

Survey and Sampling of Heath Elementary School

December 19 & 20, 2009



**Cabinet For Health & Family Services
Division of Public Health Protection & Safety
Radiation Health Branch (RHB)**

Kentucky
UNBRIDLED SPIRIT™

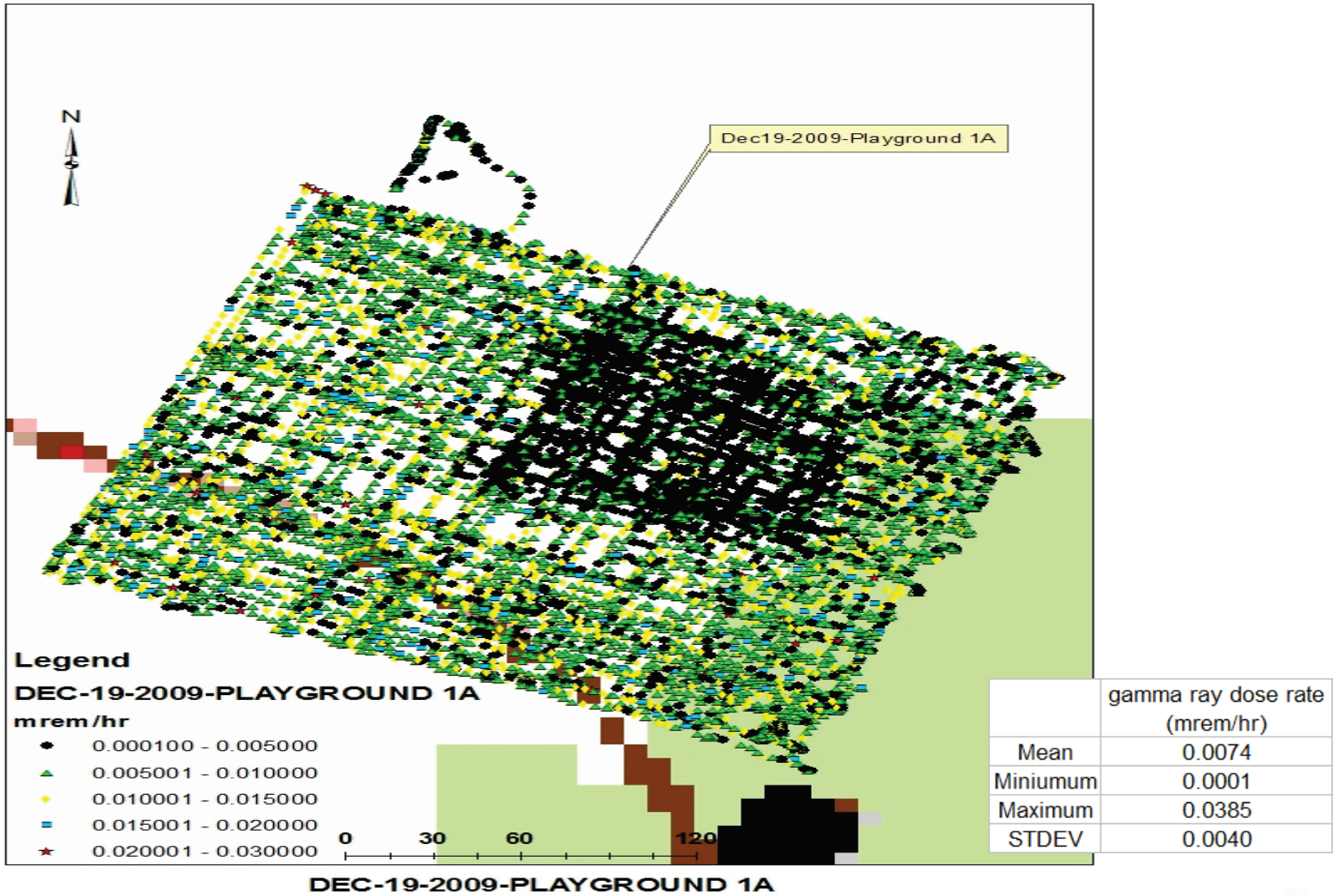
RHB Actions

- The RHB performed radiological gamma walkover surveys (GWS) for approximately 10% of the school property.
 - Large Playground: Chosen due to the expectation that children would spend a large amount of time on the playground.
 - Sewage Treatment Facility: Chosen due to information received that materials from the PGDP may have been used during construction.
 - Sewage Treatment Facility Outfall: Chosen due to information received that materials from the PGDP may have been used during construction.
 - Brick Wall Area: Chosen due to higher than expected readings during GWS. These readings were determined to be from the brick surrounding the detector used for GWS.
- The RHB received split samples from DOE/PRS for all 55 soil sample locations.
 - 10% of the unbiased samples were analyzed for U-238 by the RHB.
 - 100% of the biased samples were analyzed for U-238 by the RHB.
- The RHB reviewed the radiological data provided by DOE/PRS.

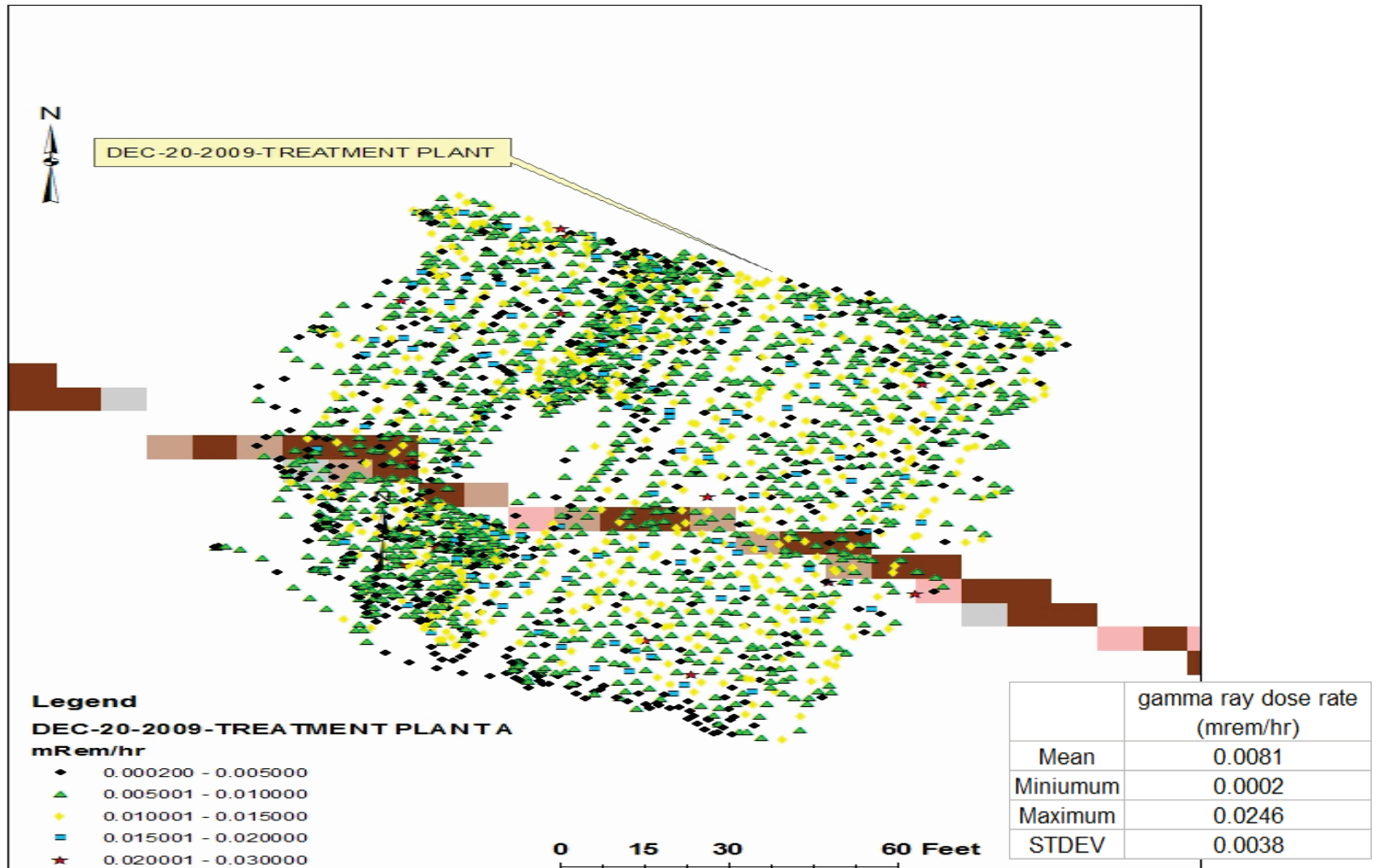
Heath Elementary School Property



Playground

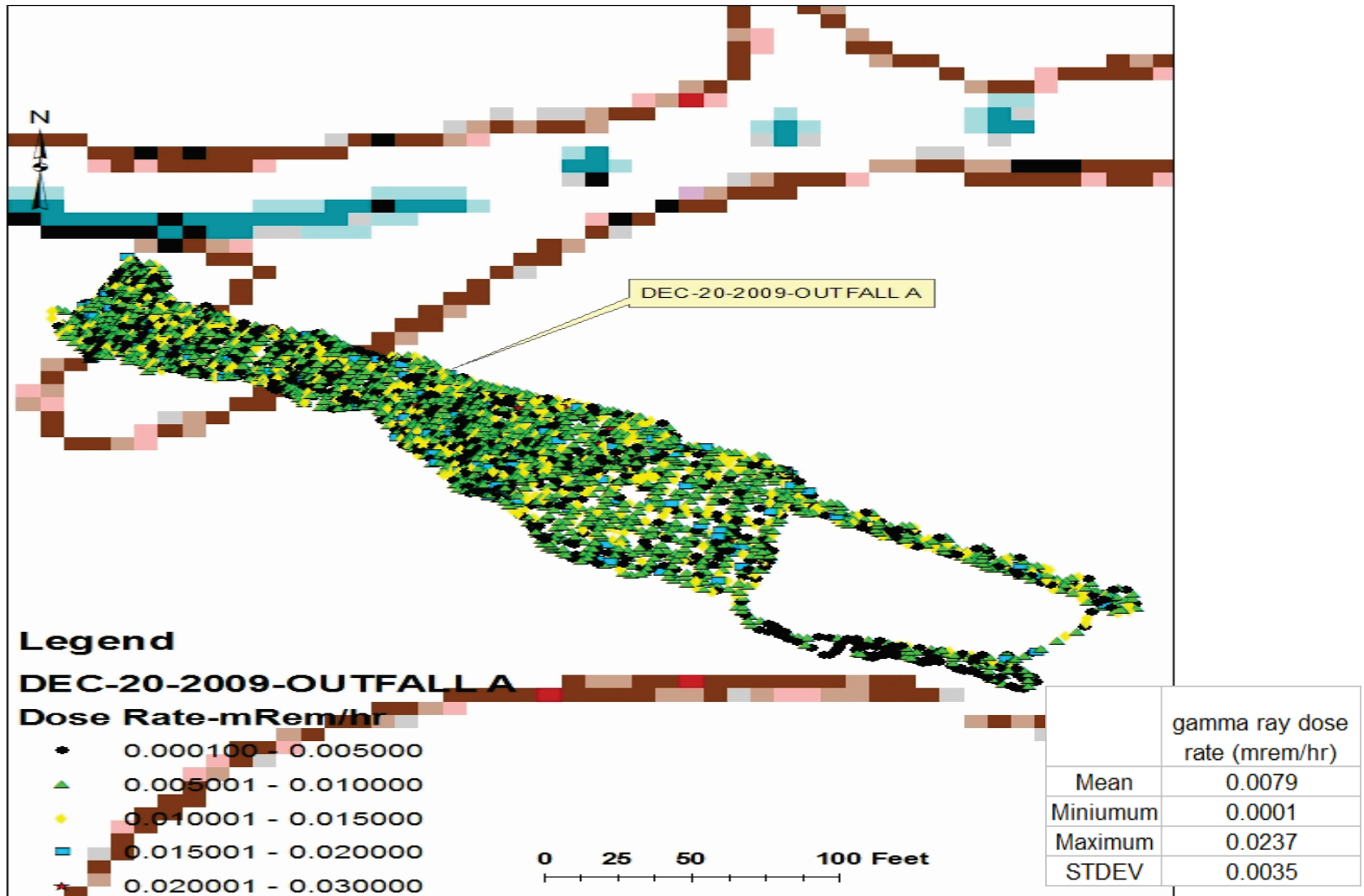


Sewage Treatment Facility



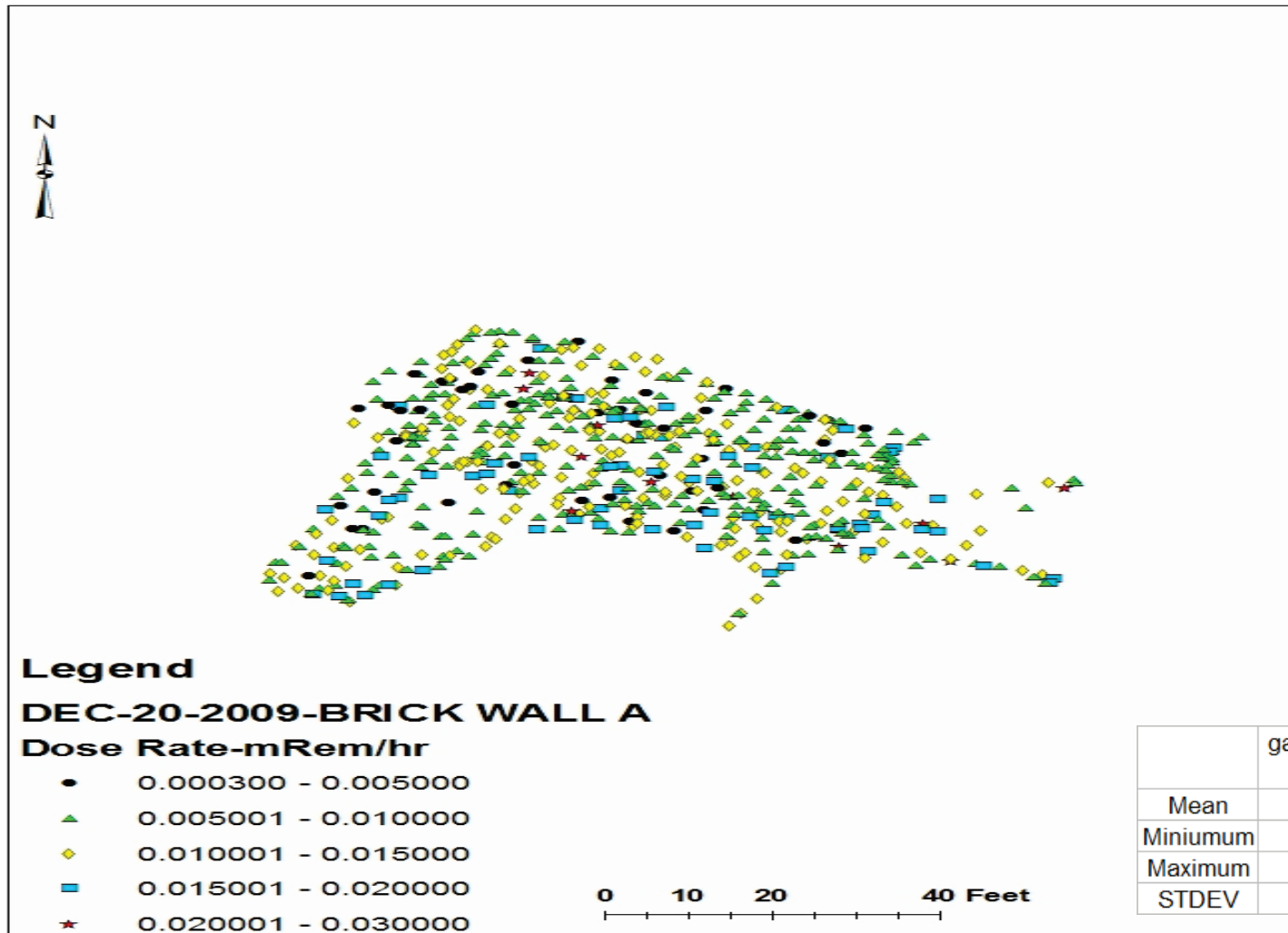
Water Treatment Facility Gamma Walkover Survey

Sewage Treatment Facility Outfall



DEC-20-2009-OUTFALL A

Brick Wall Area



DEC-20-2009-BRICK WALL A

RHB and DOE/PRS Results for Selected Split Samples

PRS/DOE Sample Location	Collection Date	RHB U-238 (pCi/g)	RHB Counting Uncertainty	RHB MDA	DOE/PRS U-238 (pCi/g)	DOE/PRS Counting Uncertainty	DOE/PRS MDA
PIR-010	12/19/2009	1.15	0.28	0.15	0.672	0.0795	0.0963
PIR-013	12/19/2009	0.9	0.31	0.17	0.809	0.0913	0.097
PIR-017	12/19/2009	1.12	0.33	0.18	0.907	0.0711	0.0927
PIR-030	12/19/2009	1.24	0.28	0.16	0.851	0.0737	0.0928
PIR-044	12/19/2009	1.27	0.52	0.19	0.815	0.0787	0.0952
PIR-051	12/20/2009	1.23	0.28	0.16	0.899	0.0635	0.093
PIR-052	12/20/2009	0.88	0.53	0.18	0.791	0.0645	0.0926
PIR-053	12/20/2009	0.98	0.33	0.16	0.727	0.0677	0.094
PIR-054	12/20/2009	1.04	0.33	0.17	0.816	0.0676	0.0949
PIR-055	12/20/2009	0.67	0.51	0.18	0.611	0.054	0.0916

RHB Conclusions

Based on the following:

- GWS conducted by RHB, and
- Results for soil samples collected by DOE/PRS and analyzed by both RHB and DOE/PRS;

Paducah Gaseous Diffusion Plant process related materials are not present on the Heath Elementary School property.