#### U.S. Air Force

Integrity - Service - Excellence

#### **DIGGING IN BAGHDAD -**

The Importance of Conducting an Occupational & Environmental Health Site Assessment (OEHSA)

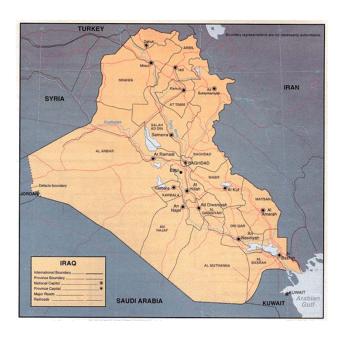






#### Overview

- Background
- **Case Study**
- Action Plan





#### Location

#### Baghdad International Airport (BIAP)



Baghdad



Airport



Sather AB



#### Location

#### Area of Concern

- End of Runway
- 50 Acres
- Iraqi Landfill
- UXOs



**BIAP** 



## Area of Concern











## Area of Concern







## Case Study Background

- TSgt "Bob"
  - Civil Engineering Technician
  - Jul Nov 03
- Reported to Sick Call
  - Itching
  - Night Fever/Sweating
- Attributed Illness to Bulldozing
- Initial Diagnosis: Malaria Medication



**Bulldozing In Iraq** 





## Case Study Background

#### Apr 04 Developed Respiratory Illness

Hemorrhagic Alveolar Syndrome

#### Underlying Cause

- Depleted Uranium
- Mustard Gas
- Sarin
- Spores/Fungus





## Case Study Background Sep 04

- Preventive Med Team Informed
- Requested Assistance from AF Experts
  - Develop Sampling Plan
    - UXO Sweep
    - Soil Sampling
    - Case History



**EMEDS Team** 



## Case Study Background Oct 04

#### Initial Sampling

- 22 Locations with HAZMAT ID
- Surface Samples
- Ferrous Sulfate Heptahydrate



#### Occupational Health Working Group

- Recommended PPE
- Follow-Up Sampling



HazMat ID



# Case Study Background Dec 04

#### Soil Sampling

- 2 Locations
- On-Site Sampling
  - HAPSITE GC/MS
  - PID/FID
  - ADM-300
  - CAM
- Lab Analysis

# No Previous Environmental Health Site Assessment!





HAPSITE

PID FID







#### **OEHSA**

- Identify Occupational & Environmental Health Hazards at Deployed Location
- Reduce/Eliminate Health Risks to the Greatest Practical Extent

Documentation for Longitudinal Exposure Record (LER)



# During Deployment Mar 05

#### Located Sampling Results

- All Results Below MEGs
- Contacted Previous Team
- Briefed Commander
  - Area Too Large to Cord-Off
  - Closed TSgt Bob Case
    - Only Reported Illness
    - 2 Years in Past
    - No Definitive Conclusions
  - Determined Action Plan





#### Action Plan

- Develop OEHSA
- Conduct Health Risk Assessment Prior to Projects
- Documentation for LER





N95 mask N95 口罩



## Action Plan OEHSA

#### Soil Sampling Plan

- Base Divided 16 Quadrants
- 23 Samples Based on Occupancy
- Sampling Strategy
  - Random
  - Discrete



Tent City



## Action Plan OEHSA

#### On-Site Analysis

- HAPSITE
- HAZMAT ID
- ADM-300
- GPS/Photo/GeoBase Database
- Lab Analysis
- Results



Soil Sampling



#### Action Plan

#### Communication Project

- 10-Member Team
- Digging Trenches for Cable
- 2 Miles On/Off Base

#### Sampling

- ■7 Samples, Every 1500 ft
- Results



**Discolored Soil** 



Soil Sampling at Com Manhole



#### Lessons Learned

- Keep Preventive Med Team Informed
- Educate Clinicians on Environmental Health Concerns
- Stay in Synch with CE
- Routinely Update OEHSA



#### Questions?



Many Thanks To

Lt Col Gary Krupa & Capt Scott Steigerwald Sather AB, Bioenvironmental Engineers

Integrity - Service - Excellence