Los Angeles/Long Beach Harbor Safety Committee
CERTIFIED BOLLARD PULL TEST RESULTS

3 June 2025

AMNAV MARTIME CORP.

Name	Total HP (Adv)	Ahead Short Tons	Astern Short Tons	Prop	Length	Test Port	Bollard Pull Issued Date (and ETIP extension status when applicable)
INDEPENDENCE	5080	65.4	67.9	Z	78	Longview, WA	04/09/07 (ETIP extension)
REVOLUTION	5100	n/a	67.78	Z	73.4	Oakland, CA	4/17/2025 (ETIP extension)
SANDRA HUGH	5100	n/a	63.81	Z	78	Oakland, CA	04/17/2025 (ETIP extension)
JAMIE RENEA (NÉE AHBRA FRANCO)	6850	91.6	89.8	Z	103	Seattle, WA	4/23/2024 (ETIP extension)
Z-THREE	4400	n/a	51.32	Z	86.9	Oakland, CA	10/25/2022 (ETIP extension)
Z-FOUR	4000	n/a	50.54	Z	96	San Francisco, CA	4/23/2024 (ETIP extension)
Z-FIVE	4324	n/a	52.31	Z	87.7	Oakland, CA	04/17/2025 (ETIP extension)
MICHELLE SLOAN	5150	67.08	64.9	Z	80	Los Angeles, CA	4/17/25 (ETIP extension)
PATRICIA ANN	4732	n/a	62.2	Z	73.4	Oakland, CA	04/29/2022 (ETIP extension)
SARAH AVERICK	6866	96.73	93.37	Z	95.1	Everett, WA	10/02/2020 (ETIP extension)
TIM QUIGG	3800	50	52.6	Z	76.3	Los Angeles, CA	5/3/11 (ETIP extension)
BARBARA JEAN MULHOLLAND (NÉE ROBERT FRANCO)	6850	91.3	88.9	Z	103	Everett, WA	4/4/2013 (ETIP extension)

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As of 9 Dec 2025

BAYDELTA MARTIME CORP.

Name	Total HP (Adv)	Ahead Short Tons	Astern Short Tons	Prop	Length	Test Port	Bollard Pull Issued Date (and ETIP extension status when applicable)
DELTA AUDREY (NÉE VETERAN)	6670	83.53	88.40	Z	100	Mare Island, CA	08/16/2021 (ETIP extension)
DELTA BILLIE	6768	93.71	93.68	Z	100	Everett, WA	04/04/09 (ETIP extension)
DELTA CATHRYN	6768	92.33	91.57	Z	100	Everett, WA	01/26/2011 (ETIP extension)
DELTA DEANNA	6768	91.1	92.1	Z	113	Portland, OR	07/19/2017 (ETIP extension)
DELTA LINDA	5050	81.87	89.43	Z	100	Mare Island, CA	08/17/2021 (ETIP extension)
DELTA TERESA	7032	90.31	88.68	Z	100	Everett, WA	04/19/2019 (ETIP extension)

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As of 3 June 2025

CENTERLINE LOGISTICS

Name	Total HP (Adv)	Ahead Short Tons	Astern Short Tons	Prop	Length	Test Port	Bollard Pull Issued Date (and ETIP extension status when applicable)
MILLENNIUM FALCON	4200	49.73	54.55	Z	99	Los Angeles, CA	4/7/2021 (ETIP extension)
KESTREL	4400	29.45	21.94	T	90.2	Los Angeles, CA	2/23/2022 (ETIP extension)

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As of 9 November 2026

CROWLEY MARINE SERVICES, INC.

Name	Total HP (Adv)	Ahead Short Tons	Astern Short Tons	Prop	Length	Test Port	Bollard Pull Issued Date (and ETIP extension status when applicable)
SCOUT	4730	51.61	45.81	C	103	Richmond, CA	12/07/09 (ETIP extension)
MASTER	4730	51.22	43.83	C	103	Treasure Island, CA	5/10/10 (ETIP extension)
LEADER	4730	51.09	45.44	C	103	Richmond, CA	9/29/09 (ETIP extension)
ADMIRAL	4730	50.84	44.72	C	103	Richmond, CA	11/2/09 (ETIP extension)
VALOR	6772	84.72	124.55	Z	100	Everett, WA	3/19/2021 (ETIP extension)
TIOGA	NR	54.1	52.92	Z	78.7	NR	10/31/13 (ETIP extension)
HERCULES	6008	75.36	74.33	Z	82	San Diego, CA	7/14/2026
VENTURE	6772	107	103.3	Z	77	Everett, WA	10/27/2026 (ETIP extension)

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CERTIFIED BOLLARD PULL TEST RESULTS

As of 23 July 2026

FOSS MARITIME

Name	Total HP (Adv)	Ahead Short Tons	Astern Short Tons	Prop	Length	Test Port	Bollard Pull Issued Date (and ETIP extension status when applicable)
ALTA JUNE	5000	65,83	63.97	Z	78	Pt. Tacoma, WA	6/14/2011 (ETIP extension)
LELA FRANCO	5150	67.34	60.3	Z	80	San Diego, CA	7/24/2019 (ETIP extension)
JAMIE ANN	6866	90.86	92.46	Z	100	Everett, WA	03/25/2020 (ETIP extension)
LEISA FLORENCE	6866	54.69	85.71	Z	100	Everett, WA	01/22/2022 (ETIP extension)
LILLIAN FOSS (NÉE RICH PADDEN)	5400	68.65	60.24	Z	76.3	San Diego, CA	07/20/2026 (ETIP extension)

Note 1: Updated bollard pull information and Escort Tug Inspection Program (ETIP) information are available from the Marine Exchange of Southern California Web Page www.mxsocal.org in the Harbor Safety Committee Tab.

Note 2: ETIP compliant vessels have received an extension on their bollard pull date from the State of California. Please also see info on the ETIP program on the California Office of Spill Response Web Page at the following site: https://wildlife.ca.gov/OSPR/Prevention/Marine-Safety-Unit#etip

Note 3: Pursuant to State Regulations, tugs must have their bollard pull re-tested every 3 years or be accepted into the ETIP to extend their bollard pull date. The strain cell used for the bollard pull measurement shall have been calibrated within the past 12 months of the bollard pull measurement.

Abbreviations:

S Single Screw

T Twin Screw

C Cycloidal

Z Z-Drive

TR Tractor Tug (collective term for Cycloidal and Z-Drive Tugs)

NR Not reported