/4	2,584.86	1/4	2,942.51	1/4	3,300.15	1/4	3,657.80	1/4	4,015.45	1/4	4,373.10	1/4	4,730.75	1/4	5,062.71
1/2	105.61	1/2	445.40	1/2	804.07	1/2	1,161.72	1/2	1,519.37	1/2	1,877.01	1/2	2,234.66	1/2	2,592.31	1/2	2,949.96	1/2	3,307.61	1/2	3,665.25	1/2	4,022.90	1/2	4,380.55	1/2	4,738.20	1/2	5,066.38
3/4	112.07	3/4	452.86	3/4	811.52	3/4	1,169.17	3/4	1,526.82	3/4	1,884.46	3/4	2,242.11	3/4	2,599.76	3/4	2,957.41	3/4	3,315.06	3/4	3,672.70	3/4	4,030.35	3/4	4,388.00	3/4	4,745.65	3/4	5,070.06
6	118.66	6	460.43	6	818.97	6	1,176.62	6	1,534.27	6	1,891.92	6	2,249.56	6	2,607.21	6	2,964.86	6	3,322.51	6	3,680.16	6	4,037.80	6	4,395.45	6	4,753.10	6	5,072.60
1/4	125.24	1/4	468.01	1/4	826.42	1/4	1,184.07	1/4	1,541.72	1/4	1,899.37	1/4	2,257.01	1/4	2,614.66	1/4	2,972.31	1/4	3,329.96	1/4	3,687.61	1/4	4,045.25	1/4	4,402.90	1/4	4,760.55	1/4	5,075.15
1/2	131.83	1/2	475.59	1/2	833.87	1/2	1,191.52	1/2	1,549.17	1/2	1,906.82	1/2	2,264.47	1/2	2,622.11	1/2	2,979.76	1/2	3,337.41	1/2	3,695.06	1/2	4,052.71	1/2	4,410.35	1/2	4,768.00	1/2	5,077.69
3/4	138.42	3/4	483.17	3/4	841.32	3/4	1,198.97	3/4	1,556.62	3/4	1,914.27	3/4	2,271.92	3/4	2,629.56	3/4	2,987.21	3/4	3,344.86	3/4	3,702.51	3/4	4,060.16	3/4	4,417.80	3/4	4,775.45	3/4	5,080.24
7	145.00	7	490.75	7	848.78	7	1,206.42	7	1,564.07	7	1,921.72	7	2,279.37	7	2,637.02	7	2,994.66	7	3,352.31	7	3,709.96	7	4,067.61	7	4,425.26	7	4,782.90	7	5,081.65
1/4	151.59	1/4	498.32	1/4	856.23	1/4	1,213.87	1/4	1,571.52	1/4	1,929.17	1/4	2,286.82	1/4	2,644.47	1/4	3,002.11	1/4	3,359.76	1/4	3,717.41	1/4	4,075.06	1/4	4,432.71	1/4	4,790.35	1/4	5,083.06
1/2	158.17	1/2	505.90	1/2	863.68	1/2	1,221.33	1/2	1,578.97	1/2	1,936.62	1/2	2,294.27	1/2	2,651.92	1/2	3,009.57	1/2	3,367.21	1/2	3,724.86	1/2	4,082.51	1/2	4,440.16	1/2	4,797.81	1/2	5,084.48
3/4	164.76	3/4	513.48	3/4	871.13	3/4	1,228.78	3/4	1,586.42	3/4	1,944.07	3/4	2,301.72	3/4	2,659.37	3/4	3,017.02	3/4	3,374.66	3/4	3,732.31	3/4	4,089.96	3/4	4,447.61	3/4	4,805.26	3/4	5,085.89
8	171.71	8	520.93	8	878.58	8	1,236.23	8	1,593.88	8	1,951.52	8	2,309.17	8	2,666.82	8	3,024.47	8	3,382.12	8	3,739.76	8	4,097.41	8	4,455.06	8	4,812.71	8	5,086.30
1/4	178.66	1/4	528.38	1/4	886.03	1/4	1,243.68	1/4	1,601.33	1/4	1,958.97	1/4	2,316.62	1/4	2,674.27	1/4	3,031.92	1/4	3,389.57	1/4	3,747.21	1/4	4,104.86	1/4	4,462.51	1/4	4,820.16	1/4	5,086.72
1/2	185.62	1/2	535.83	1/2	893.48	1/2	1,251.13	1/2	1,608.78	1/2	1,966.43	1/2	2,324.07	1/2	2,681.72	1/2	3,039.37	1/2	3,397.02	1/2	3,754.67	1/2	4,112.31	1/2	4,469.96	1/2	4,827.61	1/2	5,087.14
3/4	192.57	3/4	543.28	3/4	900.93	3/4	1,258.58	3/4	1,616.23	3/4	1,973.88	3/4	2,331.52	3/4	2,689.17	3/4	3,046.82	3/4	3,404.47	3/4	3,762.12	3/4	4,119.76	3/4	4,477.41	3/4	4,835.06	3/4	
9	199.52	9	550.74	9	908.38	9	1,266.03	9	1,623.68	9	1,981.33	9	2,338.98	9	2,696.62	9	3,054.27	9	3,411.92	9	3,769.57	9	4,127.22	9	4,484.86	9	4,842.51	9	
1/4	206.47	1/4	558.19	1/4	915.83	1/4	1,273.48	1/4	1,631.13	1/4	1,988.78	1/4	2,346.43	1/4	2,704.07	1/4	3,061.72	1/4	3,419.37	1/4	3,777.02	1/4	4,134.67	1/4	4,492.31	1/4	4,849.96	1/4	
1/2	213.42	1/2	565.64	1/2	923.29	1/2	1,280.93	1/2	1,638.58	1/2	1,996.23	1/2	2,353.88	1/2	2,711.53	1/2	3,069.17	1/2	3,426.82	1/2	3,784.47	1/2	4,142.12	1/2	4,499.77	1/2	4,857.41	1/2	
3/4	220.38	3/4	573.09	3/4	930.74	3/4	1,288.38	3/4	1,646.03	3/4	2,003.68	3/4	2,361.33	3/4	2,718.98	3/4	3,076.62	3/4	3,434.27	3/4	3,791.92	3/4	4,149.57	3/4	4,507.22	3/4	4,864.86	3/4	
10	227.45	10	580.54	10	938.19	10	1,295.84	10	1,653.48	10	2,011.13	10	2,368.78	10	2,726.43	10	3,084.08	10	3,441.72	10	3,799.37	10	4,157.02	10	4,514.67	10	4,872.32	10	
1/4	234.53	1/4	587.99	1/4	945.64	1/4	1,303.29	1/4	1,660.93	1/4	2,018.58	1/4	2,376.23	1/4	2,733.88	1/4	3,091.53	1/4	3,449.17	1/4	3,806.82	1/4	4,164.47	1/4	4,522.12	1/4	4,879.77	1/4	
1/2	241.60	1/2	595.44	1/2	953.09	1/2	1,310.74	1/2	1,668.39	1/2	2,026.03	1/2	2,383.68	1/2	2,741.33	1/2	3,098.98	1/2	3,456.63	1/2	3,814.27	1/2	4,171.92	1/2	4,529.57	1/2	4,887.22	1/2	
3/4	248.68	3/4	602.89	3/4	960.54	3/4	1,318.19	3/4	1,675.84	3/4	2,033.48	3/4	2,391.13	3/4	2,748.78	3/4	3,106.43	3/4	3,464.08	3/4	3,821.72	3/4	4,179.37	3/4	4,537.02	3/4	4,894.67	3/4	
11	255.76	11	610.34	11	967.99	11	1,325.64	11	1,683.29	11	2,040.94	11	2,398.58	11	2,756.23	11	3,113.88	11	3,471.53	11	3,829.18	11	4,186.82	11	4,544.47	11	4,902.12	11	
1/4	262.83	1/4	617.79	1/4	975.44	1/4	1,333.09	1/4	1,690.74	1/4	2,048.39	1/4	2,406.03	1/4	2,763.68	1/4	3,121.33	1/4	3,478.98	1/4	3,836.63	1/4	4,194.27	1/4	4,551.92	1/4	4,909.57	1/4	
1/2	269.91	1/2	625.25	1/2	982.89	1/2	1,340.54	1/2	1,698.19	1/2	2,055.84	1/2	2,413.49	1/2	2,771.13	1/2	3,128.78	1/2	3,486.43	1/2	3,844.08	1/2	4,201.73	1/2	4,559.37	1/2	4,917.02	1/2	
3/4	276.98	3/4	632.70	3/4	990.34	3/4	1,347.99	3/4	1,705.64	3/4	2,063.29	3/4	2,420.94	3/4	2,778.58	3/4	3,136.23	3/4	3,493.88	3/4	3,851.53	3/4	4,209.18	3/4	4,566.82	3/4	4,924.47	3/4	

CAPACITIES GIVEN IN BARRELS OF 42 U.S. GALLONS

STRAPPED: 12/28/11

* CAPACITY BELOW STRIKE POINT.

REFERENCE GAUGE HEIGHT : 17'-4 3/4" (TO RIM OF 2" DIAMETER BALL VALVE)

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

FORMER EBL 2906

FORM 1/4L15W REV #2 7/98

INSPECTORATE
ISO 9001: 2000

BARGE "HFL-435"
HINES FURLONG LINE

INNAGE TABLE

2 PORT OR STAR

HULL NO. 4859

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

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	* 1.30	0	301.58	0	661.91	0	1,022.25	0	1,382.58	0	1,742.92	0	2,103.26	0	2,463.59	0	2,823.93	0	3,184.26	0	3,544.60	0	3,904.94	0	4,265.27	0	4,625.61	0	4,971.71
1/4	2.33	1/4	309.08	1/4	669.42	1/4	1,029.75	1/4	1,390.09	1/4	1,750.43	1/4	2,110.76	1/4	2,471.10	1/4	2,831.43	1/4	3,191.77	1/4	3,552.11	1/4	3,912.44	1/4	4,272.78	1/4	4,633.11	1/4	4,978.85
1/2	3.35	1/2	316.59	1/2	676.92	1/2	1,037.26	1/2	1,397.60	1/2	1,757.93	1/2	2,118.27	1/2	2,478.61	1/2	2,838.94	1/2	3,199.28	1/2	3,559.61	1/2	3,919.95	1/2	4,280.29	1/2	4,640.62	1/2	4,985.99
3/4	4.38	3/4	324.10	3/4	684.43	3/4	1,044.77	3/4	1,405.10	3/4	1,765.44	3/4	2,125.78	3/4	2,486.11	3/4	2,846.45	3/4	3,206.78	3/4	3,567.12	3/4	3,927.46	3/4	4,287.79	3/4	4,648.13	3/4	4,993.13
1	7.46	1	331.60	1	691.94	1	1,052.28	1	1,412.61	1	1,772.95	1	2,133.28	1	2,493.62	1	2,853.96	1	3,214.29	1	3,574.63	1	3,934.96	1	4,295.30	1	4,655.63	1	5,000.28
1/4	10.54	1/4	339.11	1/4	699.45	1/4	1,059.78	1/4	1,420.12	1/4	1,780.45	1/4	2,140.79	1/4	2,501.13	1/4	2,861.46	1/4	3,221.80	1/4	3,582.13	1/4	3,942.47	1/4	4,302.81	1/4	4,663.14	1/4	5,007.42
1/2	13.62	1/2	346.62	1/2	706.95	1/2	1,067.29	1/2	1,427.63	1/2	1,787.96	1/2	2,148.30	1/2	2,508.63	1/2	2,868.97	1/2	3,229.31	1/2	3,589.64	1/2	3,949.98	1/2	4,310.31	1/2	4,670.65	1/2	5,014.56
3/4	16.70	3/4	354.12	3/4	714.46	3/4	1,074.80	3/4	1,435.13	3/4	1,795.47	3/4	2,155.80	3/4	2,516.14	3/4	2,876.48	3/4	3,236.81	3/4	3,597.15	3/4	3,957.48	3/4	4,317.82	3/4	4,678.16	3/4	5,021.70
2	21.59	2	361.63	2	721.97	2	1,082.30	2	1,442.64	2	1,802.98	2	2,163.31	2	2,523.65	2	2,883.98	2	3,244.32	2	3,604.66	2	3,964.99	2	4,325.33	2	4,685.66	2	5,028.31
1/4	26.48	1/4	369.14	1/4	729.47	1/4	1,089.81	1/4	1,450.15	1/4	1,810.48	1/4	2,170.82	1/4	2,531.15	1/4	2,891.49	1/4	3,251.83	1/4	3,612.16	1/4	3,972.50	1/4	4,332.83	1/4	4,693.17	1/4	5,034.91
1/2	31.38	1/2	376.65	1/2	736.98	1/2	1,097.32	1/2	1,457.65	1/2	1,817.99	1/2	2,178.33	1/2	2,538.66	1/2	2,899.00	1/2	3,259.33	1/2	3,619.67	1/2	3,980.01	1/2	4,340.34	1/2	4,700.31	1/2	5,041.52
3/4	36.27	3/4	384.15	3/4	744.49	3/4	1,104.82	3/4	1,465.16	3/4	1,825.50	3/4	2,185.83	3/4	2,546.17	3/4	2,906.50	3/4	3,266.84	3/4	3,627.18	3/4	3,987.51	3/4	4,347.85	3/4	4,707.45	3/4	5,048.13
3	42.71	3	391.66	3	751.99	3	1,112.33	3	1,472.67	3	1,833.00	3	2,193.34	3	2,553.68	3	2,914.01	3	3,274.35	3	3,634.68	3	3,995.02	3	4,355.36	3	4,714.60	3	5,053.72
1/4	49.14	1/4	399.17	1/4	759.50	1/4	1,119.84	1/4	1,480.17	1/4	1,840.51	1/4	2,200.85	1/4	2,561.18	1/4	2,921.52	1/4	3,281.85	1/4	3,642.19	1/4	4,002.53	1/4	4,362.86	1/4	4,721.74	1/4	5,059.31
1/2	56.08	1/2	406.67	1/2	767.01	1/2	1,127.35	1/2	1,487.68	1/2	1,848.02	1/2	2,208.35	1/2	2,568.69	1/2	2,929.03	1/2	3,289.36	1/2	3,649.70	1/2	4,010.03	1/2	4,370.37	1/2	4,728.88	1/2	5,064.90
3/4	63.01	3/4	414.18	3/4	774.52	3/4	1,134.85	3/4	1,495.19	3/4	1,855.52	3/4	2,215.86	3/4	2,576.20	3/4	2,936.53	3/4	3,296.87	3/4	3,657.20	3/4	4,017.54	3/4	4,377.88	3/4	4,736.02	3/4	5,070.49
4	69.95	4	421.69	4	782.02	4	1,142.36	4	1,502.70	4	1,863.03	4	2,223.37	4	2,583.70	4	2,944.04	4	3,304.38	4	3,664.71	4	4,025.05	4	4,385.38	4	4,743.16	4	5,075.02
1/4	76.88	1/4	429.19	1/4	789.53	1/4	1,149.87	1/4	1,510.20	1/4	1,870.54	1/4	2,230.87	1/4	2,591.21	1/4	2,951.55	1/4	3,311.88	1/4	3,672.22	1/4	4,032.55	1/4	4,392.89	1/4	4,750.31	1/4	5,079.55
1/2	83.81	1/2	436.70	1/2	797.04	1/2	1,157.37	1/2	1,517.71	1/2	1,878.05	1/2	2,238.38	1/2	2,598.72	1/2	2,959.05	1/2	3,319.39	1/2	3,679.73	1/2	4,040.06	1/2	4,400.40	1/2	4,757.45	1/2	5,084.07
3/4	90.75	3/4	444.21	3/4	804.54	3/4	1,164.88	3/4	1,525.22	3/4	1,885.55	3/4	2,245.89	3/4	2,606.22	3/4	2,966.56	3/4	3,326.90	3/4	3,687.23	3/4	4,047.57	3/4	4,407.90	3/4	4,764.59	3/4	5,088.60
5	97.68	5	451.72	5	812.05	5	1,172.39	5	1,532.72	5	1,893.06	5	2,253.40	5	2,613.73	5	2,974.07	5	3,334.40	5	3,694.74	5	4,055.08	5	4,415.41	5	4,771.73	5	5,092.06
1/4	104.62	1/4	459.22	1/4	819.56	1/4	1,179.89	1/4	1,540.23	1/4	1,900.57	1/4	2,260.90	1/4	2,621.24	1/4	2,981.57	1/4	3,341.91	1/4	3,702.25	1/4	4,062.58	1/4	4,422.92	1/4	4,778.87	1/4	5,095.52
1/2	111.55	1/2	466.73	1/2	827.06	1/2	1,187.40	1/2	1,547.74	1/2	1,908.07	1/2	2,268.41	1/2	2,628.75	1/2	2,989.08	1/2	3,349.42	1/2	3,709.75	1/2	4,070.09	1/2	4,430.43	1/2	4,786.02	1/2	5,098.98
3/4	118.48	3/4	474.24	3/4	834.57	3/4	1,194.91	3/4	1,555.24	3/4	1,915.58	3/4	2,275.92	3/4	2,636.25	3/4	2,996.59	3/4	3,356.92	3/4	3,717.26	3/4	4,077.60	3/4	4,437.93	3/4	4,793.16	3/4	5,102.44
6	125.42	6	481.74	6	842.08	6	1,202.42	6	1,562.75	6	1,923.09	6	2,283.42	6	2,643.76	6	3,004.10	6	3,364.43	6	3,724.77	6	4,085.10	6	4,445.44	6	4,800.30	6	5,104.83
1/4	132.35	1/4	489.25	1/4	849.59	1/4	1,209.92	1/4	1,570.26	1/4	1,930.59	1/4	2,290.93	1/4	2,651.27	1/4	3,011.60	1/4	3,371.94	1/4	3,732.27	1/4	4,092.61	1/4	4,452.95	1/4	4,807.44	1/4	5,107.23
1/2	139.29	1/2	496.76	1/2	857.09	1/2	1,217.43	1/2	1,577.77	1/2	1,938.10	1/2	2,298.44	1/2	2,658.77	1/2	3,019.11	1/2	3,379.45	1/2	3,739.78	1/2	4,100.12	1/2	4,460.45	1/2	4,814.58	1/2	5,109.62
3/4	146.22	3/4	504.26	3/4	864.60	3/4	1,224.94	3/4	1,585.27	3/4	1,945.61	3/4	2,305.94	3/4	2,666.28	3/4	3,026.62	3/4	3,386.95	3/4	3,747.29	3/4	4,107.62	3/4	4,467.96	3/4	4,821.73	3/4	5,112.01
7	153.15	7	511.77	7	872.11	7	1,232.44	7	1,592.78	7	1,953.12	7	2,313.45	7	2,673.79	7	3,034.12	7	3,394.46	7	3,754.80	7	4,115.13	7	4,475.47	7	4,828.87	7	5,113.34
1/4	160.09	1/4	519.28	1/4	879.61	1/4	1,239.95	1/4	1,600.29	1/4	1,960.62	1/4	2,320.96	1/4	2,681.29	1/4	3,041.63	1/4	3,401.97	1/4	3,762.30	1/4	4,122.64	1/4	4,482.97	1/4	4,836.01	1/4	5,114.67
1/2	167.02	1/2	526.79	1/2	887.12	1/2	1,247.46	1/2	1,607.79	1/2	1,968.13	1/2	2,328.47	1/2	2,688.80	1/2	3,049.14	1/2	3,409.47	1/2	3,769.81	1/2	4,130.15	1/2	4,490.48	1/2	4,843.15	1/2	5,116.00
3/4	173.96	3/4	534.29	3/4	894.63	3/4	1,254.96	3/4	1,615.30	3/4	1,975.64	3/4	2,335.97	3/4	2,696.31	3/4	3,056.64	3/4	3,416.98	3/4	3,777.32	3/4	4,137.65	3/4	4,497.99	3/4	4,850.29	3/4	5,117.33
8	181.46	8	541.80	8	902.13	8	1,262.47	8	1,622.81	8	1,983.14	8	2,343.48	8	2,703.82	8	3,064.15	8	3,424.49	8	3,784.82	8	4,145.16	8	4,505.50	8	4,857.44	8	5,117.72
1/4	188.97	1/4	549.31	1/4	909.64	1/4	1,269.98	1/4	1,630.31	1/4	1,990.65	1/4	2,350.99	1/4	2,711.32	1/4	3,071.66	1/4	3,431.99	1/4	3,792.33	1/4	4,152.67	1/4	4,513.00	1/4	4,864.58	1/4	5,118.12
1/2	196.48	1/2	556.81	1/2	917.15	1/2	1,277.49	1/2	1,637.82	1/2	1,998.16	1/2	2,358.49	1/2	2,718.83	1/2	3,079.17	1/2	3,439.50	1/2	3,799.84	1/2	4,160.17	1/2	4,520.51	1/2	4,871.72	1/2	5,118.52
3/4	203.98	3/4	564.32	3/4	924.66	3/4	1,284.99	3/4	1,645.33	3/4	2,005.66	3/4	2,366.00	3/4	2,726.34	3/4	3,086.67	3/4	3,447.01	3/4	3,807.34	3/4	4,167.68	3/4	4,528.02	3/4	4,878.86	3/4	
9	211.49	9	571.83	9	932.16	9	1,292.50	9	1,652.84	9	2,013.17	9	2,373.51	9	2,733.84	9	3,094.18	9	3,454.52	9	3,814.85	9	4,175.19	9	4,535.52	9	4,886.00	9	
1/4	219.00	1/4	579.33	1/4	939.67	1/4	1,300.01	1/4	1,660.34	1/4	2,020.68	1/4	2,381.01	1/4	2,741.35	1/4	3,101.69	1/4	3,462.02	1/4	3,822.36	1/4	4,182.69	1/4	4,543.03	1/4	4,893.15	1/4	
1/2	226.51	1/2	586.84	1/2	947.18	1/2	1,307.51	1/2	1,667.85	1/2	2,028.19	1/2	2,388.52	1/2	2,748.86	1/2	3,109.19	1/2	3,469.53	1/2	3,829.87	1/2	4,190.20	1/2	4,550.54	1/2	4,900.29	1/2	
3/4	234.01	3/4	594.35	3/4	954.68	3/4	1,315.02	3/4	1,675.36	3/4	2,035.69	3/4	2,396.03	3/4	2,756.36	3/4	3,116.70	3/4	3,477.04	3/4	3,837.37	3/4	4,197.71	3/4	4,558.04	3/4	4,907.43	3/4	
10	241.52	10	601.86	10	962.19	10	1,322.53	10	1,682.86	10	2,043.20	10	2,403.54	10	2,763.87	10	3,124.21	10	3,484.54	10	3,844.88	10	4,205.22	10	4,565.55	10	4,914.57	10	
1/4	249.03	1/4	609.36	1/4	969.70	1/4	1,330.03	1/4	1,690.37	1/4	2,050.71	1/4	2,411.04	1/4	2,771.38	1/4	3,131.71	1/4	3,492.05	1/4	3,852.39	1/4	4,212.72	1/4	4,573.06	1/4	4,921.71	1/4	
1/2	256.53	1/2	616.87	1/2	977.20	1/2	1,337.54	1/2	1,697.88	1/2	2,058.21	1/2	2,418.55	1/2	2,778.89	1/2	3,139.22	1/2	3,499.56	1/2	3,859.89	1/2	4,220.23	1/2	4,580.57	1/2	4,928.86	1/2	
3/4	264.04	3/4	624.38	3/4	984.71	3/4	1,345.05	3/4	1,705.38	3/4	2,065.72	3/4	2,426.06	3/4	2,786.39	3/4	3,146.73	3/4	3,507.06	3/4	3,867.40	3/4	4,227.74	3/4	4,588.07	3/4	4,936.00	3/4	
11	271.55	11	631.88	11	992.22	11	1,352.56	11	1,712.89	11	2,073.23	11	2,433.56	11	2,793.90	11	3,154.24	11	3,514.57	11	3,874.91	11	4,235.24	11	4,595.58	11	4,943.14	11	
1/4	279.05	1/4	639.39	1/4	999.73	1/4	1,360.06	1/4	1,720.40	1/4	2,080.73	1/4	2,441.07	1/4	2,801.41	1/4	3,161.74	1/4	3,522.08	1/4	3,882.41	1/4	4,242.75	1/4	4,603.09	1/4	4,950.28	1/4	
1/2	286.56	1/2	646.90	1/2	1,007.23	1/2	1,367.57	1/2	1,727.91	1/2	2,088.24	1/2	2,448.58	1/2	2,808.91	1/2	3,169.25	1/2	3,529.59	1/2	3,889.92	1/2	4,250.26	1/2	4,610.59	1/2	4,957.42	1/2	
3/4	294.07	3/4	654.40	3/4	1,014.74	3/4	1,375.08	3/4	1,735.41	3/4	2,095.75	3/4	2,456.08	3/4	2,816.42	3/4	3,176.76	3/4	3,537.09	3/4	3,897.43	3/4	4,257.76	3/4	4,618.10	3/4	4,964.57	3/4	

CAPACITIES GIVEN IN BARRELS OF 42 U.S. GALLONS

STRAPPED: 12/28/11

* CAPACITY BELOW STRIKE POINT.

REFERENCE GAUGE HEIGHT : 17'-4 3/4" (TO RIM OF 2" DIAMETER BALL VALVE)

FORMER EBL 2986

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 1/4115W REV #2:7/98

INSPECTORATE
ISO 9001: 2000

BARGE "HFL-435"
HINES FURLONG LINE

INNAGE TABLE

3 PORT OR STAR

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

HULL NO. 4859

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	* 1.36	0	314.32	0	679.52	0	1,043.20	0	1,405.94	0	1,768.67	0	2,131.41	0	2,494.14	0	2,856.88	0	3,219.61	0	3,569.28	0	3,926.58	0	4,080.22	0	4,333.85	0	4,587.48
1/4	2.44	1/4	321.93	1/4	687.10	1/4	1,050.76	1/4	1,413.49	1/4	1,776.23	1/4	2,138.96	1/4	2,501.70	1/4	2,864.44	1/4	3,227.17	1/4	3,575.35	1/4	3,931.87	1/4	4,085.50	1/4	4,339.13	1/4	4,592.76
1/2	3.51	1/2	329.54	1/2	694.68	1/2	1,058.31	1/2	1,421.05	1/2	1,783.79	1/2	2,146.52	1/2	2,509.26	1/2	2,871.99	1/2	3,234.73	1/2	3,581.41	1/2	3,937.15	1/2	4,090.78	1/2	4,344.42	1/2	4,598.05
3/4	4.59	3/4	337.15	3/4	702.25	3/4	1,065.87	3/4	1,428.61	3/4	1,791.34	3/4	2,154.08	3/4	2,516.81	3/4	2,879.55	3/4	3,242.29	3/4	3,587.12	3/4	3,942.44	3/4	4,096.07	3/4	4,349.70	3/4	4,603.33
1	7.92	1	344.76	1	709.83	1	1,073.43	1	1,436.16	1	1,798.90	1	2,161.64	1	2,524.37	1	2,887.11	1	3,249.84	1	3,592.84	1	3,947.72	1	4,101.35	1	4,354.98	1	4,608.62
1/4	11.25	1/4	352.37	1/4	717.41	1/4	1,080.98	1/4	1,443.72	1/4	1,806.46	1/4	2,169.19	1/4	2,531.93	1/4	2,894.66	1/4	3,257.40	1/4	3,598.56	1/4	3,953.00	1/4	4,106.64	1/4	4,360.27	1/4	4,613.90
1/2	14.58	1/2	359.98	1/2	724.99	1/2	1,088.54	1/2	1,451.28	1/2	1,814.01	1/2	2,176.75	1/2	2,539.48	1/2	2,902.22	1/2	3,264.96	1/2	3,604.27	1/2	3,958.29	1/2	4,111.92	1/2	4,365.55	1/2	4,619.18
3/4	17.91	3/4	367.59	3/4	732.56	3/4	1,096.10	3/4	1,458.83	3/4	1,821.57	3/4	2,184.31	3/4	2,547.04	3/4	2,909.78	3/4	3,272.51	3/4	3,609.68	3/4	3,963.57	3/4	4,117.20	3/4	4,370.84	3/4	4,624.47
2	23.10	2	375.20	2	740.14	2	1,103.66	2	1,466.39	2	1,829.13	2	2,191.86	2	2,554.60	2	2,917.33	2	3,280.07	2	3,615.10	2	3,968.86	2	4,122.49	2	4,376.12	2	4,629.36
1/4	28.29	1/4	382.80	1/4	747.72	1/4	1,111.21	1/4	1,473.95	1/4	1,836.68	1/4	2,199.42	1/4	2,562.16	1/4	2,924.89	1/4	3,287.63	1/4	3,620.51	1/4	3,974.14	1/4	4,127.77	1/4	4,381.40	1/4	4,634.25
1/2	33.48	1/2	390.41	1/2	755.29	1/2	1,118.77	1/2	1,481.51	1/2	1,844.24	1/2	2,206.98	1/2	2,569.71	1/2	2,932.45	1/2	3,295.18	1/2	3,625.79	1/2	3,979.42	1/2	4,133.06	1/2	4,386.69	1/2	4,639.14
3/4	38.68	3/4	398.02	3/4	762.87	3/4	1,126.33	3/4	1,489.06	3/4	1,851.80	3/4	2,214.53	3/4	2,577.27	3/4	2,940.01	3/4	3,302.74	3/4	3,631.08	3/4	3,984.71	3/4	4,138.34	3/4	4,391.97	3/4	4,644.03
3	45.50	3	405.63	3	770.45	3	1,133.88	3	1,496.62	3	1,859.36	3	2,222.09	3	2,584.83	3	2,947.56	3	3,310.30	3	3,636.36	3	3,989.99	3	4,143.62	3	4,397.26	3	4,648.14
1/4	52.33	1/4	413.24	1/4	778.02	1/4	1,141.44	1/4	1,504.18	1/4	1,866.91	1/4	2,229.65	1/4	2,592.38	1/4	2,955.12	1/4	3,317.86	1/4	3,641.64	1/4	3,995.28	1/4	4,148.91	1/4	4,402.54	1/4	4,652.25
1/2	59.70	1/2	420.85	1/2	785.60	1/2	1,149.00	1/2	1,511.73	1/2	1,874.47	1/2	2,237.21	1/2	2,599.94	1/2	2,962.68	1/2	3,325.41	1/2	3,646.93	1/2	3,900.56	1/2	4,154.19	1/2	4,407.82	1/2	4,656.36
3/4	67.07	3/4	428.46	3/4	793.18	3/4	1,156.55	3/4	1,519.29	3/4	1,882.03	3/4	2,244.76	3/4	2,607.50	3/4	2,970.23	3/4	3,332.97	3/4	3,652.21	3/4	3,905.84	3/4	4,159.48	3/4	4,413.11	3/4	4,660.46
4	74.44	4	436.07	4	800.76	4	1,164.11	4	1,526.85	4	1,889.58	4	2,252.32	4	2,615.05	4	2,977.79	4	3,340.53	4	3,657.50	4	3,911.13	4	4,164.76	4	4,418.39	4	4,663.79
1/4	81.80	1/4	443.68	1/4	808.33	1/4	1,171.67	1/4	1,534.40	1/4	1,897.14	1/4	2,259.88	1/4	2,622.61	1/4	2,985.35	1/4	3,348.08	1/4	3,662.78	1/4	3,916.41	1/4	4,170.04	1/4	4,423.68	1/4	4,667.11
1/2	89.17	1/2	451.29	1/2	815.91	1/2	1,179.23	1/2	1,541.96	1/2	1,904.70	1/2	2,267.43	1/2	2,630.17	1/2	2,992.90	1/2	3,355.64	1/2	3,668.06	1/2	3,921.70	1/2	4,175.33	1/2	4,428.96	1/2	4,670.44
3/4	96.54	3/4	458.89	3/4	823.49	3/4	1,186.78	3/4	1,549.52	3/4	1,912.25	3/4	2,274.99	3/4	2,637.73	3/4	3,000.46	3/4	3,363.20	3/4	3,673.35	3/4	3,926.98	3/4	4,180.61	3/4	4,434.24	3/4	4,673.76
5	103.91	5	466.50	5	831.06	5	1,194.34	5	1,557.08	5	1,919.81	5	2,282.55	5	2,645.28	5	3,008.02	5	3,370.75	5	3,678.63	5	3,932.26	5	4,185.90	5	4,439.53	5	4,676.31
1/4	111.28	1/4	474.11	1/4	838.64	1/4	1,201.90	1/4	1,564.63	1/4	1,927.37	1/4	2,290.10	1/4	2,652.84	1/4	3,015.58	1/4	3,378.31	1/4	3,683.92	1/4	3,937.55	1/4	4,191.18	1/4	4,444.81	1/4	4,678.85
1/2	118.65	1/2	481.72	1/2	846.22	1/2	1,209.45	1/2	1,572.19	1/2	1,934.93	1/2	2,297.66	1/2	2,660.40	1/2	3,023.13	1/2	3,385.87	1/2	3,689.20	1/2	3,942.83	1/2	4,196.46	1/2	4,450.10	1/2	4,681.39
3/4	126.02	3/4	489.33	3/4	853.79	3/4	1,217.01	3/4	1,579.75	3/4	1,942.48	3/4	2,305.22	3/4	2,667.95	3/4	3,030.69	3/4	3,393.43	3/4	3,694.48	3/4	3,948.12	3/4	4,201.75	3/4	4,455.38	3/4	4,683.93
6	133.39	6	496.94	6	861.37	6	1,224.57	6	1,587.30	6	1,950.04	6	2,312.78	6	2,675.51	6	3,038.25	6	3,400.98	6	3,699.77	6	3,953.40	6	4,207.03	6	4,460.66	6	4,685.69
1/4	140.76	1/4	504.55	1/4	868.95	1/4	1,232.12	1/4	1,594.86	1/4	1,957.60	1/4	2,320.33	1/4	2,683.07	1/4	3,045.80	1/4	3,408.54	1/4	3,705.05	1/4	3,958.68	1/4	4,212.32	1/4	4,465.95	1/4	4,687.45
1/2	148.13	1/2	512.16	1/2	876.53	1/2	1,239.68	1/2	1,602.42	1/2	1,965.15	1/2	2,327.89	1/2	2,690.62	1/2	3,053.36	1/2	3,416.10	1/2	3,710.34	1/2	3,963.97	1/2	4,217.60	1/2	4,471.23	1/2	4,689.22
3/4	155.49	3/4	519.77	3/4	884.10	3/4	1,247.24	3/4	1,609.97	3/4	1,972.71	3/4	2,335.45	3/4	2,698.18	3/4	3,060.92	3/4	3,423.65	3/4	3,715.62	3/4	3,969.25	3/4	4,222.88	3/4	4,476.52	3/4	4,690.98
7	162.86	7	527.38	7	891.68	7	1,254.80	7	1,617.53	7	1,980.27	7	2,343.00	7	2,705.74	7	3,068.47	7	3,431.21	7	3,720.90	7	3,974.54	7	4,228.17	7	4,481.80	7	4,691.95
1/4	170.23	1/4	534.98	1/4	899.26	1/4	1,262.35	1/4	1,625.09	1/4	1,987.82	1/4	2,350.56	1/4	2,713.30	1/4	3,076.03	1/4	3,438.77	1/4	3,726.19	1/4	3,979.82	1/4	4,233.45	1/4	4,487.08	1/4	4,692.93
1/2	177.60	1/2	542.59	1/2	906.83	1/2	1,269.91	1/2	1,632.65	1/2	1,995.38	1/2	2,358.12	1/2	2,720.85	1/2	3,083.59	1/2	3,446.32	1/2	3,731.47	1/2	3,985.10	1/2	4,238.74	1/2	4,492.37	1/2	4,693.90
3/4	184.97	3/4	550.20	3/4	914.41	3/4	1,277.47	3/4	1,640.20	3/4	2,002.94	3/4	2,365.67	3/4	2,728.41	3/4	3,091.15	3/4	3,453.77	3/4	3,736.76	3/4	3,990.39	3/4	4,244.02	3/4	4,497.65	3/4	4,694.88
8	192.58	8	557.81	8	921.99	8	1,285.02	8	1,647.76	8	2,010.50	8	2,373.23	8	2,735.97	8	3,098.70	8	3,461.22	8	3,742.04	8	3,995.67	8	4,249.30	8	4,502.94	8	4,695.17
1/4	200.19	1/4	565.42	1/4	929.56	1/4	1,292.58	1/4	1,655.32	1/4	2,018.05	1/4	2,380.79	1/4	2,743.52	1/4	3,106.26	1/4	3,468.67	1/4	3,747.32	1/4	4,000.96	1/4	4,254.59	1/4	4,508.22	1/4	4,695.46
1/2	207.80	1/2	573.03	1/2	937.14	1/2	1,300.14	1/2	1,662.87	1/2	2,025.61	1/2	2,388.34	1/2	2,751.08	1/2	3,113.82	1/2	3,476.11	1/2	3,752.61	1/2	4,006.24	1/2	4,259.87	1/2	4,513.50	1/2	4,695.75
3/4	215.41	3/4	580.64	3/4	944.72	3/4	1,307.69	3/4	1,670.43	3/4	2,033.17	3/4	2,395.90	3/4	2,758.64	3/4	3,121.37	3/4	3,483.21	3/4	3,757.89	3/4	4,011.52	3/4	4,265.16	3/4	4,518.79	3/4	
9	223.02	9	588.25	9	952.30	9	1,315.25	9	1,677.99	9	2,040.72	9	2,403.46	9	2,766.19	9	3,128.93	9	3,490.31	9	3,763.18	9	4,016.81	9	4,270.44	9	4,524.07	9	
1/4	230.62	1/4	595.86	1/4	959.87	1/4	1,322.81	1/4	1,685.54	1/4	2,048.28	1/4	2,411.02	1/4	2,773.75	1/4	3,136.49	1/4	3,497.41	1/4	3,768.46	1/4	4,022.09	1/4	4,275.72	1/4	4,529.36	1/4	
1/2	238.23	1/2	603.47	1/2	967.45	1/2	1,330.37	1/2	1,693.10	1/2	2,055.84	1/2	2,418.57	1/2	2,781.31	1/2	3,144.04	1/2	3,504.51	1/2	3,773.74	1/2	4,027.38	1/2	4,281.01	1/2	4,534.64	1/2	
3/4	245.84	3/4	611.07	3/4	975.03	3/4	1,337.92	3/4	1,700.66	3/4	2,063.39	3/4	2,426.13	3/4	2,788.87	3/4	3,151.60	3/4	3,511.27	3/4	3,779.03	3/4	4,032.66	3/4	4,286.29	3/4	4,539.92	3/4	
10	253.45	10	618.68	10	982.60	10	1,345.48	10	1,708.22	10	2,070.95	10	2,433.69	10	2,796.42	10	3,159.16	10	3,518.02	10	3,784.31	10	4,037.94	10	4,291.58	10	4,545.21	10	
1/4	261.06	1/4	626.29	1/4	990.18	1/4	1,353.04	1/4	1,715.77	1/4	2,078.51	1/4	2,441.24	1/4	2,803.98	1/4	3,166.72	1/4	3,524.77	1/4	3,789.60	1/4	4,043.23	1/4	4,296.86	1/4	4,550.49	1/4	
1/2	268.67	1/2	633.90	1/2	997.76	1/2	1,360.59	1/2	1,723.33	1/2	2,086.07	1/2	2,448.80	1/2	2,811.54	1/2	3,174.27	1/2	3,531.53	1/2	3,794.88	1/2	4,048.51	1/2	4,302.14	1/2	4,555.78	1/2	
3/4	276.28	3/4	641.51	3/4	1,005.33	3/4	1,368.15	3/4	1,730.89	3/4	2,093.62	3/4	2,456.36	3/4	2,819.09	3/4	3,181.83	3/4	3,537.94	3/4	3,800.16	3/4	4,053.80	3/4	4,307.43	3/4	4,561.06	3/4	
11	283.89	11	649.12	11	1,012.91	11	1,375.71	11	1,738.44	11	2,101.18	11	2,463.91	11	2,826.65	11	3,189.39	11	3,544.34	11	3,805.45	11	4,059.08	11	4,312.71	11	4,566.34	11	
1/4	291.50	1/4	656.73	1/4	1,020.49	1/4	1,383.26	1/4	1,746.00	1/4	2,108.74	1/4	2,471.47	1/4	2,834.21	1/4	3,196.94	1/4	3,550.75	1/4	3,810.73	1/4	4,064.36	1/4	4,318.00	1/4	4,571.63	1/4	
1/2	299.11	1/2	664.34	1/2	1,028.07	1/2	1,390.82	1/2	1,753.56	1/2	2,116.29	1/2	2,479.03	1/2	2,841.76	1/2	3,204.50	1/2	3,557.16	1/2	3,816.02	1/2	4,069.65	1/2	4,323.28	1/2	4,576.91	1/2	
3/4	306.71	3/4	671.95	3/4	1,035.64	3/4	1,398.38	3/4	1,761.11	3/4	2,123.85	3/4	2,486.59	3/4	2,849.32	3/4	3,212.06	3/4	3,563.22	3/4	3,821.30	3/4	4,074.93	3/4	4,328.56	3/4	4,582.20	3/4	

CAPACITIES GIVEN IN BARRELS OF 42 U.S. GALLONS

STRAPPED: 12/28/11

* CAPACITY BELOW STRIKE POINT.

REFERENCE GAUGE HEIGHT : 17'-4 1/2" (TO RIM OF 2" DIAMETER BALL VALVE)

FORMER EBL 2986

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 1/4L3SW REV #2 7/98

INSPECTORATE
ISO 9001: 2000

BARGE "HFL-435"
HINES FURLONG LINE

INNAGE TABLE

1 PORT OR STAR

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

HULL NO. 4859

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	* 1.56	0	284.19	0	640.15	0	997.80	0	1,355.44	0	1,713.09	0	2,070.74	0	2,428.39	0	2,786.04	0	3,143.68	0	3,501.33	0	3,858.98	0	4,216.63	0	4,574.28	0	4,931.92
1/4	2.84	1/4	291.39	1/4	647.60	1/4	1,005.25	1/4	1,362.89	1/4	1,720.54	1/4	2,078.19	1/4	2,435.84	1/4	2,793.49	1/4	3,151.13	1/4	3,508.78	1/4	3,866.43	1/4	4,224.08	1/4	4,581.73	1/4	4,939.37
1/2	4.12	1/2	298.60	1/2	655.05	1/2	1,012.70	1/2	1,370.35	1/2	1,727.99	1/2	2,085.64	1/2	2,443.29	1/2	2,800.94	1/2	3,158.59	1/2	3,516.23	1/2	3,873.88	1/2	4,231.53	1/2	4,589.18	1/2	4,946.83
3/4	5.40	3/4	305.80	3/4	662.50	3/4	1,020.15	3/4	1,377.80	3/4	1,735.44	3/4	2,093.09	3/4	2,450.74	3/4	2,808.39	3/4	3,166.04	3/4	3,523.68	3/4	3,881.33	3/4	4,238.98	3/4	4,596.63	3/4	4,954.28
1	8.40	1	313.00	1	669.95	1	1,027.60	1	1,385.25	1	1,742.90	1	2,100.54	1	2,458.19	1	2,815.84	1	3,173.49	1	3,531.14	1	3,888.78	1	4,246.43	1	4,604.08	1	4,961.73
1/4	11.41	1/4	320.21	1/4	677.40	1/4	1,035.05	1/4	1,392.70	1/4	1,750.35	1/4	2,107.99	1/4	2,465.64	1/4	2,823.29	1/4	3,180.94	1/4	3,538.59	1/4	3,896.23	1/4	4,253.88	1/4	4,611.53	1/4	4,969.18
1/2	14.41	1/2	327.41	1/2	684.85	1/2	1,042.50	1/2	1,400.15	1/2	1,757.80	1/2	2,115.45	1/2	2,473.09	1/2	2,830.74	1/2	3,188.39	1/2	3,546.04	1/2	3,903.69	1/2	4,261.33	1/2	4,618.98	1/2	4,976.63
3/4	17.42	3/4	334.62	3/4	692.30	3/4	1,049.95	3/4	1,407.60	3/4	1,765.25	3/4	2,122.90	3/4	2,480.54	3/4	2,838.19	3/4	3,195.84	3/4	3,553.49	3/4	3,911.14	3/4	4,268.78	3/4	4,626.43	3/4	4,984.08
2	22.03	2	341.94	2	699.76	2	1,057.40	2	1,415.05	2	1,772.70	2	2,130.35	2	2,488.00	2	2,845.64	2	3,203.29	2	3,560.94	2	3,918.59	2	4,276.24	2	4,633.88	2	4,991.15
1/4	26.64	1/4	349.27	1/4	707.21	1/4	1,064.85	1/4	1,422.50	1/4	1,780.15	1/4	2,137.80	1/4	2,495.45	1/4	2,853.09	1/4	3,210.74	1/4	3,568.39	1/4	3,926.04	1/4	4,283.69	1/4	4,641.33	1/4	4,998.22
1/2	31.26	1/2	356.60	1/2	714.66	1/2	1,072.31	1/2	1,429.95	1/2	1,787.60	1/2	2,145.25	1/2	2,502.90	1/2	2,860.55	1/2	3,218.19	1/2	3,575.84	1/2	3,933.49	1/2	4,291.14	1/2	4,648.79	1/2	5,005.30
3/4	35.87	3/4	363.93	3/4	722.11	3/4	1,079.76	3/4	1,437.40	3/4	1,795.05	3/4	2,152.70	3/4	2,510.35	3/4	2,868.00	3/4	3,225.64	3/4	3,583.29	3/4	3,940.94	3/4	4,298.59	3/4	4,656.24	3/4	5,012.37
3	41.78	3	371.26	3	729.56	3	1,087.21	3	1,444.86	3	1,802.50	3	2,160.15	3	2,517.80	3	2,875.45	3	3,233.10	3	3,590.74	3	3,948.39	3	4,306.04	3	4,663.69	3	5,018.31
1/4	47.68	1/4	378.58	1/4	737.01	1/4	1,094.66	1/4	1,452.31	1/4	1,809.95	1/4	2,167.60	1/4	2,525.25	1/4	2,882.90	1/4	3,240.55	1/4	3,598.19	1/4	3,955.84	1/4	4,313.49	1/4	4,671.14	1/4	5,024.25
1/2	54.02	1/2	385.91	1/2	744.46	1/2	1,102.11	1/2	1,459.76	1/2	1,817.41	1/2	2,175.05	1/2	2,532.70	1/2	2,890.35	1/2	3,248.00	1/2	3,605.65	1/2	3,963.29	1/2	4,320.94	1/2	4,678.59	1/2	5,030.19
3/4	60.36	3/4	393.24	3/4	751.91	3/4	1,109.56	3/4	1,467.21	3/4	1,824.86	3/4	2,182.50	3/4	2,540.15	3/4	2,897.80	3/4	3,255.45	3/4	3,613.10	3/4	3,970.74	3/4	4,328.39	3/4	4,686.04	3/4	5,036.14
4	66.82	4	400.69	4	759.36	4	1,117.01	4	1,474.66	4	1,832.31	4	2,189.96	4	2,547.60	4	2,905.25	4	3,262.90	4	3,620.55	4	3,978.20	4	4,335.84	4	4,693.49	4	5,040.94
1/4	73.29	1/4	408.14	1/4	766.81	1/4	1,124.46	1/4	1,482.11	1/4	1,839.76	1/4	2,197.41	1/4	2,555.05	1/4	2,912.70	1/4	3,270.35	1/4	3,628.00	1/4	3,985.65	1/4	4,343.29	1/4	4,700.94	1/4	5,045.75
1/2	79.75	1/2	415.60	1/2	774.27	1/2	1,131.91	1/2	1,489.56	1/2	1,847.21	1/2	2,204.86	1/2	2,562.51	1/2	2,920.15	1/2	3,277.80	1/2	3,635.45	1/2	3,993.10	1/2	4,350.75	1/2	4,708.39	1/2	5,050.55
3/4	86.22	3/4	423.05	3/4	781.72	3/4	1,139.36	3/4	1,497.01	3/4	1,854.66	3/4	2,212.31	3/4	2,569.96	3/4	2,927.60	3/4	3,285.25	3/4	3,642.90	3/4	4,000.55	3/4	4,358.20	3/4	4,715.84	3/4	5,055.36
5	92.68	5	430.50	5	789.17	5	1,146.82	5	1,504.46	5	1,862.11	5	2,219.76	5	2,577.41	5	2,935.06	5	3,292.70	5	3,650.35	5	4,008.00	5	4,365.65	5	4,723.30	5	5,059.03
1/4	99.14	1/4	437.95	1/4	796.62	1/4	1,154.27	1/4	1,511.91	1/4	1,869.56	1/4	2,227.21	1/4	2,584.86	1/4	2,942.51	1/4	3,300.15	1/4	3,657.80	1/4	4,015.45	1/4	4,373.10	1/4	4,730.75	1/4	5,062.71
1/2	105.61	1/2	445.40	1/2	804.07	1/2	1,161.72	1/2	1,519.37	1/2	1,877.01	1/2	2,234.66	1/2	2,592.31	1/2	2,949.96	1/2	3,307.61	1/2	3,665.25	1/2	4,022.90	1/2	4,380.55	1/2	4,738.20	1/2	5,066.38
3/4	112.07	3/4	452.86	3/4	811.52	3/4	1,169.17	3/4	1,526.82	3/4	1,884.46	3/4	2,242.11	3/4	2,599.76	3/4	2,957.41	3/4	3,315.06	3/4	3,672.70	3/4	4,030.35	3/4	4,388.00	3/4	4,745.65	3/4	5,070.06
6	118.66	6	460.43	6	818.97	6	1,176.62	6	1,534.27	6	1,891.92	6	2,249.56	6	2,607.21	6	2,964.86	6	3,322.51	6	3,680.16	6	4,037.80	6	4,395.45	6	4,753.10	6	5,072.60
1/4	125.24	1/4	468.01	1/4	826.42	1/4	1,184.07	1/4	1,541.72	1/4	1,899.37	1/4	2,257.01	1/4	2,614.66	1/4	2,972.31	1/4	3,329.96	1/4	3,687.61	1/4	4,045.25	1/4	4,402.90	1/4	4,760.55	1/4	5,075.15
1/2	131.83	1/2	475.59	1/2	833.87	1/2	1,191.52	1/2	1,549.17	1/2	1,906.82	1/2	2,264.47	1/2	2,622.11	1/2	2,979.76	1/2	3,337.41	1/2	3,695.06	1/2	4,052.71	1/2	4,410.35	1/2	4,768.00	1/2	5,077.69
3/4	138.42	3/4	483.17	3/4	841.32	3/4	1,198.97	3/4	1,556.62	3/4	1,914.27	3/4	2,271.92	3/4	2,629.56	3/4	2,987.21	3/4	3,344.86	3/4	3,702.51	3/4	4,060.16	3/4	4,417.80	3/4	4,775.45	3/4	5,080.24
7	145.00	7	490.75	7	848.78	7	1,206.42	7	1,564.07	7	1,921.72	7	2,279.37	7	2,637.02	7	2,994.66	7	3,352.31	7	3,709.96	7	4,067.61	7	4,425.26	7	4,782.90	7	5,081.65
1/4	151.59	1/4	498.32	1/4	856.23	1/4	1,213.87	1/4	1,571.52	1/4	1,929.17	1/4	2,286.82	1/4	2,644.47	1/4	3,002.11	1/4	3,359.76	1/4	3,717.41	1/4	4,075.06	1/4	4,432.71	1/4	4,790.35	1/4	5,083.06
1/2	158.17	1/2	505.90	1/2	863.68	1/2	1,221.33	1/2	1,578.97	1/2	1,936.62	1/2	2,294.27	1/2	2,651.92	1/2	3,009.57	1/2	3,367.21	1/2	3,724.86	1/2	4,082.51	1/2	4,440.16	1/2	4,797.81	1/2	5,084.48
3/4	164.76	3/4	513.48	3/4	871.13	3/4	1,228.78	3/4	1,586.42	3/4	1,944.07	3/4	2,301.72	3/4	2,659.37	3/4	3,017.02	3/4	3,374.66	3/4	3,732.31	3/4	4,089.96	3/4	4,447.61	3/4	4,805.26	3/4	5,085.89
8	171.71	8	520.93	8	878.58	8	1,236.23	8	1,593.88	8	1,951.52	8	2,309.17	8	2,666.82	8	3,024.47	8	3,382.12	8	3,739.76	8	4,097.41	8	4,455.06	8	4,812.71	8	5,086.30
1/4	178.66	1/4	528.38	1/4	886.03	1/4	1,243.68	1/4	1,601.33	1/4	1,958.97	1/4	2,316.62	1/4	2,674.27	1/4	3,031.92	1/4	3,389.57	1/4	3,747.21	1/4	4,104.86	1/4	4,462.51	1/4	4,820.16	1/4	5,086.72
1/2	185.62	1/2	535.83	1/2	893.48	1/2	1,251.13	1/2	1,608.78	1/2	1,966.43	1/2	2,324.07	1/2	2,681.72	1/2	3,039.37	1/2	3,397.02	1/2	3,754.67	1/2	4,112.31	1/2	4,469.96	1/2	4,827.61	1/2	5,087.14
3/4	192.57	3/4	543.28	3/4	900.93	3/4	1,258.58	3/4	1,616.23	3/4	1,973.88	3/4	2,331.52	3/4	2,689.17	3/4	3,046.82	3/4	3,404.47	3/4	3,762.12	3/4	4,119.76	3/4	4,477.41	3/4	4,835.06	3/4	
9	199.52	9	550.74	9	908.38	9	1,266.03	9	1,623.68	9	1,981.33	9	2,338.98	9	2,696.62	9	3,054.27	9	3,411.92	9	3,769.57	9	4,127.22	9	4,484.86	9	4,842.51	9	
1/4	206.47	1/4	558.19	1/4	915.83	1/4	1,273.48	1/4	1,631.13	1/4	1,988.78	1/4	2,346.43	1/4	2,704.07	1/4	3,061.72	1/4	3,419.37	1/4	3,777.02	1/4	4,134.67	1/4	4,492.31	1/4	4,849.96	1/4	
1/2	213.42	1/2	565.64	1/2	923.29	1/2	1,280.93	1/2	1,638.58	1/2	1,996.23	1/2	2,353.88	1/2	2,711.53	1/2	3,069.17	1/2	3,426.82	1/2	3,784.47	1/2	4,142.12	1/2	4,499.77	1/2	4,857.41	1/2	
3/4	220.38	3/4	573.09	3/4	930.74	3/4	1,288.38	3/4	1,646.03	3/4	2,003.68	3/4	2,361.33	3/4	2,718.98	3/4	3,076.62	3/4	3,434.27	3/4	3,791.92	3/4	4,149.57	3/4	4,507.22	3/4	4,864.86	3/4	
10	227.45	10	580.54	10	938.19	10	1,295.84	10	1,653.48	10	2,011.13	10	2,368.78	10	2,726.43	10	3,084.08	10	3,441.72	10	3,799.37	10	4,157.02	10	4,514.67	10	4,872.32	10	
1/4	234.53	1/4	587.99	1/4	945.64	1/4	1,303.29	1/4	1,660.93	1/4	2,018.58	1/4	2,376.23	1/4	2,733.88	1/4	3,091.53	1/4	3,449.17	1/4	3,806.82	1/4	4,164.47	1/4	4,522.12	1/4	4,879.77	1/4	
1/2	241.60	1/2	595.44	1/2	953.09	1/2	1,310.74	1/2	1,668.39	1/2	2,026.03	1/2	2,383.68	1/2	2,741.33	1/2	3,098.98	1/2	3,456.63	1/2	3,814.27	1/2	4,171.92	1/2	4,529.57	1/2	4,887.22	1/2	
3/4	248.68	3/4	602.89	3/4	960.54	3/4	1,318.19	3/4	1,675.84	3/4	2,033.48	3/4	2,391.13	3/4	2,748.78	3/4	3,106.43	3/4	3,464.08	3/4	3,821.72	3/4	4,179.37	3/4	4,537.02	3/4	4,894.67	3/4	
11	255.76	11	610.34	11	967.99	11	1,325.64	11	1,683.29	11	2,040.94	11	2,398.58	11	2,756.23	11	3,113.88	11	3,471.53	11	3,829.18	11	4,186.82	11	4,544.47	11	4,902.12	11	
1/4	262.83	1/4	617.79	1/4	975.44	1/4	1,333.09	1/4	1,690.74	1/4	2,048.39	1/4	2,406.03	1/4	2,763.68	1/4	3,121.33	1/4	3,478.98	1/4	3,836.63	1/4	4,194.27	1/4	4,551.92	1/4	4,909.57	1/4	
1/2	269.91	1/2	625.25	1/2	982.89	1/2	1,340.54	1/2	1,698.19	1/2	2,055.84	1/2	2,413.49	1/2	2,771.13	1/2	3,128.78	1/2	3,486.43	1/2	3,844.08	1/2	4,201.73	1/2	4,559.37	1/2	4,917.02	1/2	
3/4	276.98	3/4	632.70	3/4	990.34	3/4	1,347.99	3/4	1,705.64	3/4	2,063.29	3/4	2,420.94	3/4	2,778.58	3/4	3,136.23	3/4	3,493.88	3/4	3,851.53	3/4	4,209.18	3/4	4,566.82	3/4	4,924.47	3/4	

CAPACITIES GIVEN IN BARRELS OF 42 U.S. GALLONS

STRAPPED: 12/28/11

* CAPACITY BELOW STRIKE POINT.

FORMER2906

REFERENCE GAUGE HEIGHT : 17'-3" (TO RIM OF 10" DIAMETER HATCH LOCATED ON MANWAY)

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 1/4115W REV #2 7/98

INSPECTORATE
ISO 9001: 2000

BARGE "HFL-435"
HINES FURLONG LINE

INNAGE TABLE

2 PORT OR STAR

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

HULL NO. 4859

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	* 1.30	0	301.58	0	661.91	0	1,022.25	0	1,382.58	0	1,742.92	0	2,103.26	0	2,463.59	0	2,823.93	0	3,184.26	0	3,544.60	0	3,904.94	0	4,265.27	0	4,625.61	0	4,971.71
1/4	2.33	1/4	309.08	1/4	669.42	1/4	1,029.75	1/4	1,390.09	1/4	1,750.43	1/4	2,110.76	1/4	2,471.10	1/4	2,831.43	1/4	3,191.77	1/4	3,552.11	1/4	3,912.44	1/4	4,272.78	1/4	4,633.11	1/4	4,978.85
1/2	3.35	1/2	316.59	1/2	676.92	1/2	1,037.26	1/2	1,397.60	1/2	1,757.93	1/2	2,118.27	1/2	2,478.61	1/2	2,838.94	1/2	3,199.28	1/2	3,559.61	1/2	3,919.95	1/2	4,280.29	1/2	4,640.62	1/2	4,985.99
3/4	4.38	3/4	324.10	3/4	684.43	3/4	1,044.77	3/4	1,405.10	3/4	1,765.44	3/4	2,125.78	3/4	2,486.11	3/4	2,846.45	3/4	3,206.78	3/4	3,567.12	3/4	3,927.46	3/4	4,287.79	3/4	4,648.13	3/4	4,993.13
1	7.46	1	331.60	1	691.94	1	1,052.28	1	1,412.61	1	1,772.95	1	2,133.28	1	2,493.62	1	2,853.96	1	3,214.29	1	3,574.63	1	3,934.96	1	4,295.30	1	4,655.63	1	5,000.28
1/4	10.54	1/4	339.11	1/4	699.45	1/4	1,059.78	1/4	1,420.12	1/4	1,780.45	1/4	2,140.79	1/4	2,501.13	1/4	2,861.46	1/4	3,221.80	1/4	3,582.13	1/4	3,942.47	1/4	4,302.81	1/4	4,663.14	1/4	5,007.42
1/2	13.62	1/2	346.62	1/2	706.95	1/2	1,067.29	1/2	1,427.63	1/2	1,787.96	1/2	2,148.30	1/2	2,508.63	1/2	2,868.97	1/2	3,229.31	1/2	3,589.64	1/2	3,949.98	1/2	4,310.31	1/2	4,670.65	1/2	5,014.56
3/4	16.70	3/4	354.12	3/4	714.46	3/4	1,074.80	3/4	1,435.13	3/4	1,795.47	3/4	2,155.80	3/4	2,516.14	3/4	2,876.48	3/4	3,236.81	3/4	3,597.15	3/4	3,957.48	3/4	4,317.82	3/4	4,678.16	3/4	5,021.70
2	21.59	2	361.63	2	721.97	2	1,082.30	2	1,442.64	2	1,802.98	2	2,163.31	2	2,523.65	2	2,883.98	2	3,244.32	2	3,604.66	2	3,964.99	2	4,325.33	2	4,685.66	2	5,028.31
1/4	26.48	1/4	369.14	1/4	729.47	1/4	1,089.81	1/4	1,450.15	1/4	1,810.48	1/4	2,170.82	1/4	2,531.15	1/4	2,891.49	1/4	3,251.83	1/4	3,612.16	1/4	3,972.50	1/4	4,332.83	1/4	4,693.17	1/4	5,034.91
1/2	31.38	1/2	376.65	1/2	736.98	1/2	1,097.32	1/2	1,457.65	1/2	1,817.99	1/2	2,178.33	1/2	2,538.66	1/2	2,899.00	1/2	3,259.33	1/2	3,619.67	1/2	3,980.01	1/2	4,340.34	1/2	4,700.31	1/2	5,041.52
3/4	36.27	3/4	384.15	3/4	744.49	3/4	1,104.82	3/4	1,465.16	3/4	1,825.50	3/4	2,185.83	3/4	2,546.17	3/4	2,906.50	3/4	3,266.84	3/4	3,627.18	3/4	3,987.51	3/4	4,347.85	3/4	4,707.45	3/4	5,048.13
3	42.71	3	391.66	3	751.99	3	1,112.33	3	1,472.67	3	1,833.00	3	2,193.34	3	2,553.68	3	2,914.01	3	3,274.35	3	3,634.68	3	3,995.02	3	4,355.36	3	4,714.60	3	5,053.72
1/4	49.14	1/4	399.17	1/4	759.50	1/4	1,119.84	1/4	1,480.17	1/4	1,840.51	1/4	2,200.85	1/4	2,561.18	1/4	2,921.52	1/4	3,281.85	1/4	3,642.19	1/4	4,002.53	1/4	4,362.86	1/4	4,721.74	1/4	5,059.31
1/2	56.08	1/2	406.67	1/2	767.01	1/2	1,127.35	1/2	1,487.68	1/2	1,848.02	1/2	2,208.35	1/2	2,568.69	1/2	2,929.03	1/2	3,289.36	1/2	3,649.70	1/2	4,010.03	1/2	4,370.37	1/2	4,728.88	1/2	5,064.90
3/4	63.01	3/4	414.18	3/4	774.52	3/4	1,134.85	3/4	1,495.19	3/4	1,855.52	3/4	2,215.86	3/4	2,576.20	3/4	2,936.53	3/4	3,296.87	3/4	3,657.20	3/4	4,017.54	3/4	4,377.88	3/4	4,736.02	3/4	5,070.49
4	69.95	4	421.69	4	782.02	4	1,142.36	4	1,502.70	4	1,863.03	4	2,223.37	4	2,583.70	4	2,944.04	4	3,304.38	4	3,664.71	4	4,025.05	4	4,385.38	4	4,743.16	4	5,075.02
1/4	76.88	1/4	429.19	1/4	789.53	1/4	1,149.87	1/4	1,510.20	1/4	1,870.54	1/4	2,230.87	1/4	2,591.21	1/4	2,951.55	1/4	3,311.88	1/4	3,672.22	1/4	4,032.55	1/4	4,392.89	1/4	4,750.31	1/4	5,079.55
1/2	83.81	1/2	436.70	1/2	797.04	1/2	1,157.37	1/2	1,517.71	1/2	1,878.05	1/2	2,238.38	1/2	2,598.72	1/2	2,959.05	1/2	3,319.39	1/2	3,679.73	1/2	4,040.06	1/2	4,400.40	1/2	4,757.45	1/2	5,084.07
3/4	90.75	3/4	444.21	3/4	804.54	3/4	1,164.88	3/4	1,525.22	3/4	1,885.55	3/4	2,245.89	3/4	2,606.22	3/4	2,966.56	3/4	3,326.90	3/4	3,687.23	3/4	4,047.57	3/4	4,407.90	3/4	4,764.59	3/4	5,088.60
5	97.68	5	451.72	5	812.05	5	1,172.39	5	1,532.72	5	1,893.06	5	2,253.40	5	2,613.73	5	2,974.07	5	3,334.40	5	3,694.74	5	4,055.08	5	4,415.41	5	4,771.73	5	5,092.06
1/4	104.62	1/4	459.22	1/4	819.56	1/4	1,179.89	1/4	1,540.23	1/4	1,900.57	1/4	2,260.90	1/4	2,621.24	1/4	2,981.57	1/4	3,341.91	1/4	3,702.25	1/4	4,062.58	1/4	4,422.92	1/4	4,778.87	1/4	5,095.52
1/2	111.55	1/2	466.73	1/2	827.06	1/2	1,187.40	1/2	1,547.74	1/2	1,908.07	1/2	2,268.41	1/2	2,628.75	1/2	2,989.08	1/2	3,349.42	1/2	3,709.75	1/2	4,070.09	1/2	4,430.43	1/2	4,786.02	1/2	5,098.98
3/4	118.48	3/4	474.24	3/4	834.57	3/4	1,194.91	3/4	1,555.24	3/4	1,915.58	3/4	2,275.92	3/4	2,636.25	3/4	2,996.59	3/4	3,356.92	3/4	3,717.26	3/4	4,077.60	3/4	4,437.93	3/4	4,793.16	3/4	5,102.44
6	125.42	6	481.74	6	842.08	6	1,202.42	6	1,562.75	6	1,923.09	6	2,283.42	6	2,643.76	6	3,004.10	6	3,364.43	6	3,724.77	6	4,085.10	6	4,445.44	6	4,800.30	6	5,104.83
1/4	132.35	1/4	489.25	1/4	849.59	1/4	1,209.92	1/4	1,570.26	1/4	1,930.59	1/4	2,290.93	1/4	2,651.27	1/4	3,011.60	1/4	3,371.94	1/4	3,732.27	1/4	4,092.61	1/4	4,452.95	1/4	4,807.44	1/4	5,107.23
1/2	139.29	1/2	496.76	1/2	857.09	1/2	1,217.43	1/2	1,577.77	1/2	1,938.10	1/2	2,298.44	1/2	2,658.77	1/2	3,019.11	1/2	3,379.45	1/2	3,739.78	1/2	4,100.12	1/2	4,460.45	1/2	4,814.58	1/2	5,109.62
3/4	146.22	3/4	504.26	3/4	864.60	3/4	1,224.94	3/4	1,585.27	3/4	1,945.61	3/4	2,305.94	3/4	2,666.28	3/4	3,026.62	3/4	3,386.95	3/4	3,747.29	3/4	4,107.62	3/4	4,467.96	3/4	4,821.73	3/4	5,112.01
7	153.15	7	511.77	7	872.11	7	1,232.44	7	1,592.78	7	1,953.12	7	2,313.45	7	2,673.79	7	3,034.12	7	3,394.46	7	3,754.80	7	4,115.13	7	4,475.47	7	4,828.87	7	5,113.34
1/4	160.09	1/4	519.28	1/4	879.61	1/4	1,239.95	1/4	1,600.29	1/4	1,960.62	1/4	2,320.96	1/4	2,681.29	1/4	3,041.63	1/4	3,401.97	1/4	3,762.30	1/4	4,122.64	1/4	4,482.97	1/4	4,836.01	1/4	5,114.67
1/2	167.02	1/2	526.79	1/2	887.12	1/2	1,247.46	1/2	1,607.79	1/2	1,968.13	1/2	2,328.47	1/2	2,688.80	1/2	3,049.14	1/2	3,409.47	1/2	3,769.81	1/2	4,130.15	1/2	4,490.48	1/2	4,843.15	1/2	5,116.00
3/4	173.96	3/4	534.29	3/4	894.63	3/4	1,254.96	3/4	1,615.30	3/4	1,975.64	3/4	2,335.97	3/4	2,696.31	3/4	3,056.64	3/4	3,416.98	3/4	3,777.32	3/4	4,137.65	3/4	4,497.99	3/4	4,850.29	3/4	5,117.33
8	181.46	8	541.80	8	902.13	8	1,262.47	8	1,622.81	8	1,983.14	8	2,343.48	8	2,703.82	8	3,064.15	8	3,424.49	8	3,784.82	8	4,145.16	8	4,505.50	8	4,857.44	8	5,117.72
1/4	188.97	1/4	549.31	1/4	909.64	1/4	1,269.98	1/4	1,630.31	1/4	1,990.65	1/4	2,350.99	1/4	2,711.32	1/4	3,071.66	1/4	3,431.99	1/4	3,792.33	1/4	4,152.67	1/4	4,513.00	1/4	4,864.58	1/4	5,118.12
1/2	196.48	1/2	556.81	1/2	917.15	1/2	1,277.49	1/2	1,637.82	1/2	1,998.16	1/2	2,358.49	1/2	2,718.83	1/2	3,079.17	1/2	3,439.50	1/2	3,799.84	1/2	4,160.17	1/2	4,520.51	1/2	4,871.72	1/2	5,118.52
3/4	203.98	3/4	564.32	3/4	924.66	3/4	1,284.99	3/4	1,645.33	3/4	2,005.66	3/4	2,366.00	3/4	2,726.34	3/4	3,086.67	3/4	3,447.01	3/4	3,807.34	3/4	4,167.68	3/4	4,528.02	3/4	4,878.86	3/4	
9	211.49	9	571.83	9	932.16	9	1,292.50	9	1,652.84	9	2,013.17	9	2,373.51	9	2,733.84	9	3,094.18	9	3,454.52	9	3,814.85	9	4,175.19	9	4,535.52	9	4,886.00	9	
1/4	219.00	1/4	579.33	1/4	939.67	1/4	1,300.01	1/4	1,660.34	1/4	2,020.68	1/4	2,381.01	1/4	2,741.35	1/4	3,101.69	1/4	3,462.02	1/4	3,822.36	1/4	4,182.69	1/4	4,543.03	1/4	4,893.15	1/4	
1/2	226.51	1/2	586.84	1/2	947.18	1/2	1,307.51	1/2	1,667.85	1/2	2,028.19	1/2	2,388.52	1/2	2,748.86	1/2	3,109.19	1/2	3,469.53	1/2	3,829.87	1/2	4,190.20	1/2	4,550.54	1/2	4,900.29	1/2	
3/4	234.01	3/4	594.35	3/4	954.68	3/4	1,315.02	3/4	1,675.36	3/4	2,035.69	3/4	2,396.03	3/4	2,756.36	3/4	3,116.70	3/4	3,477.04	3/4	3,837.37	3/4	4,197.71	3/4	4,558.04	3/4	4,907.43	3/4	
10	241.52	10	601.86	10	962.19	10	1,322.53	10	1,682.86	10	2,043.20	10	2,403.54	10	2,763.87	10	3,124.21	10	3,484.54	10	3,844.88	10	4,205.22	10	4,565.55	10	4,914.57	10	
1/4	249.03	1/4	609.36	1/4	969.70	1/4	1,330.03	1/4	1,690.37	1/4	2,050.71	1/4	2,411.04	1/4	2,771.38	1/4	3,131.71	1/4	3,492.05	1/4	3,852.39	1/4	4,212.72	1/4	4,573.06	1/4	4,921.71	1/4	
1/2	256.53	1/2	616.87	1/2	977.20	1/2	1,337.54	1/2	1,697.88	1/2	2,058.21	1/2	2,418.55	1/2	2,778.89	1/2	3,139.22	1/2	3,499.56	1/2	3,859.89	1/2	4,220.23	1/2	4,580.57	1/2	4,928.86	1/2	
3/4	264.04	3/4	624.38	3/4	984.71	3/4	1,345.05	3/4	1,705.38	3/4	2,065.72	3/4	2,426.06	3/4	2,786.39	3/4	3,146.73	3/4	3,507.06	3/4	3,867.40	3/4	4,227.74	3/4	4,588.07	3/4	4,936.00	3/4	
11	271.55	11	631.88	11	992.22	11	1,352.56	11	1,712.89	11	2,073.23	11	2,433.56	11	2,793.90	11	3,154.24	11	3,514.57	11	3,874.91	11	4,235.24	11	4,595.58	11	4,943.14	11	
1/4	279.05	1/4	639.39	1/4	999.73	1/4	1,360.06	1/4	1,720.40	1/4	2,080.73	1/4	2,441.07	1/4	2,801.41	1/4	3,161.74	1/4	3,522.08	1/4	3,882.41	1/4	4,242.75	1/4	4,603.09	1/4	4,950.28	1/4	
1/2	286.56	1/2	646.90	1/2	1,007.23	1/2	1,367.57	1/2	1,727.91	1/2	2,088.24	1/2	2,448.58	1/2	2,808.91	1/2	3,169.25	1/2	3,529.59	1/2	3,889.92	1/2	4,250.26	1/2	4,610.59	1/2	4,957.42	1/2	
3/4	294.07	3/4	654.40	3/4	1,014.74	3/4	1,375.08	3/4	1,735.41	3/4	2,095.75	3/4	2,456.08	3/4	2,816.42	3/4	3,176.76	3/4	3,537.09	3/4	3,897.43	3/4	4,257.76	3/4	4,618.10	3/4	4,964.57	3/4	

CAPACITIES GIVEN IN BARRELS OF 42 U.S. GALLONS

STRAPPED: 12/28/11

* CAPACITY BELOW STRIKE POINT.

REFERENCE GAUGE HEIGHT : 17'-3" (TO RIM OF 10" DIAMETER HATCH LOCATED ON MANWAY)

FORMER EBL 2986

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 7/38

INSPECTORATE
ISO 9001: 2000

BARGE "HFL-435"
HINES FURLONG LINE

INNAGE TABLE

3 PORT OR STAR

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

HULL NO. 4859

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	* 1.36	0	314.32	0	679.52	0	1,043.20	0	1,405.94	0	1,768.67	0	2,131.41	0	2,494.14	0	2,856.88	0	3,219.61	0	3,569.28	0	3,826.58	0	4,080.22	0	4,333.85	0	4,587.48
1/4	2.44	1/4	321.93	1/4	687.10	1/4	1,050.76	1/4	1,413.49	1/4	1,776.23	1/4	2,138.96	1/4	2,501.70	1/4	2,864.44	1/4	3,227.17	1/4	3,575.35	1/4	3,831.87	1/4	4,085.50	1/4	4,339.13	1/4	4,592.76
1/2	3.51	1/2	329.54	1/2	694.68	1/2	1,058.31	1/2	1,421.05	1/2	1,783.79	1/2	2,146.52	1/2	2,509.26	1/2	2,871.99	1/2	3,234.73	1/2	3,581.41	1/2	3,837.15	1/2	4,090.78	1/2	4,344.42	1/2	4,598.05
3/4	4.59	3/4	337.15	3/4	702.25	3/4	1,065.87	3/4	1,428.61	3/4	1,791.34	3/4	2,154.08	3/4	2,516.81	3/4	2,879.55	3/4	3,242.29	3/4	3,587.12	3/4	3,842.44	3/4	4,095.07	3/4	4,349.70	3/4	4,603.33
1	7.92	1	344.76	1	709.83	1	1,073.43	1	1,436.16	1	1,798.90	1	2,161.64	1	2,524.37	1	2,887.11	1	3,249.84	1	3,592.84	1	3,847.72	1	4,101.35	1	4,354.98	1	4,608.62
1/4	11.25	1/4	352.37	1/4	717.41	1/4	1,080.98	1/4	1,443.72	1/4	1,806.46	1/4	2,169.19	1/4	2,531.93	1/4	2,894.66	1/4	3,257.40	1/4	3,598.56	1/4	3,853.00	1/4	4,106.64	1/4	4,360.27	1/4	4,613.90
1/2	14.58	1/2	359.98	1/2	724.99	1/2	1,088.54	1/2	1,451.28	1/2	1,814.01	1/2	2,176.75	1/2	2,539.48	1/2	2,902.22	1/2	3,264.96	1/2	3,604.27	1/2	3,858.29	1/2	4,111.92	1/2	4,365.55	1/2	4,619.18
3/4	17.91	3/4	367.59	3/4	732.56	3/4	1,096.10	3/4	1,458.83	3/4	1,821.57	3/4	2,184.31	3/4	2,547.04	3/4	2,909.78	3/4	3,272.51	3/4	3,609.68	3/4	3,863.57	3/4	4,117.20	3/4	4,370.84	3/4	4,624.47
2	23.10	2	375.20	2	740.14	2	1,103.66	2	1,466.39	2	1,829.13	2	2,191.86	2	2,554.60	2	2,917.33	2	3,280.07	2	3,615.10	2	3,868.86	2	4,122.49	2	4,376.12	2	4,629.36
1/4	28.29	1/4	382.80	1/4	747.72	1/4	1,111.21	1/4	1,473.95	1/4	1,836.68	1/4	2,199.42	1/4	2,562.16	1/4	2,924.89	1/4	3,287.63	1/4	3,620.51	1/4	3,874.14	1/4	4,127.77	1/4	4,381.40	1/4	4,634.25
1/2	33.48	1/2	390.41	1/2	755.29	1/2	1,118.77	1/2	1,481.51	1/2	1,844.24	1/2	2,206.98	1/2	2,569.71	1/2	2,932.45	1/2	3,295.18	1/2	3,625.79	1/2	3,879.42	1/2	4,133.06	1/2	4,386.69	1/2	4,639.14
3/4	38.68	3/4	398.02	3/4	762.87	3/4	1,126.33	3/4	1,489.06	3/4	1,851.80	3/4	2,214.53	3/4	2,577.27	3/4	2,940.01	3/4	3,302.74	3/4	3,631.08	3/4	3,884.71	3/4	4,138.34	3/4	4,391.97	3/4	4,644.03
3	45.50	3	405.63	3	770.45	3	1,133.88	3	1,496.62	3	1,859.36	3	2,222.09	3	2,584.83	3	2,947.56	3	3,310.30	3	3,636.36	3	3,889.99	3	4,143.62	3	4,397.26	3	4,648.14
1/4	52.33	1/4	413.24	1/4	778.02	1/4	1,141.44	1/4	1,504.18	1/4	1,866.91	1/4	2,229.65	1/4	2,592.38	1/4	2,955.12	1/4	3,317.86	1/4	3,641.64	1/4	3,895.28	1/4	4,148.91	1/4	4,402.54	1/4	4,652.25
1/2	59.70	1/2	420.85	1/2	785.60	1/2	1,149.00	1/2	1,511.73	1/2	1,874.47	1/2	2,237.21	1/2	2,599.94	1/2	2,962.68	1/2	3,325.41	1/2	3,646.93	1/2	3,900.56	1/2	4,154.19	1/2	4,407.82	1/2	4,656.36
3/4	67.07	3/4	428.46	3/4	793.18	3/4	1,156.55	3/4	1,519.29	3/4	1,882.03	3/4	2,244.76	3/4	2,607.50	3/4	2,970.23	3/4	3,332.97	3/4	3,652.21	3/4	3,905.84	3/4	4,159.48	3/4	4,413.11	3/4	4,660.46
4	74.44	4	436.07	4	800.76	4	1,164.11	4	1,526.85	4	1,889.58	4	2,252.32	4	2,615.05	4	2,977.79	4	3,340.53	4	3,657.50	4	3,911.13	4	4,164.76	4	4,418.39	4	4,663.79
1/4	81.80	1/4	443.68	1/4	808.33	1/4	1,171.67	1/4	1,534.40	1/4	1,897.14	1/4	2,259.88	1/4	2,622.61	1/4	2,985.35	1/4	3,348.08	1/4	3,662.78	1/4	3,916.41	1/4	4,170.04	1/4	4,423.68	1/4	4,667.11
1/2	89.17	1/2	451.29	1/2	815.91	1/2	1,179.23	1/2	1,541.96	1/2	1,904.70	1/2	2,267.43	1/2	2,630.17	1/2	2,992.90	1/2	3,355.64	1/2	3,668.06	1/2	3,921.70	1/2	4,175.33	1/2	4,428.96	1/2	4,670.44
3/4	96.54	3/4	458.89	3/4	823.49	3/4	1,186.78	3/4	1,549.52	3/4	1,912.25	3/4	2,274.99	3/4	2,637.73	3/4	3,000.46	3/4	3,363.20	3/4	3,673.35	3/4	3,926.98	3/4	4,180.61	3/4	4,434.24	3/4	4,673.76
5	103.91	5	466.50	5	831.06	5	1,194.34	5	1,557.08	5	1,919.81	5	2,282.55	5	2,645.28	5	3,008.02	5	3,370.75	5	3,678.63	5	3,932.26	5	4,185.90	5	4,439.53	5	4,676.31
1/4	111.28	1/4	474.11	1/4	838.64	1/4	1,201.90	1/4	1,564.63	1/4	1,927.37	1/4	2,290.10	1/4	2,652.84	1/4	3,015.58	1/4	3,378.31	1/4	3,683.92	1/4	3,937.55	1/4	4,191.18	1/4	4,444.81	1/4	4,678.85
1/2	118.65	1/2	481.72	1/2	846.22	1/2	1,209.45	1/2	1,572.19	1/2	1,934.93	1/2	2,297.66	1/2	2,660.40	1/2	3,023.13	1/2	3,385.87	1/2	3,689.20	1/2	3,942.83	1/2	4,196.46	1/2	4,450.10	1/2	4,681.39
3/4	126.02	3/4	489.33	3/4	853.79	3/4	1,217.01	3/4	1,579.75	3/4	1,942.48	3/4	2,305.22	3/4	2,667.95	3/4	3,030.69	3/4	3,393.43	3/4	3,694.48	3/4	3,948.12	3/4	4,201.75	3/4	4,455.38	3/4	4,683.93
6	133.39	6	496.94	6	861.37	6	1,224.57	6	1,587.30	6	1,950.04	6	2,312.78	6	2,675.51	6	3,038.25	6	3,400.98	6	3,699.77	6	3,953.40	6	4,207.03	6	4,460.66	6	4,685.69
1/4	140.76	1/4	504.55	1/4	868.95	1/4	1,232.12	1/4	1,594.86	1/4	1,957.60	1/4	2,320.33	1/4	2,683.07	1/4	3,045.80	1/4	3,408.54	1/4	3,705.05	1/4	3,958.68	1/4	4,212.32	1/4	4,465.95	1/4	4,687.45
1/2	148.13	1/2	512.16	1/2	876.53	1/2	1,239.68	1/2	1,602.42	1/2	1,965.15	1/2	2,327.89	1/2	2,690.62	1/2	3,053.36	1/2	3,416.10	1/2	3,710.34	1/2	3,963.97	1/2	4,217.60	1/2	4,471.23	1/2	4,689.22
3/4	155.49	3/4	519.77	3/4	884.10	3/4	1,247.24	3/4	1,609.97	3/4	1,972.71	3/4	2,335.45	3/4	2,698.18	3/4	3,060.92	3/4	3,423.65	3/4	3,715.62	3/4	3,969.25	3/4	4,222.88	3/4	4,476.52	3/4	4,690.98
7	162.86	7	527.38	7	891.68	7	1,254.80	7	1,617.53	7	1,980.27	7	2,343.00	7	2,705.74	7	3,068.47	7	3,431.21	7	3,720.90	7	3,974.54	7	4,228.17	7	4,481.80	7	4,691.95
1/4	170.23	1/4	534.98	1/4	899.26	1/4	1,262.35	1/4	1,625.09	1/4	1,987.82	1/4	2,350.56	1/4	2,713.30	1/4	3,076.03	1/4	3,438.77	1/4	3,726.19	1/4	3,979.82	1/4	4,233.45	1/4	4,487.08	1/4	4,692.93
1/2	177.60	1/2	542.59	1/2	906.83	1/2	1,269.91	1/2	1,632.65	1/2	1,995.38	1/2	2,358.12	1/2	2,720.85	1/2	3,083.59	1/2	3,446.32	1/2	3,731.47	1/2	3,985.10	1/2	4,238.74	1/2	4,492.37	1/2	4,693.90
3/4	184.97	3/4	550.20	3/4	914.41	3/4	1,277.47	3/4	1,640.20	3/4	2,002.94	3/4	2,365.67	3/4	2,728.41	3/4	3,091.15	3/4	3,453.77	3/4	3,736.76	3/4	3,990.39	3/4	4,244.02	3/4	4,497.65	3/4	4,694.88
8	192.58	8	557.81	8	921.99	8	1,285.02	8	1,647.76	8	2,010.50	8	2,373.23	8	2,735.97	8	3,098.70	8	3,461.22	8	3,742.04	8	3,995.67	8	4,249.30	8	4,502.94	8	4,695.17
1/4	200.19	1/4	565.42	1/4	929.56	1/4	1,292.58	1/4	1,655.32	1/4	2,018.05	1/4	2,380.79	1/4	2,743.52	1/4	3,106.26	1/4	3,468.67	1/4	3,747.32	1/4	4,000.96	1/4	4,254.59	1/4	4,508.22	1/4	4,695.46
1/2	207.80	1/2	573.03	1/2	937.14	1/2	1,300.14	1/2	1,662.87	1/2	2,025.61	1/2	2,388.34	1/2	2,751.08	1/2	3,113.82	1/2	3,476.11	1/2	3,752.61	1/2	4,006.24	1/2	4,259.87	1/2	4,513.50	1/2	4,695.75
3/4	215.41	3/4	580.64	3/4	944.72	3/4	1,307.69	3/4	1,670.43	3/4	2,033.17	3/4	2,395.90	3/4	2,758.64	3/4	3,121.37	3/4	3,483.21	3/4	3,757.89	3/4	4,011.52	3/4	4,265.16	3/4	4,518.79	3/4	
9	223.02	9	588.25	9	952.30	9	1,315.25	9	1,677.99	9	2,040.72	9	2,403.46	9	2,766.19	9	3,128.93	9	3,490.31	9	3,763.18	9	4,016.81	9	4,270.44	9	4,524.07	9	
1/4	230.62	1/4	595.86	1/4	959.87	1/4	1,322.81	1/4	1,685.54	1/4	2,048.28	1/4	2,411.02	1/4	2,773.75	1/4	3,136.49	1/4	3,497.41	1/4	3,768.46	1/4	4,022.09	1/4	4,275.72	1/4	4,529.36	1/4	
1/2	238.23	1/2	603.47	1/2	967.45	1/2	1,330.37	1/2	1,693.10	1/2	2,055.84	1/2	2,418.57	1/2	2,781.31	1/2	3,144.04	1/2	3,504.51	1/2	3,773.74	1/2	4,027.38	1/2	4,281.01	1/2	4,534.64	1/2	
3/4	245.84	3/4	611.07	3/4	975.03	3/4	1,337.92	3/4	1,700.66	3/4	2,063.39	3/4	2,426.13	3/4	2,788.87	3/4	3,151.60	3/4	3,511.27	3/4	3,779.03	3/4	4,032.66	3/4	4,286.29	3/4	4,539.92	3/4	
10	253.45	10	618.68	10	982.60	10	1,345.48	10	1,708.22	10	2,070.95	10	2,433.69	10	2,796.42	10	3,159.16	10	3,518.02	10	3,784.31	10	4,037.94	10	4,291.58	10	4,545.21	10	
1/4	261.06	1/4	626.29	1/4	990.18	1/4	1,353.04	1/4	1,715.77	1/4	2,078.51	1/4	2,441.24	1/4	2,803.98	1/4	3,166.72	1/4	3,524.77	1/4	3,789.60	1/4	4,043.23	1/4	4,296.86	1/4	4,550.49	1/4	
1/2	268.67	1/2	633.90	1/2	997.76	1/2	1,360.59	1/2	1,723.33	1/2	2,086.07	1/2	2,448.80	1/2	2,811.54	1/2	3,174.27	1/2	3,531.53	1/2	3,794.88	1/2	4,048.51	1/2	4,302.14	1/2	4,555.78	1/2	
3/4	276.28	3/4	641.51	3/4	1,005.33	3/4	1,368.15	3/4	1,730.89	3/4	2,093.62	3/4	2,456.36	3/4	2,819.09	3/4	3,181.83	3/4	3,537.94	3/4	3,800.16	3/4	4,053.80	3/4	4,307.43	3/4	4,561.06	3/4	
11	283.89	11	649.12	11	1,012.91	11	1,375.71	11	1,738.44	11	2,101.18	11	2,463.91	11	2,826.65	11	3,189.39	11	3,544.34	11	3,805.45	11	4,059.08	11	4,312.71	11	4,566.34	11	
1/4	291.50	1/4	656.73	1/4	1,020.49	1/4	1,383.26	1/4	1,746.00	1/4	2,108.74	1/4	2,471.47	1/4	2,834.21	1/4	3,196.94	1/4	3,550.75	1/4	3,810.73	1/4	4,064.36	1/4	4,318.00	1/4	4,571.63	1/4	
1/2	299.11	1/2	664.34	1/2	1,028.07	1/2	1,390.82	1/2	1,753.56	1/2	2,116.29	1/2	2,479.03	1/2	2,841.76	1/2	3,204.50	1/2	3,557.16	1/2	3,816.02	1/2	4,069.65	1/2	4,323.28	1/2	4,576.91	1/2	
3/4	306.71	3/4	671.95	3/4	1,035.64	3/4	1,398.38	3/4	1,761.11	3/4	2,123.85	3/4	2,486.59	3/4	2,849.32	3/4	3,212.06	3/4	3,563.22	3/4	3,821.30	3/4	4,074.93	3/4	4,328.56	3/4	4,582.20	3/4	

CAPACITIES GIVEN IN BARRELS OF 42 U.S. GALLONS

STRAPPED: 12/28/11

* CAPACITY BELOW STRIKE POINT.

REFERENCE GAUGE HEIGHT : 17'-2 3/4" (TO RIM OF 10" DIAMETER HATCH LOCATED ON MANWAY)

FORMER EBL 2986

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 1/4L1SW REV #2 7/98

INSPECTORATE
ISO 9001: 2000

BARGE "HFL-435"
HINES FURLONG LINE

INNAGE TABLE

TANK NO.
FUEL OIL TANK

HULL NO. 4859

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	0	0	116	0	288	0	442	0		0		0		0		0		0		0		0		0		0		0	
1/4	0	1/4	119	1/4	292	1/4	445	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	1	1/2	122	1/2	296	1/2	447	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	2	3/4	126	3/4	299	3/4	450	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
1	3	1	129	1	303	1	452	1		1		1		1		1		1		1		1		1		1		1	
1/4	4	1/4	132	1/4	307	1/4	454	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	6	1/2	136	1/2	310	1/2	456	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	7	3/4	139	3/4	314	3/4	458	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
2	9	2	143	2	317	2	460	2		2		2		2		2		2		2		2		2		2		2	
1/4	10	1/4	146	1/4	321	1/4	462	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	12	1/2	150	1/2	324	1/2	464	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	14	3/4	153	3/4	328	3/4	466	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
3	16	3	157	3	331	3	468	3		3		3		3		3		3		3		3		3		3		3	
1/4	18	1/4	161	1/4	335	1/4	469	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	20	1/2	164	1/2	338	1/2	471	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	22	3/4	168	3/4	342	3/4	472	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
4	24	4	171	4	345	4	474	4		4		4		4		4		4		4		4		4		4		4	
1/4	26	1/4	175	1/4	349	1/4	475	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	28	1/2	178	1/2	353	1/2	476	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	31	3/4	182	3/4	356	3/4	477	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
5	33	5	186	5	359	5	477	5		5		5		5		5		5		5		5		5		5		5	
1/4	35	1/4	189	1/4	363	1/4	478	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	38	1/2	193	1/2	366	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	40	3/4	197	3/4	369	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
6	43	6	200	6	372	6		6		6		6		6		6		6		6		6		6		6		6	
1/4	46	1/4	204	1/4	376	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	48	1/2	208	1/2	379	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	51	3/4	211	3/4	382	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
7	54	7	215	7	385	7		7		7		7		7		7		7		7		7		7		7		7	
1/4	57	1/4	219	1/4	388	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	59	1/2	222	1/2	391	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	62	3/4	226	3/4	395	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
8	65	8	230	8	398	8		8		8		8		8		8		8		8		8		8		8		8	
1/4	68	1/4	233	1/4	401	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	71	1/2	237	1/2	404	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	74	3/4	241	3/4	407	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
9	77	9	244	9	410	9		9		9		9		9		9		9		9		9		9		9		9	
1/4	80	1/4	248	1/4	413	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	83	1/2	252	1/2	416	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	86	3/4	255	3/4	418	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
10	89	10	259	10	421	10		10		10		10		10		10		10		10		10		10		10		10	
1/4	93	1/4	263	1/4	424	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	96	1/2	267	1/2	427	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	99	3/4	270	3/4	430	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
11	102	11	274	11	432	11		11		11		11		11		11		11		11		11		11		11		11	
1/4	106	1/4	278	1/4	435	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	109	1/2	281	1/2	437	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	112	3/4	285	3/4	440	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	

CAPACITIES GIVEN IN U.S. GALLONS

STRAPPED: 12/28/11

NOTE: TABLE SCALED FROM EXTREME BOTTOM OF TANK.

FORMER EDL 2986

REFERENCE GAUGE HEIGHT : 3'-10 1/2" (TO RIM OF 2" PIPE)

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 "HFL-435"
HINES FURLONG LINE

INNAGE TABLE

TANK NO.
SLOP
(FWD OR AFT)

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

HULL NO. 4859

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	0	0	451	0	903	0	1,354	0	1,805	0		0		0		0		0		0		0		0		0		0	
1/4	9	1/4	461	1/4	912	1/4	1,363	1/4	1,815	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	19	1/2	470	1/2	921	1/2	1,373	1/2	1,824	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	28	3/4	480	3/4	931	3/4	1,382	3/4	1,834	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
1	38	1	489	1	940	1	1,392	1	1,843	1		1		1		1		1		1		1		1		1		1	
1/4	47	1/4	498	1/4	950	1/4	1,401	1/4	1,852	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	56	1/2	508	1/2	959	1/2	1,410	1/2	1,862	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	66	3/4	517	3/4	969	3/4	1,420	3/4	1,871	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
2	75	2	527	2	978	2	1,429	2	1,881	2		2		2		2		2		2		2		2		2		2	
1/4	85	1/4	536	1/4	987	1/4	1,439	1/4	1,890	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	94	1/2	545	1/2	997	1/2	1,448	1/2	1,899	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	103	3/4	555	3/4	1,006	3/4	1,457	3/4	1,909	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
3	113	3	564	3	1,016	3	1,467	3	1,918	3		3		3		3		3		3		3		3		3		3	
1/4	122	1/4	574	1/4	1,025	1/4	1,476	1/4	1,928	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	132	1/2	583	1/2	1,034	1/2	1,486	1/2	1,937	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	141	3/4	592	3/4	1,044	3/4	1,495	3/4	1,946	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
4	150	4	602	4	1,053	4	1,504	4	1,956	4		4		4		4		4		4		4		4		4		4	
1/4	160	1/4	611	1/4	1,063	1/4	1,514	1/4	1,965	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	169	1/2	621	1/2	1,072	1/2	1,523	1/2	1,975	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	179	3/4	630	3/4	1,081	3/4	1,533	3/4	1,984	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
5	188	5	639	5	1,091	5	1,542	5	1,993	5		5		5		5		5		5		5		5		5		5	
1/4	197	1/4	649	1/4	1,100	1/4	1,551	1/4	2,003	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	207	1/2	658	1/2	1,110	1/2	1,561	1/2	2,012	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	216	3/4	668	3/4	1,119	3/4	1,570	3/4	2,022	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
6	226	6	677	6	1,128	6	1,580	6	2,031	6		6		6		6		6		6		6		6		6		6	
1/4	235	1/4	686	1/4	1,138	1/4	1,589	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	244	1/2	696	1/2	1,147	1/2	1,599	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	254	3/4	705	3/4	1,157	3/4	1,608	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
7	263	7	715	7	1,166	7	1,617	7		7		7		7		7		7		7		7		7		7		7	
1/4	273	1/4	724	1/4	1,175	1/4	1,627	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	282	1/2	733	1/2	1,185	1/2	1,636	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	291	3/4	743	3/4	1,194	3/4	1,646	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
8	301	8	752	8	1,204	8	1,655	8		8		8		8		8		8		8		8		8		8		8	
1/4	310	1/4	762	1/4	1,213	1/4	1,664	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	320	1/2	771	1/2	1,222	1/2	1,674	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	329	3/4	780	3/4	1,232	3/4	1,683	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
9	339	9	790	9	1,241	9	1,693	9		9		9		9		9		9		9		9		9		9		9	
1/4	348	1/4	799	1/4	1,251	1/4	1,702	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	357	1/2	809	1/2	1,260	1/2	1,711	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	367	3/4	818	3/4	1,269	3/4	1,721	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
10	376	10	827	10	1,279	10	1,730	10		10		10		10		10		10		10		10		10		10		10	
1/4	386	1/4	837	1/4	1,288	1/4	1,740	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	395	1/2	846	1/2	1,298	1/2	1,749	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	404	3/4	856	3/4	1,307	3/4	1,758	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	
11	414	11	865	11	1,316	11	1,768	11		11		11		11		11		11		11		11		11		11		11	
1/4	423	1/4	874	1/4	1,326	1/4	1,777	1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4		1/4	
1/2	433	1/2	884	1/2	1,335	1/2	1,787	1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2		1/2	
3/4	442	3/4	893	3/4	1,345	3/4	1,796	3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4		3/4	

CAPACITIES GIVEN IN U.S. GALLONS
FORMER 2986

STRAPPED: 12/28/11

REFERENCE GAUGE HEIGHT : 5'-6 3/4" (RIM OF 2" DIAMETER BALL VALVE)

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