



Dugway Proving Ground Restoration Advisory Board Meeting

November 14, 2007
Dugway Proving Ground
Dugway, Utah

PROJECT UPDATES

Keller Davis - Shaw Environmental, Inc.
Inc.

Remediation Activities

- Waste Removals
- Ordnance Disposal Projects



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Remediation Activities



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Remediation Activities

Two Remediation Technologies:

- Closure-in-place landfills
 - Safety issues preclude handling the wastes
 - Install geo-membrane supported geosynthetic clay clay liner (GCL) cover systems and perform routine routine maintenance
- Removal actions
 - Site history and investigation results support waste waste removal to attain closure
 - Use sampling to demonstrate waste and exposure exposure risks have been removed



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Removal Actions

- 13 sites planned for 2007: **3**, 9, **17**, **18**, **19**, **23**, **25**, **115**, **118**, **180**, **188**, 199, and **212** (**bold** sites are completed)
- Site features defined during investigation
- Safety assessments show waste is safe to excavate and remove
- Sample waste to determine disposal options
- Excavate and dispose of waste
- Confirmation sampling in footprint of excavation
- Sample results used to demonstrate adequate removal
- Work began June 2007
- Projected completion in November 2007



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‘Behind the Scenes’ Activities

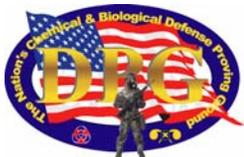
- Receive analytical results from laboratories
- Assign applicable waste codes and dispose of the excavated waste
- Review confirmation sample results to determine:
 - Is additional excavation necessary to remove contamination?
 - Can the site be backfilled and restored?



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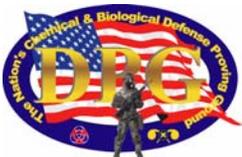
Summary of Waste Profiles

3 – Hazardous	115 – Non-hazardous
17 – Hazardous	118 – Hazardous
18 – Hazardous	180 – Non-hazardous
19 – Hazardous	188 – Non-hazardous
23 – Both	199 – Hazardous
25 – Non-hazardous	212 – Both



DPG-212 Removal

- Sympathetic Detonation test on underground bunker
- 330 simulant-filled M61 rockets
- Simulant used was ethylene glycol (anti-freeze)
- Following the test, live rounds were destroyed and the bunker and debris were collapsed in and buried



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DPG-212 Removal



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DPG-212 Removal



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DPG-212 Removal



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DPG-212 Removal



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DPG-180 Asbestos Removal



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DPG-180 Asbestos Removal



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DPG-180 Asbestos Removal



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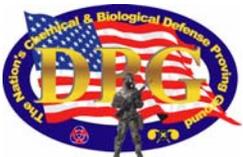
DPG-180 Asbestos Removal



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Ordnance Disposal Projects

- Acronyms and Terms
- Highlight 2 sites (DPG-199 and -009)

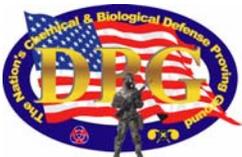


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Ordnance Disposal Projects

Acronyms and Terms

- UXO = Unexploded Ordnance
- MPPEH = Material Potentially Presenting an Explosive Hazard
- MEC = Munitions and Explosives of Concern
- MC = Munitions Constituents
- MD = Munitions Debris
- OB/OD = Open Burn/Open Detonation
- RRD = Range-Related Debris

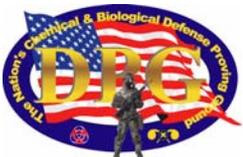


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Ordnance Disposal Projects

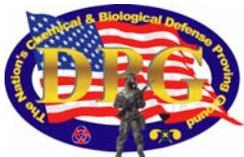
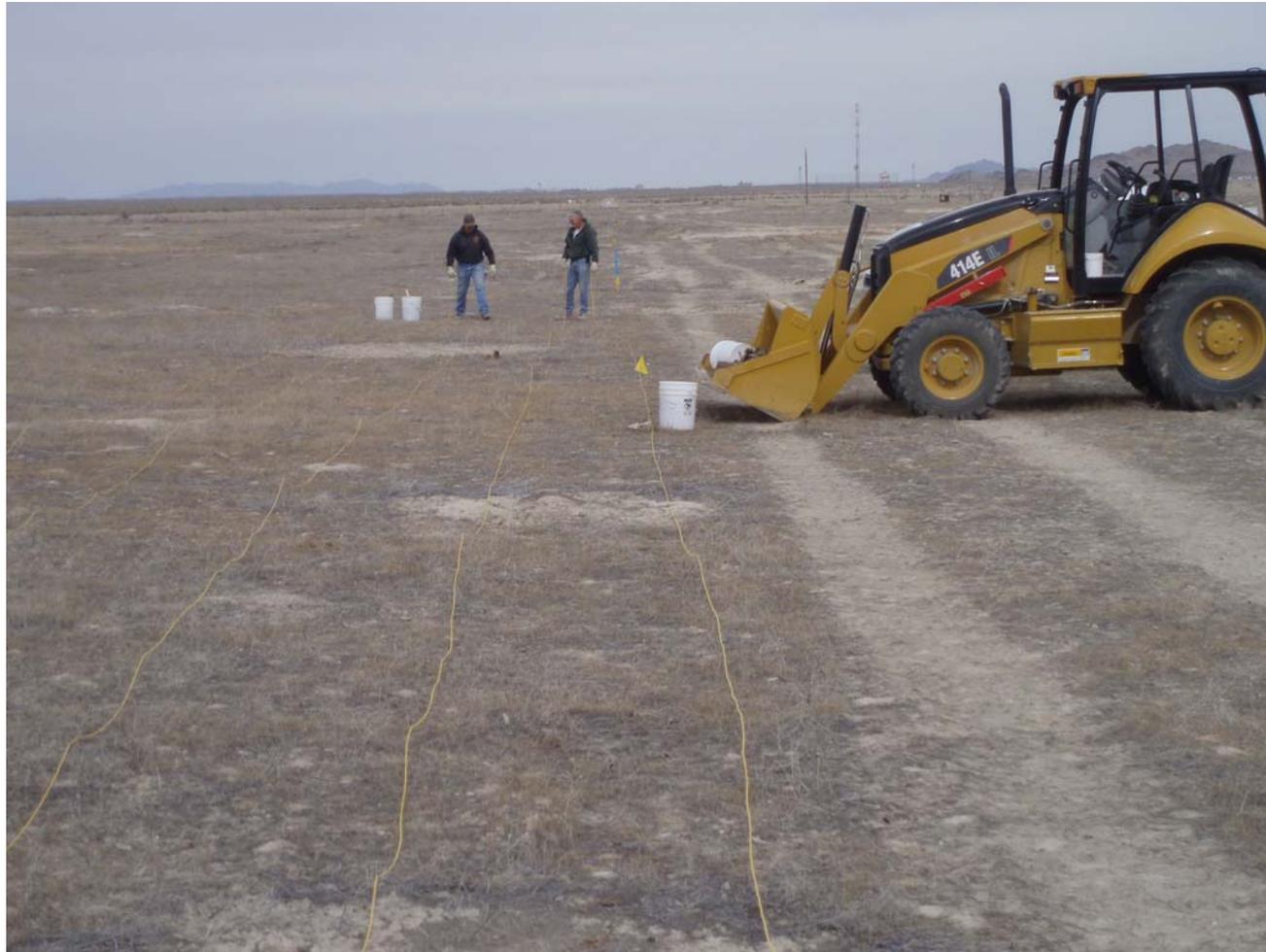
DPG-199

- 100 Acres
- Former OB/OD test area
- Tests designed to disfigure and destroy 90mm HE rounds
- Visible MPPEH (MEC, MC, and MD) and RRD on surface



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DPG-199 Surface Clearance



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DPG-199 Surface Clearance

(MPPEH on surface)



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DPG-199 Surface Clearance

(MC on surface)



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DPG-199 Surface Clearance

(MEC on surface)



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DPG-199 Surface Clearance

Recovered MD Pile (60,000 lbs)



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DPG-199 Surface Clearance

MEC Detonations



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DPG-199 Surface Clearance

(MEC Detonations)



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DPG-199 Surface Clearance

(MEC Detonations)



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Ordnance Disposal Projects

DPG-009

- 36,000 M55 Rockets destroyed (burned) during test at West Granite Holding Area (DPG-192)
- All debris inspected and submerged in caustic bath at DPG-007 prior to disposal (DPG-007)
- Estimated 396 rockets and residual explosives were never disposed and remain at DPG-009



DPG-009 M55 Rocket Debris



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DPG-009 M55 Rocket Debris



Fuze
(RDX)

Burster Tube

60% RDX
40% TNT

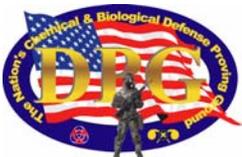


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DPG-009 Operations

Detonation Chamber and Explosives is Preferred Option

- Chamber constructed with Jersey barriers (“K” rails) and reinforced steel cover (removable) to contain kick outs
- UXO Techs inspect rocket residue pile and make MD/MPPEH determination
- MPPEH will be transferred to Detonation Chamber for demolition
- UXO Techs confirm destruction and stage MD in lockable container pending DPG inspection



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Next Six Months

- Complete demolition activities at DPG-009; prepare plan to characterize remainder of site
- Complete risk assessments and closure reports for removal actions
- Groundwater sampling for GMAs (Ditto, Downrange, EV, and Carr)
- Design corrective actions for DPG-192 and 204



Questions?



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