

# Georgian Well Blow-Out 2004

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# Introduction

- 🔥 Well blow-out (September 2004)
- 🔥 Ninotsminda, 70km East of Tbilisi
- 🔥 Decommissioning without BOP
- 🔥 800m above sea-level
- 🔥 Deciduous Forest
- 🔥 Flowing at 5 – 10,000 bbls/day



# The Spill

- 🔥 Approximately 4000m<sup>3</sup> of oil had flowed from the well over the four days
- 🔥 Oil composition:
  - Density at wellhead 0.826 g/cm<sup>3</sup>
  - Asphaltene content 1.8 %
  - Viscosity 2.4cp
  - 7% Aromatics
- 🔥 The area impacted was over 1km<sup>2</sup> of land;
  - A large plateau around the wellhead 350m in diameter
  - An area of woodland
  - A natural ravine and storm gully



# Initial Actions by Client

- 🔥 Attempts to stem flow
- 🔥 Use of heavy machinery
- 🔥 Mobilisation of GPC to cap well
  
- 🔥 No Contingency Plan
  - No trained personnel
  - No equipment
  - No Management system
  - No MOUs with other companies

Initial Actions (0 – 4 Days)

# N100 Wellhead Site



# OSRL's Evaluation

- 🔥 Full evaluation of spill
  - The spill (oil specification, volume etc)
  - Environmental impact assessment
  - Health and Safety
  - Resources available
- 🔥 From this information a response action plan was generated

# Responder Welfare

- 🔥 Safety and welfare of response personnel
- 🔥 Air monitoring
- 🔥 Security of personnel and equipment
- 🔥 Fire and explosion

# The Environment

- 🔥 Deciduous trees and shrubs
- 🔥 Ecosystem disturbance
- 🔥 Potential contamination of food crops
- 🔥 Potential contamination of water for livestock and crop irrigation



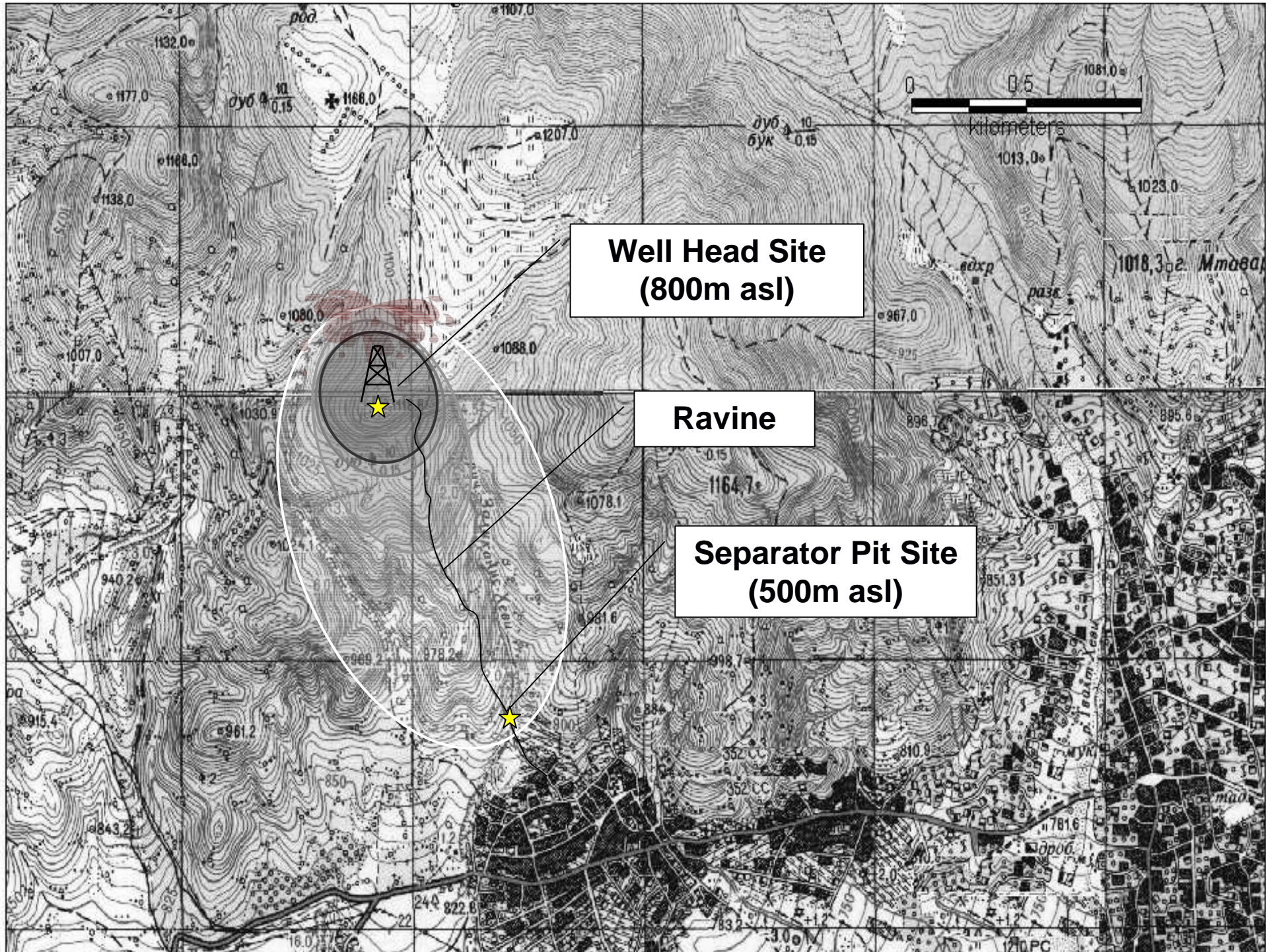




# Weather and Topography

- 🔥 Warm and dry in September
- 🔥 Freshwater stream
- 🔥 Clay substrate
- 🔥 Deep water tables
- 🔥 Poor accessibility





**Well Head Site  
(800m asl)**

**Ravine**

**Separator Pit Site  
(500m asl)**







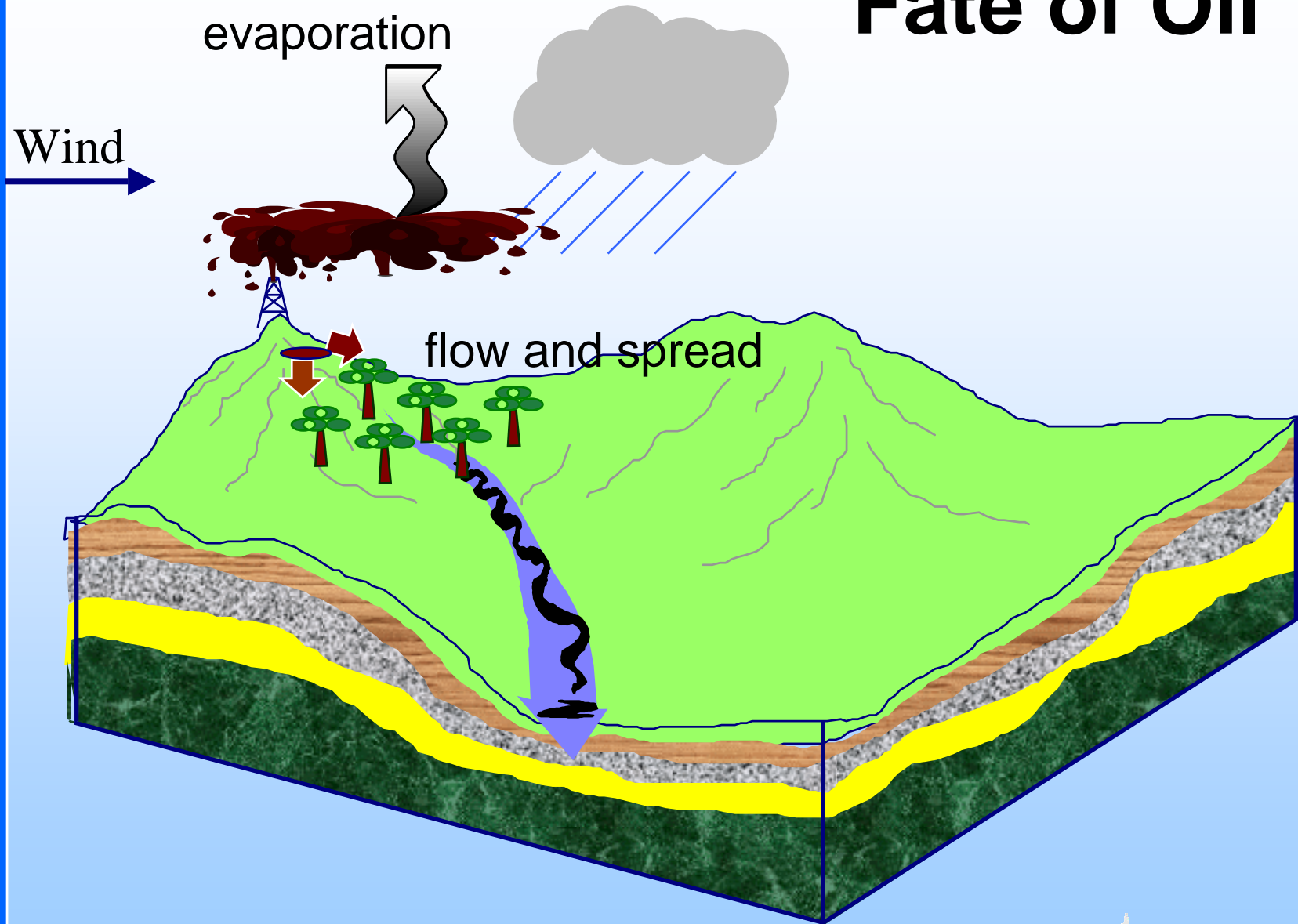
# Response Action Plan

- 🔥 Build an ICS to integrate with company's management
- 🔥 Minimise impact and spread of oil
- 🔥 Remove gross oil from the wellhead and then the woodland
- 🔥 Final cleaning
- 🔥 Site surveys established 3 work areas:
  - **Zone A:** Wellhead area
  - **Zone B:** Woodland
  - **Zone C:** Separator pits and storm gully

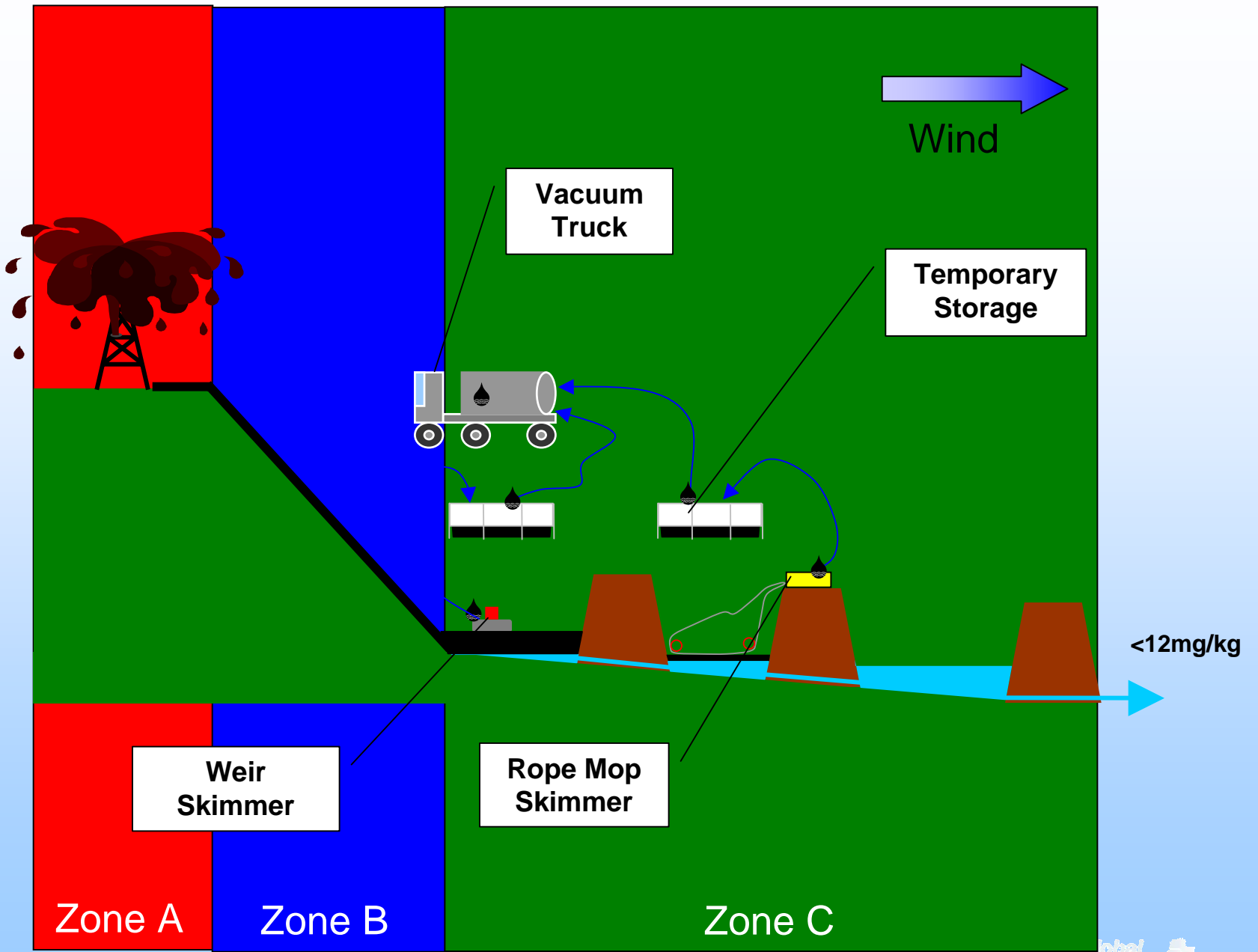


# Fate of Oil

Oil Fate



# Site Layout



# Zone C – Separator Pits



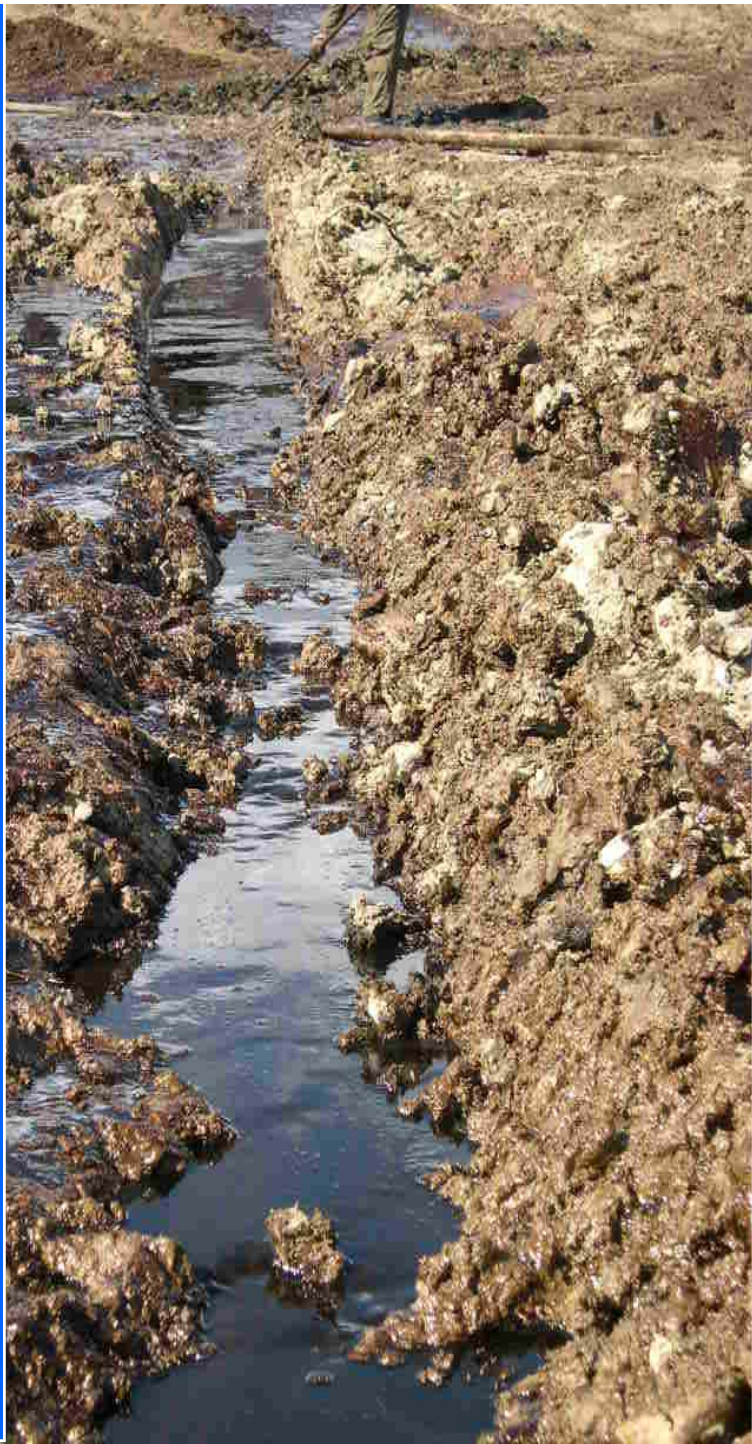


# Zone C - Separator Pit





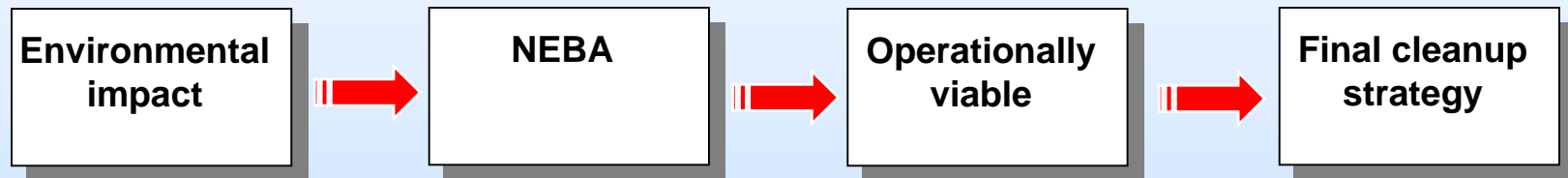
# Zone A – Well Head





# Effective response

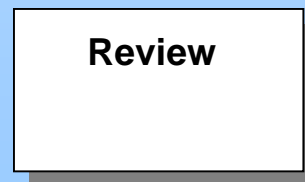
- 🔥 Alliance environmental specialists conducted a woodland survey
  - Environmental impact assessment



- The following cleanup options were employed



- Flushing and manually re-mobilising the bulk oil
- Manual recovery of the heavily oiled leaf litter
- Structured and managed felling and lopping
- Regeneration program





## Zone B – Woodland



Clean enough?





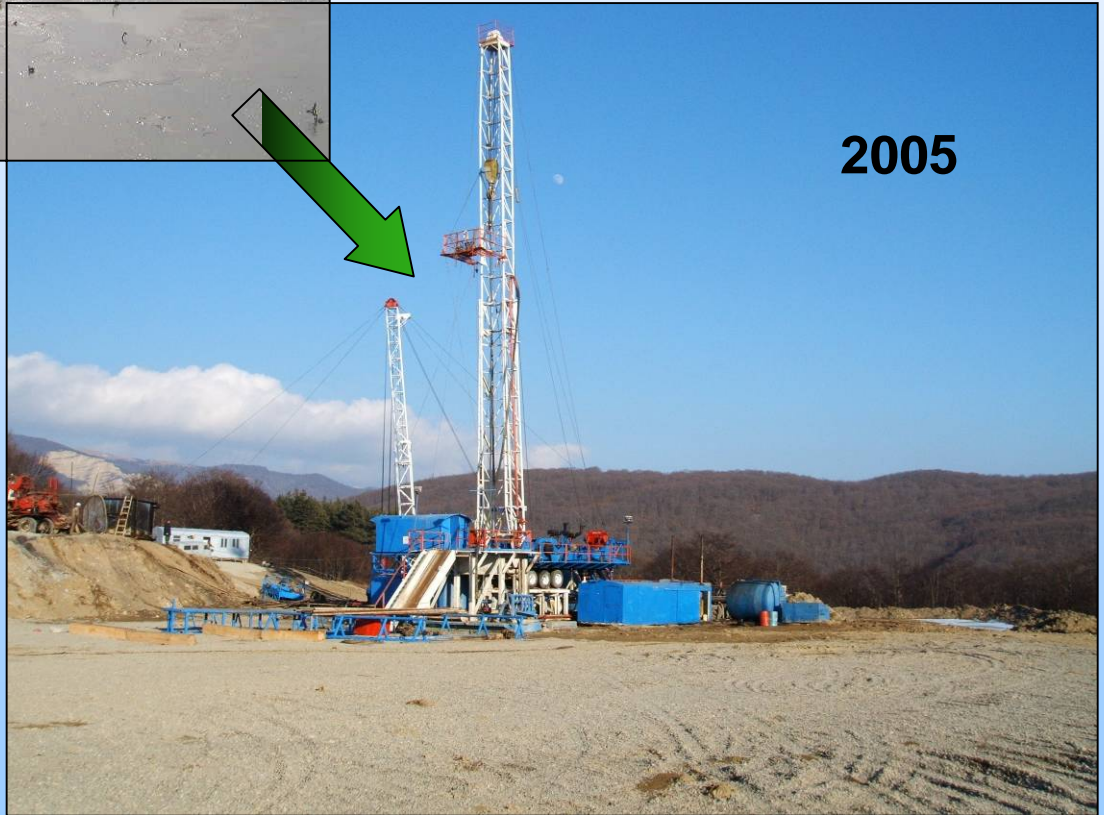
**Knowing what to leave alone**



# Post Spill Activities

- 🔥 Continued site rehabilitation
- 🔥 Selective felling & oiled debris removal
- 🔥 Continued monitoring of water quality
- 🔥 Bioremediation scheme ongoing
- 🔥 Replanting scheme planned
- 🔥 Drinking water well drilled
- 🔥 Well N100 still producing

# Post Spill (Well Head)





# Post Spill (Forest)





# Post Spill (Forest)



2006



# Lessons Learnt

- 🔥 Importance of an OSCP
- 🔥 Improvised spill techniques
- 🔥 Self sufficiency in response
- 🔥 Health and Safety

# Thank You.



## Any Questions?