



CONSIDERING CONDENSATE

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WHAT IS CONDENSATE?

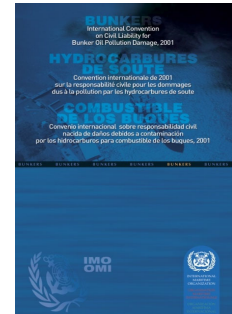
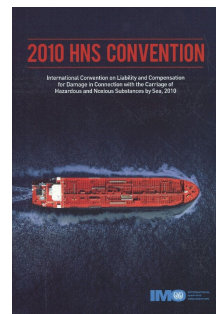


- LOW-DENSITY VOLATILE LIQUID HYDROCARBONS OCCURRING WITH NATURAL GAS
- EXTRACTED ALONGSIDE CRUDE OIL OR SEPARATED FROM NATURAL GAS
- LOW VISCOSITY – CONSISTENCY OF WATER – AND LIGHT IN COLOUR
- HIGH VALUE 'CRUDE' OILS – 'NATURAL GASOLINE' – LESS REFINING NEEDED
- USED IN PETROCHEMICAL INDUSTRY AND TO DILUTE HEAVY CRUDE OILS
- PRODUCED WORLDWIDE – RUSSIA, MIDDLE EAST, USA, AUSTRALIA, NORTH SEA

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LEGISLATION



CARRIAGE

- MARPOL ANNEX I – CARRIED IN CRUDE OIL TANKERS

COMPENSATION

- NON-PERSISTENT OIL – CLC AND FUND CONVENTIONS DO NOT APPLY
- CONDENSATE WOULD BE COVERED BY HNS CONVENTION WHEN IN FORCE
- BUNKER SPILLS COVERED BY BUNKERS CONVENTION (IN CONTRACTING STATES)

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SHIPPING INCIDENTS



Image of Port of Arzew – not the incident



Image of Port of Arzew – not the incident

JUAN ANTONIO LAVALLEJA (28 DEC 1980)

- PORT OF ARZEW, ALGERIA
- 69,000 GT TANKER STRUCK BREAKWATER IN STORM
- SPILLED 28,000 ALGERIAN CONDENSATE
- ITOPF ATTENDED ON SITE ...

'NO CLEAN-UP REQUIRED... RAPID EVAPORATION & DISPERSION'

- VAPOUR CLOUD REPORTED WITHIN PORT FOR '48 HRS'

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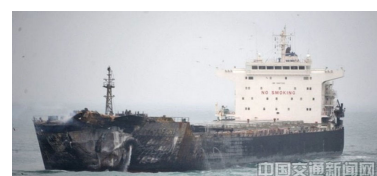
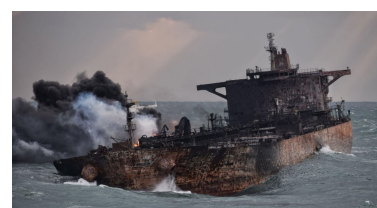
SHIPPING INCIDENTS



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SANCHI INCIDENT



- EN ROUTE - IRAN TO SOUTH KOREA
- CARGO - 111,388 MT CONDENSATE
- COLLISION WITH CF CRYSTAL
- ROUGHLY 160 NM OFF SHANGHAI
- BREACH OF CARGO TANK & EXPLOSION

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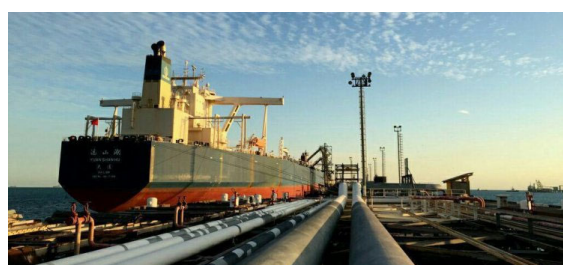
SANCHI INCIDENT



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CARGO ONBOARD

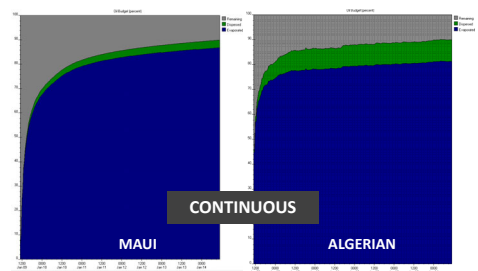
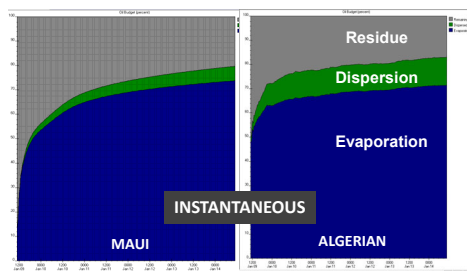


- CONDENSATE FROM SOUTH PARS GAS FIELD
- TWO PRODUCTS: PHASE 19 AND PHASE 12
- SPECIFIC GRAVITY: 0.7286 & 0.7338
- VAPOUR PRESSURE: 11.8 PSI (GULFAKS CRUDE: 6 PSI)
- DISTILLATION: 50% AT 123°C / 90% AT 270°C
- BOTH CLASSED AS NON-PERSISTENT (FUND CRITERIA)

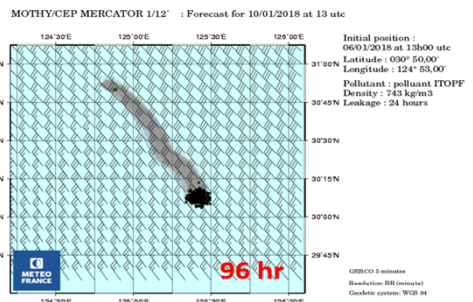
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PREDICTED FATE



- 'WEATHERING' MODEL RUN TO PREDICT FATE (ADIOS2)
- USED LOCAL WEATHER CONDITIONS, AMBIENT SEA STATE
- SURROGATE OILS USED WITH SIMILAR SPECIFICATIONS:
 - MAUI CONDENSATE (MATCHED °API)
 - ALGERIAN CONDENSATE CITGO (MATCHED DISTILLATION)
- INSTANTANEOUS AND CONTINUOUS RELEASE SCENARIOS
- RESULTS: 70-85% EVAPORATION ≤15% DISPERSION IN 5 DAYS
- TRAJECTORY MODELLING ALSO CARRIED OUT USING MOTHY



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ACTUAL FATE



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RESPONSE

CRS

SSC

- RESPONSE LED BY CHINA (MOT, MSA, CRS)
- INITIAL FOCUS ON SAR FOR CREW AND FIRE FIGHTING
- PATROL VESSELS ON SITE FOR ALL THREE COUNTRIES
- SHANGHAI SALVAGE AND NIPPON SALVAGE ON SITE
- AERIAL SURVEILLANCE: SOA, JCG AND KCG
- EXCLUSION ZONE IN PLACE AROUND CASUALTY

SOA

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SINKING



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- VIOLENT EXPLOSION AT AROUND NOON 14TH JANUARY
- VESSEL ENGULFED IN FLAMES - RESPONSE PULLED BACK
- SANCHI EVENTUALLY SANK ~16:45 TO DEPTH OF 110 M
- FIRE CONTINUED BURNING TILL MORNING OF 15TH JANUARY



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FUEL OIL SPILL



SOA



GSC

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AT-SEA RESPONSE

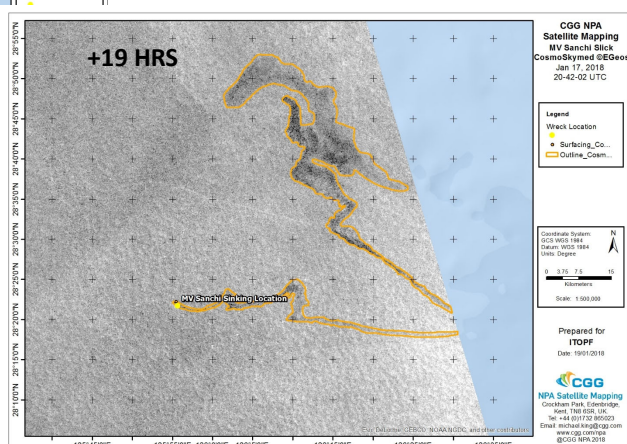
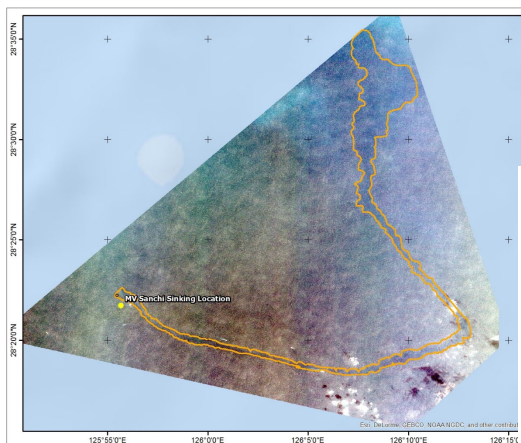


- LED BY MSA, OBSERVED BY JCG, KCG
- NUMEROUS VESSELS INVOLVED (>60?)
- CHEMICAL/ MECHANICAL DISPERSION

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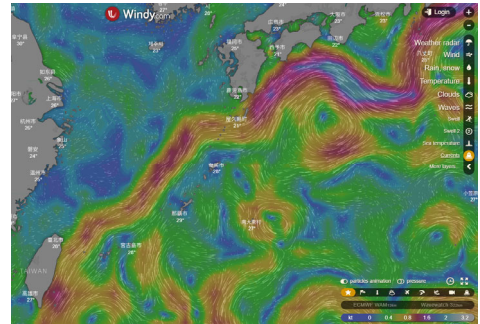
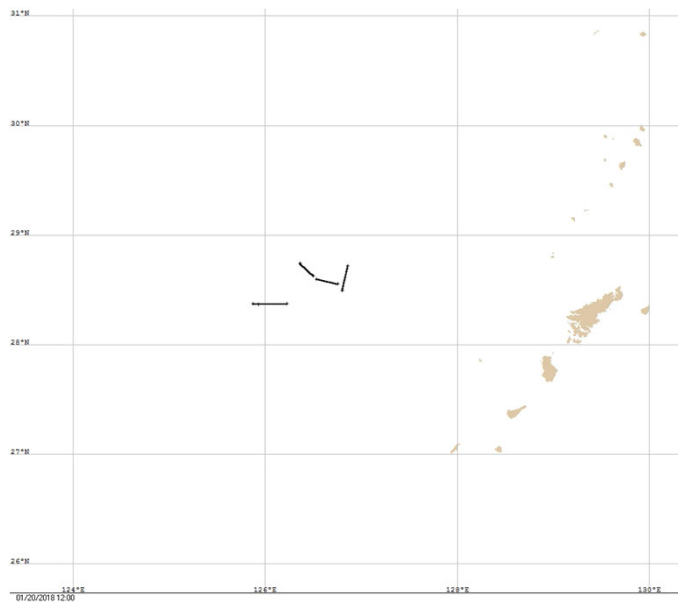
TRACKING THE SPILL



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TRACKING THE SPILL



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SHORELINE IMPACTS



- HFO STRANDED IN JAPAN (JAN-FEB)
- > 20 ISLANDS AFFECTED
- VARYING DEGREES OF OILING

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CLEAN-UP



- LED BY JCG & LOCAL AUTHORITIES
- P&I CLUB-APPOINTED CONTRACTORS
- ITOPF – SURVEYS, CLEAN-UP PLANS, REPORTING
- CLEAN-UP WELL-ORGANISED, MOSTLY EFFICIENT
- OPERATIONS CONTINUED UNTIL JUNE



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CONDENSATE IMPACT



- SAMPLING & ANALYSIS BY SOA IN CHINA & MoE IN JAPAN
- DETAILS OF ANALYSIS, RESULTS AND CONCLUSIONS UNCLEAR
- PRELIMINARY REPORTS SUGGEST LIMITED (IF ANY) IMPACTS

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KEY ISSUES

A Nearly Invisible Oil Spill Threatens Some of Asia's Richest Fisheries

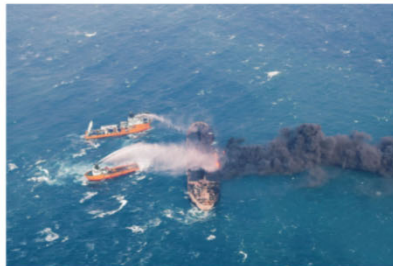
REPORTER: JESSICA
BY STEVEN LEE, WASHINGTON CORRESPONDENT, 17/11/2014

ITOPF



A nearly invisible oil spill threatens some of Asia's richest fisheries.

Huge Oil Spill Spreads in East China Sea, Stirring Environmental Fears



A collision involving the Saichi — shown being decoupled at right before it sank — created what



ENVIRONMENT

One of the Worst Oil Spills in History Is Getting Worse

And there's little chance that it will be cleaned up.

- MEDIA REPORTS — EXAGGERATED IMPACTS
- LOCATION — FAR OFFSHORE, TRANSBOUNDARY
- POLITICS — INFLUENCE OF CENTRAL GOVERNMENT
- FOCUS — ON CONDENSATE, BUT ACTUALLY HFO SPILL

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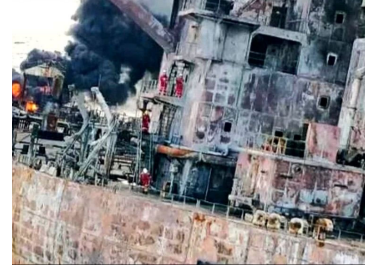
ITOPF ROLE



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CONSIDERATIONS...



- SIMILAR RESPONSE TO OTHER NON-PERSISTENT OILS
- PRIORITY: RISK OF FIRE, EXPLOSIONS, EXPOSURE TO VAPOURS
- SHORT TERM PRESENCE IN MARINE ENVIRONMENT – CLEAN-UP?
- LACK OF CLEAN-UP TECHNIQUES WITH TECHNICAL MERIT
- SOME STRATEGIES ACTUALLY INCREASE RISK - CONTAINMENT