Whatever Happened to the Kuwait Oil Field Contamination?
A 20 Year Perspective

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Agenda

• Baseline
• Evaluation
• Compensation
• Status
• Roadmap
• Doing Business in Kuwait
Environment As A Weapon

- Oil Trenches
- Releases to Ocean
- Overpressure Reservoirs
After The Liberation

- **7,260 sq km** of impacted surface area
- **695 sq km** serious oil contamination
- **798** wellheads detonated
  - 603 caught fire
  - 45 gushed
- **Over 9 million barrels** of oil discharged to sea
- **Over 1 billion barrels** of oil released/burned from wells
- **100 km** of oil filled trenches
- **Over 62 million cubic meters** of contaminated soils
- Unexploded Ordnance

*Oil Lakes Final Monitoring and Assessment Report, Volume 1, Summary Report, CIC, Report, 27 Aug 2003*
Capping the Wells
Contamination

• Wet Oil Contamination
  – Contamination with a free liquid component

• Dry Oil Contamination
  – Oil stained soil without a liquid component

• Tarcrete
  – Solid oil based crust with no soil contamination

Wet Oil Contamination
Dry Oil Contamination
UXOs
Remediation Challenges

• Saline Concentration
• Local Conditions
• UXOs
• Weathered/Emulsified Oil
Lab Methodology

• TPH using Hexane Extractable Material
  – (Method 9071B)
• Bulk sampling
• Other Analytes:
  – Cadmium/Mercury were non-detects
  – Pb, Ni, and Va were low range of detection
Contamination Levels

![Graph showing contamination levels with values and distributions for dry and wet conditions.](image-url)
Assessments

• Kuwait forms PAAC (Public Authority for Compensation Resulting from Iraqi Aggression) in May 1991

• Major Assessments by Consortium of International Consultants in Kuwait
  – UNCC Claims 5000432 and 5000434

• Iraq assessed $52 Billion USD for compensations in 2004
  – Kuwait awarded $24.2 Billion

• Only $25 Billion (total) has been paid to date
Environmental Compensation

Total: $4,324,819,105 USD

- Iran: $1,160,049,990
- Jordan: $520,960
- Kuwait: $3,003,666,082
- Saudi Arabia: $160,582,073
## Kuwait’s Share

<table>
<thead>
<tr>
<th>UNCC Claim Number</th>
<th>Claim Description</th>
<th>Award (USD)</th>
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<tr>
<td>5000398</td>
<td>Oiled Shoreline Technology Assessment</td>
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<td>5000432</td>
<td>Oil Lake Contamination and Treatment Assessment Technology</td>
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<td>5000433</td>
<td>Technology Assessment for Restoration of Desert Surface Damaged by Military Fortifications: Field Studies of Vegetation Methods</td>
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<td>5000434</td>
<td>Technology Assessment for Restoration of Desert Surface Damaged by Oil, Fires, and Fire Fighting: Ecological Assessments, Pilot Testing of Re-vegetation Methods</td>
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<td>5000403</td>
<td>Establishment and Operation of Data Repository and Exposure Registry for Five Years</td>
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<td>Human Health Risk Assessment</td>
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<td>Long Term Health Impact Assessment</td>
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<td>Clinical Monitoring Programs</td>
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<td>5000407</td>
<td>Human Health Assessment Survey</td>
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<td>Remediation of Damage to Groundwater Resources</td>
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<td>Remediation of Areas Damaged by Military Fortifications</td>
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<td>Remediation of Areas In and Around Wellhead Pits</td>
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<td>Remediation of Areas Damaged by Tarcrete</td>
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<td>Re-vegetation of Damaged Terrestrial Ecosystems</td>
<td>$460,028,550</td>
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<td>5000259</td>
<td>Remediation of Damage to Marine and Coastal Resources</td>
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<td>5000466</td>
<td>Remediation of Damage at Open Burning/Open Detonation Sites</td>
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<td>5000454</td>
<td>Remediation of Areas Damaged by Oil Lakes, Oil-Contaminated Piles, Oil Trenches, and Oil Spills</td>
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<td>Re-vegetation of Damaged Terrestrial Ecosystems</td>
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<td>5000460</td>
<td>Compensatory Project for Shoreline Resources</td>
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**Total Kuwait Award:** $3,003,666,082
Kuwait Compensation Summary

• Assessments: $46,939,175 USD

• Remediation: $2,956,726,907 USD
Players

• PAAC
• KEPA
• KNFP
• KISR
• KOC
• UNCC
Process
Contract Activities

• Environmental Data Management, Reporting and Assessment System
  – IES

• National Lab
  – E&E

• Legal Consul
  – ??

• PPCS
  – Cancelled

• Information Management System
  – E&E
Re-Organization

- Shift from PAAC to KOC
- Shift from KOC to KISR
- KISR now the KNFP
Current Activities

• Pre-Qualification by KOC
• Tender for SEED
  – 3 different contractors
• SEED
  – 3 sites of 8 features
  – Technology demonstration
  – Award expected in late 2011
KNFP Road Map

• “Fast Track Project Implementation Program” (FTPIP)
  – Removal of the oil contaminated soil from its location to a “Temporary Designated Location” (TDL)
    • Managed according to international environmental standard
    • Monitored by KEPA/KISR
  – Initiation of soil remediation activities once the oil contaminated material/soil reaches the TDL.
FTPIP Contract Strategy

- PMC with very limited role
- Contaminated material/soil removal and transportation
- Establishment/construction and management of TDL
- Remediation of the contaminated material/soil
- Award first contracts the end of 2011
Terms of Reference

• Zoning of oil lakes, identify boundaries of oil lakes
• Establish volume of oil lakes material levels for each pre-defined zone
• Determine presence of any UXOs (by MOD)
• Assess remediation technologies using KOC’s SEED project experience
• Prepare TOR for material removal and transportation
• Prepare TOR for material/soil treatment
• Manage material transportation contracts
• Manage material/soil treatment contracts
• Prepare and provide KNFP/KISR/UNCC verification data
• Prepare monitoring plans in cooperation with KEPA/KISR
Doing Business in Kuwait

- Pre-Qualification
- Direct Contracts
- Agencies
- Business Climate
- Foreign Corrupt Practices Act
Direct Contract

• Pro:
  – Awarded to a foreign company
  – No need for a local office

• Cons:
  – You won’t get anything done
    • Visas, customs, rentals, leases, bank accounts
  – High tax visibility
    • 15% capital gains tax
    • Kuwaiti accountant required
  – Fund your own bonds and local insurance
  – If you set up an office – need a 51% local partner
Agencies

• Pros
  – Local agent will get you the contract
  – Support you with Ministry issues
  – A strong agent will finance you
  – Don’t need an office or 51% partner
  – Will not let a contract be cancelled
    • Except through gross negligence

• Con
  – A weak or politically insignificant agent will hurt you
  – Have to include agent fees (usually 5% of contract value)
Pre-Qualification

• 3-5 Years of Financial Records in International Accounting Format
  – Tax returns won’t do it
• 5-10 yrs experience in the area of expertise
• Organizational charts
• CVs of key personnel
Business Climate

• Long business cycles
• Scope creep
• Poorly written specs and SOWs
• No appreciation of contractor risk
• Low experience pool
• Hidden Agendas
• Your risk tolerance: High
  – Their risk tolerance: Very Low
Foreign Corrupt Practices Act

• Poorly understood law
• You will not go to jail for what your agent does
  – Classy, educated, civilized people
• We are operating outside the US
  – They have corruption laws too
• Listening to a lawyer that has never worked/lived overseas is like listening to the Pope about birth control
Help is out there...

- **US Government**
  - Dept of Commerce
  - US Embassy in Kuwait
    (http://kuwait.usembassy.gov/trade.html)
    - Commercial Affairs Department
    - Isabella.Cascarano@trade.gov

- **American Business Council of Kuwait**
  - www.abckw.org
Questions?