

Response Case Studies

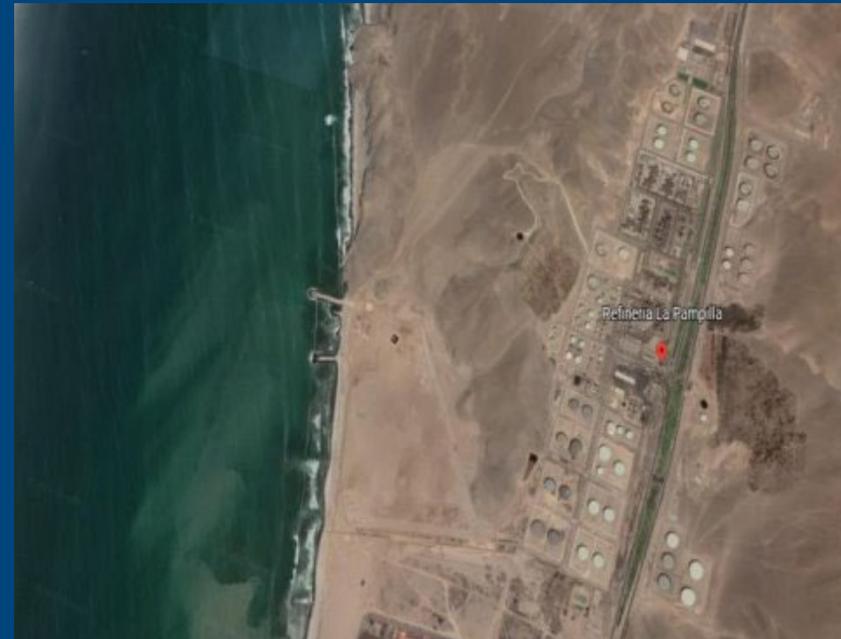
Elmer Emeric, Incident Manager
21 May 2025

Caribbean Regional Response Team (CRRT) Meeting-Carolina, Puerto Rico
May 19-22, 2025



Incident Overview

- **Date:** 15 January 2022
- **Location:**
 - Ventanilla District, Callao, Peru
- **Cause:**
 - Tonga Volcanic Eruption
- **Quantity:**
 - Approx 10,000 bbls of Buzious Crude reported
- **Response Statistics:**
 - 2,500 Responders (Approx)
 - 11,000 meters of containment booms
 - 144 units of heavy machinery
 - 35 major vessels
 - 54 smaller vessels
 - 38 skimmers
 - 68 floating tanks
 - 1,400 samples taken



Incident Management Team



Impacted Area

- An approximately of 192 km² area; 60 km² of beach impacted.
- Types of Shorelines:
 - Sandy Beaches
 - Rip-rap
 - Rocky Exposed and Protected Cliffside
 - Cobble Beaches
- Large areas of buried oil following quick redistributions of sand.
 - Some oiling found up to 50cm below surface

VENTANILLA	Playa Costa Azul
	Playa Delfines
	Playa Cavero
SANTA ROSA	Bahia Blanca
	Playa Hondable
	PI+B11:L32aya Santa Rosa- Playa chica
	Playa Santa Rosa- Playa grande
	Playa Club Naval de Ancón
	Balneario la marina
ANCÓN	Playa Hermosa
	Playa Ancon Centro
	Playa Ancon Sur
	FAP - ESMAR
	Playa Miramar
	Playa las Conchitas
	Playa Pocitos
	Playa Infateria Naval
	Playa Carros Grandes
	Playa Chacra y Mar
Chancay	Playa San Gaspar
	Playa Pasamayo
	Playa del ovalo (Inc. Rio Chancay)
	Playa Crisantemos
	Playa Peralvillo
	Playa Cascajo
	Viñas/Chorrillos/ Calichera/Chancayllo

Pipeline End Manifold (PLEM) 19 Meters Deep

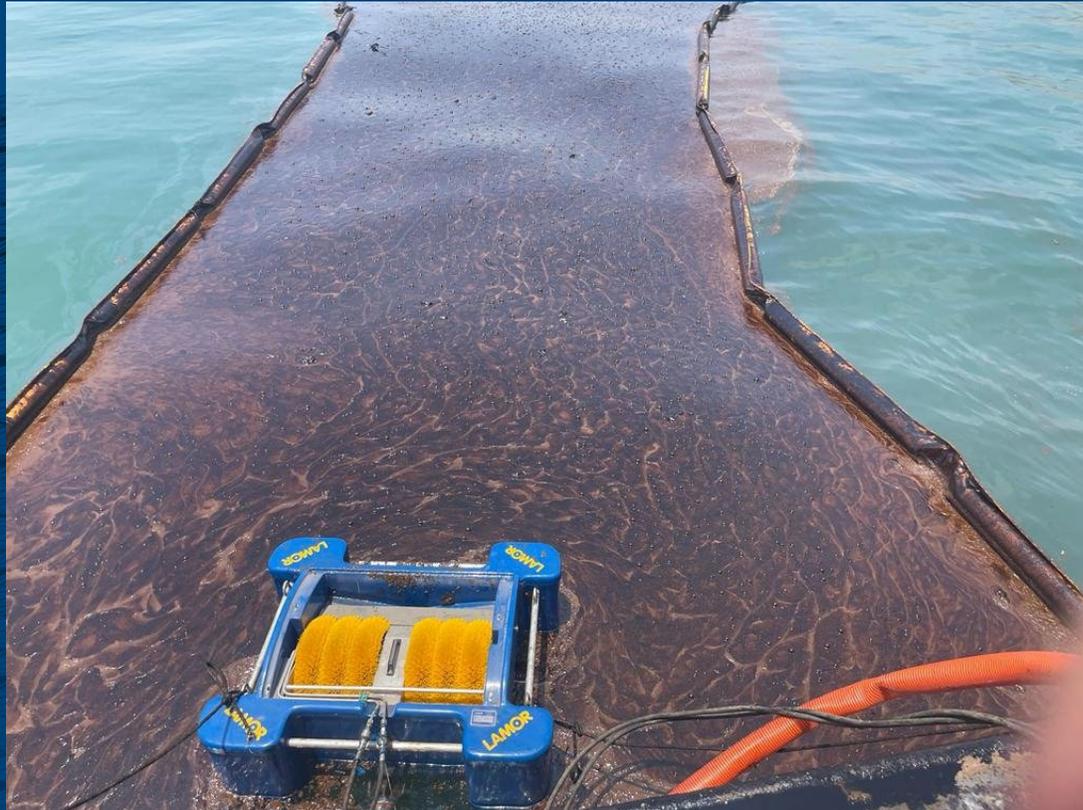


Offshore Response



Offshore Response

- Containment and Recovery:
 - Booming strategies
 - Skimmers



Impacted Sensitivities and Resources

- Leisure beaches
- Fishing communities
- Military compounds
- Various islands offshore that serve as nesting area for Humboldt penguins, gulls, cormorants, and boobies
- Marine mammals (sea lions)

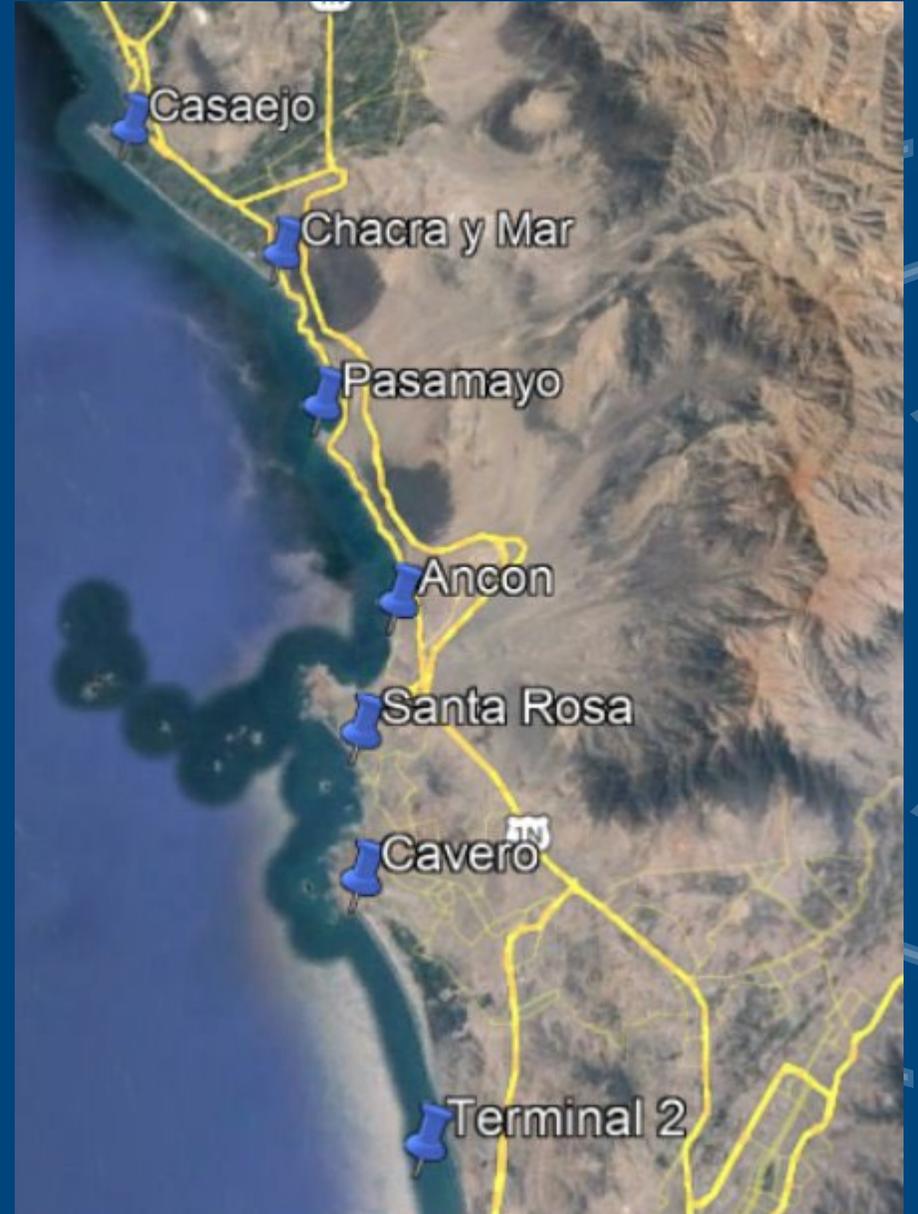


Shoreline Activity

- Shoreline Survey - SCAT
- Shoreline Response:
 - Manual and mechanical recovery of surface oiling.
 - Sorbent and Snare booms to collect incoming and remobilizing oil during tidal cycles.
 - Low pressure flushing
 - Surf washing and tilling
 - Buried oil recovery

SCAT Surveys

- Carry out site assessment of Caverro, Ancon, Santa Rosa and Chancay beaches
- At the peak of operation 3 SCAT Teams



Inaccessible Cliffs



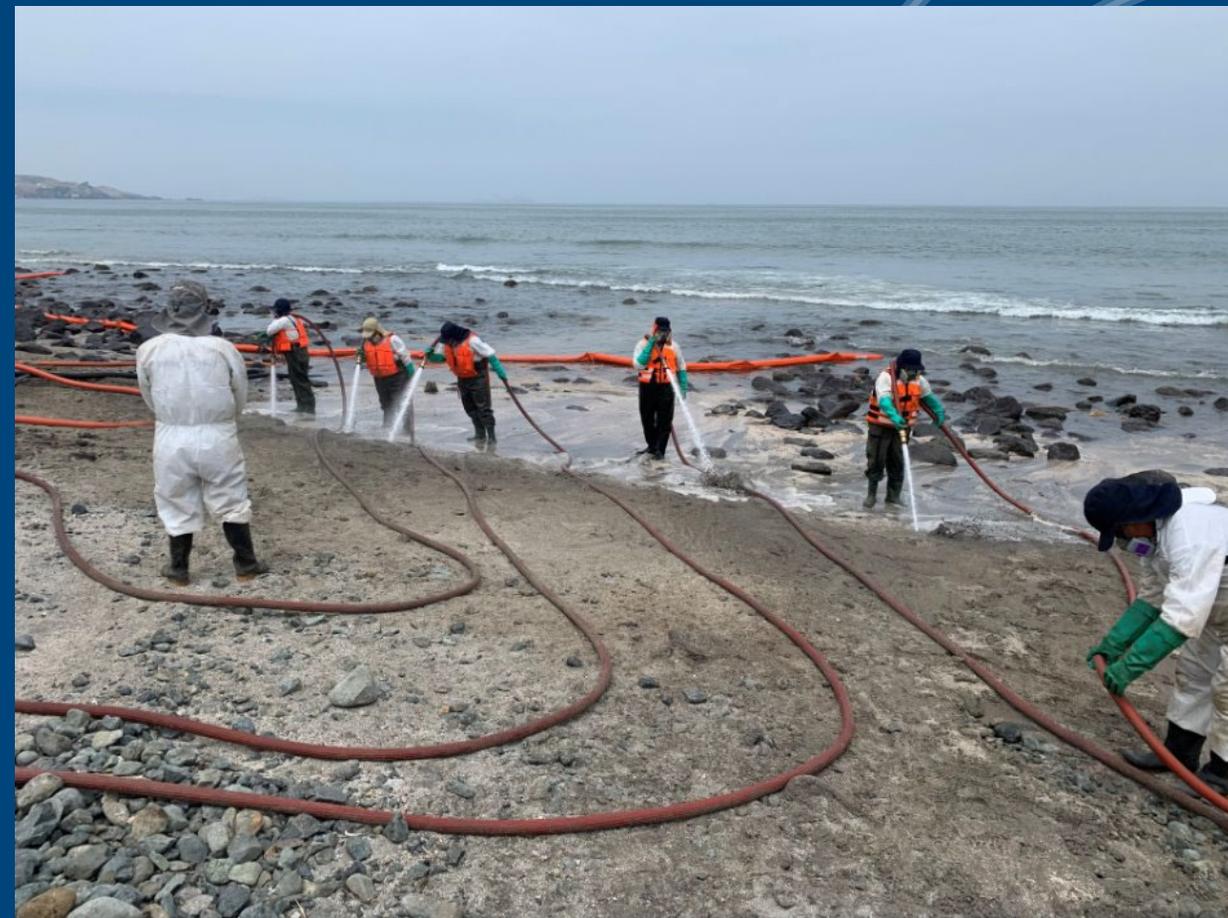
Shoreline Treatment Recommendations



Manual Clean Up



Shoreline Flushing



Tilling and Surf Washing



Buried Oil



Sunken Oil



Tar Balls



Shoreline Profile – Dynamic Changes



San Gaspar

February 2022

July 2022



San Gaspar

August 2022

September 2022



July 2022

July 2022



Cavero



Lessons Learned

- Command Structure
 - Unified Command (IMT) Lack of presence from the government, especially in the IMT or SCAT. Lack of government day to day engagement prevented to have open and clear communication throughout the decision-making process.
- The UC always leads to transparent decision making. During the decision-making process it is also important to clarify any affected policy and set realistic expectations.
- IC and key positions like Offshore and Shoreline under OPS were dedicated full time to the response and always available. Two meetings daily with the full team to discuss all key points from Safety to future Operations.
- NEBA/SIMA
 - Coordinating with stakeholders such as governments, industry, and not only during a spill but also before and after a spill helps to facilitate the least possible impact to the environment and community resources.

Lessons Learned

- Science: SCAT (Shoreline Treatment Recommendations), ERM (Samples), AIUKA (Wildlife)
- Contractors (All OSROs (Tier 1, 2, and 3) with SCAT “ONE TEAM”
- Coordination between Ops and SCAT. (Ensure Ops understands STRs)
- Technical Advisors. (ITOPF, REM, OSRL, LAMOR, USCG, NOAA)
- Good Practice Guides (IPECA, ITOPF)
- Operating Environment – Winter to Summer - change of sand,
- End Point: Multiple Agencies making the end point impossible
- Wildlife: Different Government Agencies “many jurisdiction” directing traffic OEFA, SERNAMP (protected areas), SERFOR (outside protected areas) mamiferos marinos instituto del mar de Peru.
- Communities: I.e. Fishing Communities with different agendas when more than one Region is impacted. Many conflicts like limiting access to the responders making the response more complicated/complex
- Media
- Government Turn arounds
- MINAM, MINEM, OSINERMIN, DICAPI, APN, OEFA, SERNAMP, SERFOR,

ENGAGE
PREPARE
RESPOND

Anytime
Anywhere

Thank you

