

Survey and Sampling of Heath Ballfield #1

March 4, 2010



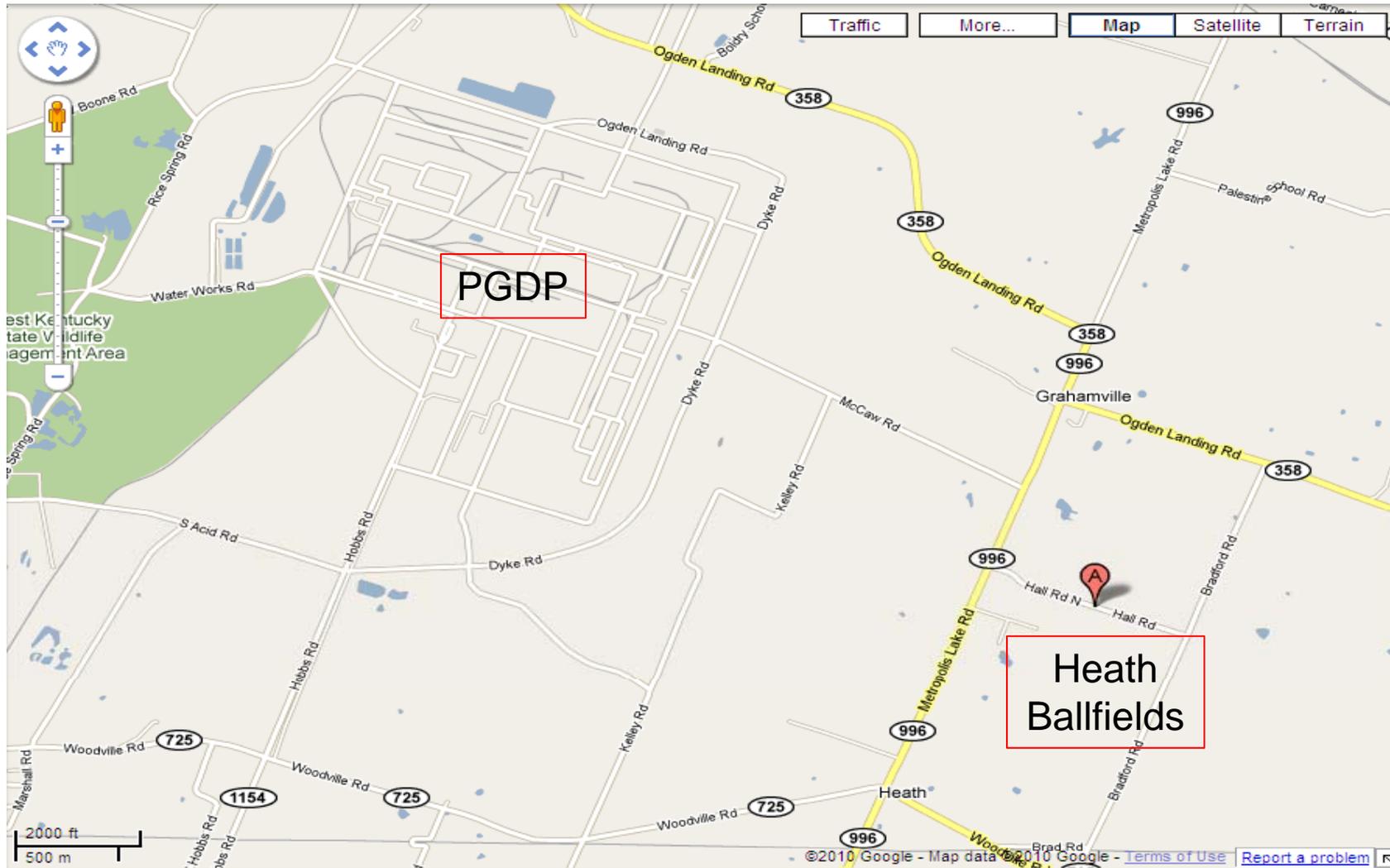
**Cabinet For Health & Family Services
Division of Public Health Protection & Safety
Radiation Health Branch (RHB)**

Kentucky
UNBRIDLED SPIRIT™

RHB Actions

- The RHB performed radiological gamma walkover surveys (GWS) for 100% of the ballfield.
- The RHB received split samples from DOE/PRS for all 5 soil sample locations.
 - All samples were analyzed for U-238 by the RHB.
- The RHB received 5 samples collected by the Kentucky Energy and Environment Cabinet (EEC).
 - All samples were analyzed for U-238 by the RHB.
- The RHB reviewed the radiological data provided by DOE/PRS.

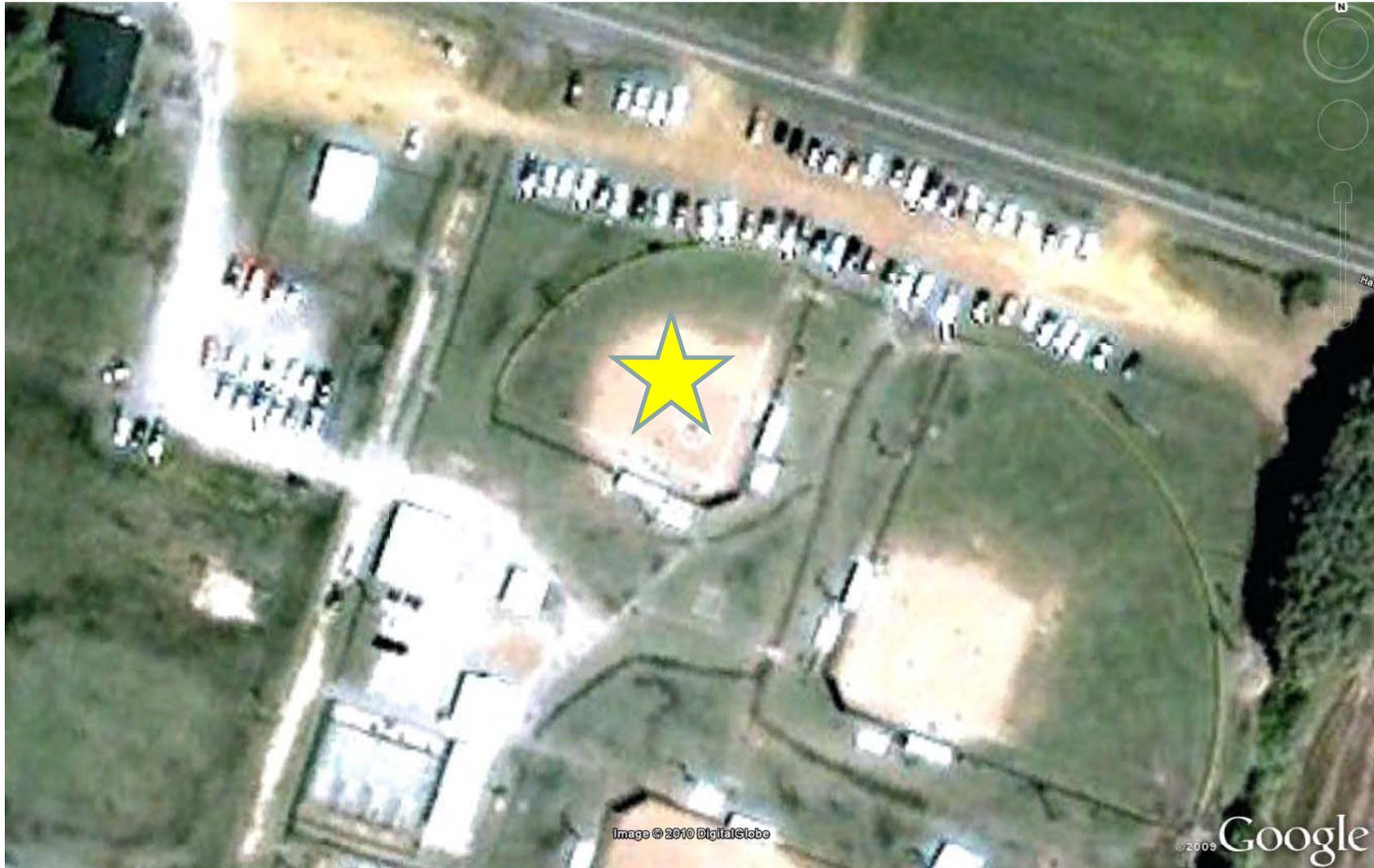
Location of Heath Ballfields Relative to the PGDP



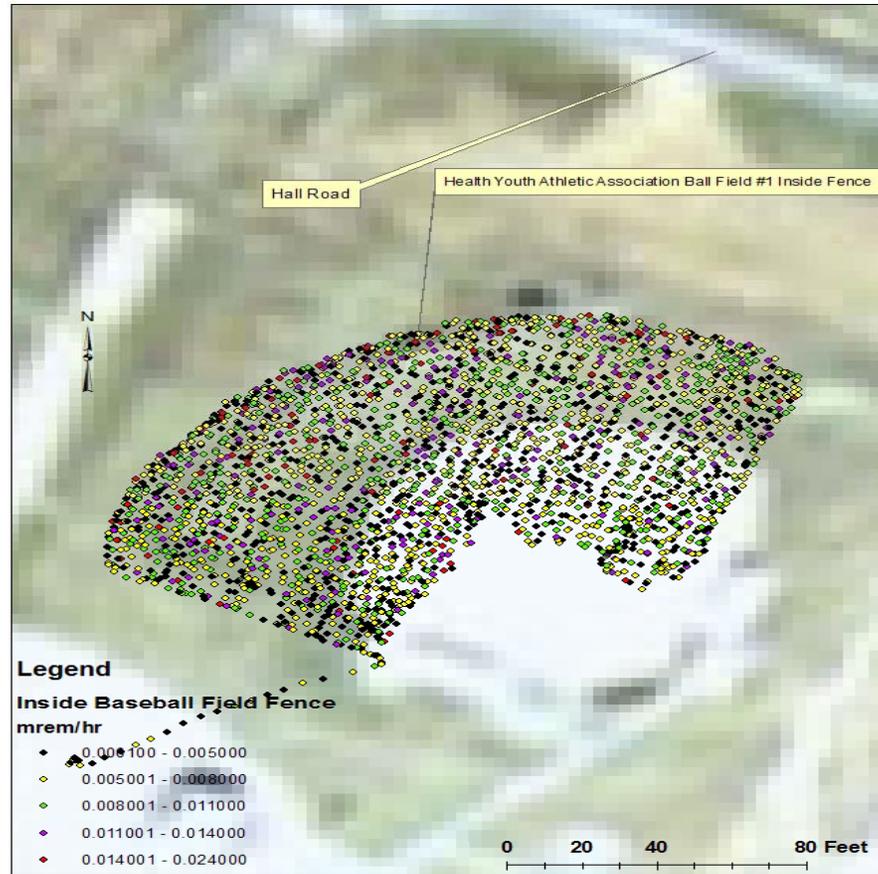
Heath Ballfield #1



Heath Ballfield #1



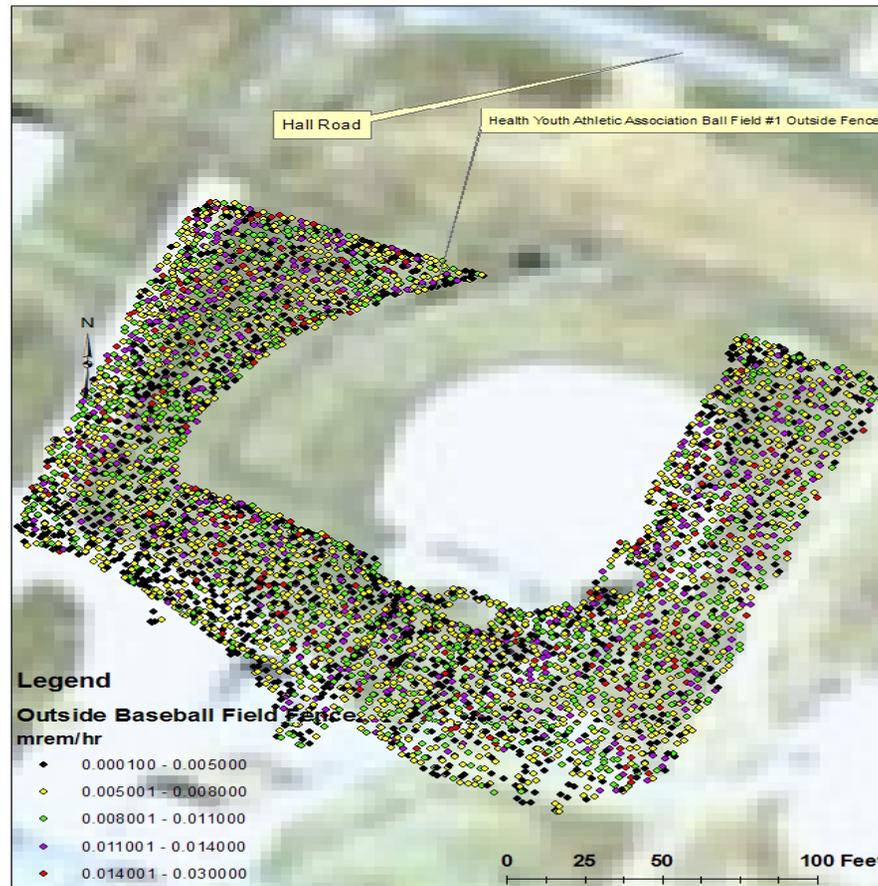
Gamma Walkover Survey Inside Fence



Gamma Walkover Survey of Health Youth Athletic Association Ball Field #1 Inside Fence

	Gamma Ray Dose Rate (mrem/hr)
Mean	0.0072
Minimum	0.0001
Maximum	0.0245
StdDev	0.0034

Gamma Walkover Survey Outside Fence



Gamma Walkover Survey of Heath Youth Athletic Association Ball Field #1 Outside Fence

	Gamma Ray Dose Rate (mrem/hr)
Mean	0.0076
Minimum	0.0001
Maximum	0.0305
StdDev	0.0036

Gamma Walkover Survey All Areas



Gamma Walkover Survey of Health Youth Athletic Association Ball Field #1

RHB and DOE/PRS Results for 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
HBF1001-SO031001	3/4/2010	0.563	0.603	1.397	0.676	0.0553	0.114
HBF1002-SO031001	3/4/2010	1.060	0.992	2.298	1.04	0.0859	0.116
HBF1003-SO031001	3/4/2010	1.296	0.335	0.731	0.682	0.083	0.119
HBF1003-SO031001D	3/4/2010	1.279	0.320	0.614	0.635	0.0619	0.115
HBF1004-SO031001	3/4/2010	0.852	0.491	1.117	0.775	0.084	0.118

RHB Results for EEC Samples

KY EEC Sample Location	Collection Date	RHB U-238 (pCi/g)	RHB Counting Uncertainty	RHB MDA
EEC #1	3/4/2010	0.511	0.868	2.019
EEC #2	3/4/2010	0.987	0.344	0.766
EEC #3	3/4/2010	1.643	0.639	1.446
EEC #4	3/4/2010	0.810	0.953	2.203
EEC #5	3/4/2010	0.990	1.057	2.440

RHB Conclusions

Based on the following:

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

There is no radiological risk to public health attributable to the Paducah Gaseous Diffusion Plant at Heath Ballfield #1.