

Oil Spill Recovery

... with sustainable technologies working together

Ocean, waterway & harbor Oil Spill Recovery

... with sustainable technologies working together

Tech 1 - XBOOM

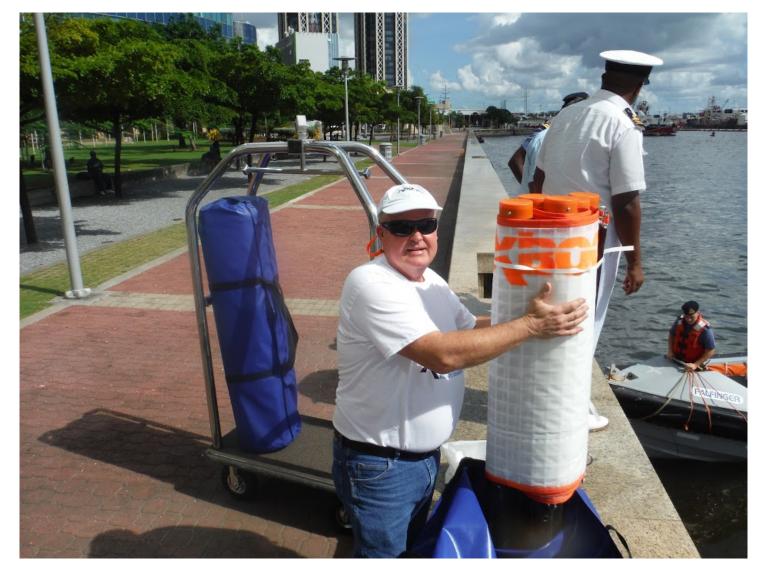
 Contains and prevents escape of oil spill and contamination

Compact & easily deployed





Light weight and easy to handle



XBOOM - Rapid deployment "Fence"



Via PWC or large vessel deploys **100** feet in **15** minutes



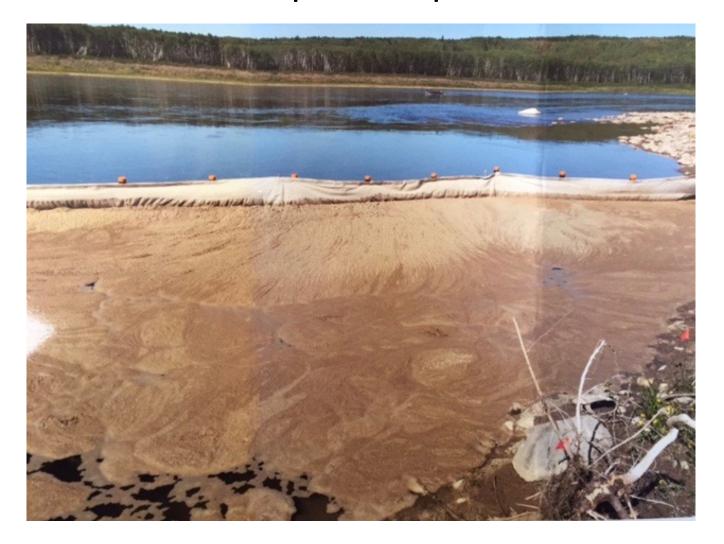
.... or from shore



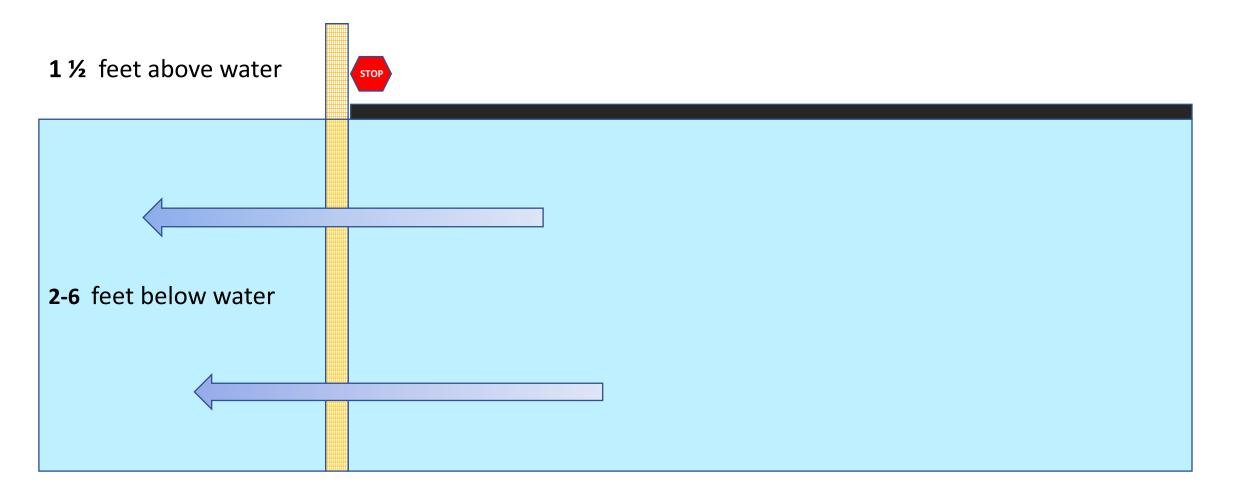
River flow pick-up - Canada



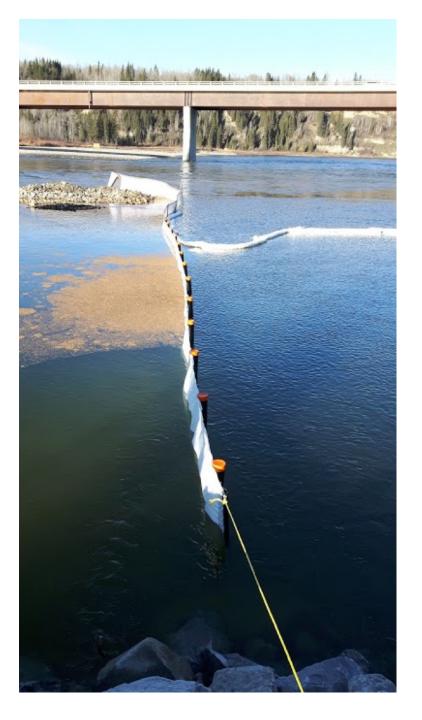
River flow pick-up - Canada



Water Flows Through / Oil is Stopped

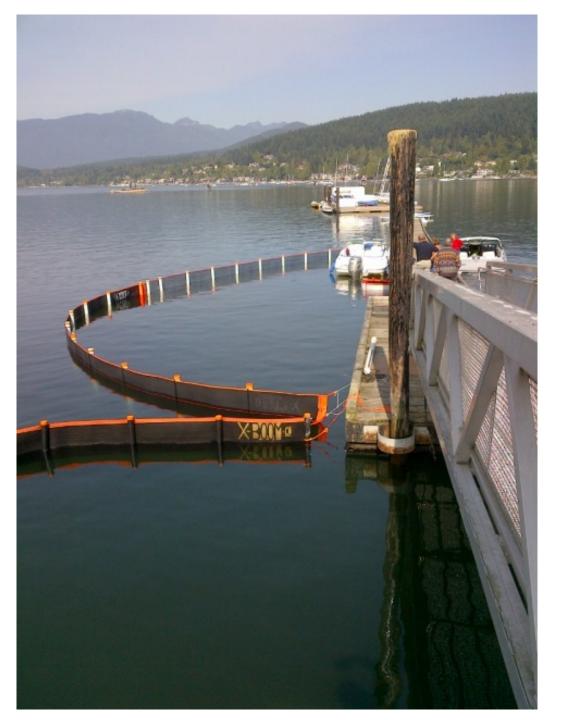


Water Flows Through / Oil is Stopped



... easy to gather and pick up residues





Water flows through / Oil is stopped

XBOOM tow / flow rate

Industry Standard Boom - .5 to .7 knots.

XBOOM 4' – 2.0 knots XBOOM 8' – 7.0 knots

Tech 2 – Airtech Foam

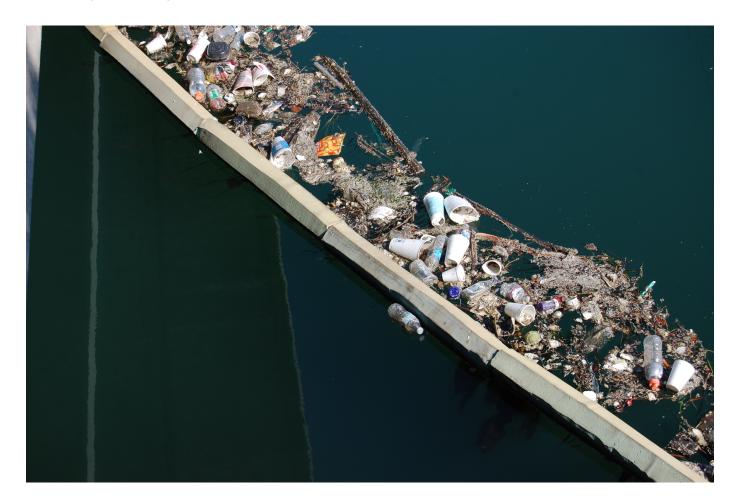
Absorbtion and no-leak containment Delivering measureable recovery



Airtech Non-Toxic Smart Foam Absorbs Oil



Rapid Deployment Deploys 100 feet in 5 minutes



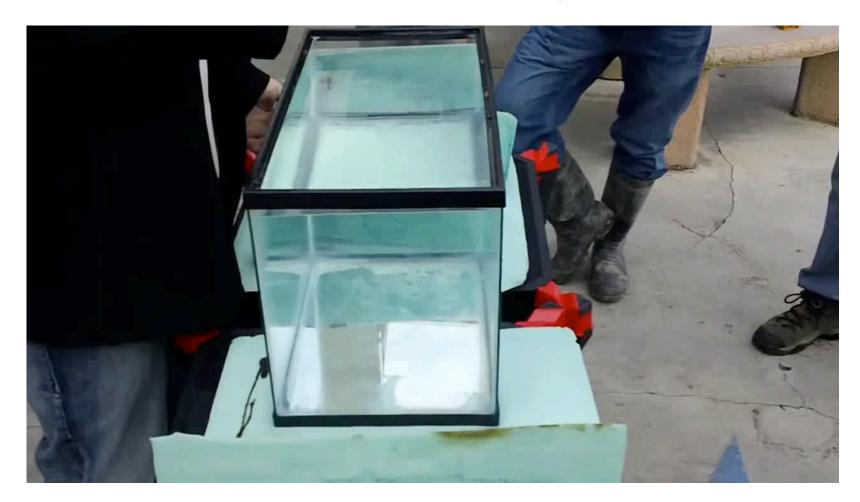
Customized solutions



Complete oil pick-up and recovery



Complete oil pick-up and recovery and Quickly



Airtech adsorbtion rate

•10 to 14 times weight

Tech 3-Accell

Herding agent for collection

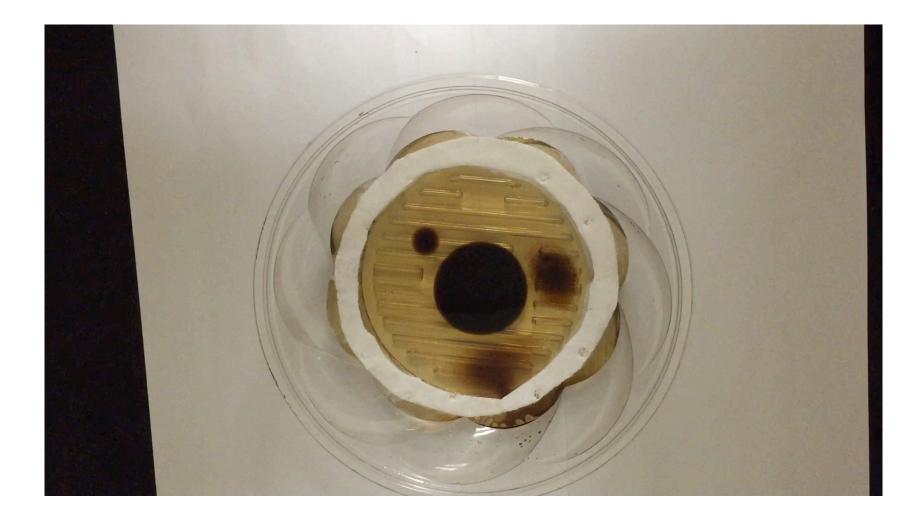
Accell – Herding on Texas Light



Accell - Herding on Ventura

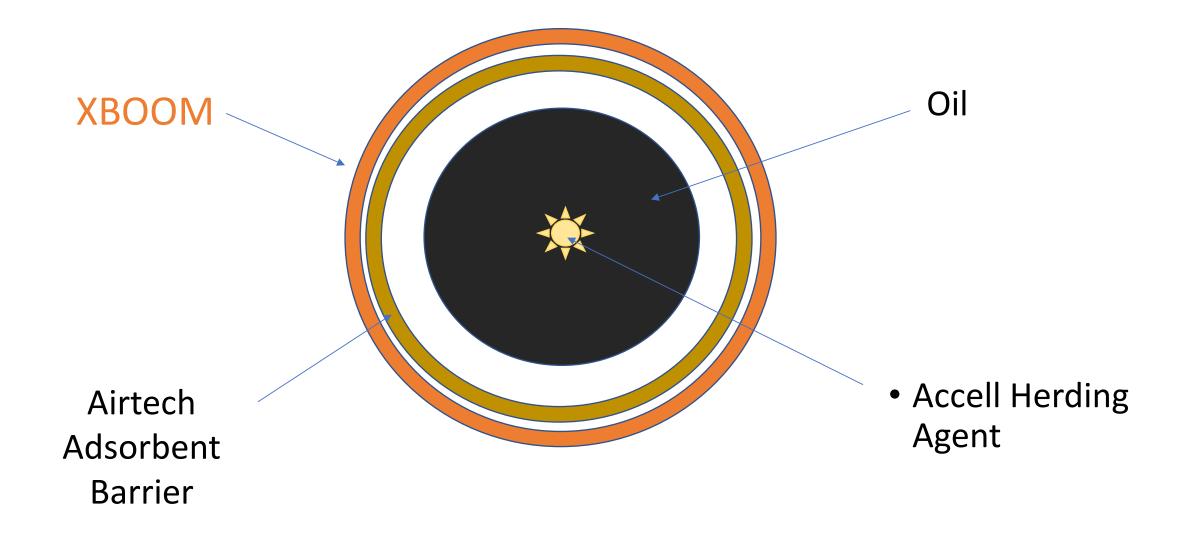


Accell - Herding on China Heavy



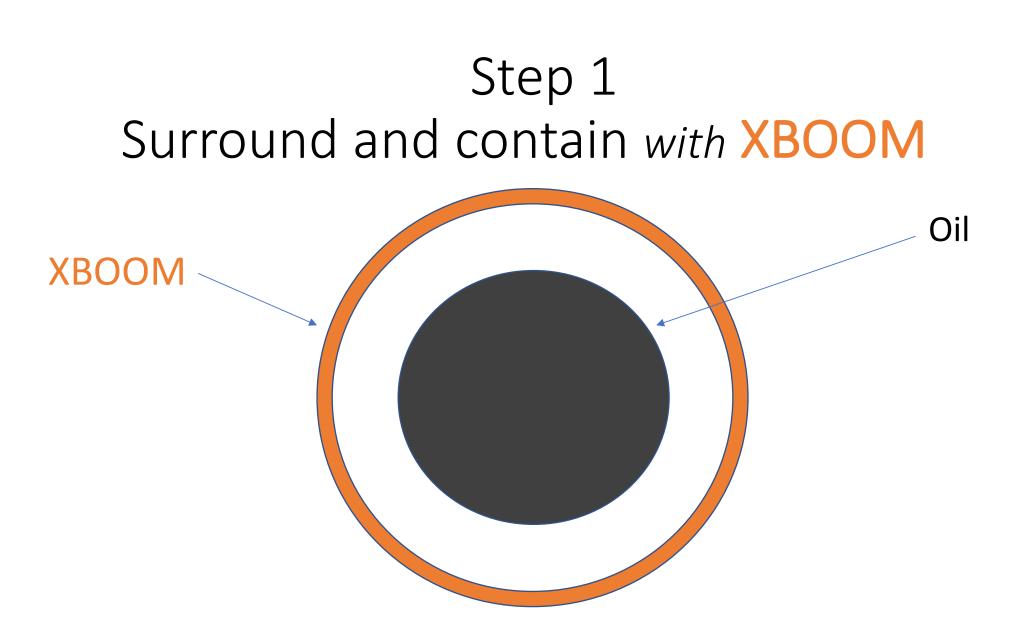
How these technologies work together to delivers a complete oil spill solution

New technologies working together

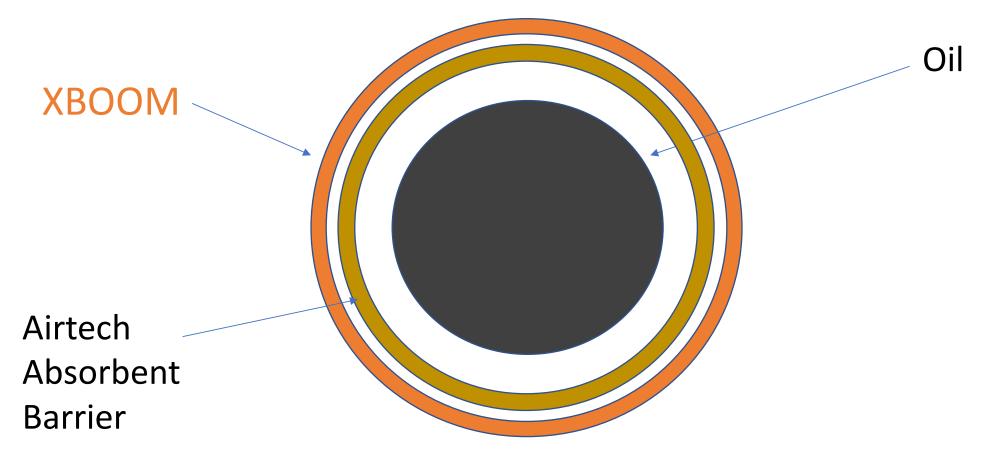


Oil in open water

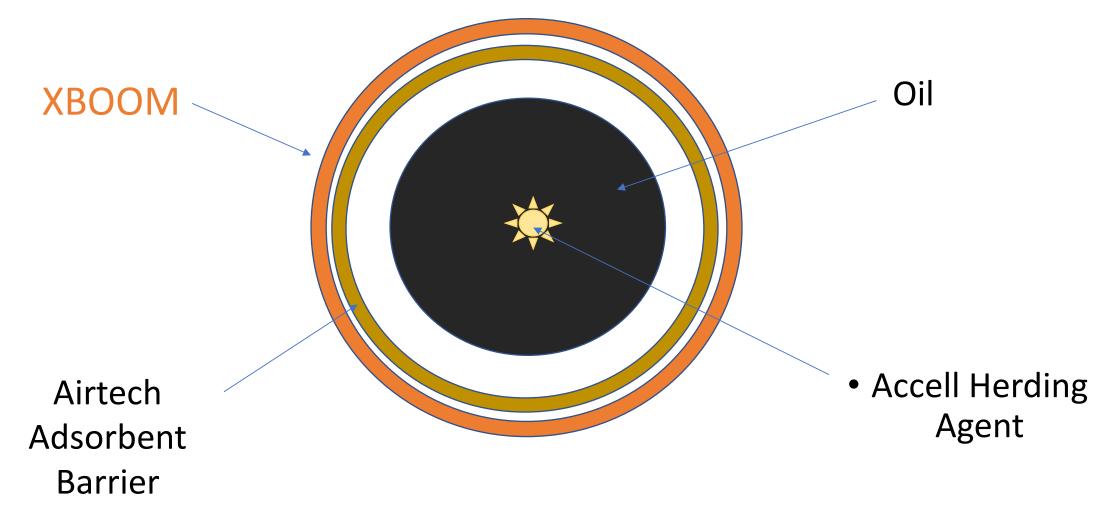




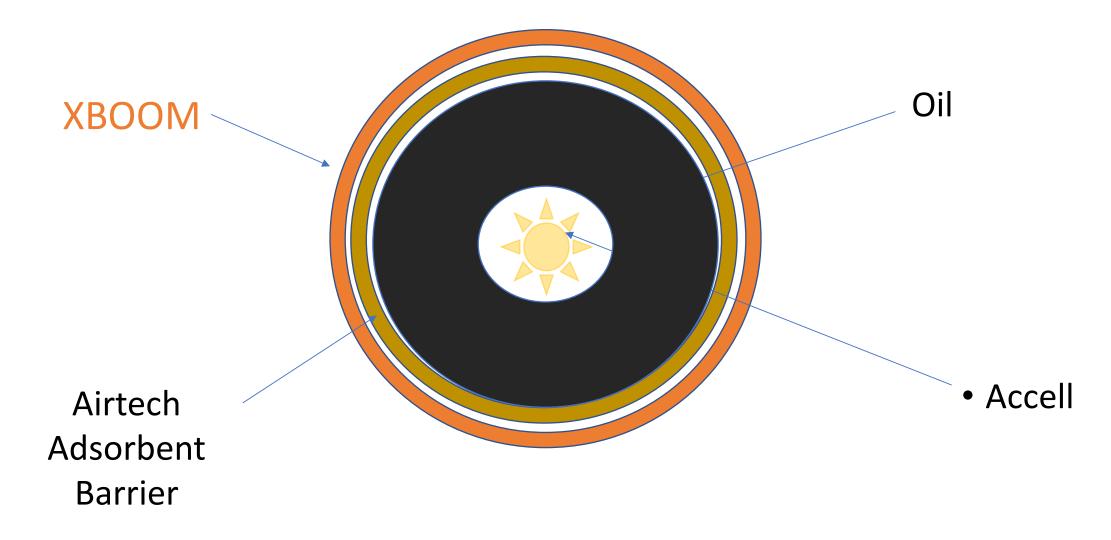
Step 2 Place Airtech Adsorbent inside XBOOM



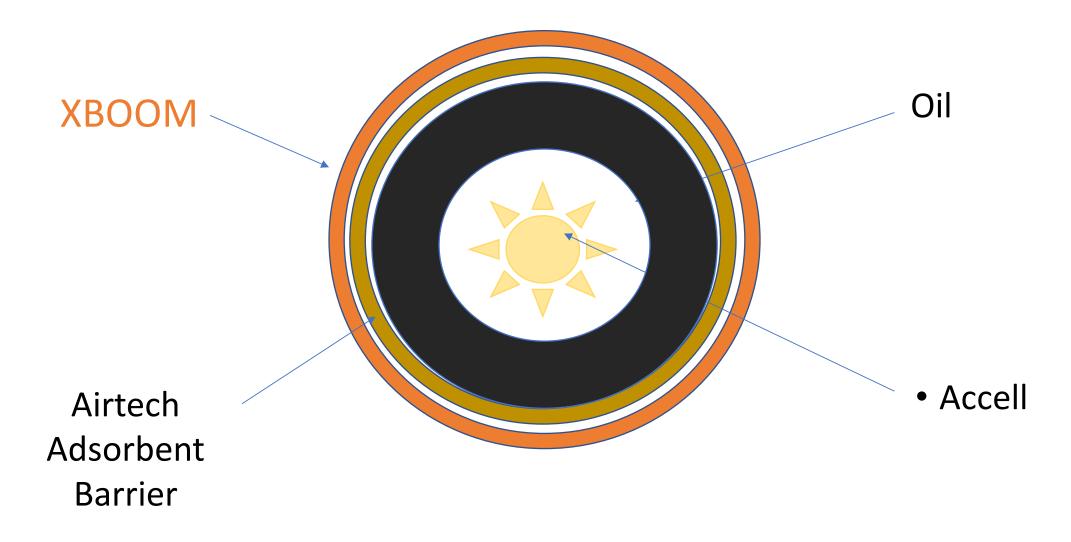
Spray Accell herding agent at center of oil



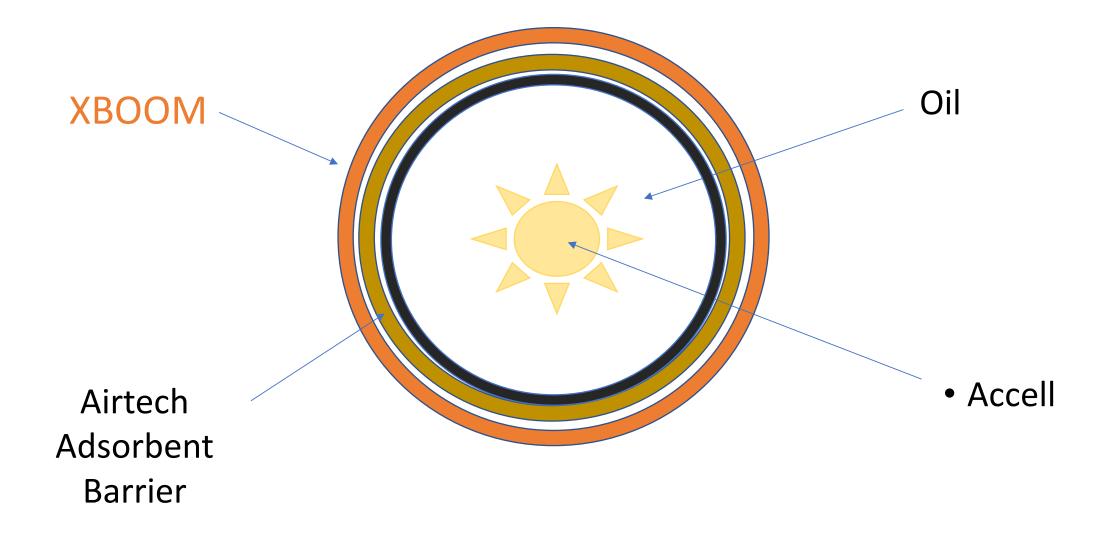
... to herd oil into Airtech adsorbent barrier

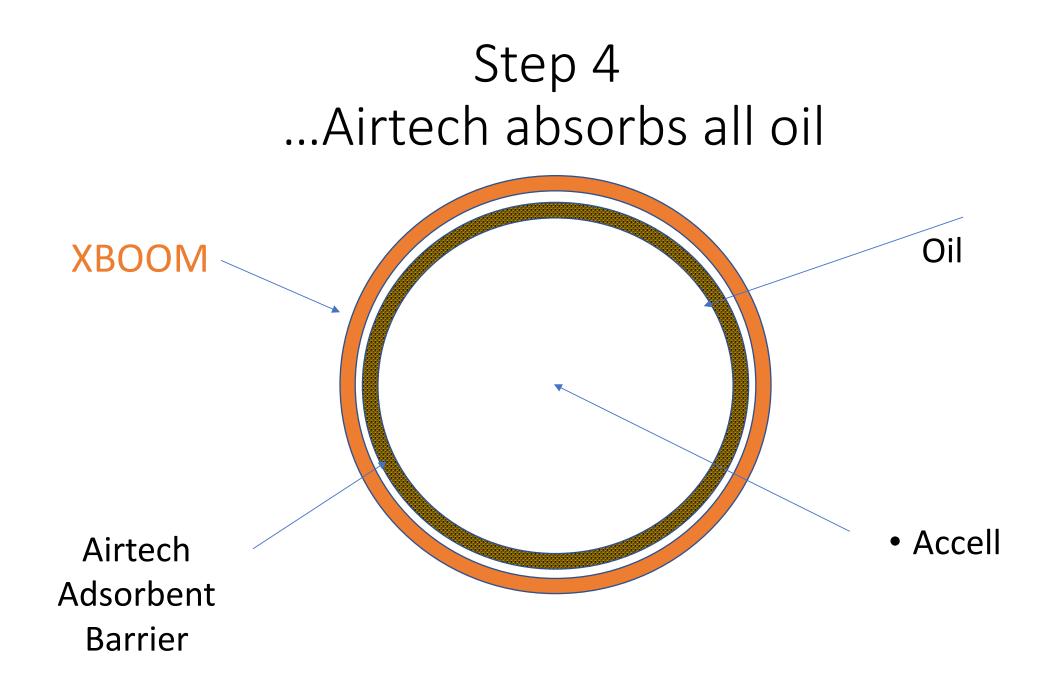


... to herd oil into Airtech adsorbent barrier

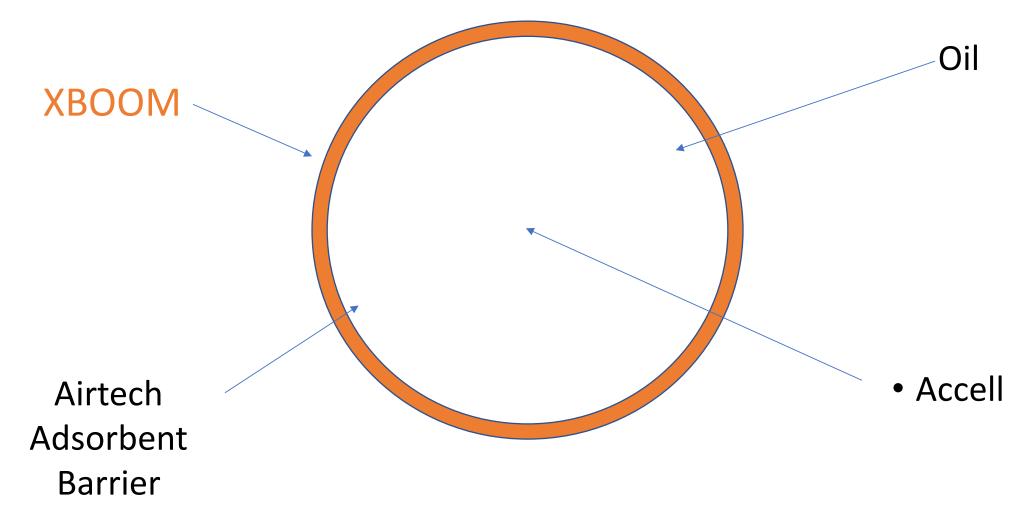


... to herd oil into Airtech absorbent barrier

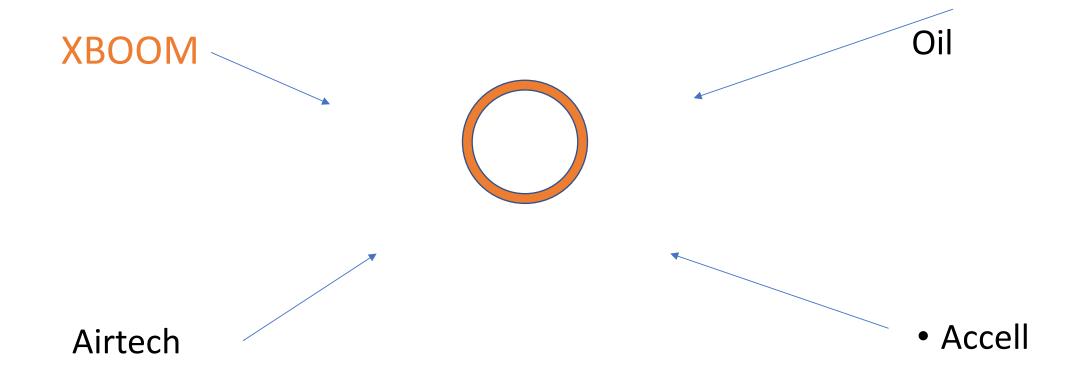




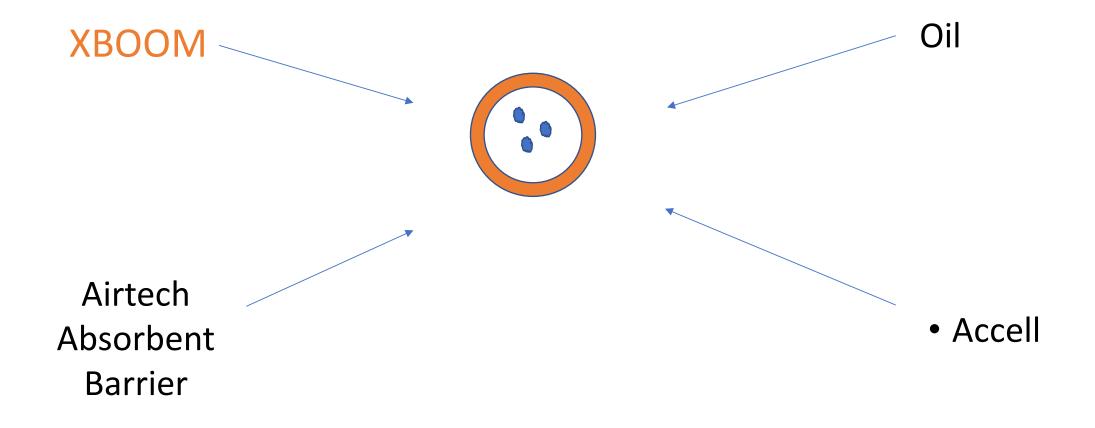
Step 5 ... ships pick up Airtech barrier with oil



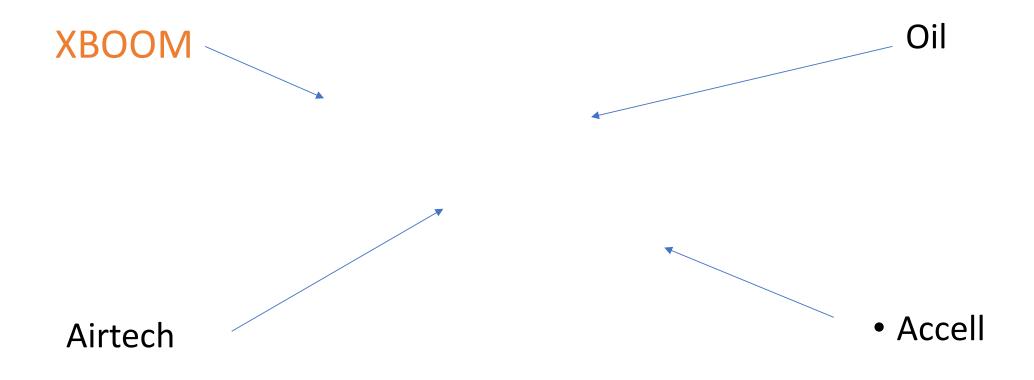
Step 6 ... draw in XBOOM to gather any remnants



Step 6 ... reel in XBOOM to gather any remnants

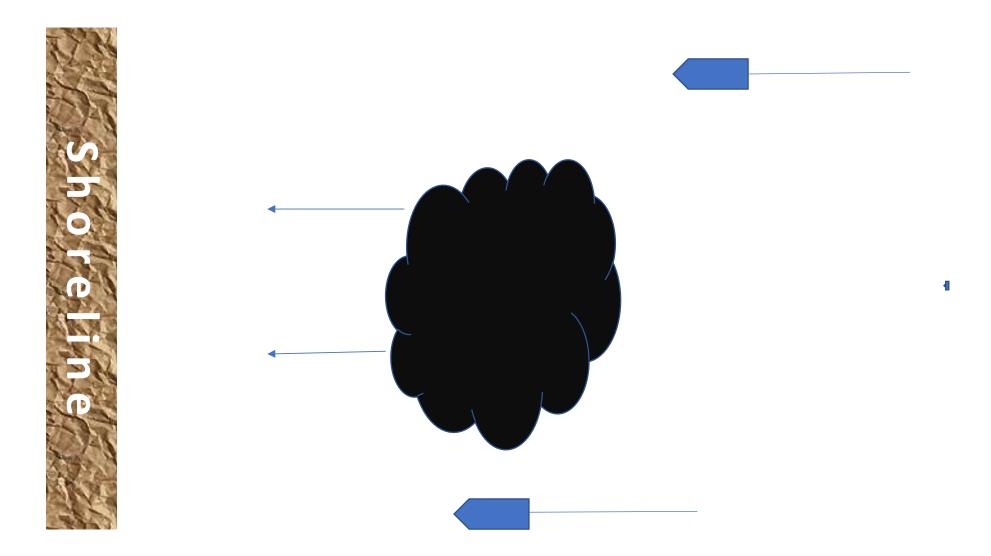


Step 7 ... pick up oil residue with Airtech chips and the XBOOM

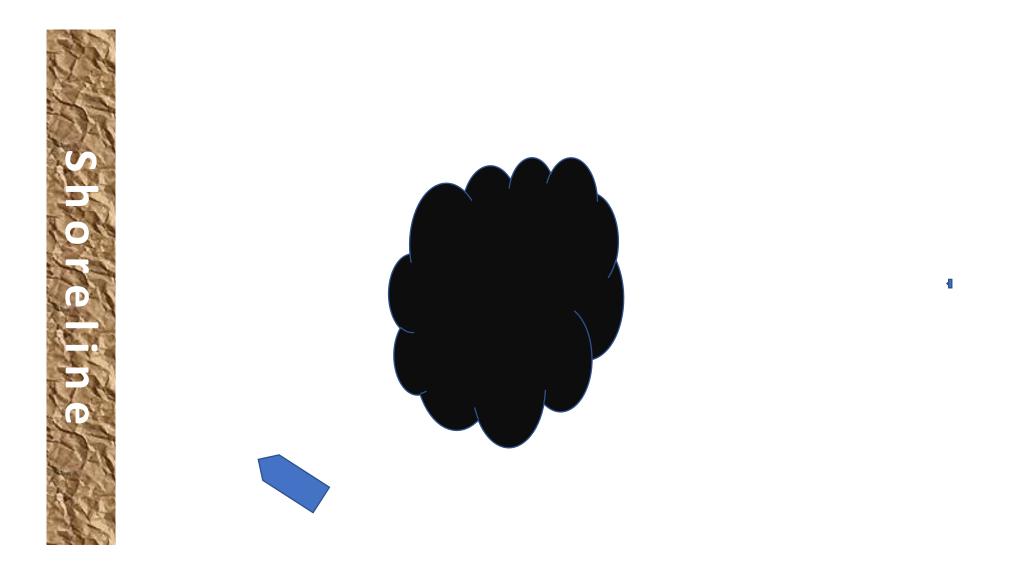


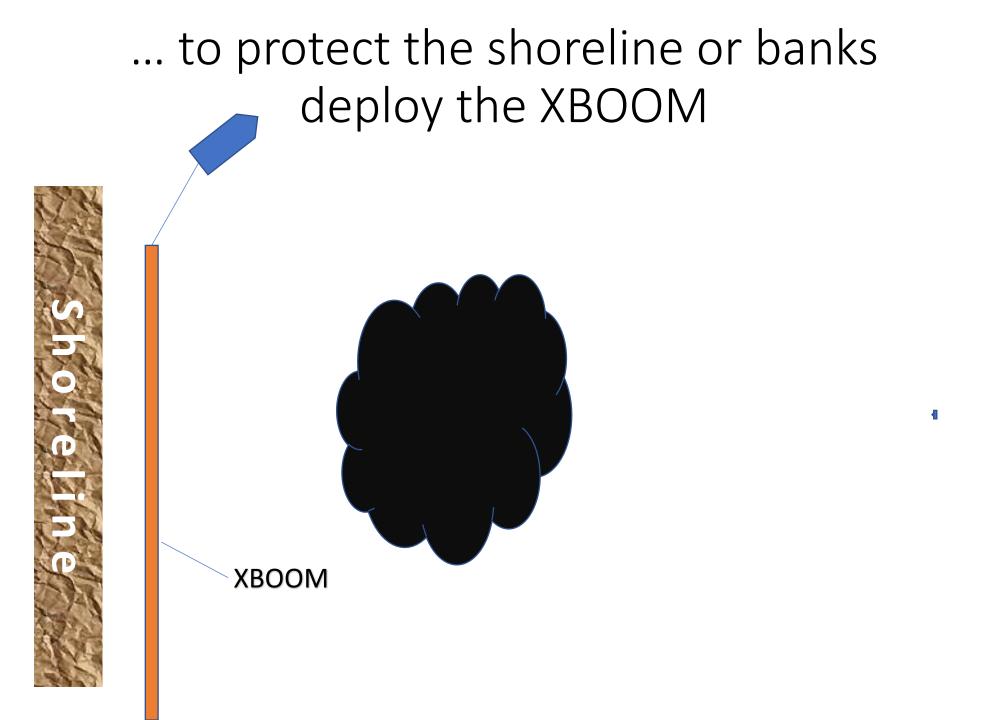
Clear water again

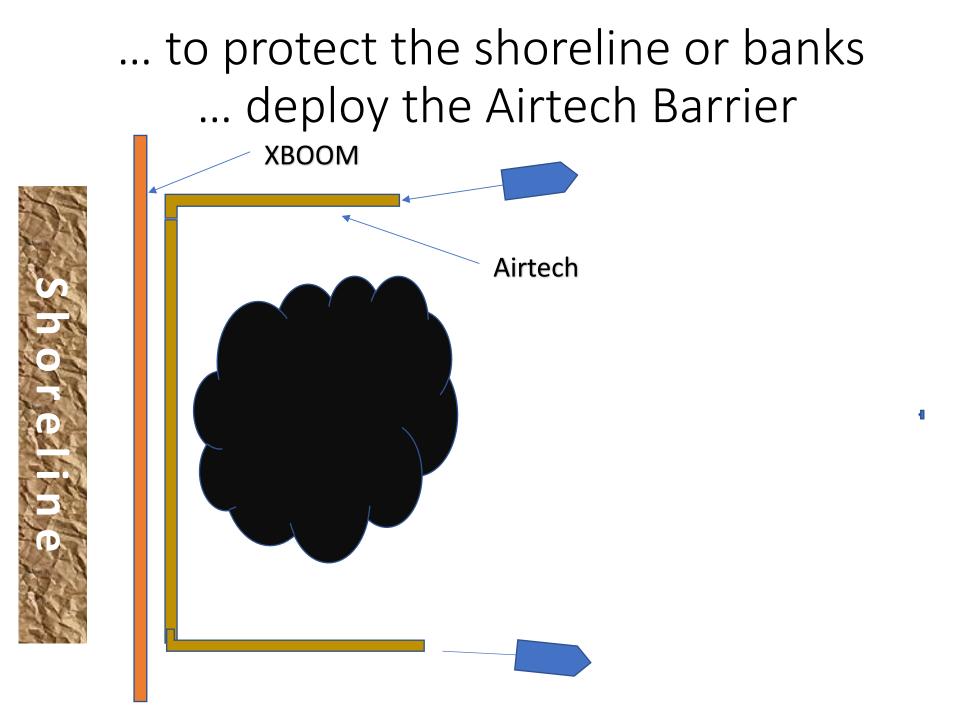
... to protect the shoreline or banks

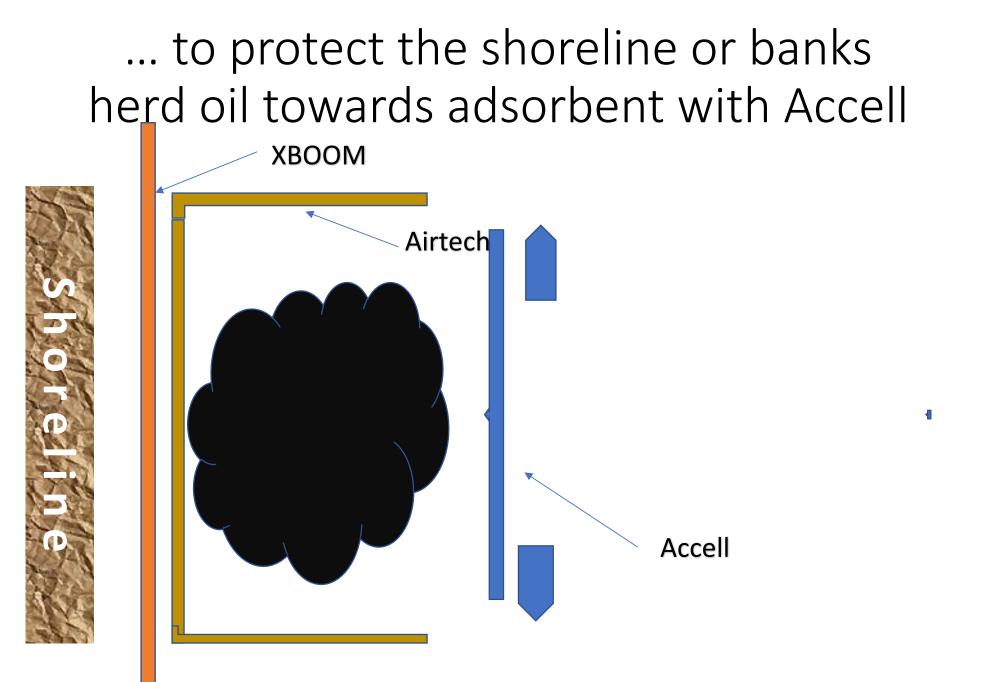


... to protect the shoreline or banks

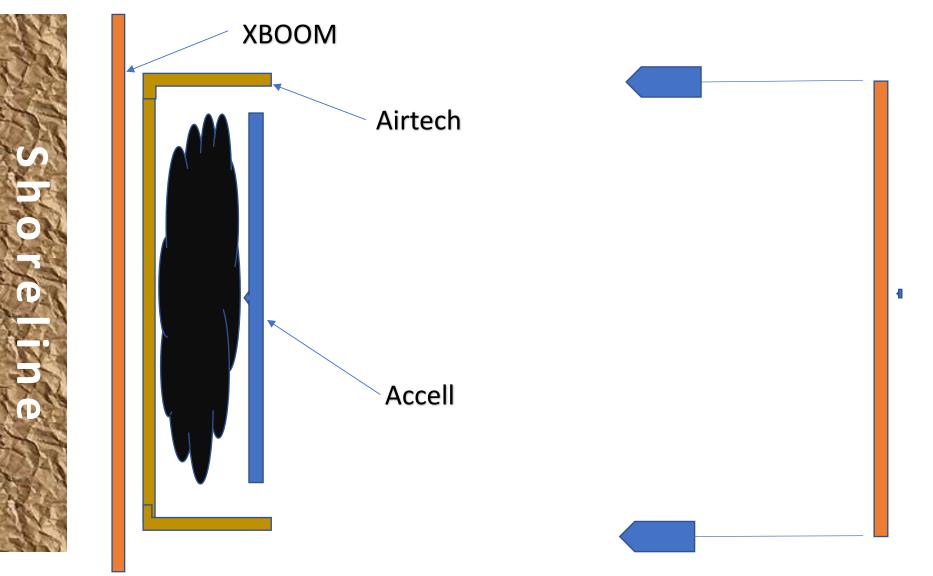


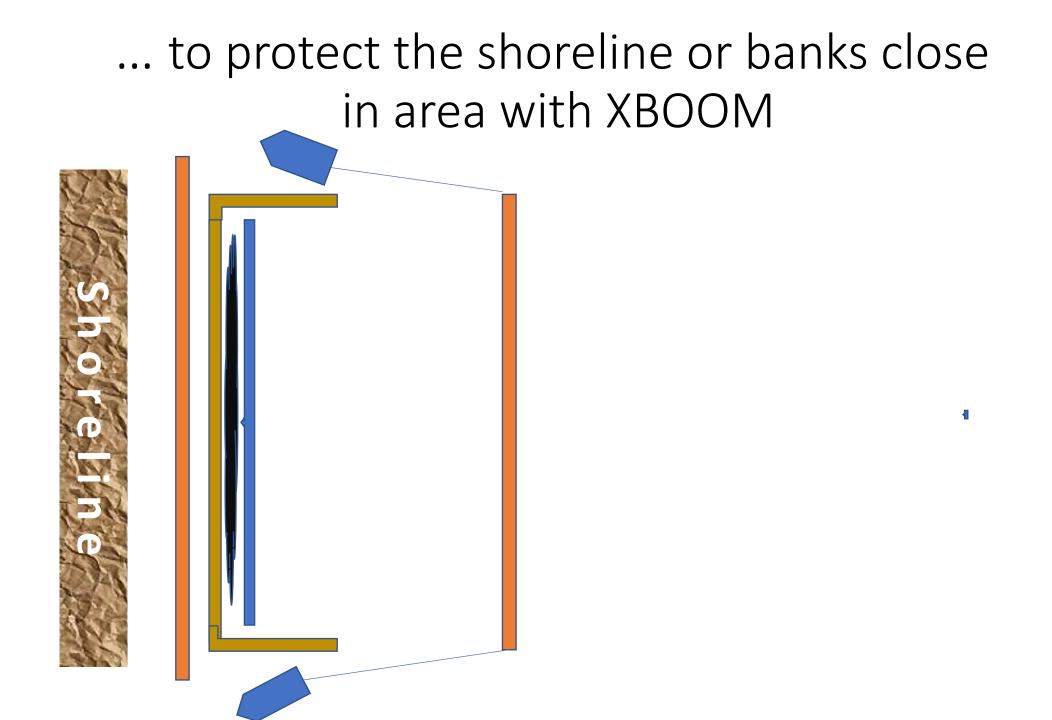




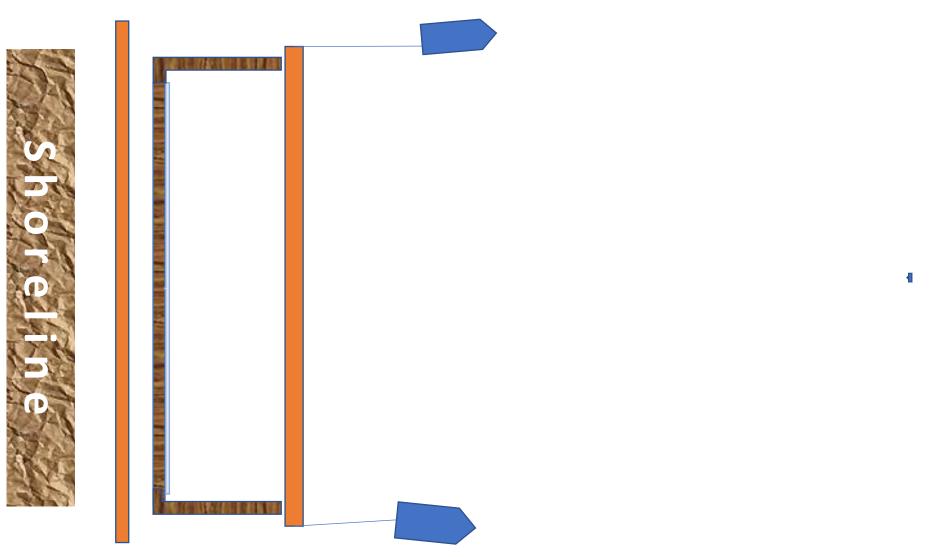


... to protect the shoreline or banks as herd oil with Accell deploy 2nd XBOOM





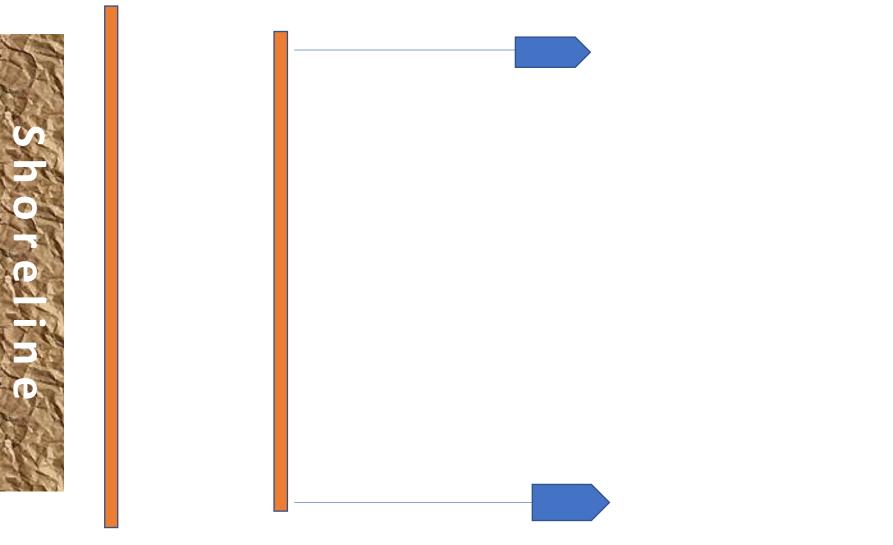
... to protect the shoreline or banks close in area with XBOOM



... to protect the shoreline or banks pick up oil-filled Airtech barrier



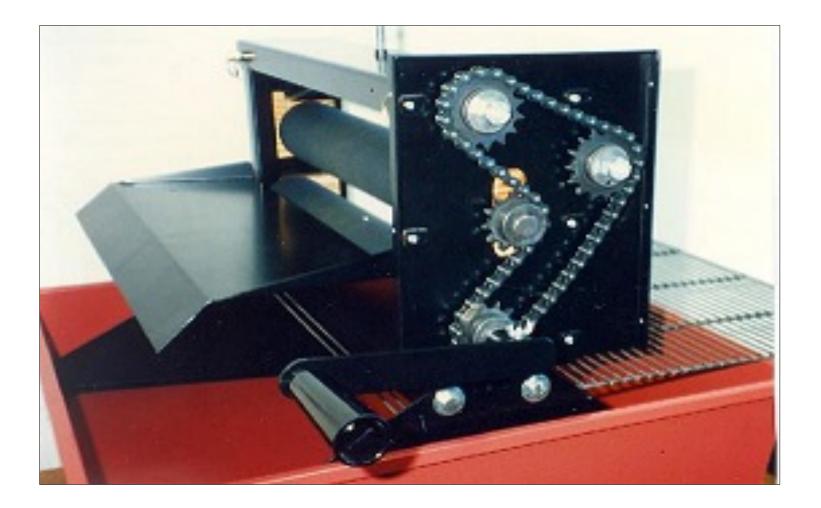
... to protect the shoreline or banks re-deploy outer XBOOM leaving shoreline XBOOM



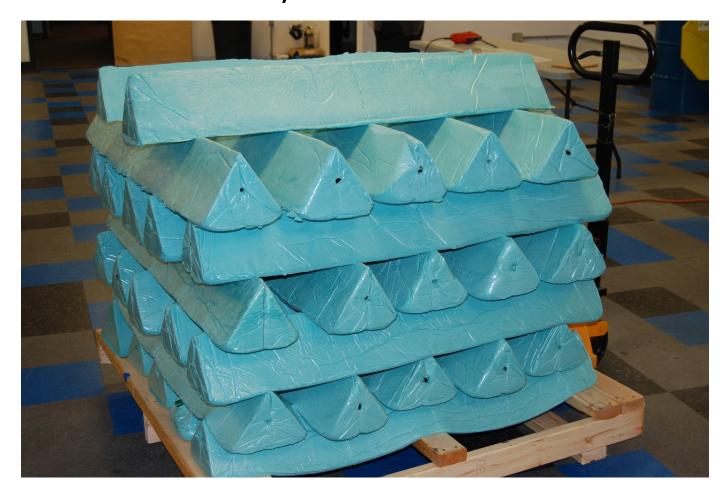
Clean XOM w Accell SWA for re-use on next event



Airtech Extractor – Saves 98% of oil



Clean 2% oil balance of Airtech material with Accell SWA so Airtech is ready for use on next event.



Safety of Accell®

Product Biodegradation

- All Accell[®] products degrade...into natural elements
- IMO requirement is:

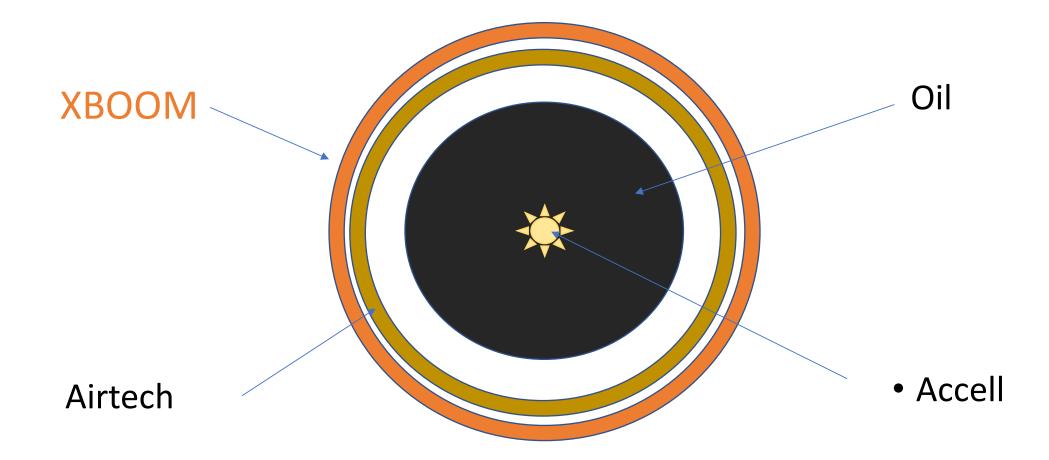
.

60% degradation in 30 days

• Accell[®] levels is:

78% degradation in 10 days

new technologies working together



Rapid deployment of new technologies

Combine all technologies in a rapid deployment D.O.D.S unit that:

1 – Provides rapid containment and collection of oil
2 – Deploys rapidly from shore, ship or air vehicles
3 – Comes in multiple sizes for small to large spill events
4 – Delivers all technologies in a single package

5 – Is quickly and easily recoverable

6 – Is cleanable, and re-usable for subsequent incidents

D.O.D.S. deployment system

Comes in multiple sizes to meet deployment vehicle requirements and spill size and circumstances and is:

Light weight/strong aluminum construction
 With floatation pontoons to match deployment weight
 Deployment hooks to connect to vessel tethers
 An Accell bladder and spray delivery system

Next up

Oil Spill Recovery in other areas

... with sustainable technologies working together ...

These areas include areas ...

- Shoreline beaches and cliffs
 - Rivers and waterways
 - Tidal estuaries
 - Wetlands and marshes
 - Lakes and ponds
 - > Harbors
- Shipside and docking areas
- Production water containments

