

Public Meeting Agenda

- 5:30 Availability Session
- 6:30 Formal Presentation
- 7:00 Question and Answer Session



Tannery Sludge Farm Field Investigation Public Meeting

St. Joseph, MO
November 9, 2010

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Missouri Department of Natural Resources

Summary

- Investigation focused on areas where highest levels of hexavalent Cr expected
- Documented Hexavalent Cr in sludge
- Sampled 15 farm fields, 10 residential yards and 9 private wells
- Cr⁺⁶ below levels of public health concern in fields, yards and wells
- No further investigation is planned and no cleanup is needed

Background

- National Beef Leathers – St. Joseph, MO
- Formerly Prime Tanning and Blueside
- Chromium leather tanning process
- Wastewater treatment sludge (“Organic Plus”)
- Land-applied to farm fields from 1983-2009

Mechanical Spreader and Sludge at Facility



Initial Investigation– April/May 2009

- Sludge sampled at the tannery
- Soil sampled at 3 farm fields
- Hexavalent Cr (Cr^{+6}) detected in sludge and in farm fields
- Based on findings, DNR & EPA launched further investigation

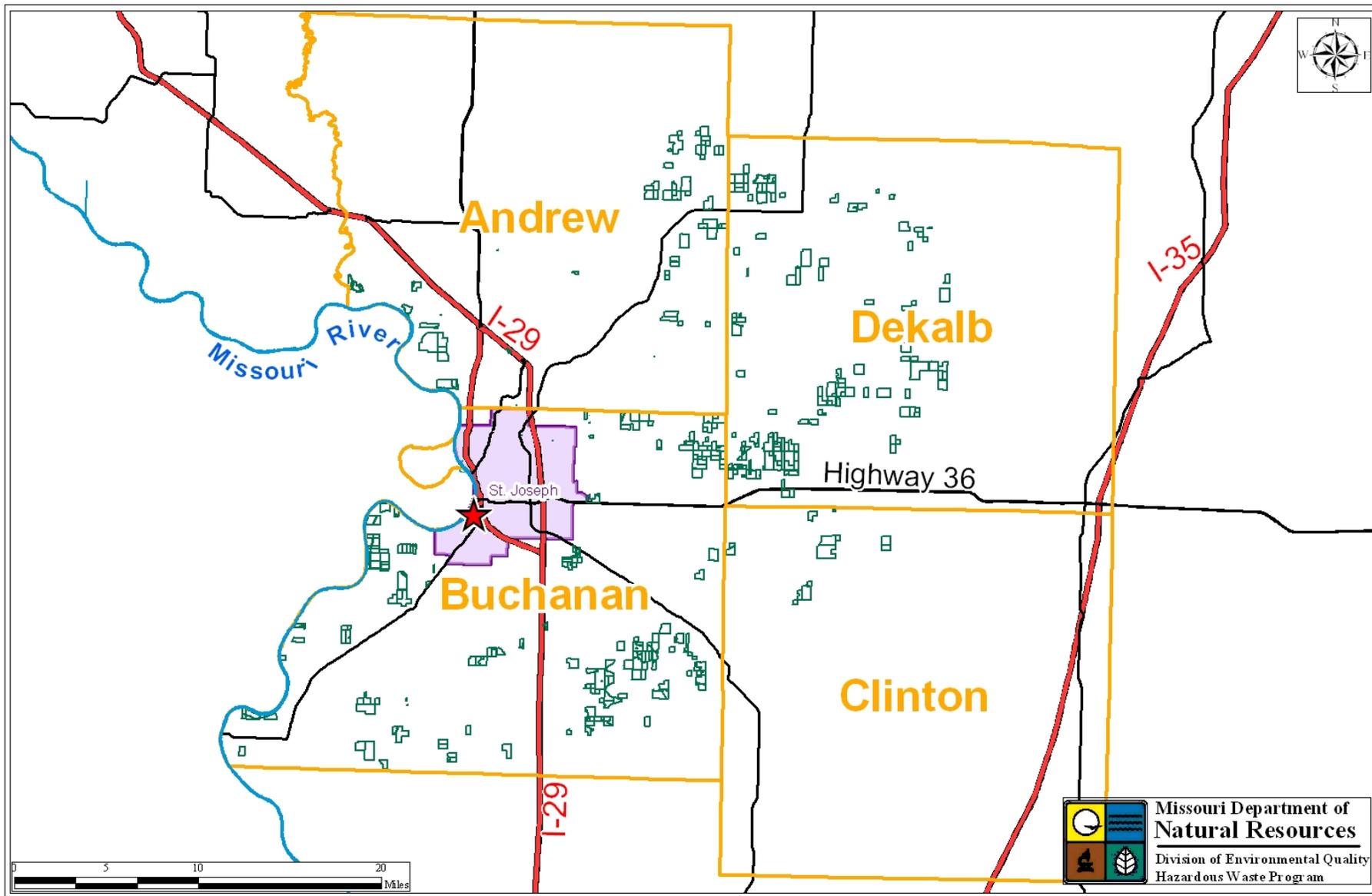
Hexavalent Chromium Screening Levels

- Farm field soils – 86 parts per million (ppm)
- Residential yard soils – 2 ppm
- Drinking water wells – 0.3 parts per billion (ppb)
- If found above these levels, further investigation would be needed

Where Was The Sludge Applied ?

- Detailed records kept by the tannery
- EPA compiled database of sludge applications
- Over 700 separate applications
- Over 100 individual farm fields

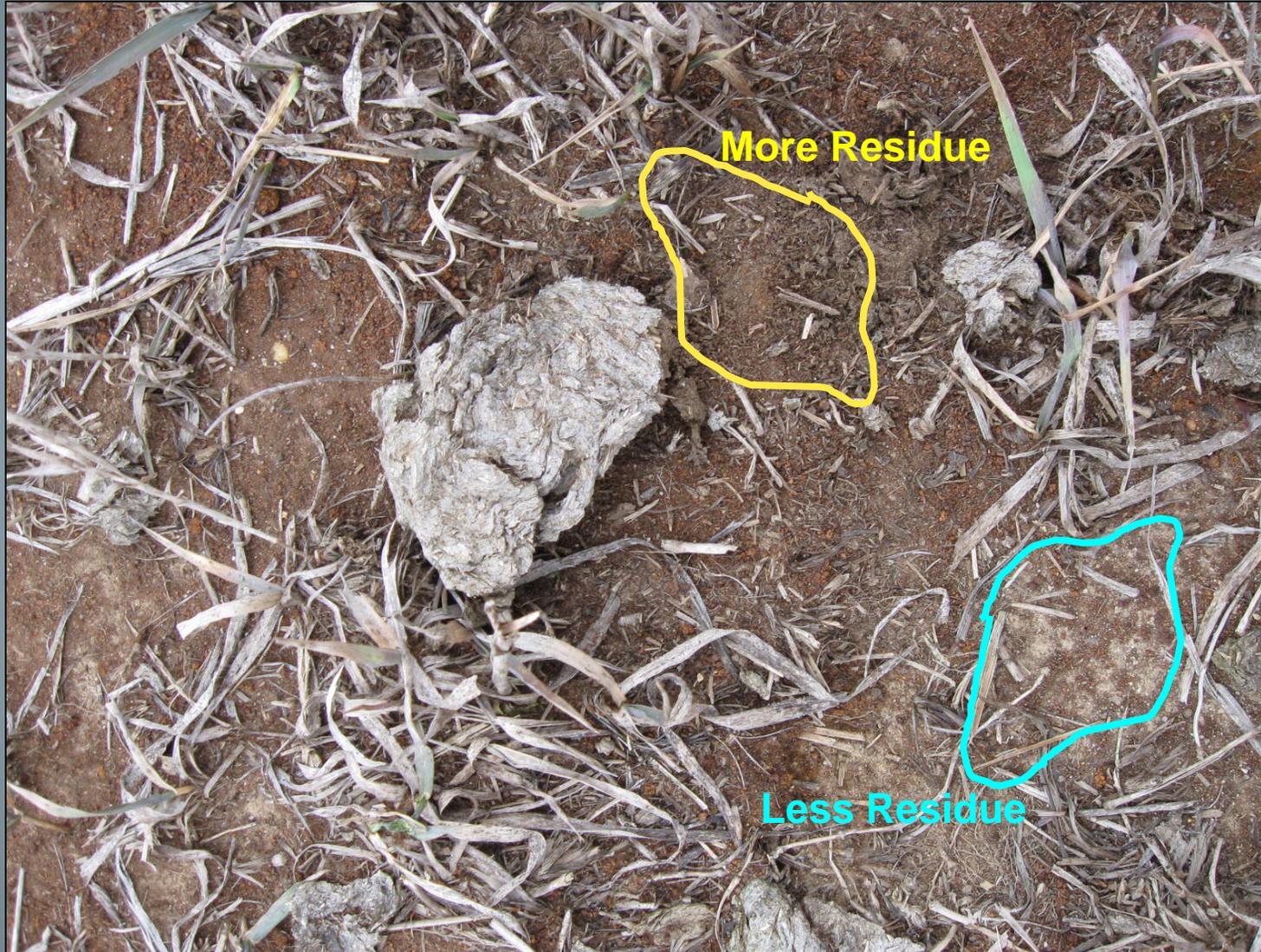
Sludge Application Areas



Selection of Farm Fields For Sampling

- 15 farm fields chosen for sampling
- Selected fields most likely to contain higher levels of hexavalent chromium:
 - Most frequent applications
 - Most amount of sludge applied
 - Oldest & most recently applied fields
- At least one field chosen from each county

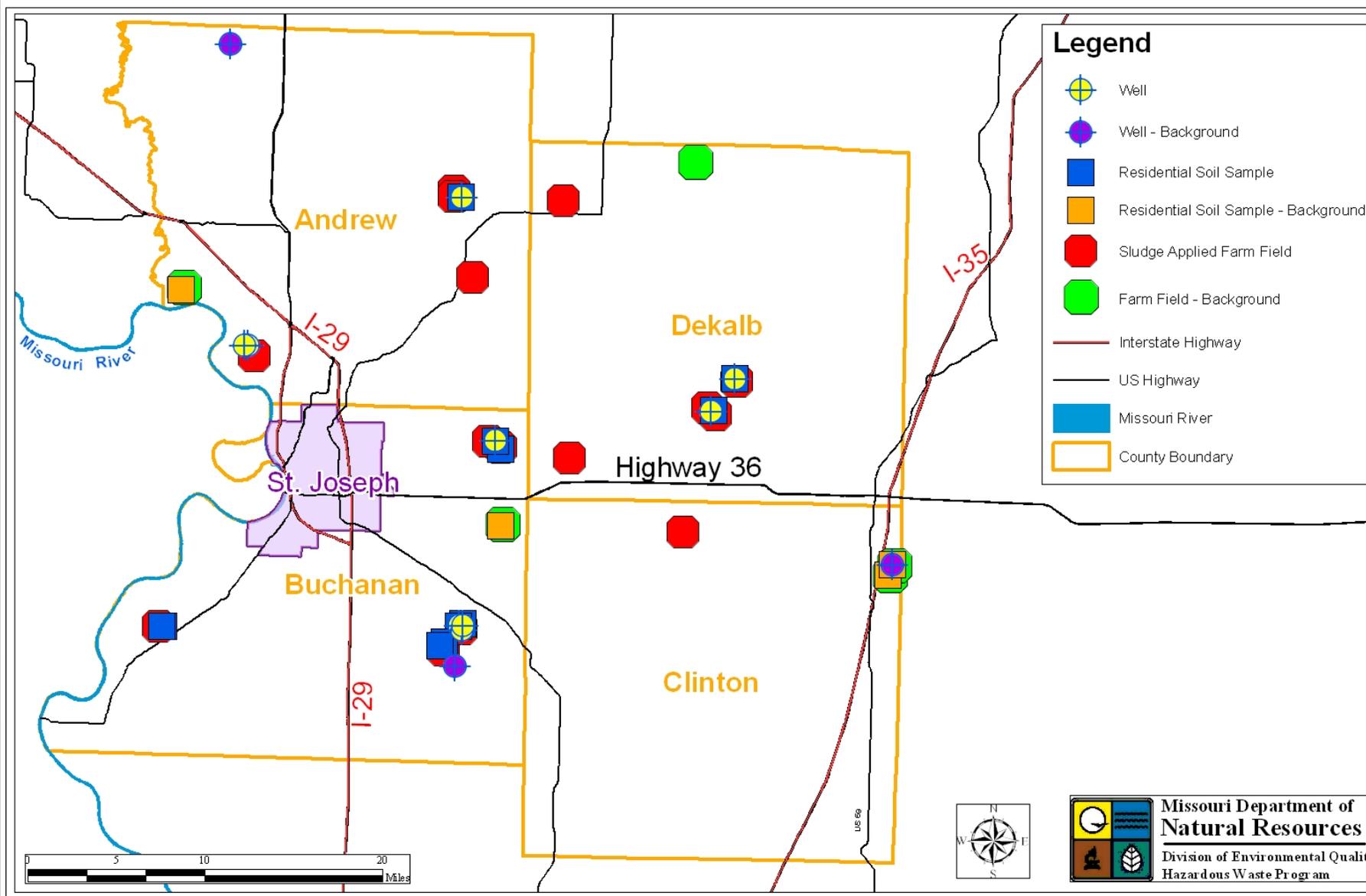
Sludge Residue in Pasture



Selection of Residential Yards and Wells

- Yards and wells nearest sludge application area
- Identified residences near 15 farm fields
- Gained access to 10 yards and 9 wells

Sampled Locations



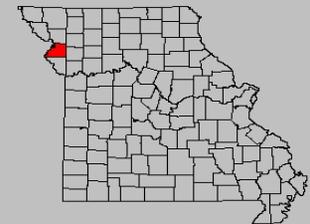
Farm Field Sampling Grid

Figure A7

Tannery Sludge Farm Fields Site
 Location ID Field: 205
 Location ID Yard: 305 & 306
 Location ID Well: 105 & 106 & 107
 Buchanan County
 110 Acres

Legend

-  Residence
-  Private Drinking Water Well
-  Acre



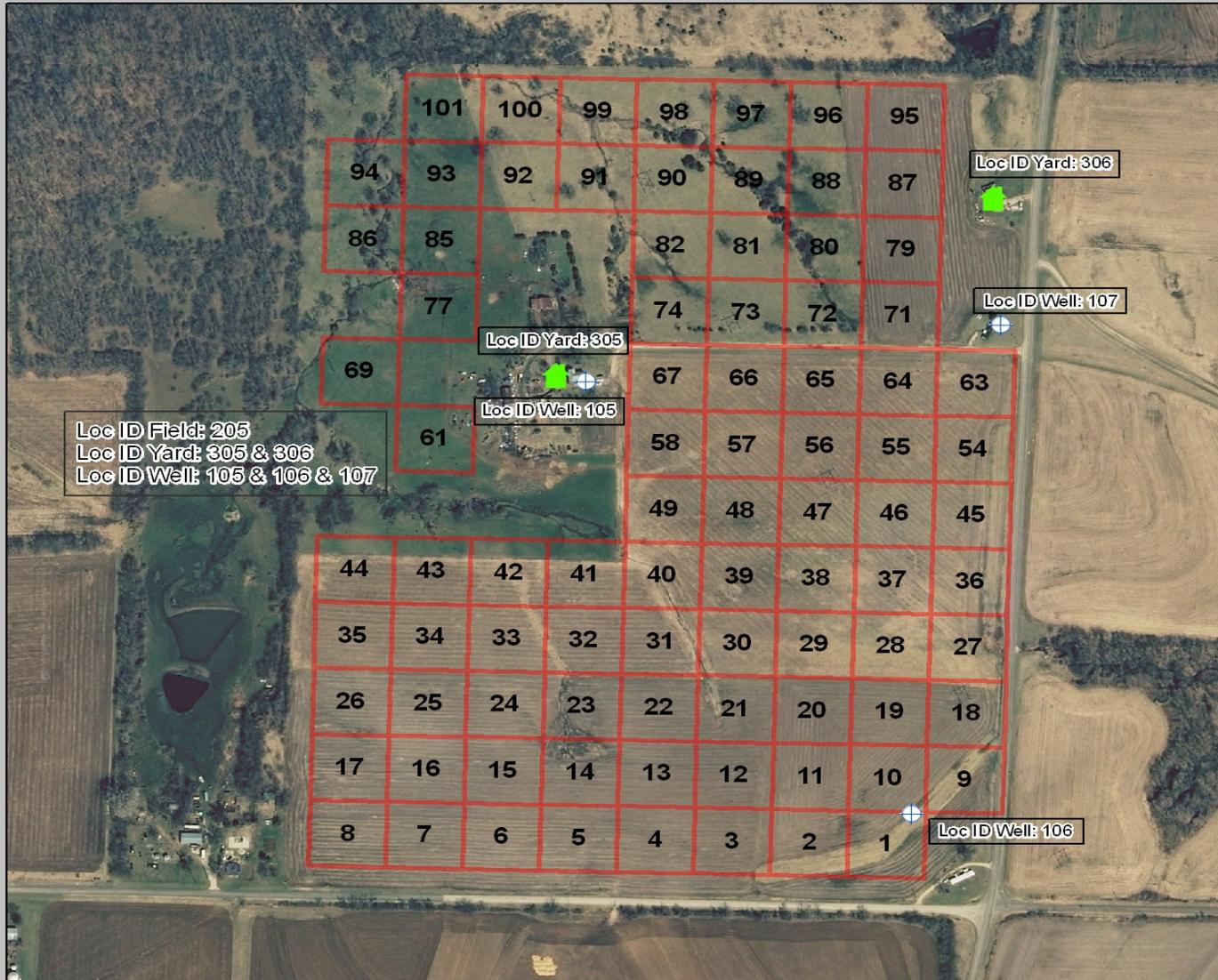
Map Created in August 2010 by Paul Embree. This map is located at M:\Superfund\Garnsey_Shalep_Farm_Fields\Maps\Report_Map.mxd.

Base Maps: Digital orthophoto Quarter Quad. Flight date 2007.

Although data sets used to create this map have been compiled by the Missouri Department of Natural Resources, no warranty, expressed or implied, is made by the department as to the accuracy of the data and related materials. The user's distribution shall constitute any acknowledgment, and no responsibility is assumed by the department in the use of these data or related materials.



Missouri Department of Natural Resources
 Division of Environmental Quality
 Hazardous Waste Program



Loc ID Field: 205
 Loc ID Yard: 305 & 306
 Loc ID Well: 105 & 106 & 107

Loc ID Yard: 305

Loc ID Well: 105

Loc ID Yard: 306

Loc ID Well: 107

Loc ID Well: 106



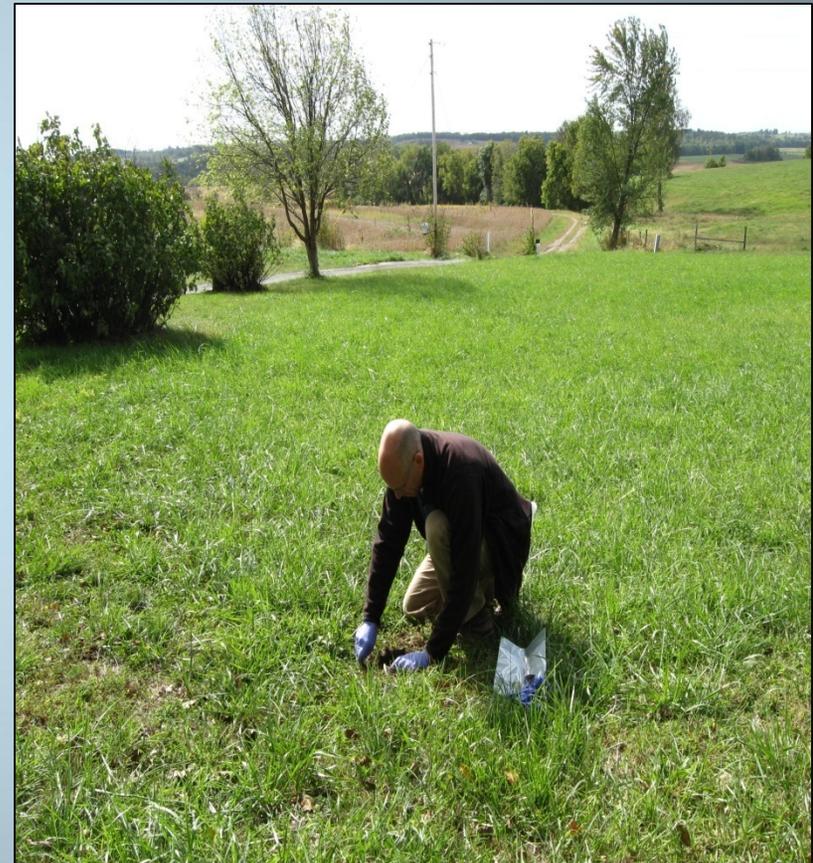
Sampling Farm Fields

- About 600 soil samples collected from farm fields
- Tested samples for total Cr and Cr⁺⁶
- Sample results compared to Screening Levels



Sampling Residential Yards

- 10 residential yards near fields
- 4 background yards
- 50 Samples collected
- All analyzed for Cr⁺⁶
- Sample results compared to Screening Levels



Processing Soil Samples



Sampling Private Wells

- 9 wells near fields
- 3 background wells
- All analyzed for Cr⁺⁶
- Compared results to screening levels



Investigation Findings

| | Maximum Cr ⁺⁶ detected | Background Cr ⁺⁶ Level | Health-based screening level |
|------------------|-----------------------------------|-----------------------------------|------------------------------|
| Farm Fields, ppm | 5.050 | 0.100 | 86 |
| Yards, ppm | 0.860 | 0.071 | 2 |
| Wells, ppb | 0.300* | 0.026 | 0.3 |

* Re-sampled. Results were 0.269 and 0.263 ppb

Investigation Summary

- Hexavalent Cr present in sludge
- Above background in fields, yards and wells
 - But, below levels of public health concern in soil and water samples

Conclusions

- Investigation focused on areas where highest levels of hexavalent Cr expected
- No public health concern found in “worst case” areas
- No further investigation is planned and determined no cleanup is necessary

For Further Information

- Data from the investigation is available at:

<http://dnr.mo.gov/env/hwy/sw-sampling.htm>

- Google Earth™ application available

Question And Answer Session