



# **OPA 90 – *A New Way of Doing Salvage?***

**Mauricio M. Garrido**  
**President**  
**T&T Salvage LLC**



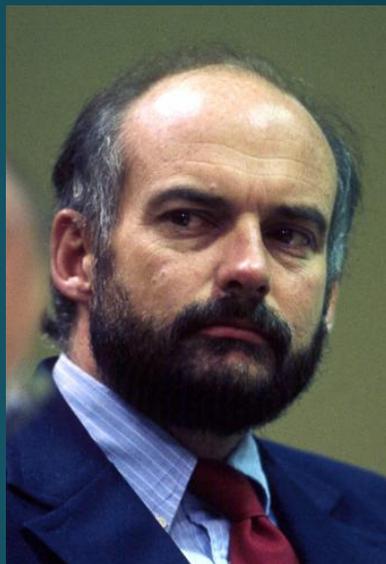
# FUNDAMENTALS OF SALVAGE RESPONSE

**65%**  
**HUMAN**  
**ERROR**

1912



1989



2012





# FUNDAMENTALS OF SALVAGE RESPONSE

- Salvage has been around since ancient times
- Internationally Salvage Law is based upon the 1989 Salvage Convention





# SALVAGE RESPONSE UNDER OPA 90

## OPA 90 REVIEW

- EXXON VALDEZ Grounding and Oil Spill in Alaska
- Regulatory Timeline – 1990...2008...2013





# SALVAGE RESPONSE UNDER OPA 90

## OPA 90 REVIEW

- **The Responsible Party** for a vessel or facility from which oil is discharged, or which poses a substantial threat of a discharge, is liable for damages resulting from the discharged oil and for removal costs.
- Established Limits of Liability and requires evidence of Financial Responsibility - **COFR**
- **The Clean Water Act does not preempt State Law**. States may impose additional liability (including unlimited liability), funding mechanisms, requirements for removal actions, and fines and penalties for responsible parties.
- Increased the fines, civil penalties and **prison terms for failing to notify** the appropriate Federal agency of a discharge.
- **Established requirements for spill contingency plans for vessels and facilities.**

# SALVAGE RESPONSE UNDER OPA 90



- The Oil Pollution Act of 1990 mandated that tank vessel owners ensure the availability of adequate response resources to respond to a vessel's worst-case discharge, including fire and explosion.
- Following a long history of public meetings, and regulatory postponements, **on December 31, 2008**, the Coast Guard issued the final Salvage and Marine Firefighting Regulation for **Tankers**.
- The Final Rule for **Non-Tankers** expected any minute.





# SALVAGE RESPONSE UNDER OPA 90

## Non-Tanker Vessel Response Plan Regulation

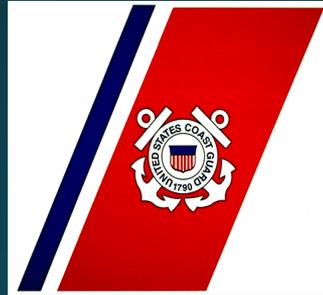
NEW CARISSA – 1999 - OREGON

SELENDANG AYU – 2004 - ALASKA





# SALVAGE RESPONSE UNDER OPA 90



## Program Objective: Minimize Environmental Harm

- Preventing **spills** when possible & planning for **spills** prior to their occurrence
- Primary program focus is on **oil** that is in the transportation system.
- Mitigating effects of **spills** that do occur by ensuring responsible parties cleanup **pollution** discharges
- Reducing potential for **spills** outside U.S. waters from entering U.S. waters or fouling U.S. coastlines.



**WHAT IS A  
SALVAGE  
INCIDENT?**



01.29.2012 10:48



# SALVAGE RESPONSE UNDER OPA 90

**Any situation that has Pollution Potential**





# SALVAGE UNDER OPA 90 REGULATIONS

## OPA 90 Casualty Response Framework

- Criminal Liability Exposure
- Pollution Driven System
- Inexperienced Regulators - USCG
- Regimented Response System - ICS



# SALVAGE IN THE USA



THEN



NOW

# SALVAGE RESPONSE UNDER OPA 90





# SALVAGE UNDER OPA 90 REGULATIONS

- OPA = Oil **POLLUTION** Act of 1990
- The sole purpose of OPA 90 is to prevent and minimize **OIL POLLUTION** in US waters.





# SALVAGE RESPONSE UNDER OPA 90

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...OPA 90 Forgot a Few Key Items

HULL VS. P&I



# SALVAGE RESPONSE UNDER OPA 90

...OPA 90 Forgot a Few Key Items

**CARGO?**





# SALVAGE RESPONSE UNDER OPA 90

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*...and what about*

**Salvage vs. Wreck Removal**

**General Average**

**Charter Parties**



# SALVAGE RESPONSE UNDER OPA 90

*...Not Knowing the System  
can result in:*

**Hull – P& I Conflict**

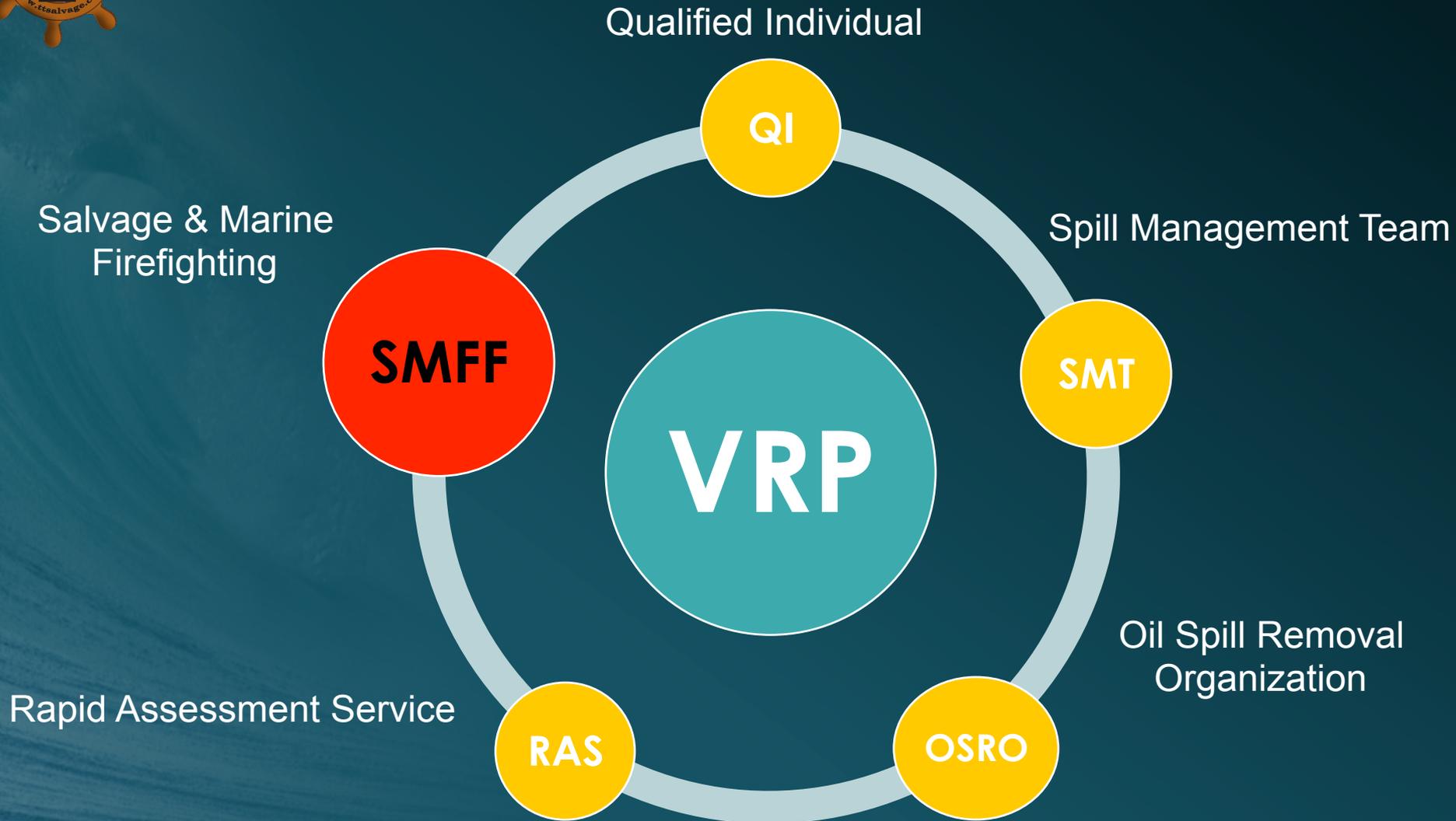
**Extra Response Costs**

**Extra Legal Costs**

**Upset Client**

**Upset USCG**

# SALVAGE UNDER OPA 90 REGULATIONS





# SALVAGE UNDER OPA 90 REGULATIONS

SMFF Requirement in Force:

Tank Vessels in force as of February 2010

Non -Tank Vessels 2013

- Pre-Contract** Salvage Company – Funding Agreement
- Certify Adequacy** of Salvage Company
- Prepare and Certify** Pre-Fire Plan
- Drill and Exercise** Salvage Resources



# USCG 15 CRITERIA

MUST MEET THE FOLLOWING SELECTION CRITERIA TO THE EXTENT POSSIBLE

1. Currently Providing the Response Service
2. Documented History in the Business
3. Own Response Equipment
4. Trained Employees
5. 24-Hour Availability and History of Proven Response Capability
6. Training Programs
7. History of Drills & Exercises
8. History of Approved Salvage Plans
9. Membership in Professional Associations
10. Sufficient Insurance
11. Well Capitalized
12. Local Experience
13. Proven Logistical Capability
14. Safety Systems
15. Familiarity with Area Contingency Plans (ACP)

# RESPONSE PLANNING TIMEFRAMES



| Service   | Inland Waters<br>Great Lakes<br>Rivers & Canals<br>< or = 12 miles | Ocean Environment<br>50 mile point     |
|---|--|--|
| Salvage   | Response Time<br>In Hours  | Response Time<br>In Hours              |
| <u>Assessment &amp; Survey</u><br><b>Remote assessment &amp; consultation</b><br><b>Begin Structural &amp; Stability Assessment</b><br><b>On-site salvage assessment</b><br>Assessment of Structural Stability<br>Underwater vessel and bottom survey | 1<br>3<br>6<br>12<br>12  | 1<br>3<br>12<br>18<br>18               |
| <u>Stabilization</u><br>Emergency Towing<br>Salvage Plan<br>Emergency transfer onboard using external pumps<br>Emergency lightering<br>Other refloating methods<br>Making temporary repairs<br>Diving services support                                | 12<br>16<br>18<br>18<br>18<br>18<br>18                             | 18<br>22<br>24<br>24<br>24<br>24<br>24 |
| <u>Specialized Salvage Operations</u><br>Special Salvage Operations Plan<br><b>Heavy lift</b><br><b>Subsurface product removal</b>  | 18<br>Estimated<br>72  | 24<br>Estimated<br>84                  |



# RESPONSE PLANNING TIMEFRAMES

| <b>Firefighting</b>                     | <b>At Pier</b>                | <b>Pier to 12 Miles</b>       | <b>50 mile point</b>          |
|---|-------------------------------|-------------------------------|-------------------------------|
|   | <b>Response Time In Hours</b> | <b>Response Time In Hours</b> | <b>Response Time In Hours</b> |
| <b><u>Assessment &amp; Planning</u></b> |                               |                               |                               |
| Remote Assessment & consultation        | 1                             | 1                             | 1                             |
| On-site assessment                      | 2                             | 6                             | 12                            |
| <b><u>Fire Suppression</u></b>          |                               |                               |                               |
| External firefighting teams             | 4                             | 8                             | 12                            |
| External Vessel firefighting systems    | 4                             | 12                            | 18                            |

Ref CFR 155.4030 (b)

***“Timeframe starts when anyone in response organization receives notification of a potential or actual incident”***

Ref CFR 155.4040 (b)

# PRE-STAGED PORTABLE EQUIPMENT



Seattle, WA  
HPU-DHP 120  
(1)MSP-300 Pump

Coos Bay, OR  
Fishcon 2650 GPM

San Francisco, CA  
HPU-DHP 120  
(1)MSP-300 Pump

Long Beach, CA  
Fishcon 2650 GPM

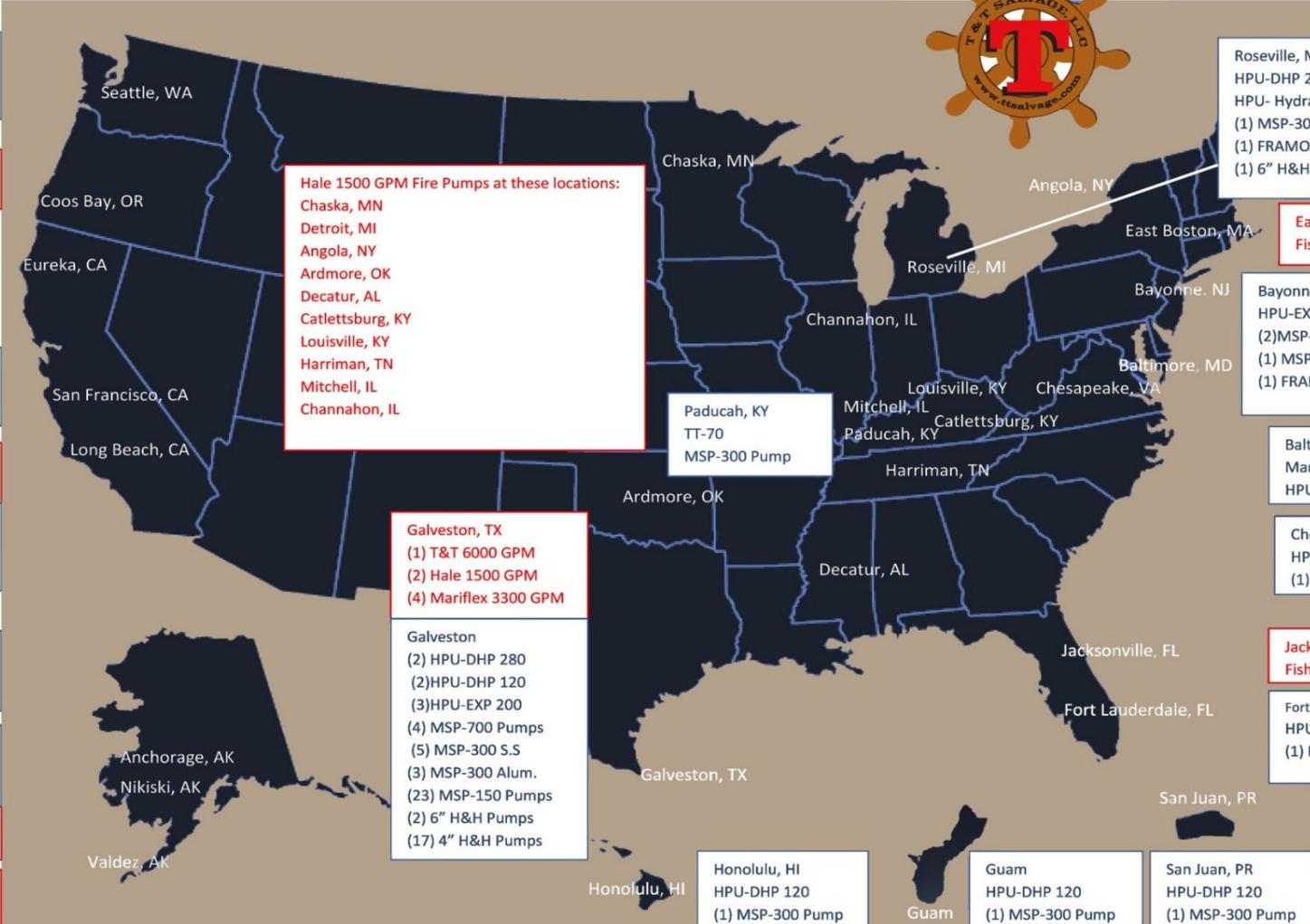
Long Beach, CA  
HPU- EXP 201  
(2) MSP-300 Pump

Anchorage, AK  
HPU-DHP 120  
(1) MSP-300 Pump

Nikiski, AK  
HPU-DHP 280  
(2)MSP-300 Pump

Nikiski, AK  
Fishcon 2650 GPM

Valdez, AK  
Fishcon 2650 GPM



Roseville, MI  
HPU-DHP 280  
HPU- Hydra Tech JD 31 GPM  
(1) MSP-300 Pump  
(1) FRAMO TK-150 Pump  
(1) 6" H&H Pump

East Boston, MA  
Fishcon 2650 GPM

Bayonne, NJ  
HPU-EXP 200  
(2)MSP-300 Pump  
(1) MSP-150 Pump  
(1) FRAMO TK-150 Pump

Baltimore, MD  
Mariflex Equipment  
HPU-DHP 120

Chesapeake, VA  
HPU-DHP 120  
(1)MSP-300 Pump

Jacksonville, FL  
Fishcon 2650 GPM

Fort Lauderdale, FL  
HPU-DHP 120  
(1) MSP-300 Pump

Paducah, KY  
TT-70  
MSP-300 Pump

Galveston, TX  
(1) T&T 6000 GPM  
(2) Hale 1500 GPM  
(4) Mariflex 3300 GPM

Galveston  
(2) HPU-DHP 280  
(2)HPU-DHP 120  
(3)HPU-EXP 200  
(4) MSP-700 Pumps  
(5) MSP-300 S.S  
(3) MSP-300 Alum.  
(23) MSP-150 Pumps  
(2) 6" H&H Pumps  
(17) 4" H&H Pumps

Honolulu, HI  
HPU-DHP 120  
(1) MSP-300 Pump

Guam  
HPU-DHP 120  
(1) MSP-300 Pump

San Juan, PR  
HPU-DHP 120  
(1) MSP-300 Pump



# SALVAGE UNDER OPA 90 REGULATIONS

- **Top OPA-90 Provider**  
Selected by more than 60% of the OPA 90 Tanker Market
- **Dedicated Vessel Response Services Team**  
Contracting  
Vessel Enrollment  
Pre-Fire Plan Reviews and Certifications  
SMFF Geographic Specific Appendices (GSA) Management
- **Subcontractor Management**  
Over 400 Subcontractors in OPA 90 Network  
Over 1200 Towing Vessels in OPA 90 Network
- **OPA 90 Drills & Exercises**  
T&T Salvage Participated *in nearly 100* Table Top Exercises and USCG Verifications Drills in 2012





# MANAGING SALVAGE UNDER OPA 90

## MANAGE RISK & **EXPECTATIONS**





# MANAGING SALVAGE UNDER OPA 90

- Activate the Vessel Response Plan
- Notify Contracted Salvage Company
- Mobilize Assessment Team



# T&T SALVAGE



## COMPLIANCE RECOMMENDATIONS

- Audit SMFF Companies
- Collect your Pre-Fire Plan Documentation
- Review Funding/Salvage Contract
- Discuss with your Marine Insurers
- Act NOW



# T&T SALVAGE

## OPERATIONAL RECOMMENDATIONS

- Aggressive Awareness Training of crew and Shoreside staff
- Overreact to all situations
- Notification must always be your First Step
- Bring Professionals to Assess a Casualty before taking Action



# RECOMMENDATIONS

## Best Management Practice



# Grazie Mille! Come Visit Peru

**24-Hour  
Emergency Contact  
+1.713.534.0700  
[www.ttsalvage.com](http://www.ttsalvage.com)**

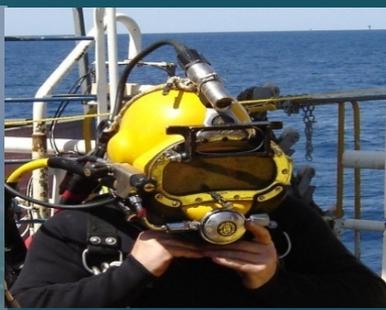




# T&T SALVAGE

**T&T Salvage LLC** is a standalone salvage and firefighting contractor servicing the maritime, industry worldwide. As a wholly owned company of the Teichman Group of companies, **T&T Salvage LLC** is part of a comprehensive family owned group with more than 50 years of proven experience and over 1,500 successful emergency response operations.

Galveston, Houston, New Orleans, Pasadena, Great Lakes, Singapore, Pakistan, Peru, Colombia, Mexico, Guam plus prepositioned equipment in over **40 bases** throughout the USA.



# T&T SALVAGE



- Largest Inventory of Salvage Equipment in the Americas.
- Proven Salvage Master & Technical Staff
- Experienced Incident Management Team
- 100% Success Track Record
- Capital Investments of Over 34 Million in Last 26 Months
- Extensive Towing Vessel Network – 1,200 +
- Multi-layered Salvage Support Resources in the United States, Caribbean, South America and Asia.
- Simultaneous Multi-Operation Capability



# T&T SALVAGE



**100,000 square feet staging area**  
**200 meter feet of Deep Water Dockage**  
**Fast Crewboat Station**  
**Heavy Lift Capability**

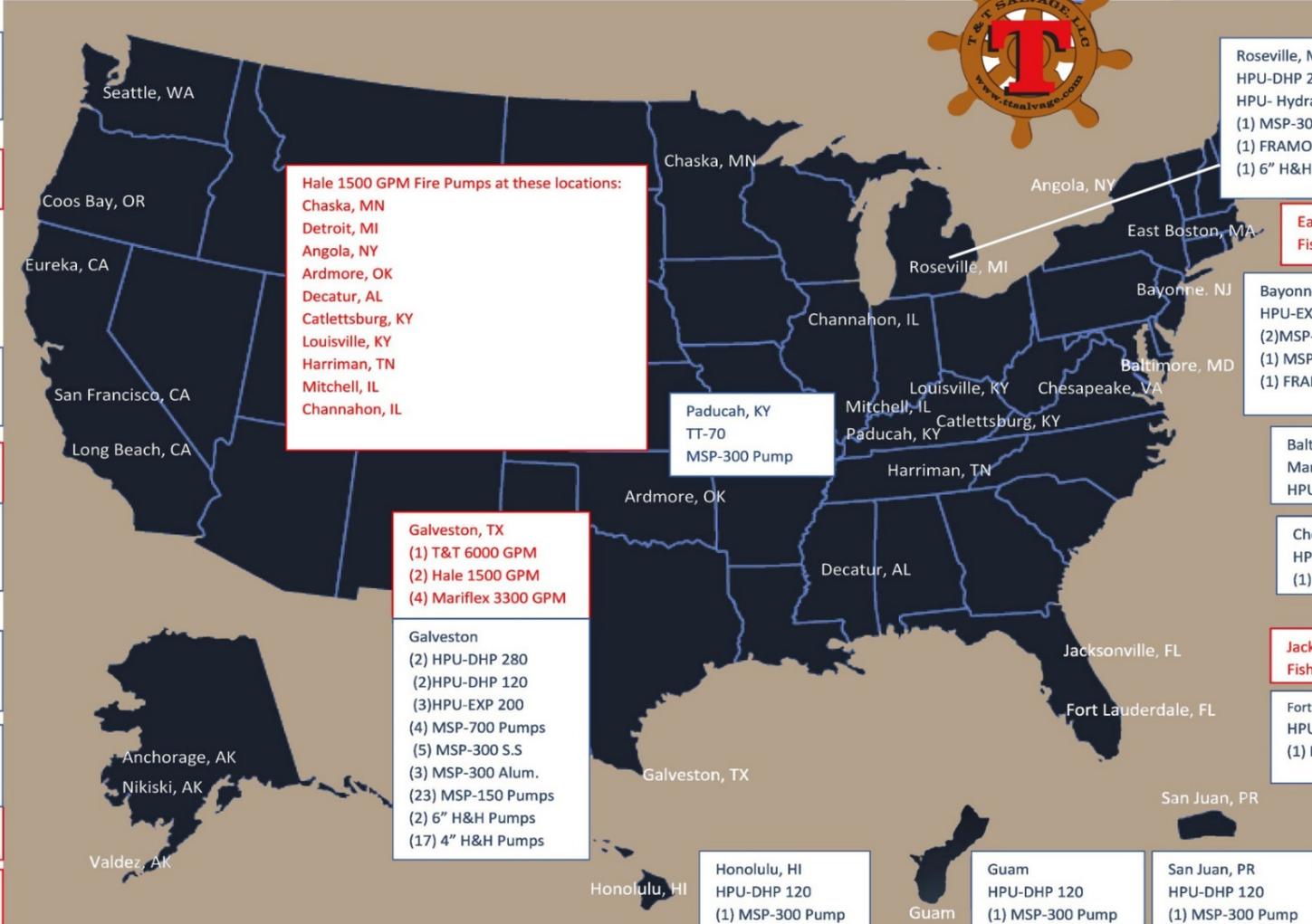




# Own and Operate the Largest Salvage Equipment Inventory in the USA

| DESCRIPTION                                    | CAPACITY                    | QUANTITY     |
|--|-----------------------------|--------------|
| Firefighting Pumps                             | 1000 – 6000 gpm             | 54           |
| <b>High Capacity Submersible Pump Systems</b>  | 65-750 m3/hr                | 180          |
| Hydraulic Power Unit                           | 7-74 GPM/ 2,500-5,000 psi   | 69           |
| <b>Inert Gas Generator</b>                     | <b>2,000 m3/hr</b>          | <b>3</b>     |
| <b>Nitrogen Generator</b>                      | <b>500 m3/hr, 2,200 GPM</b> | <b>2</b>     |
| Deep Air Dive Spread                           | Surface Supplied            | 12           |
| Hot-Tap System                                 | Hydraulic                   | 5            |
| ROV  | Up to 500 m                 | 8            |
| Air Compressor                                 | 185-1600 CFM                | 24           |
| <b>Zone II Approved – Hydraulic Powerpacks</b> | <b>74 GPM/5000 psi</b>      | <b>6</b>     |
| Oil Containment Boom                           | Up to 52 inch               | 200,000 feet |
| Oil Skimmers                                   | Hydraulic                   | 200,000 bpd  |
| Floating Cranes                                | Up to 600 ton               | 4            |

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Long Beach, CA  
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Nikiski, AK  
HPU-DHP 280  
(2)MSP-300 Pump

Nikiski, AK  
Fishcon 2650 GPM

Valdez, AK  
Fishcon 2650 GPM

**Hale 1500 GPM Fire Pumps at these locations:**  
Chaska, MN  
Detroit, MI  
Angola, NY  
Ardmore, OK  
Decatur, AL  
Catlettsburg, KY  
Louisville, KY  
Harriman, TN  
Mitchell, IL  
Channahon, IL

Paducah, KY  
TT-70  
MSP-300 Pump

**Galveston, TX**  
(1) T&T 6000 GPM  
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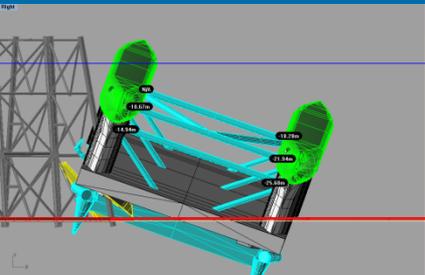
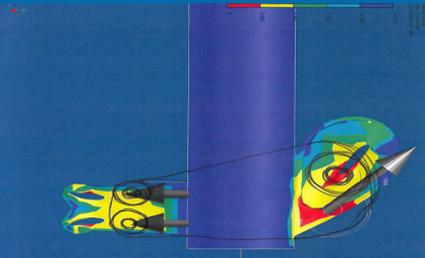
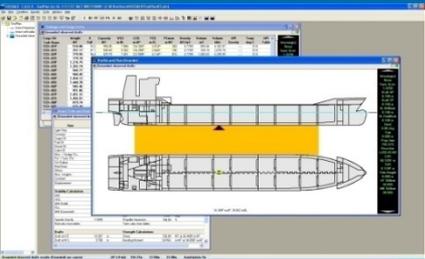
Fort Lauderdale, FL  
HPU-DHP 120  
(1) MSP-300 Pump



# SALVAGE ENGINEERING & NAVAL ARCHITECTURE CAPABILITIES

T&T Salvage owns the following analytical and engineering software:

- Adobe Creative Suite
- ANSYS FEA
- AutoDesk 3D's Max
- AutoDesk Inventor
- MathCAD
- Rhino
- HECSALV
- GHS (General Hydrostatics)
- AutoCAD Mechanical and Civil
- Power Director (video production)
- Admiralty Digital Publications





# T&T SALVAGE Oil Spill Response



- ❑ US Coast Guard Certified Contractor



- ❑ In Excess of 70,000 meters of Oil Boom



- ❑ In Excess of 200,000 BPD Skimming

- ❑ In-House Aerial Observation Assets



- ❑ Fast Air Mobilization Capability

# KEY TUG NETWORK

Over 50 Emergency Towing Subcontractors  
throughout USA  
1000 hp – 30,000hp



# OUR CLIENTS



T&T Salvage LLC is retained by over **60%** of the total tank vessel US trading market including:

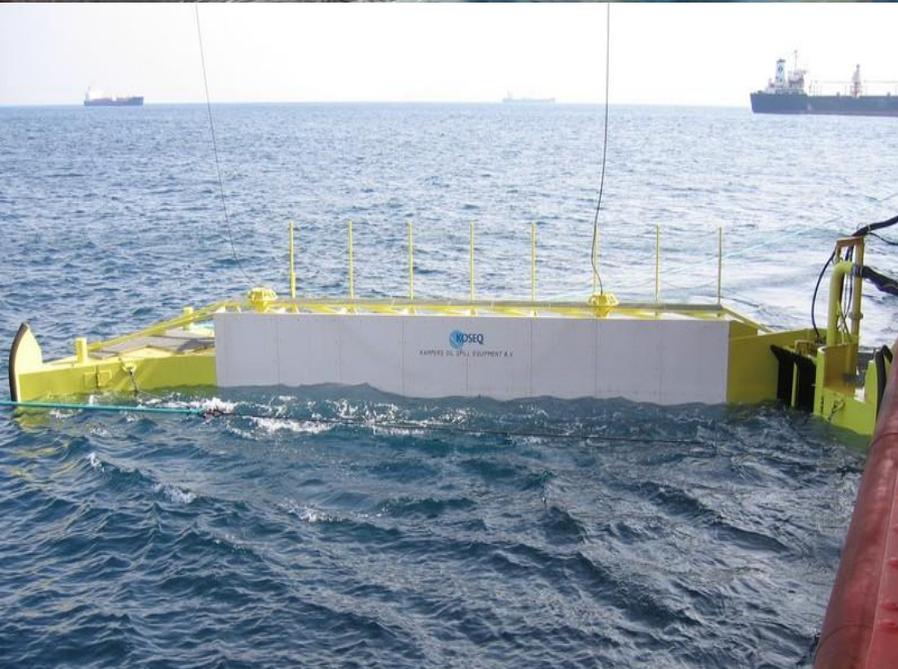




# T&T SALVAGE

- ❑ Offshore Crewboat & Launch Service – Galveston/Houston
- ❑ Oil Spill Response
- ❑ Underwater Class Surveys
- ❑ Hull Cleaning & Propeller Polishing
- ❑ Floating Crane Services
- ❑ Equipment Rental







# OIL SPILL RESPONSE CAPABILITY

January 1, 2013 – T&T contracted to manage Clean Gulf Associates  
The Largest Oil Spill Cooperative in North America



- 140 Member Cooperative – E & P Companies
- Access to Highly Trained Personnel – 40+
- Access to Massive Inventory of Oil Spill Response Equipment



# OIL SPILL RESPONSE CAPABILITY





# OPERATIONAL STRENGTHS

- Large Inventory of Salvage Equipment in the Americas
- Proven Salvage Master & Technical Staff
- Experienced Incident Management Team
- 100% Success Track Record
- Capital Investments of Over 30 Million in Last 24 Months
- Extensive Towing Vessel Network – 1,480 vessels
- Multi-layered Salvage Support Resources in the United States,  
Caribbean, South America and Asia.
- Simultaneous Multi-Operation Capability



# RECENT TRACK RECORD



M/V DUNLIN ARROW  
38,760 DWT Bulk Carrier  
Emergency Patching & Towage –  
Providenciales, Turks & Caicos

M/T CLIPPER SKAGEN  
16,137 DWT LPG Tanker  
Emergency Towage – 140nm off of  
Galveston, TX

M/V MSC ANTARES  
5,762 TEU Container Ship  
Bunker Removal & Refloating – Itaguai, Brazil

M/V STADT HANNOVER  
373 TEU Container Ship  
Refloat – Bahamas

M/T MCT BREITHORN  
20,635 DWT Chemical Tanker  
STS & Refloat – Port Esquivel, Jamaica

M/T BUNGA KELANA 3  
105,784 DWT Product Tanker  
Oil Spill Cleanup – Singapore

M/V JPO DELPHINUS  
58,819 DWT Bulk Carrier  
Refloat – Gwadar Port, Pakistan

M/V DELTA MARINER  
3950 DWT Ro-Ro Cargo Ship  
Refloating & Debris Removal – Tennessee River

Dredge KC 19  
200 foot Cutterhead Dredge  
Wreck Removal – Colombo Sri Lanka

M/V SST  
45,512 DWT Bulk Carrier  
Lightering & Refloat – Johor, Malaysia

# RECENT TRACK RECORD



M/V HANJI ISTANBUL  
27,369 DWT Bulk Carrier  
Bunker removal & Refloat – Mississippi River

M/T CHEMTRANS ALSTER  
13,045 DWT Chemical Tanker  
STS and Refloat – Tuxpan, Mexico

M/V AROSA  
20,001 DWT Bulk Carrier  
Bunker removal & Refloat – Mississippi River

M/V POS ACHAT  
55,000 DWT Bulk Carrier  
Lightering and Refloat – Jakarta, Indonesia

M/V YM VIRTUE  
76,610 DWT Bulk Carrier  
Lightering and Refloating – Marak, Indonesia

VR-308  
Production Platform  
Firefighting – Gulf of Mexico

M/T BUNGA ALPINIA  
37,961 DWT Chemical / Product Tanker  
Firefighting STS, and Refloat – Labuan, Malaysia

M/T MARE CARIBBEAN  
47,718 DWT Product Tanker  
STS and Emergency Towage – Gulf of Mexico

M/V HANSA BERLIN  
1,016 TEU Container Ship  
Cargo Removal & Refloat - Mariel, Cuba

M/V JOHANNA C  
12,947 DWT General Cargo Ship  
Refloat – Amazon River (Peru)

# RECENT TRACK RECORD



## M/V MEDEA

6,000 Vehicle – Pure Car Carrier  
Refloating – Cartagena, Colombia

## M/V JIN FU

50,000 DWT Bulk Carrier  
Refloating, Maputo, Mozambique

## M/V STADT BREMEN

1,100 TEU Container vessel  
Refloating – Barranquilla, Colombia

## LPG/C AE GAS

2,600 DWT LPG Carrier  
Refloating – Surabaya, Indonesia

## M/V MAGNUM POWER

20,000 DWT Bulk Carrier  
Lightering & Refloat – Barranquilla, Colombia

## M/V JIN LI

50,000 DWT Bulk Carrier  
Refloating – Narra, Philippines

## M/V IKAN SEPAT

30,000 DWT Bulk Carrier  
Refloating – Puerto Cortes, Honduras

## M/V JIN WAN

57,000 DWT Bulk Carrier  
Refloating – Java Sea, Indonesia

## M/T AB-9

5,000 DWT Asphalt Tanker  
Wreck Removal - Bintan, Indonesia

## M/V GULF FLEET 54

1,500 DWT Supply Vessel  
Dewatering & Refloat – Abu Reis, Egypt

# JAMAICA





PORT ARTHUR, TEXAS

MEXICO



BRAZIL



“Aground in Amazon  
River, Peru



An aerial photograph of a wide, muddy river. A large red and black bulk carrier is aground on the right bank. Several smaller tugboats are positioned around it, with ropes extending from them towards the larger ship, indicating an attempt to move it. The riverbanks are lined with lush green vegetation, including palm trees and dense mangroves. The sky is overcast.

**54,000 dwt bulk carrier  
aground in high current  
river – 6 knots**

2011.05.16



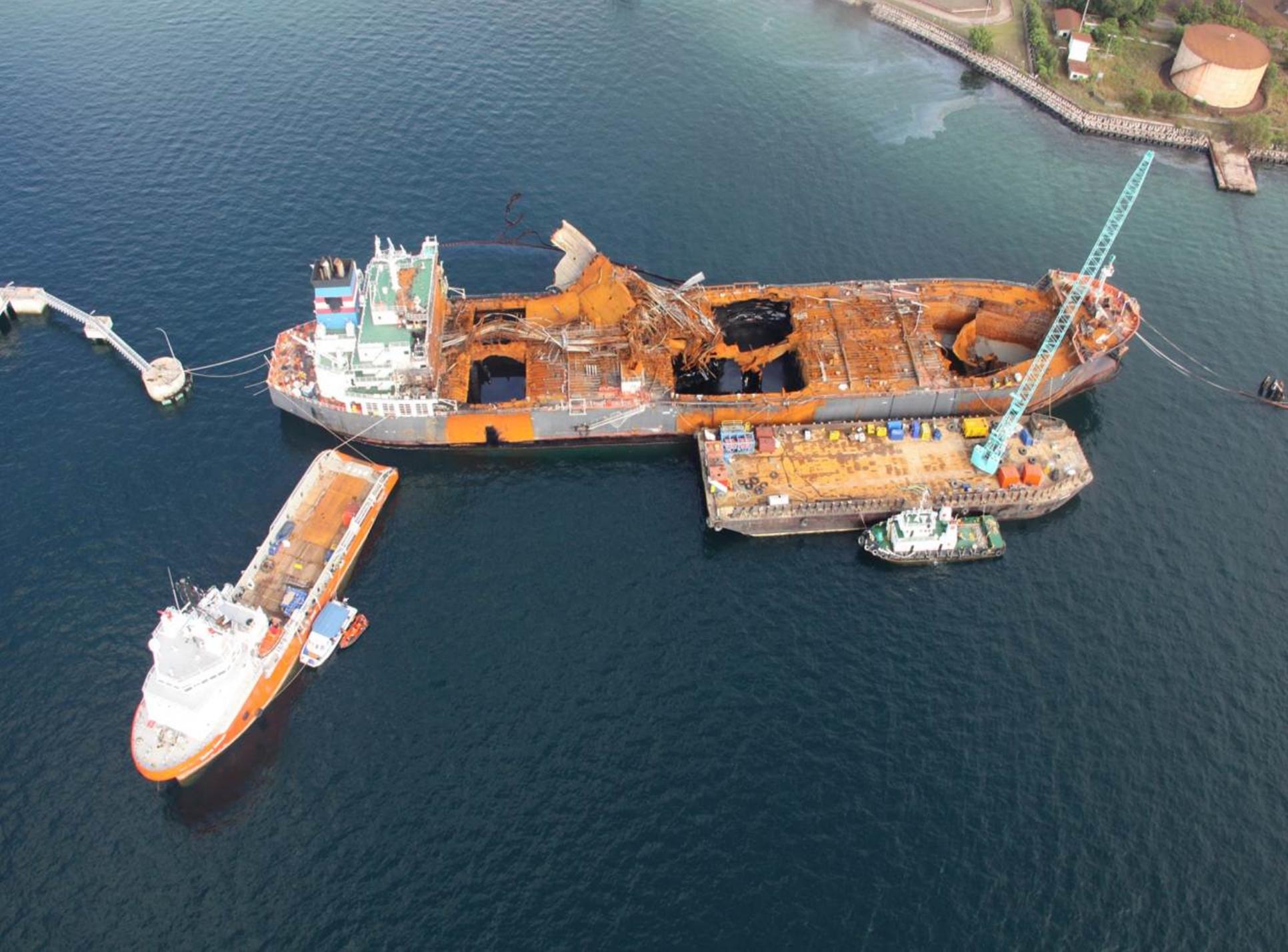
**SINGAPORE**



**HONDURAS**



**MALAYSIA**





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**CHILE**





