

Land Use Controls at Camp Ravenna

Presented by Vista Sciences Corporation
for the Restoration Advisory Board
November 2015

Presentation Layout

- Introduction
- Areas at Camp Ravenna with Land Use Controls (LUCs)
- Enforcing Land Use Controls
- Reporting requirements
- Conclusion

INTRODUCTION TO LAND USE CONTROLS

Environmental Remediation and Clean-ups

- Sites are remediated to a certain standard and some chemical compounds can still be present (if elevated compounds are left in place)
- Residential Use Standards,
Commercial/Industrial Use Standards

Risk Assessment

- Risk Assessments are conducted when elevated compounds remain at a site
- Risk Assessments identify risks (if any) to certain populations
- Current and future use of the land is considered

**Risk remains to certain
populations, (human and/or
environmental) if elevated
compounds are left in place**

Land Use Controls instituted to control risk as identified in the Risk Assessment

Land Use Controls are typically defined in the Remedial Design and Remedial Action Completion Report

TYPICAL LAND USE CONTROLS

Institutional Controls

- Groundwater usage restrictions
- Limits on land use, such as no residential usage
- Exposure limits
- Training requirements

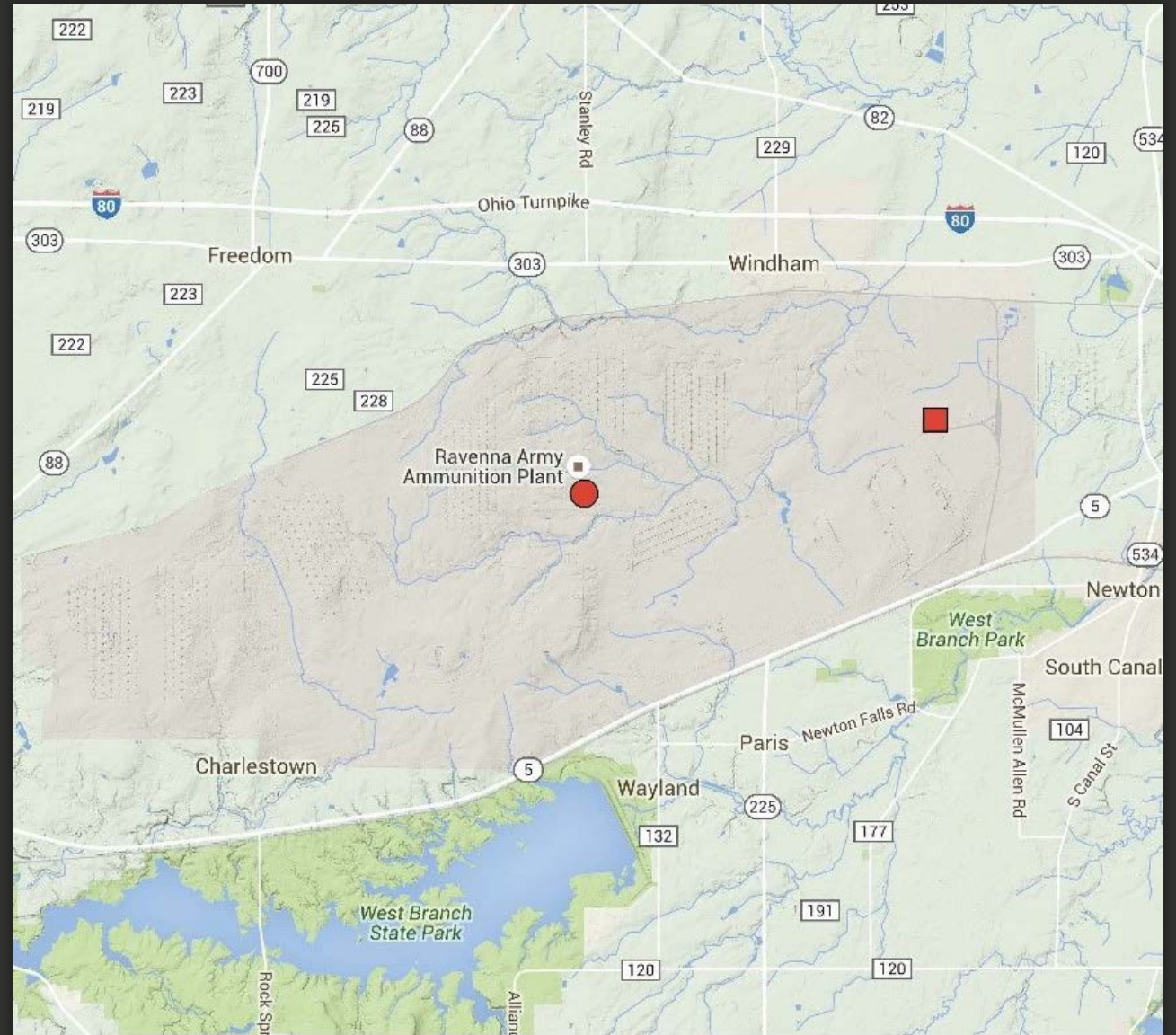
Engineering Controls

- Fencing
- Caps or barriers
- Seibert Stakes
- Warning signs



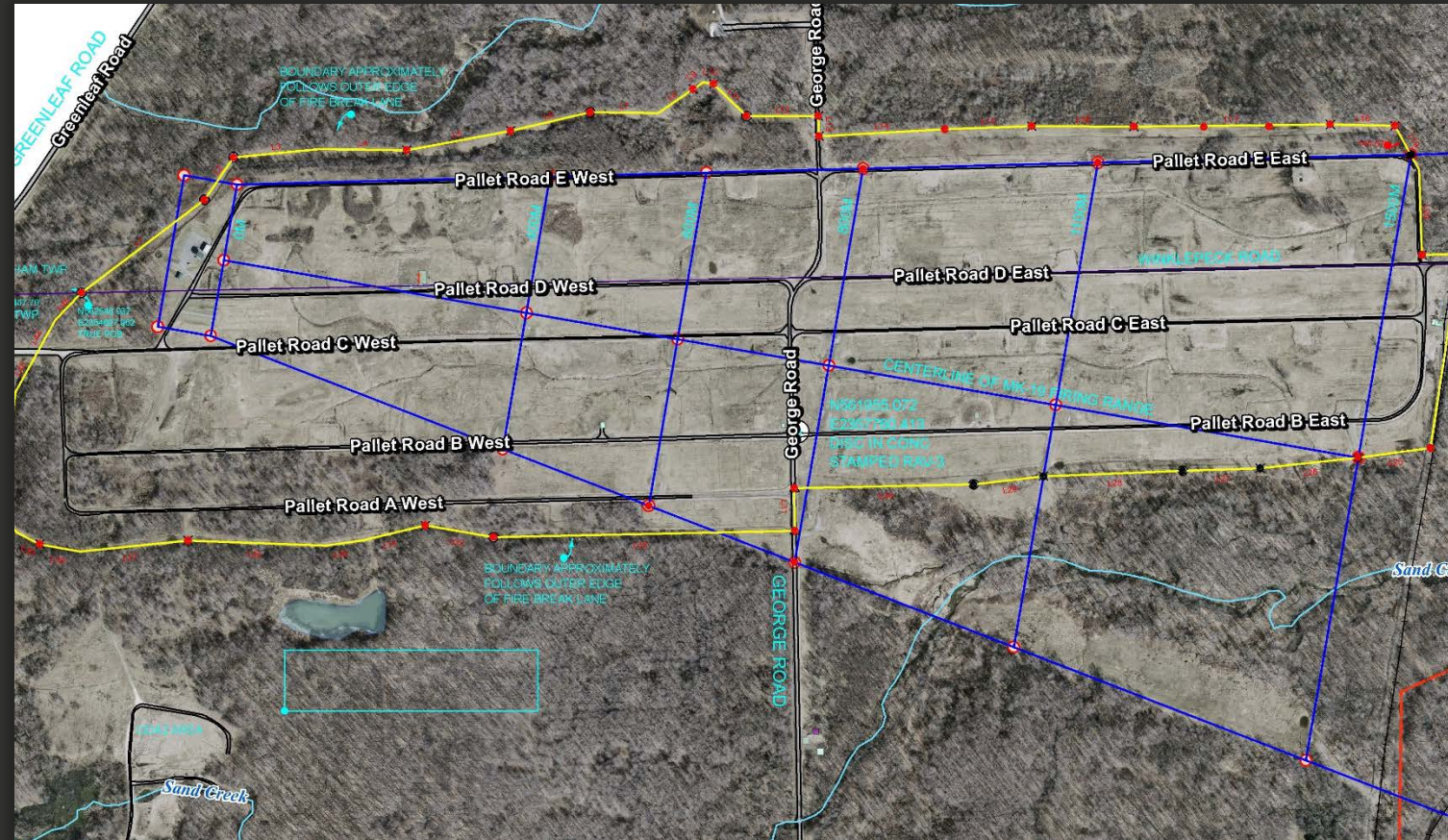
Current areas at Camp Ravenna with Land Use Controls

- Winklepeck
Burning Grounds
- Ramsdell Quarry
Landfill



Winklepeck Burning Grounds

- 211 Acres
- Former burning grounds of a variety of compounds and materials, including off-spec munitions
- Previous remedy consisted of excavation of contaminated soil
- Some remediated areas still had soil contamination at levels higher than those that allow unlimited use and unrestricted exposure
- Levels remaining do allow for use as Mark 19 Grenade Machinegun Range (current use)



Winklepeck Burning Grounds Risk Assessment

- Elevated compounds left in place identified risk to Range Maintenance Worker
- Therefore, Land Use Controls were established and implemented

Winklepeck Burning Grounds Land Use Controls

- Land Use Control Awareness Training
- Groundwater Usage and Extraction Prohibited (except for FWGWMP)
- All digging and excavation activities prohibited, except within certain guidelines:
 - Routine maintenance
 - Scientific investigations
 - Ground repairs by authorized personnel
 - Digging along target arrays <1 foot deep
- Camp Ravenna Perimeter Fence
- Evaluation of activities in area to ensure they remain consistent with OHARNG range safety and digging restriction
- Installation of appropriate warning signage

Ramsdell Quarry Landfill

- 14 Acres
- Initially a stone quarry excavated 30 – 40 feet deep
- Bottom of quarry used to burn waste explosives
- Abandoned quarry used for nonhazardous solid waste landfill, portion of quarry permitted as a sanitary landfill in 1978
- Landfill closed in 1990 under Ohio solid waste guideline, then covered by a 4-acre clay cap
- Construction and demolition debris, some of it asbestos-containing material, found in quarry bottom in 2010.
- Contaminated soil was removed, site backfilled with clean fill and site re-graded.
- Elevated compounds remained, so Risk Assessment was conducted.



Ramsdell Quarry Landfill Risk Assessment

- Elevated compounds left in place identified risk to Security Guard/Maintenance Worker
- Site to be managed as Restricted Access
- Therefore, Land Use Controls were established and implemented

Ramsdell Quarry Landfill Land Use Controls

- All digging in quarry bottom prohibited
- Digging and excavation on landfill cap regulated by post-closure care plan and Ohio solid waste regulations
- Permanent warning signs and fence to enclose the Land Use Control area
- Briefing for all personnel entering the Land Use Control Area



Enforcing Land Use Controls

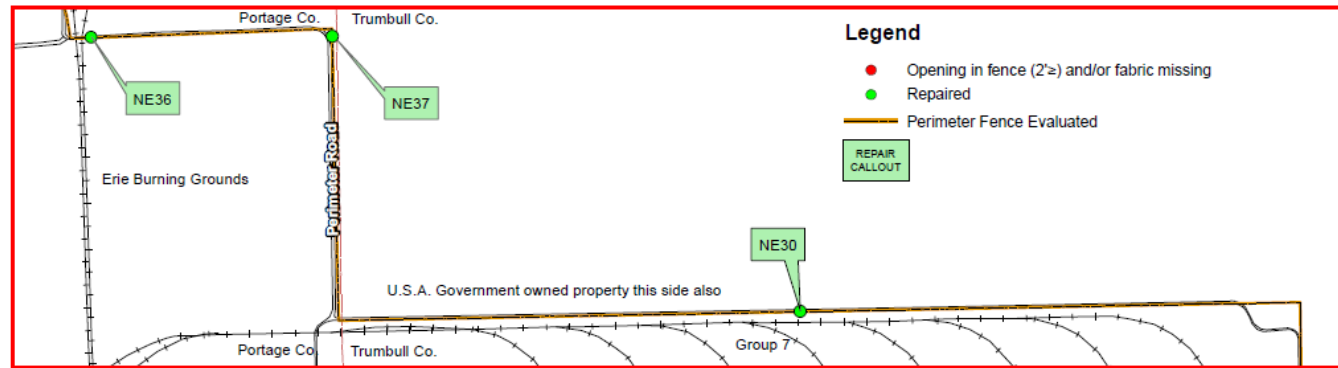
- Periodic monitoring of the Land Use Controls in the form of regular inspections
- Vista Sciences Corporation conducts the LUC inspections



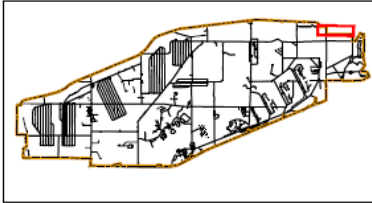
Winklepeck Burning Grounds LUC Inspection

- Quarterly Perimeter Fence and AOC Inspection
- Interviews with knowledgeable personnel on site activities
- Repairs as needed

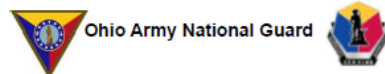
DETAIL SHEET FOR NE36



Camp Ravenna Joint Military Training Center



Portage & Trumbull County LOCATOR MAP



LAND USE CONTROL (LUC) INSPECTION 4th QUARTER FY2015 PERIMETER FENCE INSPECTION

REPAIR PHOTO NE36 dated 08/04/2015

PHOTO NE36 discovered 06/04/2015



Produced in August 2015 for:

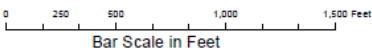


US Army Corps of Engineers
600 Dr. Martin Luther King Jr. Place
Louisville, KY 40202

Louisville District



Projection Datum is NAD83, Ohio State
Plane Rectangular Grid, North Zone



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DETAIL SHEET FOR NE36

Ramsdell Quarry Landfill LUC Inspection

- Weekly inspections for solid waste requirements
- Quarterly inspections by Portage County Health Department
- Annual Site Inspection required by CERCLA
- Interviews with knowledgeable persons
- Repairs as needed

Soil Repair



Fence Repairs



Reporting Requirements

WINKLEPECK BURNING GROUNDS

- Quarterly Inspection Report - submitted to the Ohio EPA
- As per the PMP, Annual Report (including all Quarterly Reports) submitted to the Ohio EPA (3rd annual report this year).

RAMSDELL QUARRY LANDFILL

- Weekly Inspection Form
- Quarterly Inspection Report by Portage County and the Army – submitted to the Ohio EPA
- Annual Report – submitted to the Ohio EPA (first annual report this year)

COMBINED Annual Report to be submitted this year

- Winklepeck Burning Grounds – 3rd Annual Report
- Ramsdell Quarry Landfill – 1st Annual Report

CONCLUSION

Land Use Controls at both Winklepeck Burning Grounds and Ramsdell Quarry Landfill are effective and protective of populations identified as being at risk