To: Todd Richardson (EPA OSC)

From: Dean Maser, Weston Solutions, Inc. (WESTON)

Date: December 1, 2016

Re: Reading Lead Site, Reading, PA
Removal Assessment – Initial Soil Sampling Trip Report/Summary

BACKGROUND: On July 28, 2016 Debora Hoag (City of Reading Engineer), contacted EPA OSC, Todd Richardson, requesting assistance in evaluating the potential of lead contamination in a Reading neighborhood. Mrs. Hoag indicated that she had been made aware of a local senior center (the Family First Center) which had been planning to start a community garden. Soil samples were collected from the proposed garden area by Penn State University's Agriculture Extension. Analytical results identified a lead concentration of 1017.4 ppm in one of the samples. EPA and START mobilized to the Family First Center on September 27, 2016 to conduct in-situ soil screening in the area where the garden was to be created. Upon arrival the Reading Eagle and WFMZ television station were on site to cover the developments. The EPA and START returned again on September 28, 2016 to screen and sample the Reading Iron Playground including an active community produce garden. The sample result spreadsheet for samples taken from the Family First Community Center and the Reading Iron Park are provided below.

METHODOLOGY: The soil screening at the Family First Center was first. The backyard of the facility was fairly small and spanned two buildings. The locations selected for screening were marked with a pin flag. A trowel was used to remove any surface grass, leaves, etc. and a surface XRF shot was taken. Then the trowel was used to dig down roughly 6" to 12" for a second reading. The trowel was dry deconned after each use. All results were recorded.

The soil screening at Reading Iron Playground followed a similar protocol. Initially, the entire playground was gridded using 50' centers. Each point was marked with a pin flag. Once the points were all marked a location roughly in the center of each 50' x 50' grid was selected. The same sample depths were used, surface and 6" to 12". The community garden (at the Reading Iron Park) was sampled with the individual garden plots serving as the sample area boundary. The procedure required 10% of the in-situ readings be collected in a re-sealable plastic bag and processed into XRF cups. This involves removing all moisture content form the sample through heating in an oven, then running the dried soil through a 250um mesh screen. The samples were then re-analyzed using an XFR in a fixed XRF stand. These results were recorded in a site logbook. 10% of the processed samples were then shipped to the EPA lab in Fort Meade, MD for analysis. The final validated analytical results for these samples has been received. All of the results; in-situ, ex-situ and certified laboratory were entered onto a spreadsheet. See attached below.

CONCLUSION: The results would seem to indicate that the ex-situ readings validate the in-situ readings and the lab results validate the ex-situ readings. All of the sample results from the Family First Center were above the presumed action level of 400ppm (risk based residential action level used at the nearby Wileys Bridge Lead Site). All of the sample results from the Reading Iron Playground were well below 400ppm. The sample and its duplicate were well within the standard deviation. The Family First Center was located in a residential row house area of the city. The backyard was very small, but attempts were made to select sample locations outside the driplines of the buildings. However, there remains the potential of influence from lead paint (from the buildings – Family First Center) on elevated lead levels in sample results. Of note, the Senior Center buildings are old, and a few areas of flaking wall paint were screened with the XRF. The results indicated probable lead paint on some of the exterior surfaces of the buildings. The playground/community garden was an open area with residential, commercial and industrial buildings surrounding it. According to locals an old building that stood at the site was razed and the area backfilled, graded and turned into a playground. However, in researching historic maps of the area the map of 1930 shows the area as a playground. An investigation of potential industrial sources is ongoing.

The following table of results

Date	Sample ID	Insitu Result	Exsitu Result	Laboratory Analysis
9/27/2016	RL-FFC-1-Surf	797	NA	NA
9/27/2016	RL-FFC-1-12"	800	NA	NA
9/27/2016	RL-FFC-2-Surf	824	NA	NA
9/27/2016	RL-FFC-2-12"	897	NA	NA
9/27/2016	RL-FFC-3-Surf	690	NA	NA
9/27/2016	RL-FFC-3-12"	794	1162	NA
9/27/2016	RL-FFC-4-Surf	927	1514	1430
9/27/2016	RL -FFC-4D-Surf	NA	1513	1420
9/27/2016	RL-FFC-4-12"	1124	NA	NA
9/27/2016	RL-FFC-5-Surf	1165	2676	2590
9/27/2016	RL-FFC-5-12"	1166	NA	NA
9/28/2016	RL-RIP-1 Surf	107	NA	NA
9/28/2016	RL-RIP-1-12"	207	NA	NA

9/28/2016	RL-RIP-2 Surf	104	NA	NA
9/28/2016	RL-RIP-2-12"	94	NA	NA
9/28/2016	RL-RIP-3 Surf	175	NA	NA
9/28/2016	RL-RIP-3-12"	170	NA	NA
9/28/2016	RL-RIP-4 Surf	101	NA	NA
9/28/2016	RL-RIP-4-12"	115	111.9	NA
9/28/2016	RL-RIP-5 Surf	105	147.1	124
9/28/2016	RL-RIP-5-12"	138	NA	NA
9/28/2016	RL-RIP-6 Surf	62	NA	NA
9/28/2016	RL-RIP-6-12"	55	NA	NA
9/28/2016	RL-RIP-7 Surf	61	NA	NA
9/28/2016	RL-RIP-7-12"	52	NA	NA
9/28/2016	RL-PG-1 Surf	74	NA	NA
9/28/2016	RL-PG-1-12"	80	NA	NA
9/28/2016	RL-PG-2 Surf	65	NA	NA
9/28/2016	RL-PG-2-12"	30	NA	NA
9/28/2016	RL-PG-3 Surf	38	NA	NA
9/28/2016	RL-PG-3-12"	35	NA	NA
9/28/2016	RL-RIP-8 Surf	65	NA	NA
9/28/2016	RL-RIP-8-12"	92	245	NA
9/28/2016	RL-RIP-9 Surf	89	NA	NA
9/28/2016	RL-RIP-9-12"	108	NA	NA
9/28/2016	RL-RIP-10 Surf	164	NA	NA
9/28/2016	RL-RIP-10-12"	227	NA	NA
9/28/2016	RL-RIP-11 Surf	114	NA	NA
9/28/2016	RL-RIP-11-12"	135	NA	NA
9/28/2016	RL-RIP-12 Surf	131	NA	NA
9/28/2016	RL-RIP-12-12"	217	NA	NA
9/28/2016	RL-RIP-13 Surf	171	NA	NA
9/28/2016	RL-RIP-13-12"	176	NA	NA
9/28/2016	RL-RIP-14 Surf	181	NA	NA

9/28/2016	RL-RIP-14-12"	199	NA	NA
9/28/2016	RL-RIP-15 Surf	13	NA	NA
9/28/2016	RL-RIP-15-12"	11.4	NA	NA
9/28/2016	RL-RIP-16 Surf	13	NA	NA
9/28/2016	RL-RIP-16-12"	9	12.7	NA
9/28/2016	RL-RIP-17 Surf	12	NA	NA
9/28/2016	RL-RIP-17-12"	7	NA	NA
9/28/2016	RL-RIP-18 Surf	32	NA	NA
9/28/2016	RL-RIP-18-12"	25	NA	NA
9/28/2016	RL-RIP-19 Surf	159	272	NA
9/28/2016	RL-RIP-19-12"	213	NA	NA
9/28/2016	RL-RIP-20 Surf	167	NA	NA
9/28/2016	RL-RIP-20-12"	143	NA	NA
9/28/2016	RL-G-SP-Surface	131	NA	NA
9/28/2016	RL-G-P-Surface	239	NA	NA
9/28/2016	RL-G-P-12"	181	NA	NA
9/28/2016	RL-G-T-Surface	91	NA	NA
9/28/2016	Rl-G-T-12"	96	NA	NA
9/28/2016	RL-G-EP-Surface	195	300	262
9/28/2016	RL-G-EP-12"	184	NA	NA

FFC - Family First Center
RL - Reading Lead
RIP - Reading Iron Playground
G - Garden
SP - Sweet Potatoes
P - Peppers
T -Tomatoes
EP - Empty Plot

Note – Results in RED font indicate exceedances EPA risk based, residential/recreational action level of 400ppm (used at the nearby Wileys Bridge Lead Site).

Family First Center back yard.

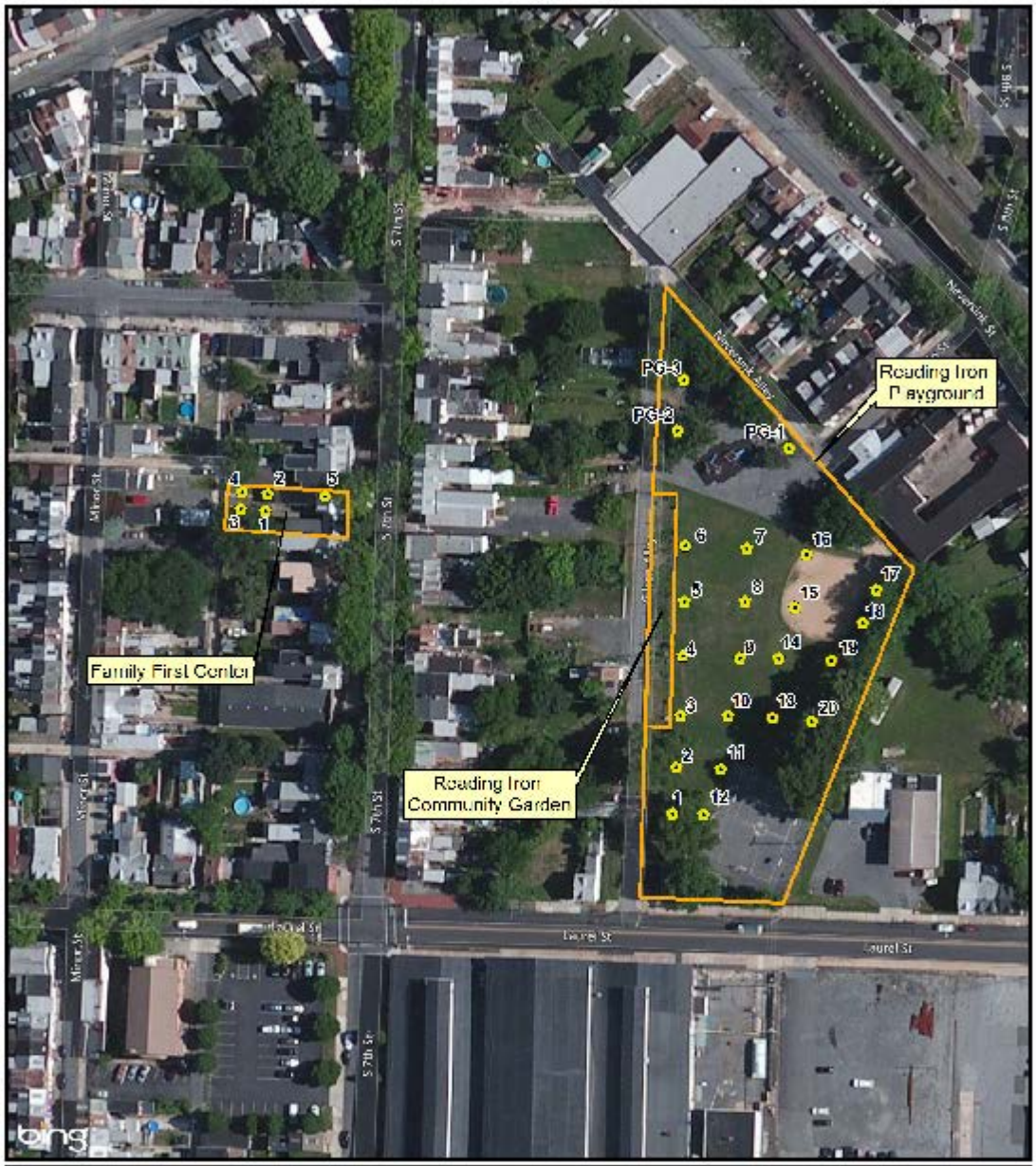
Family First Center back yard grassy area.

Family First Center back fence along alley

Family First Center back yard. The wall to the right showed elevated levels of lead in the paint.

Family First Center showing back fence along alley. The blue house is burned and abandoned.

Reading Iron Playground showing community garden along fence and ball field in foreground.


PG-3
PG-2
PG-1
Reading Iron Playground
Family First Center
Reading Iron Community Garden
S 7th St
Laurel St
Mineral St
Newkirk Alley
Legend
Sample Locations
Sampling Areas
Aerial Imagery - ESRI, Bing Mapping Service
Coordinate System:
UTM Zone 18N Feet, WGS84
N
0
125
Feet
Reading Lead Site
Reading, Berks County, PA
Sample Location Map
TDD#: WS01-16-09-003
Contract: EP-S3-15-02
Prepared: 12/15/2016
WESTON