



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

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



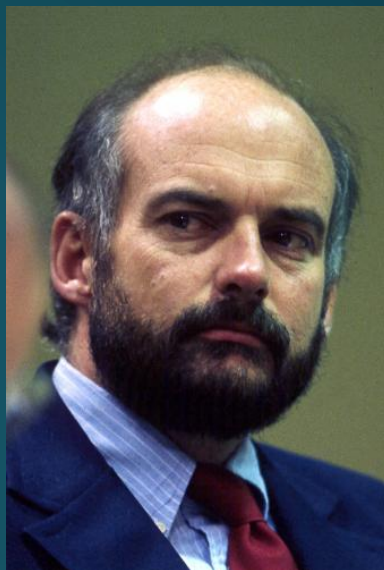
FUNDAMENTALS OF SALVAGE RESPONSE

**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

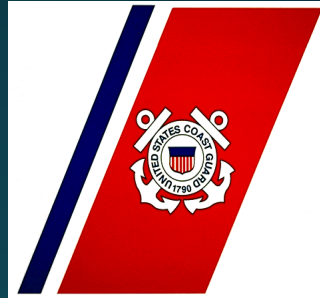


SELENDANG AYU – 2004 - ALASKA





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?**



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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

...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

...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

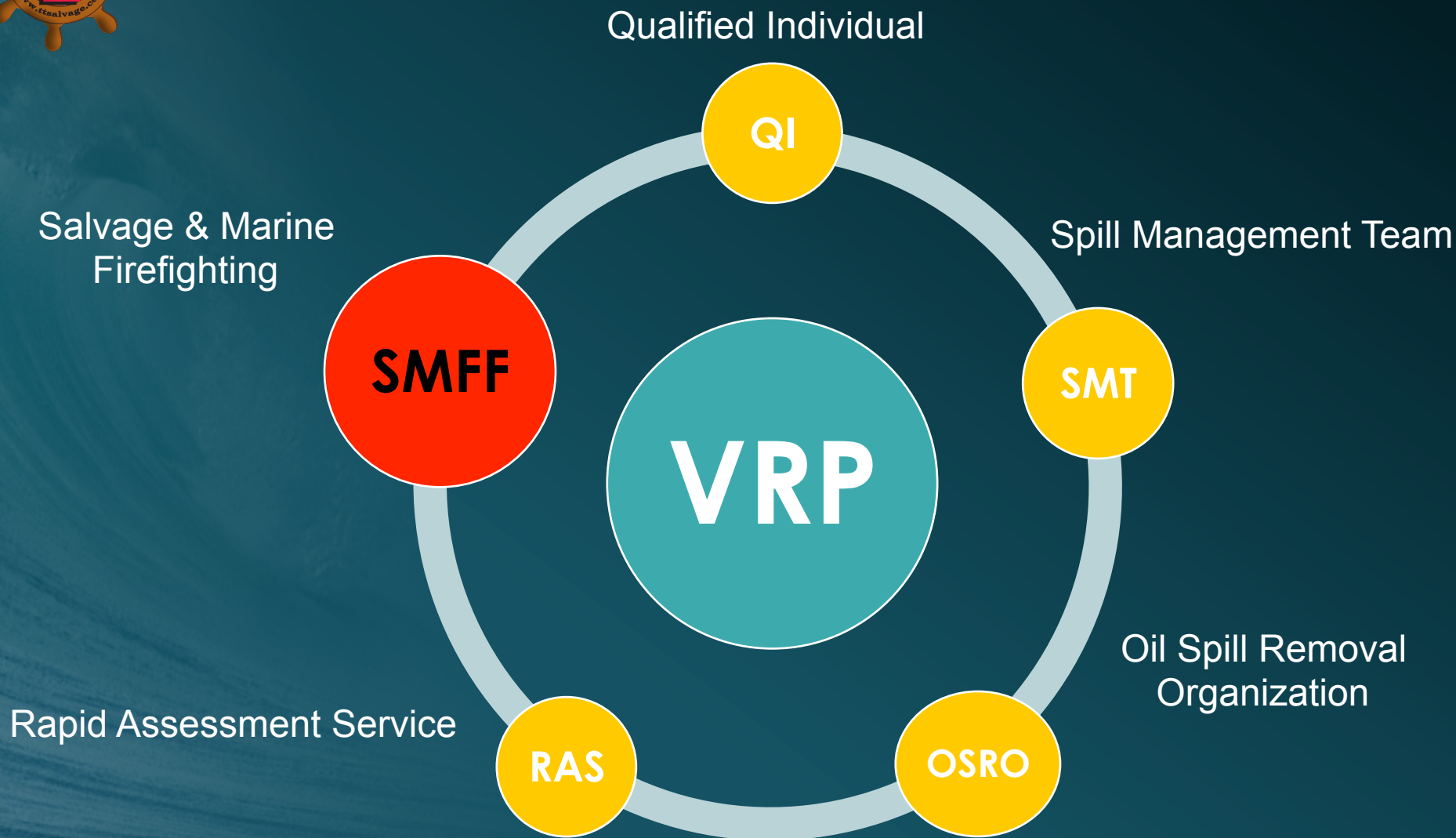
Extra Legal Costs

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



RESPONSE PLANNING TIMEFRAMES

Firefighting	At Pier	Pier to 12 Miles	50 mile point
	Response Time In Hours	Response Time In Hours	Response Time In Hours
<u>Assessment & Planning</u>			
Remote Assessment & consultation	1	1	1
On-site assessment	2	6	12
<u>Fire Suppression</u>			
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

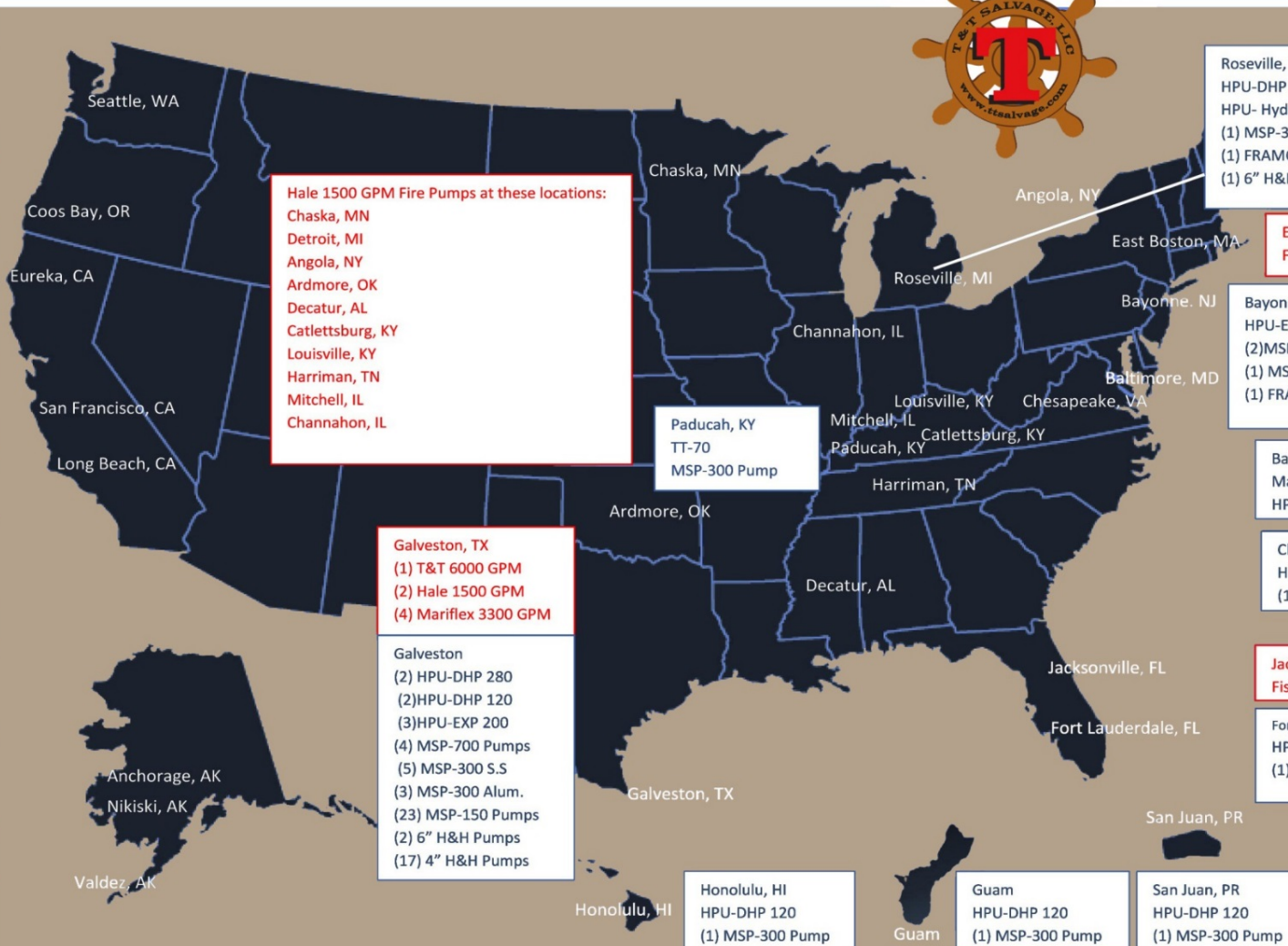
Long Beach, CA
HPU- EXP 201
(2) MSP-300 Pump

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
(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

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

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

Honolulu, HI
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**

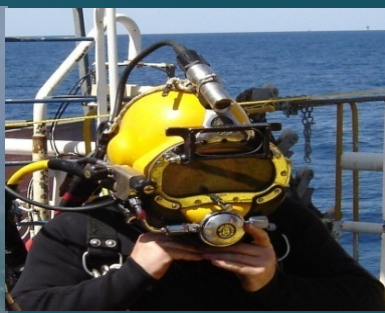




T&T SALVAGE

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.





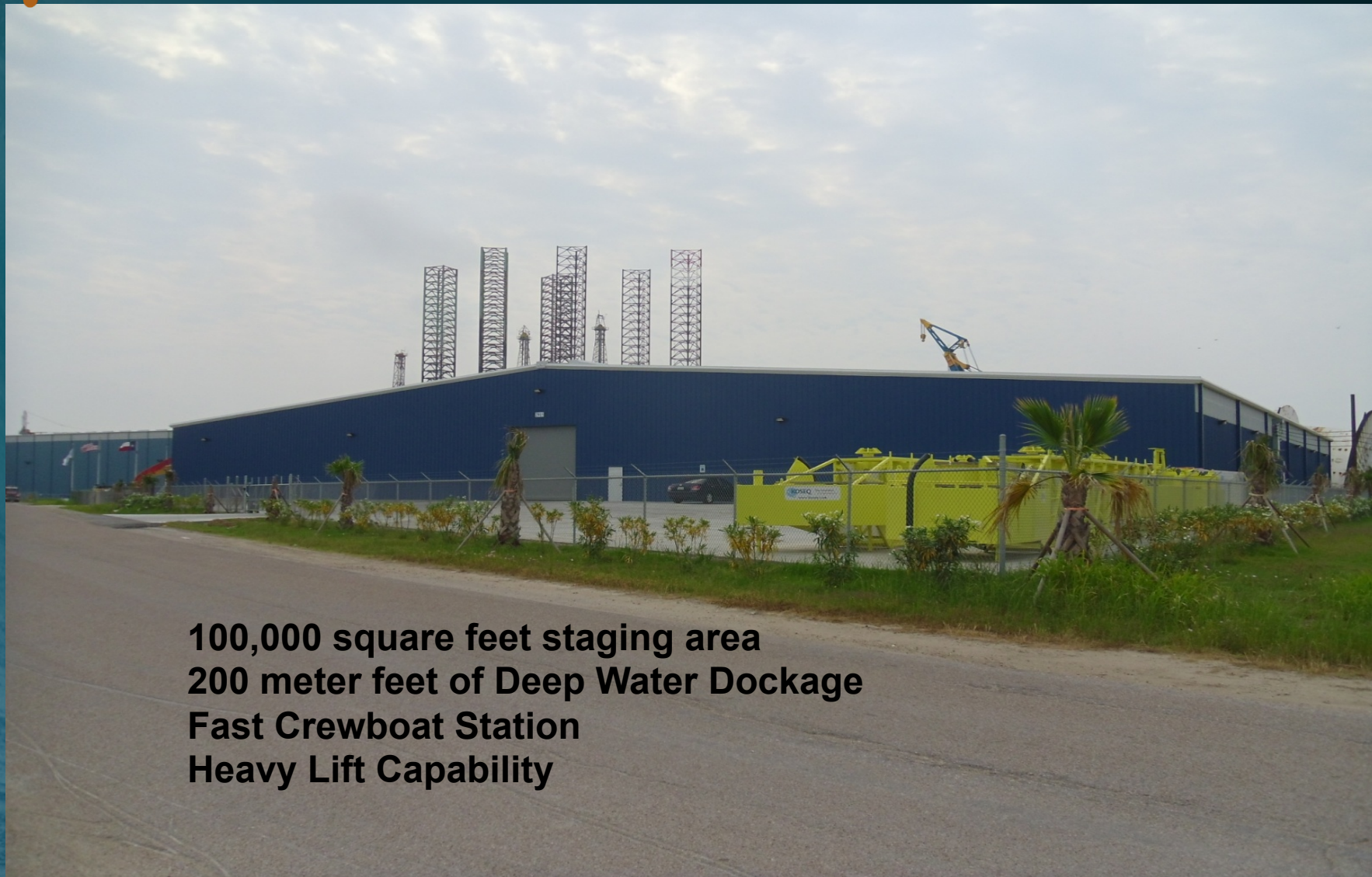
T&T SALVAGE

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

PRE-STAGED PORTABLE EQUIPMENT



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HPU-DHP 120
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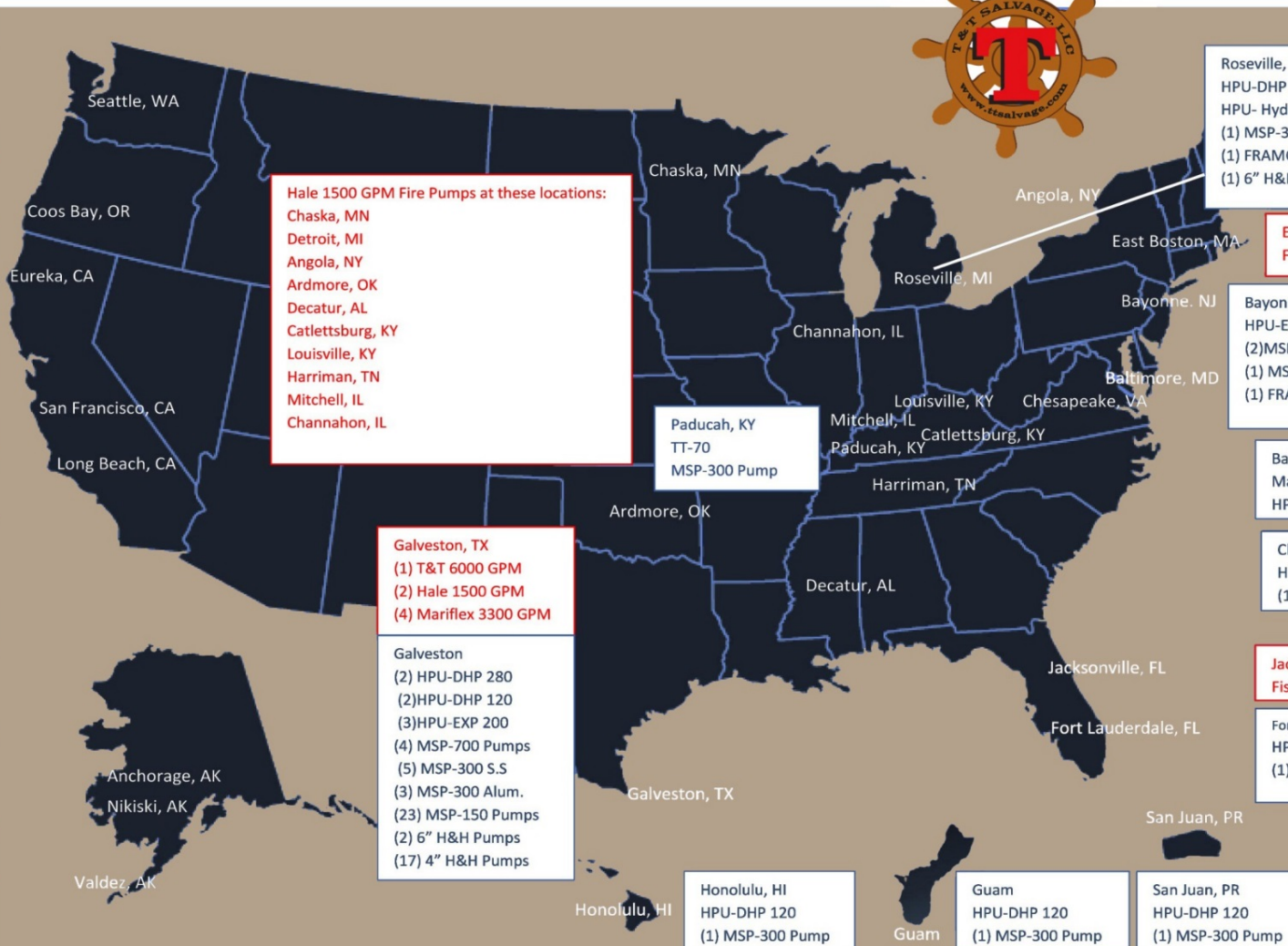
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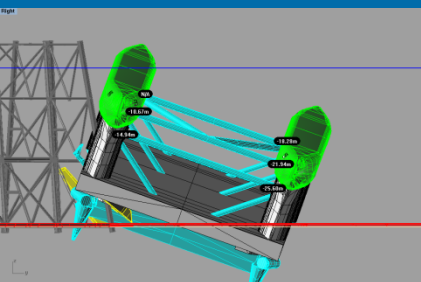
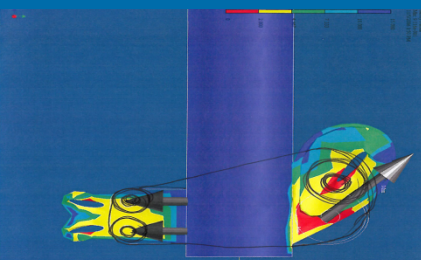
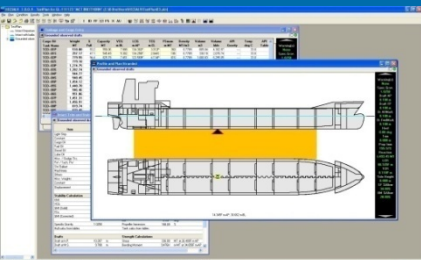




SALVAGE ENGINEERING & NAVAL ARCHITECTURE CAPABILITIES

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

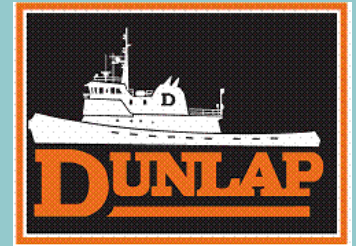
- ❑ In-House Aerial Observation Assets



- ❑ Fast Air Mobilization Capability

KEY TUG NETWORK

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



OUR CLIENTS



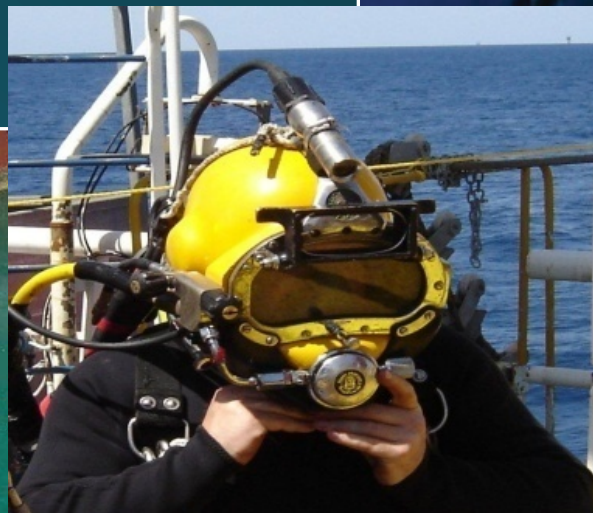
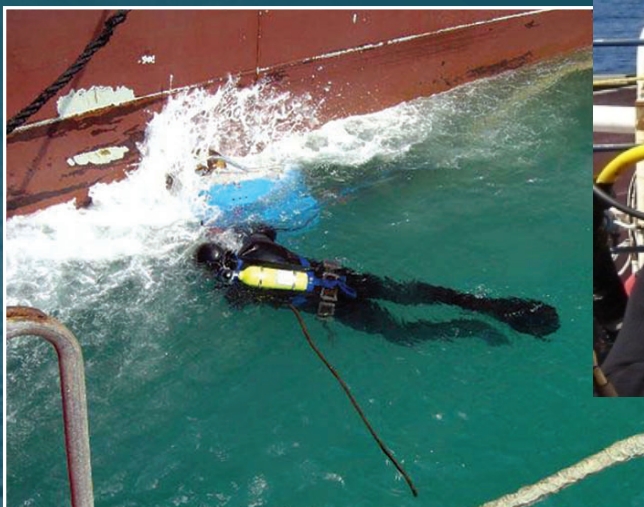
T&T Salvage LLC is retained by over **60%** of the total tank vessel US trading market including:

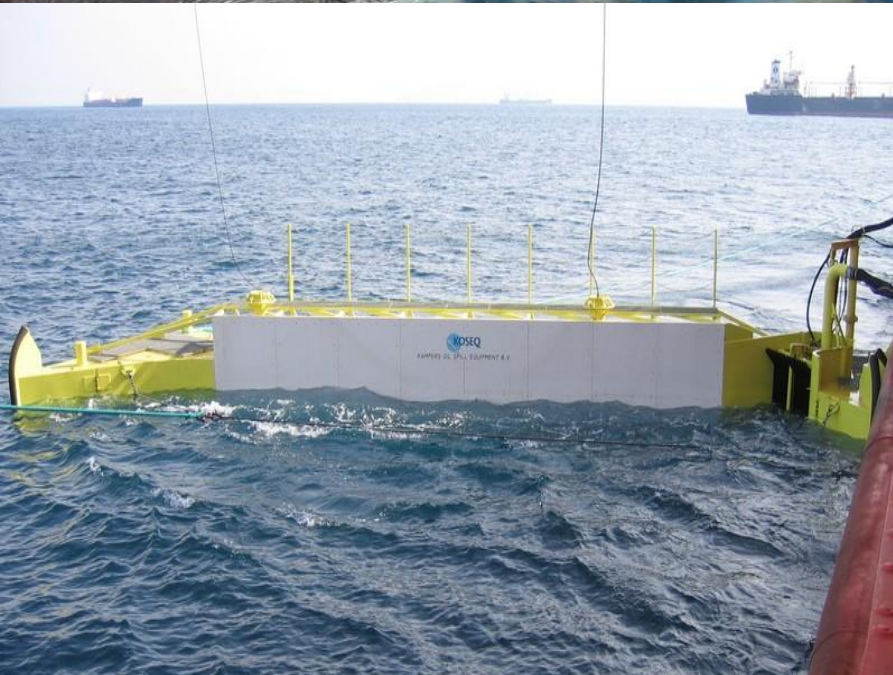




T&T SALVAGE

- ❑ 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





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

This aerial photograph captures a large-scale maritime incident. A massive bulk carrier ship, with a red and white hull, is stuck in a wide, muddy river. The ship is oriented vertically, with its bow pointing towards the top right. Several tugboats, including a prominent blue and white one in the lower left and others further up the river, are positioned around the ship, likely attempting to free it. The river is flanked by lush green vegetation and some agricultural fields. The water appears murky and turbulent, consistent with the 'high current' mentioned in the text. The overall scene conveys a sense of a major logistical challenge in a remote or natural waterway.

2011.05.16



SINGAPORE



HONDURAS



MALAYSIA





24.08.2012 13:48



26/07/2012 09:10

CHILE



Marcos Porcila Reyes



