

Table 3: Palmerton - ATSDR Investigation October 16 - 17, 2018 Soil XRF Results (ppm)

	Sample Number	Date / Time	Latitude	Longitude	Pb	Cd	Cr	Zn	Ni	Cu	Soil Sample	Other
SS Palmer Elementary Playground	SSP K-5	10/16 0900	40.48.7.1	75.36.43.3	3.4	28	ND	122.4	ND	ND		Very wet
	SSP K-6	10/16 0910	40.48.6.9	75.36.43.4	ND	26	ND	85.1	ND	ND		Very wet
	SSP K-7	10/16 0913	40.48.6.5	75.36.42.5	17.3	29	ND	836	ND	ND		Very wet
	SSP K-8	10/16 0918	40.48.6.8	75.36.41.1	54.6	ND	ND	2232	ND	25		Very wet
	SSP K-9	10/16 0923	40.48.7.2	75.36.42.8	24.1	24	ND	574	ND	5.8	Yes	Sandy Loam
	SSP B-1	10/16 0908	40.48.8.0	75.36.40.8	10.5	25	ND	394	ND	ND		10/16 XRF (C08957) sample #3
	SSP B-2	10/16 0920	40.45.8.2	75.34.41.2	12.9	30	ND	419	ND	ND		10/16 #6
	SSP B-3	10/16 0924	40.48.8.1	75.36.41.6	56.2	24	ND	1919	ND	13		10/16 #7

	Sample Number	Date / Time	Latitude	Longitude	Pb	Cd	Cr	Zn	Ni	Cu	Soil Sample	Other
Palmerton Borough Park	PBP K-11	10/16 0948	40.48.9.7	75.36.37.3	49	ND	ND	1089	53	22		SW Quarter of Park
	PBP K-12	10/16 0952	40.48.10.3	75.36.35.4	38.6	27	ND	1088	ND	ND		" "
	PBP K-13	10/16 0955	40.48.9.5	75.36.34.4	153	ND	ND	1532	21	35		" "
	PBP K-14	10/16 0957	40.48.8.6	75.36.34.0	97	29	ND	1673	ND	24		" "
	PBP K-15	10/16 1000	40.48.8.0	75.36.35.8	97	30	ND	1561	ND	25		" "
	PBP K-16	10/16 1002	40.48.8.4	75.36.36.7	240	39	ND	3415	ND	37		" "
	PBP K-17	10/16 1006	40.48.10.4	75.36.32.8	29.6	41	ND	1461	ND	4.6		SE Quarter of Park
	PBP K-18	10/16 1008	40.48.9.0	75.36.32.0	244	64	ND	4589	ND	49		" "
	PBP K-19	10/16 1010	40.48.9.3	75.36.30.8	74.1	39	ND	1842	ND	10.3		" "
	PBP K-21	10/16 1013	40.48.10.6	75.36.31.8	39.6	40	ND	1122	ND	10.7		" "
	PBP K-22	10/16 1016	40.48.11.4	75.36.32.0	94	45	ND	2276	48	27		" "
	PBP K-23	10/16 1018	40.48.11.6	75.36.33.3	41.8	35	ND	1197	ND	ND		" "
	PBP K-25	10/16 1021	40.48.13.2	75.36.33.4	108	48	ND	1919	ND	27		NE Quarter of Park
	PBP K-26	10/16 1023	40.48.14.7	75.36.34.5	95.5	35	ND	1481	10	20		" "
	PBP K-27	10/16 1037	40.48.10.8	75.36.33.2	285	70	ND	4358	ND	60	Yes	SE Quarter of Park
	PBP S-1	10/16 0952	40.48.10.5	75.36.37.1	33.3	36	ND	1725	ND	7.1		NW Quarter of Park 10/16 #8
	PBP S-2	10/16 1002	40.48.11.6	75.36.37.6	20.8	20	ND	609	ND	14.3		" " 10/16 #9
	PBP S-3	10/16 1006	40.48.12.7	75.36.39.1	20.3	31	ND	460	ND	ND		" " 10/16 #12
	PBP S-4	10/16 1010	40.48.13.4	75.36.37.7	4.1	23	ND	136.3	ND	ND		" " 10/16 #14
	PBP S-5	10/16 1012	40.48.12.9	75.36.36.6	143	28	ND	3072	ND	26		" " 10/16 #15
	PBP S-6	10/16 1015	40.48.12.2	75.36.35.0	195	52	ND	2824	23	43	Yes/Dup	" " 10/16 #16

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Elmer Valo Field	Sample Number	Date / Time	Latitude	Longitude	Pb	Cd	Cr	Zn	Ni	Cu	Soil Sample	Other
	EVF K-29	10/16 1059	40.47.58.4	75.36.27.3	18.9	ND	ND	599	17	18		Home Plate
	EVF K-30	10/16 1102	40.47.57.8	75.36.27.1	16.7	ND	ND	632	ND	18		Third Base
	EVF K-31	10/16 1105	40.47.57.7	75.36.26.7	118	25	ND	4353	ND	53	Yes	Bleachers By Third Base
	EVF K-32	10/16 1107	40.47.58.3	75.36.28.2	36.5	34	ND	2003	ND	13		Bleachers By First Base
	EVF K-33	10/16 1109	40.47.58.0	75.36.28.2	29.3	ND	ND	3372	ND	16		First Base
	EVF K-35	10/16 1111	40.47.57.6	75.36.27.9	15.3	ND	ND	635	ND	11		Second Base
	EVF S-1	10/16 1103	40.47.57.8	75.36.29.5	43.8	35	ND	3761	ND	16.2		10/16 #17
	EVF S-2	10/16 1107	40.47.57.2	75.36.29.0	52.8	40	ND	3769	ND	15.4		10/16 #18
	EVF S-3	10/16 1110	40.47.56.9	75.36.27.5	13.3	38	ND	3166	ND	ND		10/16 #19
	EVF S-4	10/16 1112	40.47.59.2	75.36.26.7	67	28	ND	2953	ND	30		10/16 #20

7th Street Athletic Fields	Sample Number	Date / Time	Latitude	Longitude	Pb	Cd	Cr	Zn	Ni	Cu	Soil Sample	Other
	SSA K-36	10/16 1133	40.48.23.6	75.35.55.6	26.1	ND	ND	1233	ND	12		Home Plate
	SSA K-37	10/16 1136	40.48.24.3	75.35.53.7	21.5	22	ND	851	ND	12		Bleachers First Base Side
	SSA K-38	10/16 1139	40.48.25.3	75.35.53.1	39	ND	ND	756	ND	25		Right Field
	SSA K-39	10/16 1140	40.48.25.4	75.35.50.8	58	ND	ND	723	21	22	Yes	Dirt Pile By Basketball Court
	SSA K-40	10/16 1143	40.48.26.4	75.35.52.3	34.8	31	ND	1037	ND	23		Goal Post East
	SSA K-41	10/16 1144	40.48.25.6	75.35.54.2	31.7	ND	ND	705	ND	28		50 Yard Line
	SSA K-42	10/16 1147	40.48.24.9	75.35.56.0	45	32	ND	918	ND	27		Goal Post West
	SSA S-1	10/16 1141	40.48.25.4	75.35.56.9	30.9	ND	ND	1095	ND	9.3		10/16 #21
	SSA S-2	10/16 1144	40.48.25.8	75.35.56.3	89	32	ND	2540	ND	28		10/16 #22
	SSA S-3	10/16 1146	40.48.26.1	75.35.55.1	37	ND	ND	900	ND	20		10/16 #23
SSA S-4	10/16 1149	40.48.26.8	75.35.53.8	58.1	42	ND	3191	ND	14.3		10/16 #24	

Salem United Methodist Church	Sample Number	Date / Time	Latitude	Longitude	Pb	Cd	Cr	Zn	Ni	Cu	Soil Sample	Other
	SMC K-45	10/16 1304	40.48.38.9	75.35.30.2	59.4	29	ND	2627	ND	21		Back of Church
	SMC K-48	10/16 1306	40.48.39.1	75.35.29.7	101.6	49	ND	4335	ND	41		End of Yard
	SMC K-49	10/16 1308	40.48.39.3	75.35.29.9	175	48	ND	3727	ND	56	Yes	Next To Parking Lot

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	Sample Number	Date / Time	Latitude	Longitude	Pb	Cd	Cr	Zn	Ni	Cu	Soil Sample	Other
West End Daycare	WED S-1	10/16 1329	40.47.54.1	75.37.49.4	4.3	20	ND	89.3	ND	ND		10/16 #25
	WED S-2	10/16 1331	40.47.51.3	75.37.49.3	381	61	ND	7364	19	168	Yes	10/16 #26
	WED S-3	10/16 1335	40.47.51.4	75.37.49.2	2.8	27	ND	48.1	ND	ND		10/16 #27
	WED S-4	10/16 1336	40.47.51.7	75.37.49.3	142	22	ND	3300	33	40		10/16 #28
	WED S-5	10/16 1339	40.47.51.6	75.37.49.8	67.4	32	ND	2008	ND	20.4		10/16 #29

	Sample Number	Date / Time	Latitude	Longitude	Pb	Cd	Cr	Zn	Ni	Cu	Soil Sample	Other
BPBSA Field	BPB K-50	10/16 1326	40.48.24.0	75.37.52.9	11.9	24	ND	268	ND	ND		First Base Bleacher
	BPB K-51	10/16 1329	40.48.24.2	75.37.53.1	5.6	ND	ND	73	ND	9		First Base
	BPB K-52	10/16 1330	40.48.24.8	75.37.52.1	40.2	19	ND	560	ND	16		Right Field
	BPB K-53	10/16 1333	40.48.25.5	75.37.53.1	21.8	29	ND	366	ND	ND		Center Field
	BPB K-54	10/16 1334	40.48.25.2	75.37.54.5	32.1	33	ND	421	ND	ND		Left Field
	BPB K-55	10/16 1336	40.48.25.5	75.37.55.2	18.7	ND	ND	129	36	34		Pile Outside Fence
	BPB K-56	10/16 1339	40.48.23.9	75.37.54.2	19.9	ND	121	243	22	66		Third Base Gate
	BPB K-57	10/16 1341	40.48.24.2	75.37.54.4	19.5	36	ND	615	ND	ND		Third Base bleachers
	BPB K-58	10/16 1343	40.48.23.3	75.37.53.2	8.8	ND	ND	81	17	15		Batting Cage
	BPB K-59	10/16 1348	40.48.22.9	75.37.52.1	67	ND	ND	398	19	30	Yes As=13	Mound By Quarry

	Sample Number	Date / Time	Latitude	Longitude	Pb	Cd	Cr	Zn	Ni	Cu	Soil Sample	Other
Stoney Ridge P.A.R.C.	SRP K-60	10/16 1416	40.48.32.6	75.38.18.7	27.8	28	ND	6599	14	46	Yes	Playground With Crumb Rubber
	SRP K-61	10/16 1419	40.48.32.2	75.38.17.3	22	ND	ND	166	ND	15		Third Base Dugout Bench
	SRP K-62	10/16 1421	40.48.31.9	75.38.17.5	10.6	ND	ND	243	ND	15		Home Plate
	SRP K-63	10/16 1422	40.48.31.9	75.38.16.1	13.4	ND	ND	105	ND	8		Center Field
	SRP K-64	10/16 1425	40.48.33.5	75.38.16.6	20.2	ND	ND	293	18	18		Bare Spot
	SRP K-65	10/16 1429	40.48.34.0	75.38.20.4	22.6	20	ND	181	ND	14		Behind Center Field Fence Big Field
	SRP K-66	10/16 1433	40.48.33.2	75.38.20.3	29.5	ND	ND	241	ND	11		Right Field
	SRP K-67	10/16 1435	40.48.32.8	75.38.21.6	9.7	ND	ND	91	18	23		Second Base
	SRP K-68	10/16 1436	40.48.32.6	75.38.22.8	9.3	ND	ND	101	ND	10		Left Field
	SRP S-1	10/16 1420	40.48.29.4	75.38.24.5	22.8	ND	ND	67	ND	12		10/16 #30
	SRP S-2	10/16 1423	40.48.29.5	75.38.26.6	20.5	ND	ND	182	ND	9		10/16 #32
	SRP S-3	10/16 1427	40.48.29.7	75.38.28.6	16.5	ND	ND	215	ND	11		10/16 #33
	SRP S-4	10/16 1430	40.48.31.6	75.38.27.5	16.3	ND	ND	117	ND	14		10/16 #34
	SRP S-5	10/16 1433	40.48.31.5	75.38.25.7	23.5	ND	ND	137	17	16		10/16 #35
	SRP S-6	10/16 1437	40.48.31.5	75.38.23.0	26.3	ND	ND	148	15	19	Yes	10/16 #36

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	Sample Number	Date / Time	Latitude	Longitude	Pb	Cd	Cr	Zn	Ni	Cu	Soil Sample	Other
Palmerton Jr. and Sr. High Schools	PHS K-2	10/17 0914	40.48.39.4	75.36.41.4	27.4	22	ND	336	ND	9		By Bleachers
	PHS K-4	10/17 0915	40.48.39.4	75.36.42.1	12.1	29	ND	289	ND	ND		Behind Bleachers
	PHS K-5	10/17 0918	40.48.38.1	75.36.41.2	57.6	27	ND	525	ND	7.7		Going South
	PHS K-6	10/17 0921	40.48.36.8	75.36.40.1	34.6	21	ND	1151	ND	11.2	Yes	South End of Property
	PHS K-7	10/17 0922	40.48.37.5	75.36.39.4	26.6	ND	ND	372	ND	14		By Flag Pole
	PHS K-8	10/17 0925	40.48.39.4	75.36.37.0	27.3	ND	ND	393	ND	11		East Entrance
	PHS K-9	10/17 0929	40.48.37.3	75.36.35.8	22.9	37	ND	837	ND	ND		East End of Tennis Court
	PHS K-10	10/17 0931	40.48.36.8	75.36.37.0	29.3	ND	ND	332	32	28		Outside of Tennis Court
	PHS K-12	10/17 0935	40.48.38.6	75.36.33.8	6	ND	ND	58	ND	ND		Home Plate
	PHS K-13	10/17 0936	40.48.39.6	75.36.33.7	6.6	ND	ND	109	ND	ND		Third Base
	PHS K-14	10/17 0938	40.48.40.8	75.36.35.1	12.3	33	ND	223	ND	ND		West Soccer Goal
	PHS K-15	10/17 0942	40.48.41.1	75.36.33.6	32.4	29	ND	472	ND	28		Mid Field
	PHS K-16	10/17 0944	40.48.41.5	75.36.31.1	15.2	27	ND	423	ND	9.9		East Soccer Goal
	PHS K-17	10/17 0946	40.48.39.1	75.36.30.7	40.5	30	ND	588	ND	11		Opposite Goal
	PHS K-18	10/17 0949	40.48.39.2	75.36.27.0	19.8	31	ND	375	ND	10.4		By Path 5th Street
	PHS K-19	10/17 0951	40.48.37.9	75.36.28.2	32.7	ND	ND	529	ND	29		Mid 5th Street Path
	PHS K-20	10/17 0953	40.48.35.6	75.36.29.4	22.7	22	ND	841	ND	14		Lower 5th Street Path
	PHS K-22	10/17 0959	40.48.40.1	75.36.25.5	68	24	ND	631	ND	12		Behind School
	PHS K-23	10/17 1003	40.48.40.6	75.36.21.7	32	ND	ND	169	32	42	Ba=337	Behind Junior High Addition
	PHS K-25	10/17 1008	40.48.41.0	75.36.19.7	46	ND	ND	152	ND	15		East End of School Property
	PHS K-26	10/17 1010	40.48.41.3	75.36.17.5	58.2	40	ND	1388	ND	5.2	Yes	Hill Behind New Field
	PHS K-27	10/17 1017	40.48.41.4	75.36.13.2	ND	ND	ND	71	54	44		Dirt Pile
	PHS K-28	10/17 1019	40.48.42.2	75.36.14.4	4.5	40	ND	222	ND	ND		Right Field
	PHS K-29	10/17 1020	40.48.42.4	75.36.15.5	ND	ND	ND	107	31	29		Second Base
	PHS S-1	10/17 0917	40.48.40.7	75.36.42.4	41.5	21	ND	426	ND	ND		10/17 #3
	PHS S-2	10/17 0920	40.48.42.3	75.36.43.4	29.7	30	ND	633	ND	7		10/17 #4
	PHS S-3	10/17 0923	40.48.43.4	75.36.42.3	79	ND	ND	686	ND	73		10/17 #5
	PHS S-4	10/17 0926	40.48.43.7	75.36.40.8	42.4	ND	ND	618	ND	20		10/17 #7
	PHS S-5	10/17 0929	40.48.42.8	75.36.39.2	25.2	18	ND	358	ND	15		10/17 #8
	PHS S-6	10/17 0933	40.48.41.6	75.36.36.5	22.6	22	ND	389	ND	9.8		10/17 #9
	PHS S-7	10/17 0936	40.48.43.1	75.36.35.8	13.6	ND	ND	62	ND	20		10/17 #10
	PHS S-8	10/17 0938	40.48.43.8	75.36.34.7	13.7	23	ND	275	ND	ND	Yes	10/17 #11
	PHS S-9	10/17 0946	40.48.44.4	75.36.32.8	41.8	ND	ND	606	ND	27		10/17 #12
	PHS S-10	10/17 0949	40.48.43.3	75.36.30.2	31.6	23	ND	311	ND	10.5		10/17 #13
PHS S-11	10/17 0952	40.48.44.8	75.36.27.3	69	24	ND	765	ND	10.5		10/17 #14	
PHS S-12	10/17 0956	40.48.45.0	75.36.26.4	25.3	26	ND	533	ND	ND		10/17 #16	
PHS S-13	10/17 0959	40.48.45.1	75.36.24.6	34.4	22	ND	476	ND	5	Yes	10/17 #17	
PHS S-14	10/17 1007	40.48.45.1	75.36.22.9	155	42	ND	1011	ND	10.3		10/17 #18	
PHS S-15	10/17 1010	40.48.45.2	75.36.21.4	36.1	ND	ND	568	ND	11.3		10/17 #19	
PHS S-16	10/17 1013	40.48.44.7	75.36.19.4	66	ND	42	511	24	33		10/17 #20	
PHS S-17	10/17 1016	40.48.43.6	75.36.18.3	34.1	ND	ND	294	16	13	Yes and Dup	10/17 #21	

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	Sample Number	Date / Time	Latitude	Longitude	Pb	Cd	Cr	Zn	Ni	Cu	Soil Sample	Other
Palmerton Memorial Park	PMP K-33	10/17 1121	40.48.34.7	75.36.57.5	23.1	28	ND	388	ND	ND		Middle of Field
	PMP K-34	10/17 1125	40.48.35.5	75.36.58.9	142	38	ND	2025	ND	29	Yes	Toward Pavillion
	PMP K-35	10/17 1127	40.48.35.4	75.36.59.8	47	26	ND	841	ND	14		Next to Pavillion
	PMP K-37	10/17 1130	40.48.35.4	75.37.2.0	55	28	ND	1906	ND	23		Before Bridge to Pool
	PMP K-38	10/17 1131	40.48.35.1	75.37.2.7	18.1	ND	ND	208	ND	ND		Across From Slide Outside Fence
	PMP K-40	10/17 1155	40.48.35.0	75.37.0.2	5.9	ND	ND	75	ND	ND		Sand Box
	PMP S-1	10/17 1126	40.48.33.3	75.36.59.6	29	ND	ND	415	12	13		10/17 #22
	PMP S-2	10/17 1129	40.48.32.8	75.36.59.4	21.8	27	ND	467	ND	7.7		10/17 #23
	PMP S-3	10/17 1135	40.48.34.3	75.37.5.4	9.1	30	ND	334	ND	ND		10/17 #24
	PMP S-4	10/17 1139	40.48.34.8	75.37.3.6	7.7	21	ND	16	ND	ND		10/17 #26
	PMP S-5	10/17 1142	40.48.34.1	75.37.2.2	26.6	29	ND	525	ND	ND	Yes	10/17 #27
	PMP S-6	10/17 1149	40.48.33.8	75.37.3.7	4.4	29	ND	283	ND	ND		10/17 #28
	PMP S-7	10/17 1150	40.48.33.3	75.37.4.6	6.3	25	ND	319	ND	ND		10/17 #29
	PMP S-8	10/17 1153	40.48.32.5	75.37.4.8	29.4	ND	ND	346	ND	14		10/17 #30
	PMP S-9	10/17 1156	40.48.32.0	75.37.3.7	16.6	21	ND	265	ND	13.8		10/17 #32
	PMP S-10	10/17 1159	40.48.32.4	75.37.1.5	89.6	35	ND	1302	ND	28	Yes	10/17 #33
	PMP S-11	10/17 1205	40.48.31.3	75.37.2.2	59.2	47	ND	1372	ND	12.3		10/17 #34

- Soil Sample Taken

SSP – SS Palmer Elementary School Playground

PBP – Palmerton Borough Park

EVF – Elmer Valo Field

SSA – 7th Street Athletic Fields

SMC – Salem United Methodist Church

WED – West End Daycare

BPB – BPBSA Field

SRP – Stoney Ridge P.A.R.C

PHS – Palmerton Jr. & Sr. High Schools

PMP – Palmerton Memorial Park

XRF – X-Ray Fluorescence

K-#, B-# & S-# = Assigned XRF Sample ID Number

K-# = XRF EPA Equipment No. C08956,

S-# = XRF EPA Equipment No. C08957,

B-# = XRF EPA Equipment No. C08957,

ND – Not Detected

1 milligram per kilogram (mg/kg) =

Operator - Karl Markiewicz, ATSDR Sr. Toxicologist

Operator – Dominic Ventura, EPA OSC

Operator – Dominic Ventura, EPA OSC

1 part per million (ppm) =