

PARTICULARS per O	CIMF Guidelines: (U.S./Metric measures)
OPERATOR	DANN MARINE TOWING, LC
NAME	DMT 140
BUILDERS	GRETNA MACHINE & IRON WORKS
SERVICE	Oceans; Articulated Tug/Barge unit; Oil Grade A & lower, sub-chapter "D" cargo; 46 CFR sub-chapter "O" part 153 cargo
OFFICIAL NO.	99803 <mark>8</mark>
CLASSIFICATION	+A1 O <mark>IL TAN</mark> K BARGE
USCG COI	10 Apr 28
USCG COD	ISSUED: JUNE 6, 2022 EXPIRES: JUNE 30, 2023
USCG STABILITY LETTER	ISSUED BY: ABS 11 JANUARY 2013
USCG IOPP CERTIFICATE	10 Mar 23
USCG IAPP CERTIFICATE	10 Mar 23
U.S. TONNAGE CERTIFICATE	22 Mar 28
INT'L TONNAGE CERTIFICATE	22 Mar 28
IMO MARPOL VI CERTIFICATE (IAPP)	AFFC
TIN FREE COATING CERTIFICATE	22 Mar 28
POLLUTION LIABILITY	
COFR	COFR # 878672

GRT	
REGULATORY	9245
ITC	10709
NRT:	
REGULATORY	9245
ITC	6249
L.O.A.	483' – 3 ; 147.29 m"
L.B.P.	345' 7-7/16" ; 105.34 m
BEAM	80' – 0" ; 24.38 m
DEPTH	
CENTERLINE	37' – 2" ; 11.33 m
SIDESHELL	36' – 2" ; 11.02 m
DRAFT LIGHT	7'-6" aft, 4'-9" fwd ; 2.29 m aft, 1. <mark>45 m fwd</mark>
DISPLACEMENT	4164.94 L.T.; 4231.77 m/t
LOAD LINE SUMMER	9'-11-11/16" below deck edge
FRESHWATER ALLOWANCE	6-9/16" ; 166.62 mm
DISPLACEMENT SW	25,009 LT ; 25,410.32 m/t
FUEL TANK CAPACITY	4900 g <mark>a</mark> l ; 1 <mark>8,</mark> 548.52 ltr
Metric abbreviation:	
m/t= metic ton; m3=cubic meter;	kg=kilogram; m=meter; mm=millimeter;
Itr=liter; kw=kilowatt; TCM=tonne	es per centimeter
410.	885.5055
DMT - 140 PARTICULARS	
POTABLE WATER CAPACITY	717 gals ; 2,714 ltr
GREY WATER TANK	N/A
CAPACITY	C. Y
DOUBLE BOTTOM HEIGHT	AKH
AT KEEL	5'-6" ; 1.68 m
AT KEELSON	5'-9-3/4" ; 1.75 m
DEADRISE	6" ; 152.4 mm
DECK CAMBER	1' – 0"; 304.8 mm

MAST HEIGHT FORWARD	32 FT ; 9.75 m
AIR DRAFT	Light Draft – 64' 11" ; 19.79 m
7 11 ( 5) ( 1)	Ballast Draft – 53' 8"; 16.36 m
	LL Draft – 43' 5" ; 13.23 m
CARGO TANK DIMENSIONS	LL Diait = 45 5 , 15.25 iii
NO. 1 PORT & STBD	50'-10-1/2" X 33'-5" X 31' ; 15.51m X 10.19m X 9.45m
NO. 2 PORT & STBD	50'-10-1/2" X 33'-5" X 31' ; 15.51m X 10.19m X 9.45m
NO. 3 PORT & STBD	50'-10-1/2" X 33'-5" X 31'; 15.51m X 10.19m X 9.45m
NO. 4 PORT & STBD	50'-10-1/2" X 33'-5" X 31' ; 15.51m X 10.19m X 9.45m
NO. 5 PORT & STBD	50'-10-1/2" X 33'-5" X 31' ; 15.51m X 10.19m X 9.45m
NO. 6 PORT & STBD	50'-10-1/2" X 33'-5" X 31' ; 15.51m X 10.19m X 9.45m
NO. 7 PORT & STBD	44'-6-3/16" X 33'-5" X 31' ; 13.57m X 10.19m X 9.45m
NO. 8 PORT & STBD	57'-2-13/16" X 33'-5" X 31' ; 17.44m X 10.19m X 9.45m
BOW FOREPEAK DIMENSION	30' X 40' X 36'2" ; 9.14m X 12.19 <mark>m X 11.02</mark> m
STERN RAKE DIMENSION	46'-3" X 40 X 36'2"" ; 14.1m X 12.19m X 11.02m
BOW THRUSTER	NONE
HULL PLATING:	
BOTTOM PLATING	5/8" ; 15. <mark>88 mm</mark>
BELOW CHINE	
SHELL PLATING	9/16" ; 14. <mark>2</mark> 9 mm
KEEL PLATING	1/2 " ; 12.7 mm
KEELSON PLATING	7/16" ; 11.11 mm
DOUBLE BOTTOM FLOOR	7/16" ; 11.11 mm
PLATING	7/10 , 11.11 11111
CENTERLINE BULKHEAD	1/2" ; 12.7 mm
DECK	
WING TANK BULKHEAD	7/16" ; 11.11 mm
DECK/SHELL	16" ; 406.4 mm
CONNECTION	10 , 400.4 11111
RADIUS AT TANK	12" ; 304.8 mm
BOTTOM	12 , 304.6 111111
BOTTOM	
PARTICULARS: CARGO SYSTEM	
HULL TYPE	DOUBLE HULL
CARGO GRADE	GRADE A and LOWER; All Sub-Chapter "D" Cargo, 46CFR153
	Sub-Chapter O cargo.
VAPOR RECOVERY SYSTEM	YES IGS: NONE
TANK CAPACITY @ 100%	
NO. 1 PORT & STBD	(P&S) 8732.7 bbl ; 307.73 m3 ea.
	(

NO. 2 PORT & STBD	(P&S) 9305.6 bbl ; 327.92 m3 ea.			
NO. 3 PORT & STBD	(P&S) 9305.6 bbl ; 327.92 m3 ea.			
NO. 4 PORT & STBD	(P&S) 9305.6 bbl ; 327.92 m3 ea.			
NO. 5 PORT & STBD	(P&S) 9305.6 bbl ; 327.92 m3 ea.			
NO. 6 PORT & STBD	(P&S) 9305.6 bbl ; 327.92 m3 ea.			
NO. 7 PORT & STBD	(P&S) 8142.4 bbl; 286.93 m3 ea.			
NO. 8 PORT & STBD	(P&S) 8709.4 bbl; 306.91 m3 ea.			
	TID DO			
CARGO PUMPS	(4) – DD 12V71/S.C.ENG. 12N X 16D 3 STAGE 3800 GPM			
	EACH			
CARGO SEGREGATION	(3) THREE PRODUCTS. DOUBLE BLOCK VALVES PER SET OF			
	TANK ON NO.S 4, 6 AND 8 CARGO TANKS			
CARGO MANIFOLDS	(6) CARGO DECK CROSS OVER PIPING WITH BLOCK VALVE			
	(4) (P&S) SHORE CONN. MANIFOLDS 12"; 304.8 mm			
	(4) (P&S) HOSE CONN MANIFOLDS, 8", 203.2 mm			
CARGO STRIPPING SYSTEM	2", 50.8 mm STRIPPING LINE ON CENTERLINE. Connection			
	at port and stbd side of loading manifold.			
CAR <mark>GO PIPING</mark> DECK	12: , 304.8 mm			
LOADING DROPS	(4) 12" ; 304.8 mm DIA.			
P <mark>UMP SUCT</mark> ION	(4) 16", 406.4 mm			
C <mark>ARGO PIPI</mark> NG (BOTTOM)	MAIN – 16", 406.4 mm			
	SUCTION – 12", 304.8 mm			
D <mark>OUBLE BLO</mark> CK VALVE	AT BRANCH SUCTION TO TANKS NO.			
	4, 6 AND 8			
CH <mark>ECK VALVE</mark>	AT EACH PUMP DISCHARGE			
TAN <mark>K VALVES</mark>	116 TOTAL			
CARG <mark>O PIPELINE</mark>	No.1 – 3,227 gals ; 12,217 ltrs			
FILL BELOW DECK	No 2 – 2,277 gals ; 8,619 ltrs			
	No 3 – 1,693 gals ; 6,410 ltrs			
	No 4 – 1,693 gals ; 6,410 ltrs			
PIPE FILL ABOVE DECK	No 1 – 1,633 gals. ; 6,183 ltrs			
	No 2 – 1,622 gals. ; 6,138 ltrs			
	No 3 – 1,622 gals. ; 6,138 ltrs			
	No 4 – 1,633 gals. ; 6,183 ltrs			
PUMP DEEP WELLS	(4) ea. 30" dia X 9 ft & 24" dia X 22 ft			
	762 mm X 2.74 m & 609.6 mm X 6.71 m.			
	847 gals.; 3,208 ltrs each pump well			
CHIKSAN/SHORE HOSE				
MANIFOLD				
DISTANCE FROM BOW:				
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LINE 1	217 FT.; 66.14 m		
LINE 2	212 FT ; 64.62 m		
LINE 3	207 FT ; 63.09 m		
LINE 4	202 FT. ; 61.57 m		
DISTANCE FROM STERN			
LINE 1	265 FT.; 80.77 m		
LINE 2	271 FT. ; 82.6 m		
LINE 3	276 FT. ; 84 <mark>.12 m</mark>		
LINE 4	281 FT. ; 85.65 m		
MANIFOLD DECK HEIGHT	5.14 FT.; 1.57 m		
HEIGHT ABV WATERLINE	LIGHT SHIP: 35.18 FT. ; 10.72 m		
HEIGHT FUL <mark>L BALL</mark> AST	25.31 FT. ; 7.71 m		
VAPOR MÁN <mark>IFO</mark> LD			
DIST FROM BOW	198 FT. ; 60.35 m		
DIST FROM STERN	261 FT. ; 79.55 m		
PUMPS	(4) DD 12V71 driving (4) S.C. Eng. 12NX16D 3 stage pumps		
	3800 GPM per pump		
REM <mark>OTE STATI</mark> ON	MANUAL SHUTDOWN		
SH <mark>UTDOWN</mark>			
CA <mark>RGO TANK</mark>	JOWA Deck Master II with high level and overfill alarms.		
AL <mark>ARM SYST</mark> EM	Visual and audible alarms on Xmas tree forward of loading		
	manifold and at office display panel.		
C <mark>ARGO VEN</mark> TING SYSTEM	INDIVIDUA <mark>L</mark> TANK 2-1/2"; 63.5 mm PV		
VAPOR RECOVERY SYSTEM	Load rate 13400 bbl/hr ; 2,130 m3/hr		
	10" ; 254 mm P/V valve @ 1.75 psi ; 0.12 bar		
GA <mark>UGING SY</mark> STEM	CLOSED SYSTEM WITH MMC TAPE GAUGING		
BALLAST SYSTEM	DANN /a/		

BALLAST CAPABILITY	61,051.6 bbls ; 9,706.43 m3
BALLAST PUMPS	(2) JOHN DEERE 6068 / BYRON JACKSON LS14GH
BALLAST TANK COATING	Ameron
FUEL TANK	4,900 gals. ; 18,548.52 ltr

### **HOSE CRANES**

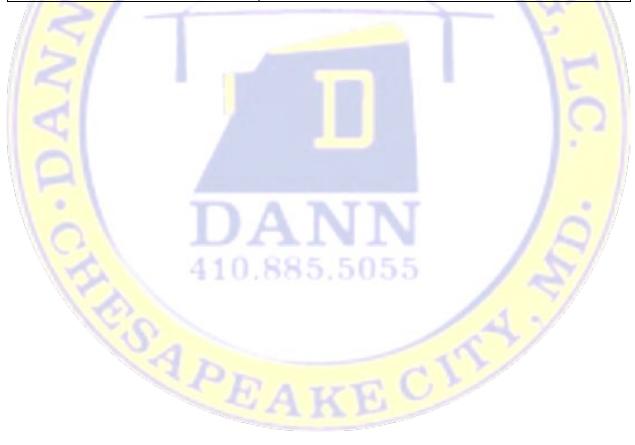
HOSE CRANES	(2) APPELTON ELECTIC/HYDRAULIC
	60 FT, 18.29 m JIB, 2000 LB,.907 m/t SWL

GENERATORS	(2) DD 6-71 / 99 KW
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	(1) DD 3-71 / 30 KW HARBOR GEN
SHORE POWER	100 amp
AIR COMPRESSOR	QUINCY 240L

MOORING SYSTEM	
ANCHOR WINDLASS	Coastal Equipment – MD-1W18134-124-00 Serial # 147551212
ANCHOR	Stockless 7500# ; 3447 kg. with 7 shots 1-9/16" chain
CAPSTANS	(2) Aft. Coastal Equipment – MD# C4.8-0-41-131 Port Ser# 16109B118 Stbd Ser# 16109A118
DRUM WINCHES	(4) Coastal Equipment 1MZ0112D3-1-00 Hydraulic Mooring winches each fitted with; 300 ft. 1-1/4" 12 strand plazma line and 36 ft. 2-5/8" 8 strand polydac line with chaffing gear.
DO <mark>UBLE BITT</mark> S	(5) 12" ; 304.8 mm
ROLLER CHOCKS	9" ; 228.6 mm for 9" ; 228.6 mm line
CLEATS	(18) 36" ; 9 <mark>1</mark> 4.4 mm
C <mark>LOSED CHO</mark> CKS	22" X 11" ; 558.8 mm X 279.4 mm
TOW PAD EYE	Emer. Tow Wire – 420' ; 128 m X 2-1/4"; 57.15mm
FENDERS	N/A
BUTTERWORTH PLATES	(32) – 2 at each cargo tank
OIL SP <mark>ILL DECK D</mark> RAIN	Oil spill containment bins at port and stbd transverse loading manifolds and port and stbd hose loading manifolds.  Containment drains into No. 4 port & stbd cargo tanks with 2" gate valve on bottom of containment bin.
CARGO EXPAN <mark>SION TANKS</mark>	(16) 59-3/8" X 32-3/4" X 24" ; 1.51m X 0.83m X 0.61m 19" ; 482.6mm Round raised man hole cover.
OIL SPILL RAIL	8"; 203.2mm high covering entire cargo envelope
EMERGENCY OIL SPILL BOOM	TO BE DETERMINED
NAV LIGHTS	120 VAC – Nav panel in Cargo Office
FLOOD LIGHTS	(6) 225 watt LED Cargo Floods. (2) 150 watt Floods Aft P&S Deck Houses
CARGO OFFICE	CARGO ALARM PANEL GALLEY SINK

	REFIGERATOR/FREEZER
	DESK W/ THREE CHAIRS
	A/C AND HEAT
COATINGS	
DECK EDGE TO 16' / 4.88 M	Sherwin Williams SeaGuard 5000 HS Black
16'/4.88M DRAFT TO BTM	Sherwin Williams Seagard Antifoulant Blue
DECK	Sherwin Williams XLE-80 Dann Grey
DECK FITTINGS	Sherwin Williams XLE-80 Dann Blue
HANDRAILS	Sherwin Williams XLE-80 Dann Yellow
CATHODIC PROTECTION	WILSON WALTON IMPRESSED CURRENT FOR UNDERWATER
	HULL
SACIFICIAL ANODES	25 LB ALUM ANODES – 2 PER BALLAST TANK
CARGO TANK COATING	NOVA PLATE 890
BALLAST TANK COATING	Ameron





Certificate of Inspection

Dated:

13-Mar-09

### Cargo Authority Attachment

Vessel Name: B No. 240

Official #: 998038

Shipyard: Gretna
Hull #: 255

Ta	Tank Group Characteristics				
Tnl Grp	Tanks in Group	Density	Flammability Grade	Fire Protection	Comments
Α	all	8.7	A	Portable	None

#### **Authorized NLS Cargoes**

Cargo Identification					<b>Conditions of Carriage</b>			
Name	Chem Code	Compat Group No	IMO Pollution Category	Grade	Tank Group	Vapor R App'd (Y or N)	VCS Category	
Acetone	ACT	18 <sup>2</sup>	Z	С	Α	Yes	1	
Alcoholic beverages, n.o.s	ABV	20	Z	#	Α	No	N/A	
Butyl alcohol (n-)	BAN		Z	D	Α	Yes	1	
Butyl alcohol (sec-)	BAS		Z	С	Α	Yes	1	
Ethyl alcohol	EAL	20 <sup>2</sup>	Z	С	Α	Yes	1	
Ethylene carbonate	ECR	34	Z	Ε	Α	No	N/A	
Hexamethylenetetramine solutions	HTS	7	Z	Ε	Α	No	N/A	
Hexylene glycol	HXG	20	Z	Е	Α	Yes	1	
Magnesium hydroxide slurry	MHS	5	Z	NA	Α	No	N/A	
Methyl propyl ketone	MKE	18	Z	С	Α	No	N/A	
N-Methylglucamine solution (70% or less)	MGC	43	Z	Е	Α	No	N/A	
Polyaluminum chloride solution	PLS	1	Z	NA	Α	No	N/A	
iso-Propyl alcohol	IPA	20 <sup>2</sup>	Z	С	Α	Yes	1	
Propylene glycol	PPG	20 <sup>2</sup>	Z	Ε	Α	Yes	1	
Propylene carbonate	PLC	34	Z	Ε	Α	No	N/A	
Sodium acetate solution	SAN	34	Z	#	Α	No	N/A	
Sodium sulfate solution	SST		Z	NA	Α	No	N/A	

This vessel is approved to collect vapors of the following 46 CFR Subchapter D flammable and/or combustible liquid cargoes using the approved onboard vapor control system.

#### **Subchapter D Cargoes Authorized for Vapor Control**

Cargo Identification					<b>Conditions of Carriage</b>				
Name	Chem	Compa Group N		Grade	Tank Group	Vapor Re App'd (Y or N)	VCS Category		
Distillates: Flashed feed stocks	DF	F 33	İ	Е	А	Yes	1		
Distillates: Straight run	DS	R 33	ı	Е	Α	Yes	1		
Gasoline blending stocks: Alkylates	G.	K 33	ı	A/C	Α	Yes	1		
Gasoline blending stocks: Reformates	GF	RF 33	I	A/C	Α	Yes	1		
Gasolines: Automotive (containing not over 4.23 grams lead per gallon)	G/	T 33		С	Α	Yes	1		
Gasolines: Aviation (containing not over 4.86 grams of lead per gallon)	G/	V 33		С	Α	Yes	1		
Gasolines: Casinghead (natural)	G	S 33	I	A/C	Α	Yes	1		
Gasolines: Polymer	GF	PL 33	1	A/C	Α	Yes	1		
Gasolines: Straight run	GS	SR 33	<u> </u>	A/C	Α	Yes	1		
Jet fuel: JP-4	JP	F 33	1	Е	Α	Yes	1		
Jet fuel: JP-5 (kerosene, heavy)	JP	V 33	1	D	Α	Yes	1		
Kerosene	KF	S 33	I	D	Α	Yes	1		
Mineral spirits	IM	NS 33	<u> </u>	D	Α	Yes	1		
Naphtha: Heavy	N/	G 33	@1	#	Α	Yes	1		
Naphtha: Petroleum	PT	N 33	1	#	Α	Yes	1		
Naphtha: Solvent	NS	SV 33	@1	D	Α	Yes	1		
Naphtha: Stoddard solvent	NS	S 33	@I	D	Α	Yes	1		



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## Certificate of Inspection

### Cargo Authority Attachment

Vessel Name: **B No. 240**Official #: 998038

Shipyard: Gretna

Page 2 of 3 Hull #: 255

Cargo Identification					<b>Conditions of Carriage</b>			
Name	Chem Code	Compat Group No	IMO Pollution Category	Grade	Tank Group	Vapor F App'd (Y or N)	VCS Category	
Naphtha: Varnish makers and painters (75%)	NVM	33	@I	С	Α	Yes	1	
Oil, fuel: No. 2	OTW	33	ı	D/E	Α	Yes	1	
Oil, fuel: No. 2-D	OTD	33	1	D	Α	Yes	1	
Oil, fuel: No. 4	OFR	33	I	D/E	Α	Yes	1	
Oil, fuel: No. 5	OFV	33	I	D/E	Α	Yes	1	
Oil, fuel: No. 6	OSX	33	ı	E	Α	Yes	1	
Oil, misc: Crude	OIL	33	1	C/D	A	Yes	1	
Oil, misc: Diesel	ODS	33	ı	D/E	Α	Yes	1	
Oil, misc: Gas, high pour	OGP	33	@I	Е	Α	Yes	1	
Oil, misc: Lubricating	OLB	33	1	E	Α	Yes	1	
Oil, misc: Residual	ORL	33	1	Е	Α	Yes	1	
Oil, misc: Turbine	ОТВ	33	- 1	Е	Α	Yes	1	



**United States Coast Guard** 

Serial #: C2-0900746 Dated: 13-Mar-09

Certificate of Inspection

Cargo Authority Attachment

Vessel Name: B No. 240 Shipyard: Gretna Official #: 998038 Hull #: 255

#### 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.

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 (G-MSO-3), U.S. Coast Guard, 2100 Second Street, SW, Washington, DC 20593-0001. Telephone

(202) 267-1217 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.

Those flammable and combustible liquids listed in 46 CFR Table 30.25-1.
Those hazardous cargoes listed in 46 CFR Table 151.05 and 46 CFR Part 153 Table 2. Subchapter D Subchapter O

Those cargoes listed in 46 CFR Part 153 Table 2 are non-regulated cargoes when carried in bulk on non-oceangoing barges.

The cargo classification assigned to each flammable or combustible liquid. Grades inside of "{ }" indicate a provisional assignment based upon literature sources which were Grade 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

A, B, C that grade of cargo. DF Flammable liquid cargoes, as defined in 46 CFR 30-10.22.

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 NA cargo grade based on Manufacturers data and ensure that the barge is authorized for carriage of that grade of cargo.

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.

Designed to carry products which require the maximum preventive measures to preclude the uncontrolled release of the cargo. See 46 CFR 151.10-1(b)(1).

Designed to carry products which require significant preventive measures to preclude the uncontrolled release of cargo. See 46 CFR 151.10-1(b)(3).

Designed to carry products of sufficeint hazard to require a moderate degree of control. See 46 CFR 151.10-1(b)(4).

NA Not applicable to barges certificated under Subchapter D.

#### Conditions of Carriage

Tank Group The vessel's tank group (as defined 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

(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 Category 1

and 46 Code of Federal Regulations (CFR) apply to these cargoes. Those specifically dealing with vapor control systems are in 33 CFR 155.750, 33 CFR 156.120, 33 CFR 156.170, 46 CFR 35.35 and 46 CFR 39. The cargo tank venting system calculations (46 CFR 39.20-11) and the pressure drop calculations (46 CFR 39.30-1(b))

must use appropriate friction factors, vapor densities and vapor growth rates.

Category 2 (Polymerizes) Polymerization and residue build-up of these cargoes can adversely affect the vessel by fouling safety componenets and restricting vapor flow which could lead to cargo tank overpressurization. The vessel's owner must develop a method of ensuring all VCS safety components are functional and polymer build-up is no

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.

(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 Category 5

mixture densities and vapor growth rates as compared to Category 1 cargoes. Consult the Marine Safety Center's VCS Guidelines for further information. This

requirement is in addition to the requirements of Category 1.

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

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

The cargo has not been evaluated/classified for use in vapor control systems