Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

April 5, 2016

Ms. Mindy Clements
United States Environmental Protection Agency
77 West Jackson Boulevard
Mail Code: SE-5J
Chicago, IL 60604

Re: Layer Park
Remediation Response
Correspondence
Remedial Response
Montgomery County
557003209001

Subject: LAYER PARK, MONTGOMERY COUNTY, REQUEST FOR REMOVAL ACTION

Dear Ms. Clements:

Ohio EPA requests U.S. EPA assistance in conducting a time-critical removal action at Layer Park, located at 4999 Cordell Drive in Miami Township, Montgomery County, Ohio. Layer Park was used as a skeet shooting range during the 1930s, 1940s, and 1950s. The park consists of a baseball field, tennis court, basketball court, picnic shelter, two swingsets, and a playground. Portions of the former skeet shooting range were also developed for private residences; a long time resident anecdotally recalled that she remembers shot landing on their roof when the range was in operation.

On February 29, 2016, Ohio EPA collected surface soil samples at the park and analyzed them for total lead. The analytical results confirm concentrations of lead in surface soils in excess of the U.S. EPA residential removal action level of 400 parts per million (ppm) and industrial removal action level of 1000 ppm.

Elevated levels of lead, a hazardous substance, are present in surface soils at the park and could become airborne as contaminated dust. Park visitors, including children, have the potential to ingest these contaminated soils. Dry, warm conditions can result in airborne suspension of contaminated dust. This has the potential to increase ingestion and inhalation of contaminated soils and dust. Please see enclosed removal action referral form and associated attachments.

Please feel free to call me at (937) 285-6062 with any questions.

Sincerely,

Michael Proffitt, Acting Chief
Division of Environmental Response and Revitalization

Enclosures

ec: Mike Starkey/Brian Nickel, DERR, SWDO
Mark Rickrich, Manager, ARCA, DERR

REMOVAL ACTION REFERRAL TO U.S. EPA

I. SITE LOCATION AND RESPONSIBLE PARTY INFORMATION

A. SITE NAME:

Layer Park

B. ADDRESS/LOCATION (ATTACH SITE LOCATION MAP IF AVAILABLE):

4999 Cordell Drive, Miami Township, Montgomery County (See Figure 1)

C. LATITUDE/LONGITUDE: 39.679672
-84.208775

D. CURRENT OWNER/OPERATOR:

Name: Miami Township Parks and Recreation Department (western parcel) and Montgomery County Board of County Commissioners (eastern parcel).

Address: Parks Department: 10891 Wood Road, Miami Township, Ohio

Board of County Commissioners: 451 W. Third Street, Dayton, Ohio

Telephone number (if available): Parks Department: 937-866-4661

Board of County Commissioners (Contact - Phil Miller): 937-225-4667

E. PAST OWNER(S)/OPERATOR(S):

Name: Unknown

Address: Unknown

Telephone number (if available):

F. CERCLIS and SITE

CERCLIS ID number: N/A

SITE grant years and purpose: N/A

II. ASSESSMENT OF ENVIRONMENTAL HAZARDS AND PROPOSED RESPONSE ACTIONS

A. DESCRIPTION OF ACTUAL OR POTENTIAL CHEMICAL/ PHYSICAL HAZARDS POSED BY SITE:

Lead contaminated soil from past skeet shooting activities.

B. LIST ACTUAL OR POTENTIAL HAZARD THAT MEETS ONE OR MORE OF THE REMOVAL RESPONSE CRITERIA (SEE ATTACHMENT A) OR EXCEEDS A REMOVAL ACTION LEVEL (RAL, SEE ATTACHMENT B):

Soil samples collected at the site exhibit total lead concentrations above the residential Removal Action Level of 400 parts per million and the industrial RAL of 1000 parts per million.

C. DESCRIPTION OF RESPONSE ACTIONS THAT SHOULD BE UNDERTAKEN TO REDUCE OR ELIMINATE HAZARDS:

Remove lead contaminated soil and replace with clean soil. Re-seed.

D. EXTENUATING OR MITIGATING CIRCUMSTANCES:

None.

III. SITE DESCRIPTION AND BACKGROUND INFORMATION

A. SITE HISTORY AND OPERATIONS:

Description of past or present operations and how wastes were generated, managed, and disposed:

A skeet shooting range operated on the site during the 1930s, 1940s, and 1950s.

Description of regulatory information (e.g., compliance issues, permits, regulated substances):

N/A

Description of past releases (e.g., substances, locations, impacts):

Lead was deposited on the surface of the site by skeet shooting activities. There were two shooting stations to the south of the property boundary. Shooting occurred to the north.

B. SITE CHARACTERISTICS:

Site layout (e.g., size, number of buildings, containment structures, topography, attach site layout map or sketch if available):

The site is approximately 7 acres and relatively flat. There is a restroom facility/picnic shelter located on the eastern parcel. See Figure 2.

Estimate of quantity, type and location of wastes and/or hazardous substances:

An unknown quantity of lead was deposited on the surface of the site from past skeet shooting. Soil sampling results show lead contaminated soil above 1000 ppm in the southwestern and eastern portions of the park. See Figure 2.

Substances present (e.g. labels on drums and containers) and the condition of their containers or containment (e.g., drums, lagoons):

Lead contaminated soil.

Evidence of releases (e.g., stained soil, stressed vegetation, fire response reports and/or vandalism incident reports):

Potentially deteriorated lead shot or clay pigeons.

Analytical data or other documentation on chemical characterization of wastes and contamination present (attach available analytical data):

See attached XRF results and Figures 3 through 5.

IV. THREATS TO PUBLIC HEALTH AND THE ENVIRONMENT

A. POTENTIAL HUMAN AND ECOLOGICAL RECEPTORS:

Population density within a one mile radius (underline one):

1 to 100

100 to 1000

<u>> 1000</u>

Nearby land uses (e.g., agricultural, commercial, industrial, recreational, residential):

Commercial, recreational, residential.

Public accessibility (e.g., fences, posted signs, security):

Locked gate with access on either side to foot traffic. A “park closed” sign is mounted to the gate. Ohio EPA requested that further access restrictions be made to the eastern parcel and the southern portion of the western parcel on 3/22/16.

Distance to possible human and ecological receptors (e.g,. residences, schools, drinking water sources, parks, wetlands, threatened or endangered species):

Human receptors recreate at the site. There are several residences adjacent to the north, west, and southwest.

Locations of drinking water and monitoring wells (on site/immediate vicinity):

A public water supply well is located approximately 1 mile northwest of the site.

Locations of surface water bodies (e.g., ponds, streams) and wetlands:

Holes Creek is approximately 0.25 miles to the west and south. The Great Miami River is located approximately 1.25 miles to the west.

Above ground and underground drainage channels or pathways (e.g., ditches, storm sewers, utilities):

Unknown.

Blowing soils and air contaminants:

Lead present in surface soils at the park could become airborne as contaminated dust.

V. CHRONOLOGY OF REMOVAL ACTION EVENTS

(Include a brief chronology of steps taken to compel responsible party(ies) to conduct site removal actions, if appropriate) N/A

VI. INDEX OF DOCUMENTS AND PHOTOGRAPHS

Aerial photos from ODOT – various years
Soil Sampling Work Plan and H&S Plan – 2/26/16

VII. CONTACTS

District Office Contact

Name: Amanda Meyer
E-mail address: Amanda.meyer@epa.ohio.gov
Telephone No.: 937-285-6062
Facsimile No.: 937-285-6249

VIII. SIGNATURES

Submitted by Amanda Meyer, Site Coordinator, DERR/SWDO:

Amanda Meyer ms. Date: 4/5/16

Approved by Mike Starkey, Manager, DERR/SWDO:

Mike Starkey Date: 4/5/16

Approved by Bonnie Buthker, Chief, SWDO:

Bonnie Buthker Date: 4/5/16

Document Index

1. Figures
    - 1 – Site Location Map
    - 2 – Site Features Map
    - 3 – XRF results Map 0-6 inches
    - 4 – XRF Results Map 6-12 inches
    - 5 – XRF Results Map 12-18 inches

2. Aerial photos from 1938 and 1959

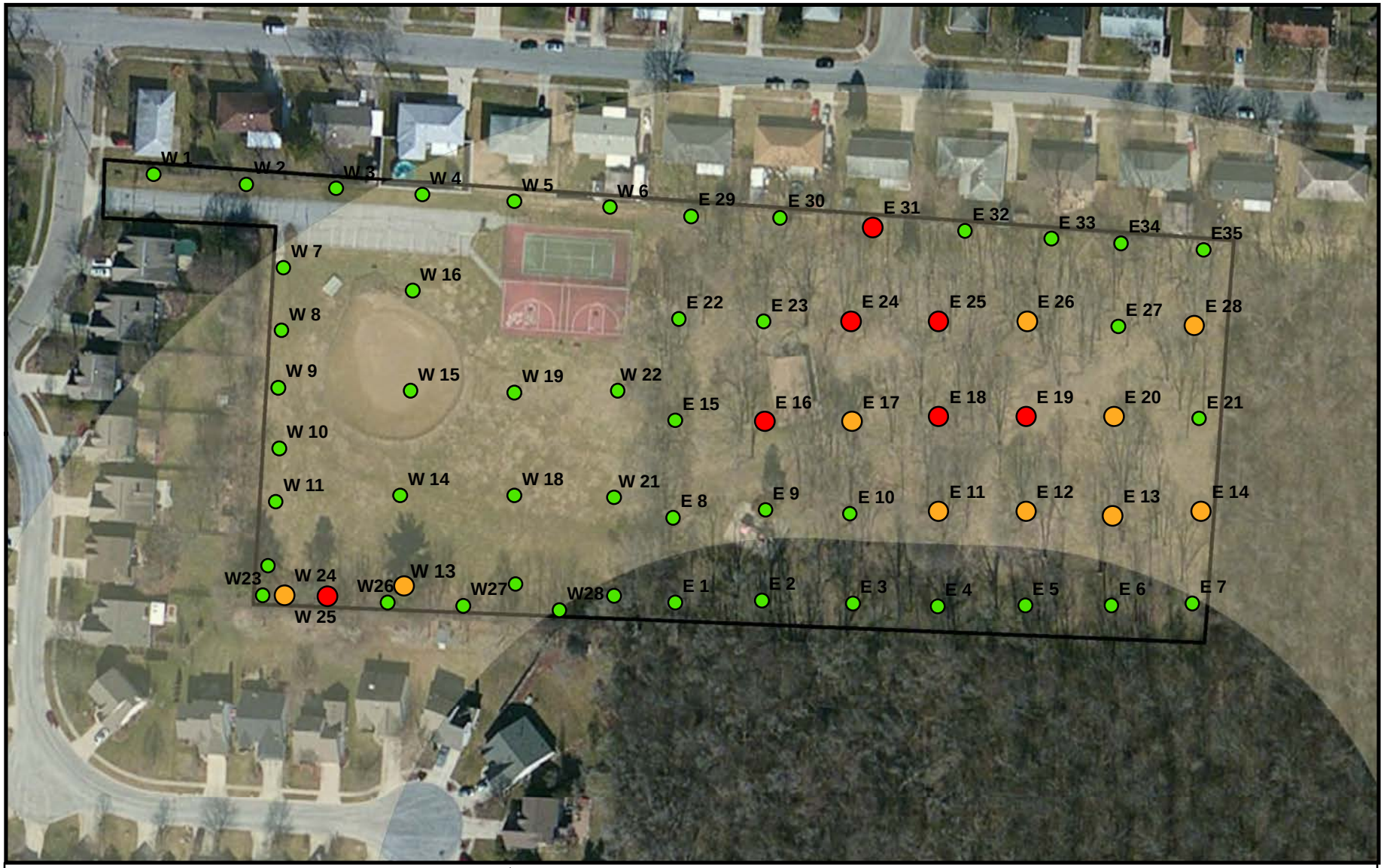
3. Excel Spreadsheet screening results 100-300+ ppm

4. Ohio EPA work plan dated February 26, 2016

Layer Park

Miami Township, Montgomery County

Figure 3: XRF Lead Results in Parts Per Million
0 to 6 inches



Layer Park

Miami Township, Montgomery County

Figure 4: XRF Lead Results in Parts Per Million
6 to 12 inches

200 100 0 200 Feet

Layer Park

Miami Township, Montgomery County

Figure 5: XRF Lead Results in Parts Per Million 12 to 18 inches

200 100 0 200 Feet

1938

2013

Sample #	Lead	Arsenic	Mercury	Lead Lab	Arsenic Lab	Lead TCLP	Arsenic TCLP
E1 A	544	ND	ND	350	8.9		
E1 A*	362	ND	ND				
E1 B	262	ND	ND				
E1 B*	225	ND	ND				
E1 C	61	ND	ND				
E2 A	81	ND	ND				
E2 B	61	6	ND				
E2 C	29	9	ND				
E3 A	132	ND	ND				
E3 B	71	ND	ND				
E3 C	39	5	ND				
E4 A	176	ND	ND				
E4 A*	182	ND	ND				
E4 B	50	8	ND				
E4 C	27	10	ND				
E5 A	544	ND	ND				
E5 B	128	ND	ND				
E5 B*	139	ND	ND				
E5 C	352	ND	ND				
E6 A	802	ND	ND	610	10		
E6 B	113	ND	ND				
E6 C	62	9	ND	43	7.9		
E6 C*	54	11	ND				
E7 A	671	ND	ND				
E7 B	289	ND	ND				
E7 B*	289	ND	ND				
E7 C	79	8	ND				
E8 A	155	ND	ND				
E8 B	124	ND	ND				
E8 C	24	7	ND				
E8 C*	50	5	ND				
E9 A	14	ND	ND				
E9 B	12	7	ND				
E9 C	7	6	ND				
E9 C*	18	ND	ND				
E10 A	604	ND	ND				
E10 A*	687	ND	ND				
E10 B	338	ND	ND				
E10 C	96	ND	ND				
E10 C	91	ND	ND				
E11 A	1769	ND	ND				
E11 B	408	ND	ND				
E11 C	272	ND	ND				

Sample #	Lead	Arsenic	Mercury	Lead Lab	Arsenic Lab	Lead TCLP	Arsenic TCLP
E12 A	2712	ND	ND	2400	21		
E12 B	769	ND	ND				
E12 C	244	ND	ND				
E13 A	844	ND	ND	23200	170		
E13 B	908	ND	ND				
E13 C	350	ND	ND				
E14 A	3811	ND	ND			50	0.14
E14 B	509	ND	ND	760	11		
E14 C	324	ND	ND				
E14 C*	258	ND	ND				
E15 A	308	ND	ND	270	7.9		
E15 A*	331	ND	ND				
E15 B	127	ND	ND				
E15 C	28	5	ND				
E16 A	202	ND	ND				
E16 A*	209	ND	ND				
E16 B	1146	ND	ND	390	9.4		
E16 C	463	ND	ND				
E17 A	348	ND	ND	1200	13		
E17 B	620	ND	ND	680	9.9		
E17 C	354	ND	ND				
E18 A	1194	ND	ND	23000	210		
E18 B	31	10	ND				
E18 B*	1277	ND	ND				
E18 C	264	ND	ND				
E18 C*	227	ND	ND				
E19 A	5274	ND	ND			41	0.2
E19 B	1628	ND	ND				
E19 C	935	ND	ND				
E20 A	1669	ND	ND				
E20 B	481	ND	ND				
E20 C	188	9	ND				
E20 C*	192	ND	ND				
E21 A	4196	ND	ND	950	10		
E21 B	330	ND	ND				
E21 B*	342	ND	ND				
E21 C	144	ND	ND				
E21 C*	135	ND	ND				
E22 A	324	ND	ND				
E22 A*	308	ND	ND				
E22 B	196	ND	ND				
E22 B*	143	7	ND				
E22 C	57	12	ND				

Sample #	Lead	Arsenic	Mercury	Lead Lab	Arsenic Lab	Lead TCLP	Arsenic TCLP
E23 A	4022	ND	ND	440	8.2		
E23 A*	554	ND	ND				
E23 B	221	ND	ND				
E23 B*	205	ND	ND				
E23 C	63	12	ND				
E24 A	1473	ND	ND				
E24 B	2069	ND	ND				
E24 C	84	6	ND				
E25 A	2527	ND	ND				
E25 A*	2404	ND	ND				
E25 B	1530	ND	ND				
E25 C	41	8	ND				
E26 A	487	ND	ND				
E26 B	435	ND	ND				
E26 B*	415	ND	ND				
E26 C	172	ND	ND				
E27 A	157	ND	ND				
E27 B	176	ND	ND				
E27 B*	164	ND	ND				
E27 C	81	10	ND				
E28 A	615	ND	ND				
E28 B	444	ND	ND	200	6.2		
E28 C	82	6	ND				
E29 A	49	10	ND				
E29 A*	52	6	ND				
E29 B	56	8	ND				
E29 B*	49	8	ND				
E29 C	39	9	ND				
E29 C*	44	8	ND				
E30 A	69	15	ND				
E30 A*	69	11	ND				
E30 B	228	17	ND	228	9		
E30 B*	134	ND	ND				
E30 C	34	8	ND				
E30 C*	31	9	ND				
E31 A	131	ND	ND				
E31 A*	124	7	ND				
E31 B	1374	ND	ND	200	6.8		
E31 C	60	7	ND				
E31 C*	59	7	ND				
Sample #	Lead	Arsenic	Mercury	Lead Lab	Arsenic Lab	Lead TCLP	Arsenic TCLP
E32 A	113	12	ND				

E32 A*	116	8	ND				
E32 B	137	ND	ND				
E32 B*	153	7	ND				
E32 C	48	7	ND				
E32 C*	45	8	ND				
E33 A	62	7	ND				
E33 A*	58	8	ND				
E33 B	74	ND	ND				
E33 B*	78	7	ND				
E33 C	94	ND	ND				
E33 C*	87	10	ND				
E34 A	118	ND	ND				
E34 B	111	8	ND				
E34 C	53	7	ND				
E34 C*	53	9	ND				
E35 A	39	12	ND				
E35 A*	38	12	ND				
E35 B	28	15	ND				
E35 B*	35	10	ND				
E35 C	37	8	ND				
E35 C*	26	10	ND				
W1 A	23	12	ND				
W1 A*	20	14	ND				
W1 B	22	13	ND				
W1 B*	17	15	ND				
W1 C	29	11	ND				
W1 C*	29	10	ND				
W2 A	128	10	ND				
W2 A*	129	ND	ND				
W2 B	64	8	ND				
W2 B*	79	6	ND				
W2 C	21	7	ND				
W2 C*	19	5	ND				
W3 A	90	7	ND				
W3 A*	85	9	ND				
W3 B	90	ND	ND				
W3 B*	96	ND	ND				
W3 C	28	9	ND				
W3 C*	25	6	ND				
Sample #	**Lead**	**Arsenic**	**Mercury**	**Lead Lab**	**Arsenic Lab**	**Lead TCLP**	**Arsenic TCLP**
W4 A	73	9	ND				
W4 A*	69	11	ND				
W4 B	50	ND	ND				
W4 B*	39	9	ND				

W5 A	35	9	ND				
W5 A*	33	11	ND				
W5 B	27	9	ND				
W5 B*	32	13	ND				
W5 C	21	9	ND				
W5 C*	20	12	ND				
W6 A	90	13	ND				
W6 A*	96	7	ND				
W6 B	65	8	ND				
W6 B*	64	10	ND				
W6 C	34	10	ND				
W6 C*	32	6	ND				
W7 A	171	ND	ND				
W7 A*	154	8	ND				
W7 B	101	8	ND				
W7 B*	101	10	ND				
W7 C	35	10	ND				
W7 C*	36	8	ND				
W8 A	140	ND	ND				
W8 A*	127	ND	ND				
W8 B	93	14	ND				
W8 B*	102	11	ND				
W8 C	73	12	ND				
W8 C*	74	9	ND				
W9 A	188	ND	ND	190	9		
W9 A*	181	ND	ND				
W9 B	120	11	ND				
W9 B*	117	9	ND				
W9 C	143	9	ND				
W9 C*	155	ND	ND				
W10 A	297	ND	ND				
W10 A*	315	ND	ND				
W10 B	238	ND	ND				
W10 B*	249	ND	ND				
W10 C	163	ND	ND				
W10 C*	181	ND	ND				
Sample #	**Lead**	**Arsenic**	**Mercury**	**Lead Lab**	**Arsenic Lab**	**Lead TCLP**	**Arsenic TCLP**
W11 A	232	ND	ND				
W11 A*	230	ND	ND				
W11 B	221	ND	ND				
W11 B*	207	8	ND				
W11 C	146	13	ND				
W11 C*	158	9	ND				
W12 A	171	ND	ND				

W12 A*		180	ND	ND				
W12 B		228	ND	ND				
W12 B*		228	ND	ND				
W12 C		236	ND	ND				
W12 C*		223	ND	ND				
W13 A		**503**	ND	ND				
W13 A*		**515**	ND	ND				
W13 B		**457**	ND	ND				
W13 B*		**468**	ND	ND				
W13 C		269	ND	ND				
W14 A		145	9	ND				
W14 B		82	11	ND				
W14 C		138	8	ND				
W14 C*		147	ND	ND				
W15 A		50	9	ND				
W15 B		75	10	ND				
W15 C*		214	ND	ND				
W15 C*		222	ND	ND				
W16 A		120	8	ND				
W16 B		138	7	ND				
W16 C		42	14	ND				
W17 A		209	ND	ND				
W17 B		71	9	ND				
W17 C		44	15	ND				
W18 A		88	9	ND				
W18 B		122	ND	ND				
W18 B*		88	ND	ND				
W18 C		28	11	ND				
W19 A		174	11	ND				
W19 B		96	16	ND				
W19 C		135	ND	ND				
W20 A		53	8	ND				
W20 B		37	12	ND				
W20 C		20	16	ND				
Sample #		**Lead**	**Arsenic**	**Mercury**	**Lead Lab**	**Arsenic Lab**	**Lead TCLP**	**Arsenic TCLP**
W21	A	115	ND	ND				
W21	A*	119	7	ND				
W21	B	83	11	ND				
W21	C	34	11	ND				
W22	A	101	10	ND				
W22	A*	100	9	ND				
W22	B	101	ND	ND				
W22	C	30	7	ND				
W23	A	190	ND	ND				

W23	A*	187	ND	ND				
W23	B	271	ND	ND				
W23	B*	262	ND	ND				
W23	C	43	7	ND				
W23	C*	39	11	ND				
W24	A	356	ND	ND				
W24	A*	380	ND	ND				
W24	B	**414**	ND	ND				
W24	B*	**411**	ND	ND				
W24	C	235	ND	ND				
W24	C*	186	ND	ND				
W25	A	**1355**	ND	ND				
W25	B	**1266**	ND	ND				
W25	C	134	ND	ND				
W25	C*	124	ND	ND				
W26	A	**557**	ND	ND	350	11		
W26	A*	328	ND	ND				
W26	B	104	6	ND				
W26	B*	91	ND	ND				
W26	C	57	10	ND				
W26	C*	54	7	ND				
W27	A	276	ND	ND				
W27	A*	275	ND	ND				
W27	B	152	ND	ND	**560**	9.4		
W27	B*	122	ND	ND				
W27	C	58	6	ND				
W27	C*	55	9	ND				
W28	A	225	ND	ND				
W28	A*	196	ND	ND				
W28	B	75	7	ND				
W28	B*	58	8	ND				
W28	C	30	8	ND				
W28	C*	34	7	ND				

OHIO ENVIRONMENTAL PROTECTION AGENCY (OHIO EPA)

DIVISION OF ENVIRONMENTAL RESPONSE AND REVITALIZATION (DERR)

State-Lead Site Assessment Work Plan

Layer Park
4999 Cordell Drive
Miami Township, OH 45439
DERR Project ID: 557003209001

February 26, 2016

Prepared by: _____ Date 2/26/16
Wendy Vorwerk, Site Investigator, DERR-CO

Reviewed by: _____ Date 2/26/16
Amanda Meyer, Site Coordinator, DERR-SWDO

Approved by: _____ Date 2/26/16
Mike Starkey, Manager, DERR-SWDO

Approved by: _____ Date 2/26/16
Christine Osborne, Supervisor, DERR-SIFU

Section 1.0: Assessment Purpose

Layer Park is a small, public recreational park located in Miami Township, Montgomery County Ohio (**Figure 1**). The area was used as a skeet shooting range from the 1930s – 1950s. Elevated levels of lead and arsenic have been identified in the surficial soils. The purpose of this investigation is to evaluate the extent of contamination; to determine if additional investigation or remediation is warranted; and to evaluate the direct exposure pathway for the protection of the children and adults that utilize the park.

During the week of February 8, 2016, Miami Township voluntarily closed the park until further assessment and possible remediation has been completed.

Section 2.0: Data Quality Objectives

The data quality objectives of this assessment are as follows:

- Evaluate the extent of lead contamination in Layer Park by utilizing a grid to collect sufficient samples to statistically evaluate the area of concern.
- Collect shallow soil samples with a hand auger from three depth intervals: 0-6", 6-12" and 12-18" to evaluate surficial concentrations of lead.
- Screen all samples with an X-ray Fluorescence unit (XRF) for metals and with a portable atomic absorption spectrometer (Lumex Meter) for mercury. The initial screening will be used to determine which samples should be analyzed by a fixed based laboratory.
- Submit 10% of the screened samples to a fixed based-laboratory for confirmational analysis of lead, arsenic and mercury. The 10% which are analyzed by the fixed-based laboratory will be used to confirm the data quality of the remainder of the samples analyzed with the XRF.
- Evaluate the data to determine if the concentrations of lead, arsenic and mercury are above risked-based screening levels.
- Based on the data collected determine if "step-out" samples are needed to further define extent of contamination.

Section 3.0: General Site and Project Information

Site Name: Layer Park	**Investigation Date(s):** February 29-March 3, 2016

Section 3.0: General Site and Project Information

Project ID Number: StatSA - 557003209001	**USEPA I.D. Number:** N/A
District Office: SWDO	**County:** Montgomery
Site Address or Location: 4999 Cordell Drive, Miami Township, Ohio 45439	
Driving Directions: Refer to Attachment B	
Latitude: 39.679672	**Longitude:** -84.208775
Site Representative: Rex Gore, Miami Township Park Supervisor	**Phone:** 1-937-866-4661
Access Permitted By: Rex Gore, Miami Township Park Supervisor	**Phone:** 1-937-866-4661

List of Tables Attached

Table 1: 2013 Soil Screening Results
Table 2: 2016 Soil Screening Results

List of Figures/Maps Attached

Figure 1: Site Location Map
Figure 2: Site Features Map
Figure 3: Preliminary Soil Boring Map
Figure 4: "Kick Zone" Sample Location Map
Figure 5: Primary Impact Zone Map
Figure 6: Sample Location Map

List of Other *Attachments*

Figures and Tables
Attachment A, Directions to the Site
Attachment B, Health & Safety Plan
Attachment C, FSOPS

Section 4.0: Roles and Responsibilities		
Staff Name:	**Role:**	**Responsibilities:**
Amanda Meyer	District Site Coordinator	Communicate with the site owner, operator and/or tenants; communicate with the local government and other state agencies, as needed. Arrange property access; approve in-field sampling locations; review and approve deliverables. Hand auger sampling.
Wendy Vorwerk	SIFU Coordinator Project Leader Health and Safety Officer	Communicate with the district site coordinator, SIFU staff and SIFU supervisor regarding the project details to help ensure consistency with DERR site assessment guidance and procedures; help develop the work plan and HASP; obtain utility clearances; prepare a cost estimate; assist with scheduling, access and other tasks when requested by the district site coordinator; review project deliverables developed by SIFU. Implement the work plan and HASP; schedule project activities; review project data; prepare and transmit draft deliverables. Will act as the field Health and Safety Officer and assist with sampling and GPS point collection.
Gavin Armstrong	Mobile Laboratory Operator	Operate the mobile lab XRF to screen soil samples. The screening data will be used for helping to determine which samples will be sent to the fixed laboratory. Also, the real time screening soil data will help with guiding the investigation.
Bill Batin	Sampling Team Member	Will assist with soil sampling and GPS point collection.
Scott Glum	Sampling Team Member	Will assist with soil sampling and GPS point collection.
Brian Gitzinger	Sampling Team Member	Will assist with soil sampling and GPS point collection.

Section 5.0: Site Description – Current Conditions and Use

Layer Park is a small, public recreational park located in a residential area in Miami Township. The site consists of two parcels, one 3.022 acre parcel owned by the Miami Township Parks Department, and one 4.258 acre parcel owned by the Montgomery County Board of Commissioners (**Figure 2**). The western half of the park is open, graded and contains a baseball field and tennis court. The eastern half is wooded and contains a shelter house, outdoor children's playsets, picnic tables and above grills.

Residential homes are located directly adjacent to the park to the southwest, west, and north. The area to the southeast and east is densely wooded.

Section 6.0: Site History – Former Operations/Regulatory Concerns and Previous Environmental Investigations

The Ohio Environmental Protection Agency (Ohio EPA) Site Investigation Field Unit (SIFU) conducted a Voluntary Action Program (VAP) background metals study of various parks in Montgomery County. The study included Layer Park, located at 4999 Cordell Drive, Miami Township. Initially, one preliminary soil boring to a depth of four feet was collected in the wooded area of the park. The core was screened with an XRF in 0.5-foot increments. The results showed the value for lead was 492 ppm in the 0-5 foot range. This value is above the Risk-based Screening Level (RSL) of 400 ppm for Residential Soils. Arsenic levels were also elevated. Three additional soil borings were collected and analyzed with the XRF. Lead results ranged from 240 ppm to 3,331 ppm in the 0-5 foot range and the site was recommended for a State-Lead Site Assessment (**Figure 3, Table 1**).

During a reconnaissance visit in February of 2016, soil screening samples were collected in high-traffic areas to determine if lead contamination was present at very shallow depths (the kick-up zone) of 0-2 inches. Results indicated lead levels ranged from 13 ppm to 188 ppm. One sample was also collected at the location of the highest result from the preliminary borings. Lead was detected at that location 1,555 ppm (**Figure 4, Table 2**).

Rex Gore, Miami Township Park Supervisor, told the Ohio EPA that the area was once used as a skeet shooting range in the 1930s – 1950s. A 1938 aerial photograph shows the former location of the shooting stand. Lead shot falls approximately 375-770 feet from the shooting stand. **Figure 5** highlights the zone with greatest possibility of contamination. As shown on Figure 5, homes were constructed within the outer portion of the impact zone to the north and along the western portion of the impact zone arc. A second mobilization will be planned if data indicates park property immediately adjacent to the residences is contaminated.

As stated above, the RSL for lead is 400 ppm. The RSL for arsenic is 0.68 ppm, far lower than normal background levels in Ohio. Montgomery County background levels as published in the 2014 *Evaluation of Background Metal Soil Concentrations in Montgomery County – Dayton Area* prepared by the Ohio EPA for the VAP program stated the arsenic concentrations ranged from 2.92 to 11.1 ppm, with a representative background level of 9.9 ppm. Lead ranged from 8.76 to 28.9 ppm with a representative background level of 25.2 ppm.

Section 6.0: Site History – Former Operations/Regulatory Concerns and Previous Environmental Investigations

Miami Township voluntarily closed the park during the week of February 8, 2016 until further assessment and possible remediation has been completed.

Section 7.0: Site Geology

According to the *Soil Survey of Montgomery County, Ohio* (USDA Soil Conservation Service), Montgomery County was entirely glaciated in the Wisconsin Age. The majority of the soils in the county are formed on silt- and clay-rich glacial till and loess. The soils of Layer Park belong to the Fox-Ockley association. This association is described as deep, nearly level to moderately steep, well drained soils that have a moderately fine-textured subsoil; formed in loess and loamy outwash underlain by calcareous sand and gravel. The preliminary soil boring collected during the VAP background metals study identified the soil type on-site as a sandy to clay loam.

Section 8.0: Sampling Locations

A total 58 sample locations are planned following a grid pattern (**Figure 6**). A sample will also be collected behind each of the 19 residences adjoining the park. The park has been divided into the western half, where the ball field is located, and the eastern half where the highest contamination is expected. All soil samples will be collected with 2" hand augers and will be decontaminated between borings.

Section 9.0: Field Screening and Sampling Procedures

At each sample location, three discrete depths will be collected: 0-6", 6-12" and 12-18" which will be noted as A, B and C. Each sample collected will be placed in a plastic zip bag. The samples will then be pre-screened in their natural state using the XRF. If pre-screening results indicate the concentration of lead is 300 ppm or greater and/or the concentration arsenic is 9.0 ppm or greater, the sample will be dried, homogenized and re-screened with the XRF. Each sample will also be screened for mercury using both the Lumex meter and the XRF.

Ten percent of the samples will be selected for lab analysis. Lab analysis will include lead, arsenic and mercury, if detected. Samples collected adjacent to residences will be prioritized and collected first.

All samples will be held for at least six months.

Section 9.0: Field Screening and Sampling Procedures

The goal is to have all samples screened, processed and analyzed within 30 days of collection.

Section 10.0: Investigation-Derived Waste Disposal

Investigation-derived wastes (IDW) typically include, but are not necessarily limited to disposable gloves and other disposable PPE, disposable soil samples, used paper towels and waste water (decontamination water). SIFU generates these materials during sampling activities to comply with health and safety requirements, to collect samples and/or to prevent cross-contamination of samples.

If IDW are non-hazardous based on available information (*e.g.*, site history, existing analytical data, and mobile laboratory screening data.), solid waste materials and soil will be double-bagged and disposed of as municipal solid waste. Liquid IDW (decontamination water) will be disposed as wastewater in an appropriate wastewater treatment system (if available) with the system's owner prior approval.

If IDW are suspected to be hazardous based on site assessment screening and/or sampling data, the wastes will be properly contained (on-site if possible) until samples have been analyzed for hazardous waste characteristics (OAC Rules 3745-51-20 through -24). IDW that are characterized as hazardous wastes will be properly transported by a licensed hazardous waste hauler to a licensed hazardous waste disposal facility.

Section 11.0: Deliverables/Reporting

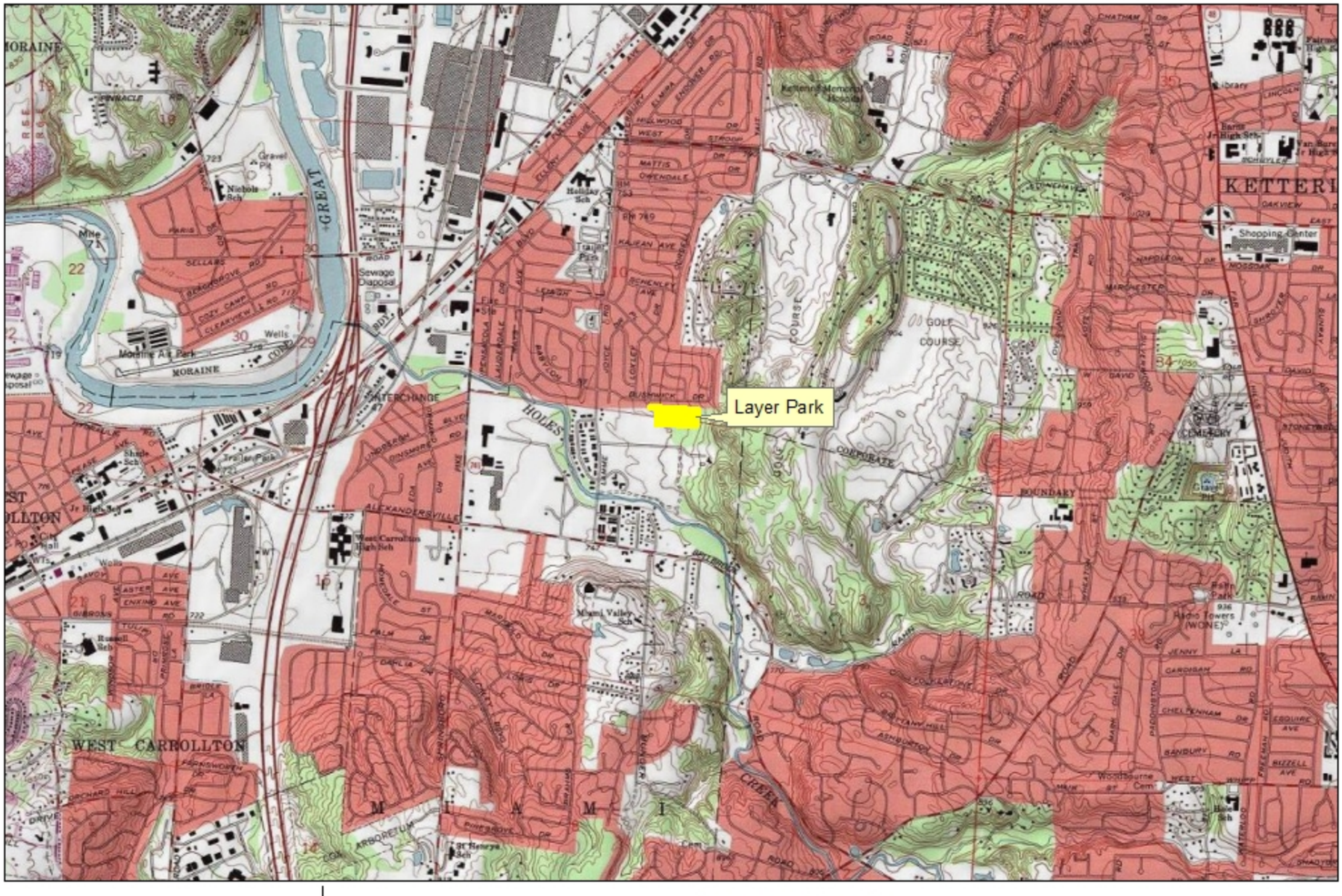
Section 11.0: Deliverables/Reporting

A Field report will be drafted by the field staff describing the investigation and any deviations from the work plan. An aerial map will be included showing the sampling locations. All data will be attached to the field report.

Table 1
Summary of Analytical Samples

Laboratory: Test America		**Turn Around Time: 14 Days**			
Sample Matrix	**Analytical Method, Constituent(s)**	**# Field Samples**	**# Dups.**	**# Trip Blanks**	**Total Analyses**
Soil	Lead, Arsenic – 6020A/6010B Mercury -7471A	18	2	0	20

Figures



Legend

Layer Park

Layer Park

Miami Township, Montgomery County

Figure 1: SITE LOCATION MAP

Ohio Environmental Protection Agency

0 0.15 0.3 0.6 0.9 1.2 Miles

N
W E
S

Legend

- Layer Park
- Montgomery County Parcels

Layer Park

Miami Township, Montgomery County

Figure 2: Site Features Map

Ohio Environmental Protection Agency

0 0.0125 0.025 0.05 0.075 0.1 Miles

N W E S

Legend

Layer Park

Soil Boring Location

Layer Park

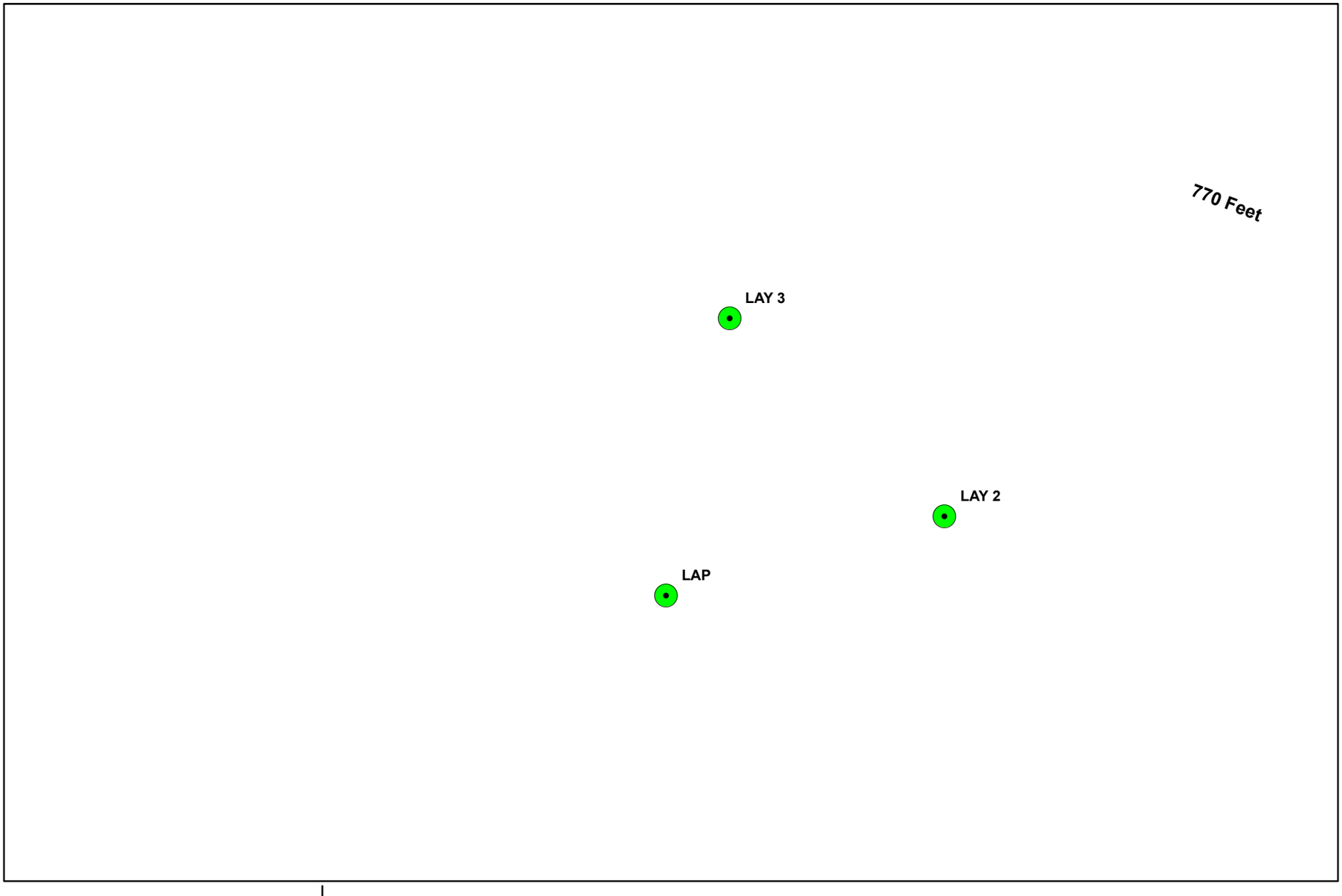
Miami Township, Montgomery County

Figure 3: Preliminary Soil Boring Map

Ohio Environmental Protection Agency

0 0.0075 0.015 0.03 0.045 0.06
Miles

N
W E
S



Legend

Layer Park

Soil Boring Location

Layer Park

Miami Township, Montgomery County

Figure 4: "Kick Zone" Sample Location Map

0 0.0075 0.015 0.03 0.045 0.06

Miles

N

W E

S

Legend

- Primary Zone of Impact
- shooting stand
- Layer Park

Layer Park

Miami Township, Montgomery County

Figure 5: Primary Zone of Impact

Ohio Environmental Protection Agency

0 0.0125 0.025 0.05 0.075 0.1 Miles

N W E S

Layer Park

Primary Impact Zone

East Sample Location

West Sample Location

Ohio Ohio Environmental Protection Agency

Layer Park

Miami Township, Montgomery County

Figure 6: Sample Location Map

200 100 0 200 Feet

N
W E
S

ATTACHMENT A

Information from Previous Investigations

Table 1. Soil Sampling XRF Results (mg/kg)
Layer Park, Montgomery County

Date	Sample ID	Ti	Cr	Mn	Fe	Ni	Cu	Zn	As	Sr	Ag	Cd	Sn	Hg	Pb
3-Jul-13	LAP 0.0-0.5	3808.89	<LOD	998.99	18296.6	<LOD	28.21	63.55	<LOD	131.41	45.54	<LOD	<LOD	<LOD	492.29
3-Jul-13	LAP 0.0-0.5	4114.72	<LOD	1091.55	17635.46	<LOD	<LOD	66.48	<LOD	127.89	<LOD	<LOD	<LOD	<LOD	468.93
3-Jul-13	LAP 0.5-1.0	4401.99	<LOD	988.63	19570.5	54.09	<LOD	49.93	11.13	129.26	<LOD	<LOD	<LOD	<LOD	78
3-Jul-13	LAP 0.5-1.0	4028.64	<LOD	1041.4	16771.78	<LOD	<LOD	61.57	12.52	116.94	<LOD	<LOD	<LOD	<LOD	63.1
3-Jul-13	LAP 1.0-1.5	3563.52	<LOD	805.41	20784.41	<LOD	<LOD	53.87	8.92	121.34	<LOD	<LOD	<LOD	<LOD	32.29
3-Jul-13	LAP 1.0-1.5	4297.51	<LOD	885.18	20169.45	<LOD	27.4	52.7	<LOD	124.3	<LOD	<LOD	<LOD	<LOD	33.02
3-Jul-13	LAP 1.5-2.0	3470.64	<LOD	591.07	25269.27	<LOD	<LOD	67.32	14.93	113.79	<LOD	<LOD	<LOD	<LOD	27.62
3-Jul-13	LAP 1.5-2.0	4424.54	180.61	610.42	25263.07	48.69	<LOD	81.72	12.73	108.96	<LOD	<LOD	<LOD	<LOD	29.39
3-Jul-13	LAP 2.0-2.5	3091.96	<LOD	541.76	30614.45	<LOD	<LOD	68.63	<LOD	110.44	<LOD	<LOD	<LOD	<LOD	48.8
3-Jul-13	LAP 2.0-2.5	4014.5	<LOD	662.52	30878.32	<LOD	<LOD	73.04	13.35	123.94	<LOD	<LOD	<LOD	15.66	41.54
3-Jul-13	LAP 2.5-3.0	2821.29	<LOD	571.88	32643.81	<LOD	<LOD	75.96	19.84	120.67	<LOD	<LOD	<LOD	<LOD	33.16
3-Jul-13	LAP 2.5-3.0	3936	<LOD	506.02	31602.4	56.5	<LOD	77.7	13.11	130.16	<LOD	<LOD	<LOD	<LOD	34.54
3-Jul-13	LAP 3.0-3.5	2407.71	<LOD	565.35	27203.65	<LOD	<LOD	67.02	13.01	139.34	<LOD	<LOD	<LOD	<LOD	24.56
3-Jul-13	LAP 3.0-3.5	2302.11	<LOD	468.19	26212.89	<LOD	<LOD	73.89	8.6	141.92	<LOD	<LOD	<LOD	<LOD	29.15
3-Jul-13	LAP 3.5-4.0	1896.79	<LOD	430.09	20757.36	<LOD	<LOD	56.62	<LOD	171.75	<LOD	<LOD	<LOD	<LOD	57.71
3-Jul-13	LAP 3.5-4.0	1922.05	<LOD	348.09	19100.59	53.75	<LOD	53.34	<LOD	145.68	<LOD	<LOD	<LOD	<LOD	58.64
18-Jul-13	LAY3 0.5-1'	2945.57	142.46	640.95	13255.57	<LOD	<LOD	48.79	<LOD	142.67	45.71	<LOD	<LOD	<LOD	59.68
18-Jul-13	LAY3 0.5-1'	3131.89	<LOD	648.51	13116.45	<LOD	<LOD	51.4	<LOD	156.38	<LOD	<LOD	<LOD	<LOD	66.22
18-Jul-13	LAY3 1-1.5'	3981.28	177.59	586.86	16966.9	<LOD	31.81	46.02	<LOD	131.13	<LOD	<LOD	<LOD	<LOD	2063.41
18-Jul-13	LAY3 1-1.5'	3498.11	<LOD	621.27	16460.12	<LOD	<LOD	51.88	<LOD	141.74	58.63	<LOD	<LOD	<LOD	64.67
18-Jul-13	LAY2 1.5-2'	3373.24	<LOD	528.28	19080.27	<LOD	<LOD	54.28	<LOD	140.63	<LOD	<LOD	<LOD	<LOD	58.22
18-Jul-13	LAY2 1.5-2'	2663.44	<LOD	538.72	17988.56	46.29	<LOD	48.05	<LOD	135.27	53.27	<LOD	72.58	<LOD	63.82
18-Jul-13	LAY2 1-1.5'	3089.69	142.48	542.13	14161.88	<LOD	<LOD	41.47	<LOD	147.1	82.11	<LOD	<LOD	<LOD	136.61
18-Jul-13	LAY2 1-1.5'	3480.19	<LOD	615.27	15460.23	63.15	<LOD	38.04	<LOD	143.81	<LOD	<LOD	<LOD	<LOD	120.72
18-Jul-13	LAY2 0.5-1'	3717.84	<LOD	773.36	14071.06	<LOD	<LOD	40.55	<LOD	131.86	<LOD	<LOD	<LOD	<LOD	728.67
18-Jul-13	LAY2 0.5-1'	3831.26	<LOD	849.36	15966.68	<LOD	<LOD	42.44	<LOD	133.55	<LOD	<LOD	<LOD	<LOD	784.74
18-Jul-13	LAY3 1.5-2'	2588.13	<LOD	408.85	21208.07	<LOD	<LOD	58.53	8.62	126.48	<LOD	<LOD	<LOD	<LOD	20.94
18-Jul-13	LAY3 1.5-2'	3478.64	<LOD	476.35	23054.87	65.35	<LOD	54.55	12.33	129.44	<LOD	<LOD	<LOD	<LOD	22.65
18-Jul-13	LAY3 0.0-0.5'	2806.59	<LOD	482.23	12149.76	<LOD	<LOD	69.44	<LOD	143.17	<LOD	<LOD	<LOD	<LOD	240.19
18-Jul-13	LAY3 0.0-0.5'	2613.55	<LOD	548.12	12960.78	<LOD	30.64	74.28	<LOD	138.42	<LOD	<LOD	<LOD	<LOD	264.44
18-Jul-13	LAY2 0.0-0.5'	3135.36	<LOD	706.44	16585.53	<LOD	<LOD	52.14	79.96	143.76	<LOD	<LOD	<LOD	<LOD	3331.57
18-Jul-13	LAY2 0.0-0.5'	4011.9	174.26	754.26	15890.26	<LOD	36.95	50.23	121.62	142.21	<LOD	<LOD	<LOD	<LOD	3251.85

NOTE: <LOD - Concentration result is lower/less than the instrument Level Of Detection (LOD)

J-qualified data: Data are positively identified, however, the associated numerical value is an estimated concentration (usually higher) of the true analyte concentration.

Result above the Regional Screening Levels (RSL) 11/15 (Pb=400 mg/kg; Hg 11 mg/kg) Result above the VAP background soil concentration of 9.9 mg/kg

Table 2. Soil Sampling XRF Results 2016 (mg/kg)
Layer Park, Montgomery County

Date	Sample ID	Ti	Cr	Mn	Fe	Ni	Cu	Zn	As	Ba	Hg	Pb
2/1/2016	#1											
2/3/2016	SiO2 Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2/3/2016	SiO2 Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2/3/2016	LPS - 1	2396	58	362	13338	23	17	37	7	540	7	13
2/3/2016	LPS - 2	2126	40	359	12112	15	16	49	ND	535	7	24
2/3/2016	LPS - 3	1859	60	347	11475	16	15	145	9	482	5	24
2/3/2016	LPS - 3 DUP	2372	54	313	11504	17	19	147	7	379	6	27
2/3/2016	LPS - 4	2696	37	504	12926	21	18	420	8	681	5	36
2/3/2016	LPS - 5	2999	56	662	11824	18	13	45	ND	575	6	138
2/3/2016	LPS - 5 DUP	2695	54	667	11931	14	16	45	ND	524	5	135
2/3/2016	LPS - 6	2490	51	341	14485	15	20	113	9	681	5	187
2/3/2016	LPS - 6 DUP	2355	81	299	14041	19	14	110	ND	391	5	188
2/3/2016	LPS - 7	2989	36	631	11972	15	13	44	ND	489	ND	1555
2/3/2016	SiO2 Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

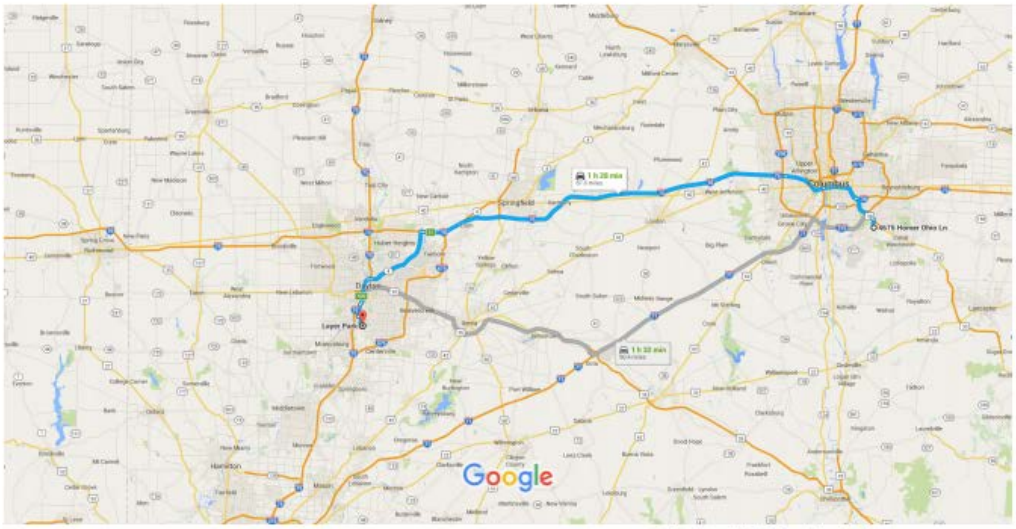
ATTACHMENT B

Directions to Site

Google Maps

4675 Homer Ohio Ln, Groveport, OH 43125 to Layer Park, 4999 Cordell Dr

Drive 87.6 miles, 1 h 28 min



Map data ©2016 Google 5 mi

4675 Homer Ohio Ln

Groveport, OH 43125

Get on US-33 W in Columbus

4 min (1.4 mi)

1. Head northwest on Homer Ohio Ln toward S Hamilton Rd

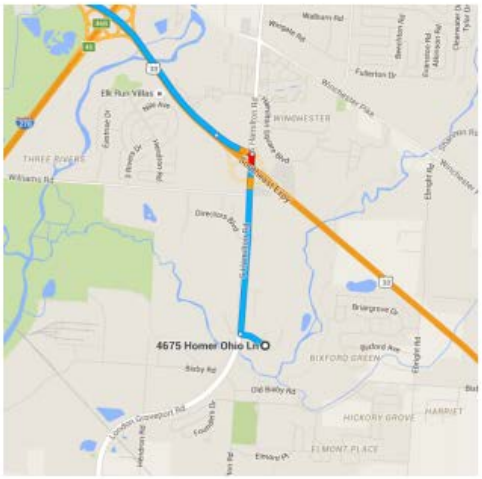
0.2 mi

2. Turn right onto S Hamilton Rd

1.0 mi

3. Turn left to merge onto US-33 W toward Columbus

0.2 mi



Take I-70 W and OH-4 S to OH-741 S/Springboro Rd/N Springboro Pike in Moraine. Take exit 50B from I-75 S

1 h 16 min (82.7 mi)

4. Merge onto US-33 W

3.8 mi

5. Use the right lane to merge onto I-70 W via the ramp to Downtown

5.7 mi

6. Keep right at the fork to stay on I-70 W, follow signs for Interstate70 W/Dayton/OH-315 N

6.0 mi

7. Keep left to stay on I-70 W

51.9 mi

8. Take exit 41 for OH-235 S/OH-4 toward Dayton

0.5 mi

9. Continue onto OH-235 S/OH-4 S/S Dayton Lakeview Rd

Continue to follow OH-4 S

10.5 mi

10. Use the left 2 lanes to take the Interstate 75 S exit toward Ohio 4 S/Cincinnati

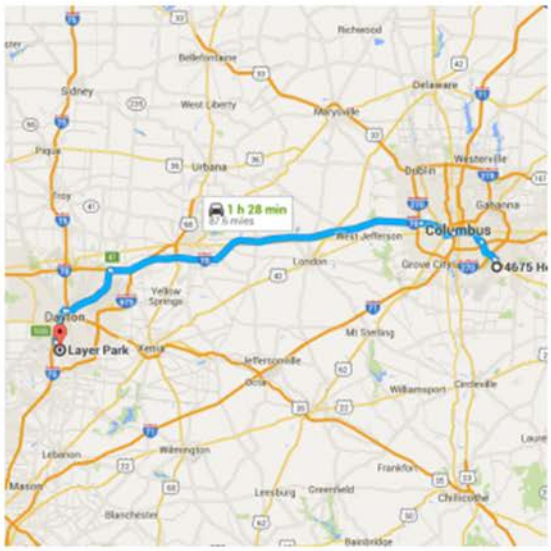
0.6 mi

11. Merge onto I-75 S

3.5 mi

12. Take exit 50B for OH-741 S/Springboro Rd

0.3 mi



Continue on OH-741 S/N Springboro Pike. Take Lamme Rd to Cordell Dr in Miami Township

8 min (3.5 mi)

13. Continue onto OH-741 S/Springboro Rd/N Springboro Pike

Continue to follow OH-741 S/N Springboro Pike

1.7 mi

14. Turn left onto W Stroop Rd

0.5 mi

15. Turn right onto Lamme Rd

1.1 mi

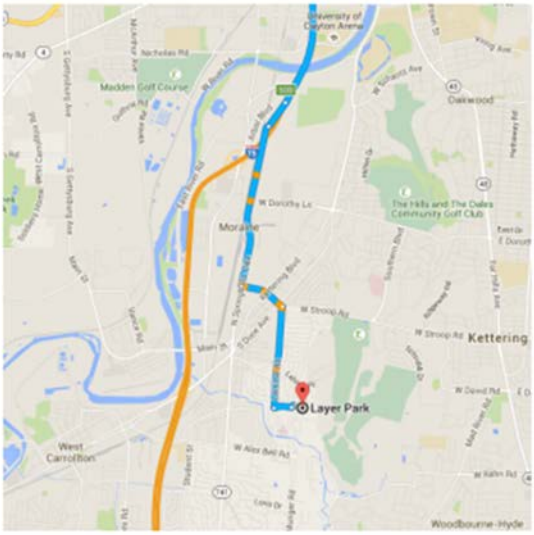
16. Turn left onto Polo Park Dr

0.2 mi

17. Turn left onto Cordell Dr

Destination will be on the right

121 ft



Layer Park, 4999 Cordell Dr

Dayton, OH 45439

ATTACHMENT C

Health and Safety Plan

Site Health and Safety Plan

Division of Environmental Response and Revitalization

Site Name: Layer Park			
Section 1: General Site and Project Information			
Address 4999 Cordell Drive	City Dayton	State OH	Zip Code 45439 —
County Montgomery		District SWDO	
Preclaims No. 557003209001		U.S. EPA I.D. No.	
Current Land Use Residential/Agricultural		Current Site Status Operating	
Regulatory Status Not Regulated		Program State Site Assessment	
Scope of site assessment activities to be performed (please describe) Collect soil samples to evaluate lead and arsenic			
Anticipated dates of field investigation activities: Starting: 2 / 29 / 2016		Ending: 3 / 3 / 2016	
HASP prepared by: Vorwerk		Date HASP Finalized: 2 / 25 / 2016	
Is there an existing HASP for facility activities? ☐ Yes ☒ No ☐ Don't Know			
Section 2: Site Wastes, Waste Characteristics and Impacted Environmental Media			

Solid wastes known or suspected to be present:

- ☐ Construction or Demolition Debris
- ☐ Municipal Solid Waste
- ☐ Non-Hazardous Industrial Waste
- ☐ Hazardous Waste
- ☒ Other Solid Wastes (please describe)

lead shot

Liquid wastes known or suspected to be present:

- ☐ Landfill Leachate
- ☐ Wastewater or Sludge
- ☐ Chlorinated Solvents
- ☐ Petroleum or Petroleum Products
- ☐ Other Liquid Wastes (please describe)

Characteristics of known or suspected wastes:

- ☒ Toxic
- ☐ Flammable
- ☐ Corrosive
- ☐ Reactive
- ☐ Volatile
- ☐ Explosive
- ☐ Inert
- ☐ Unknown
- ☐ Other characteristics (please describe)

Environmental media known or suspected to be contaminated by waste or hazardous substances:

- ☒ Soil or Soil Fill
- ☐ Ground Water
- ☐ Indoor Air
- ☐ Soil Gas
- ☐ Sediment
- ☐ Surface Water
- ☐ Outdoor Air

Site Name: Layer Park

Section 3: Employee Health and Safety Training

All Ohio EPA field staff working at this site meet applicable 29 CFR 1910.120(e) training requirements, including the initial 40-hour HAZWOPER training, three days of supervised on-the-job health and safety training, annual 8-hour refresher training and for field supervisors, 8-hour supervisor training. In addition, all Ohio EPA field staff are trained to administer first aid and CPR. Health and safety training documentation is maintained by and available from the Ohio EPA Field Safety and Health Coordinator.

Section 4: Medical Screening and Respiratory Protection

All Ohio EPA field staff working at this site are enrolled in a comprehensive medical screening program which includes initial and annual medical examinations, an employment-termination examination, and maintenance of associated medical records. In addition, field staff who use respirators are enrolled in a respiratory protection program that includes annual training, fit-testing and medical screening.

Section 5: Field Team Members and Acknowledgement of HASP Review
(If additional acknowledgement lines are required, please use the back of this page. Include printed name, signature and date.)

Health & Safety Officer wendy vorwerk	Signature and Date / /
SIFU Field Team Leader wendy vorwerk	Signature and Date / /
DERR TBA Coordinator	Signature and Date / /
DERR Site Coordinator Amanda Meyers/Scott Glum	Signature and Date / /
Field Team Member Ed Link	Signature and Date / /
Field Team Member Bill Batin	Signature and Date / /
Field Team Member	Signature and Date / /
Field Team Member	Signature and Date / /
Field Team Member	Signature and Date / /
Field Team Member	Signature and Date / /
Field Team Member	Signature and Date / /
Field Team Member	Signature and Date / /
Field Team Member	Signature and Date / /
Field Team Member	Signature and Date / /

Site Name: Layer Park

Section 6: Standard Safe Work Practices and Site Control Measures

Before departing for field work, ensure that a HASP and first aid kit are included in every Ohio EPA field vehicle.

Obey posted speed limits and drive defensively when travelling to and from the site and on-site.

Use the "buddy system" during all field work activities, with a minimum of two field staff working as a team and maintaining contact.

Use cellular phones to communicate during field work activities. (All field staff must have access to cellular phones.)

Dress appropriately for anticipated weather conditions and drink plenty of fluids when working in hot weather.

Wear protective footwear (safety boots) at all times while working on site.

Wear chemical protective (e.g., nitrile) gloves when sampling or handling contaminated media or decontaminating sampling equipment.

Wear protective (e.g., leather) gloves when operating mechanical equipment.

Wear safety glasses, goggles or a face shield when performing tasks that present the potential for eye injury due to projectiles (e.g., drilling) or splashing fluids (e.g., equipment decontamination).

Wear hearing protection when working around the Geoprobe or other equipment that exceeds 85 decibels (equal to or greater than the sound of a running lawn mower).

Wear a hard hat when working in or near areas with the potential for falling objects or other conditions that could cause head injuries.

When working in or near areas with traffic, use appropriate traffic control measures, wear brightly colored safety vests and be cautious of moving vehicles.

Establish work zones around the Geoprobe or other sampling equipment to control sampling activities.

Avoid unnecessary contact with contaminated materials or surfaces.

Do not eat, chew gum or use tobacco products on site.

Never enter an OSHA-defined confined space for any reason. Only Ohio EPA Office of Special Investigation (OSI) staff or other appropriately trained staff are qualified to enter confined spaces for reconnaissance or sampling activities, and will perform such work in accordance with Ohio EPA's Confined Space Entry Policy (OEPASM-10-002).

Cease work activities and take cover during thunderstorms to avoid being struck by lightning.

If the site conditions encountered require a greater degree of protection than provided by the work-plan specified personal protective equipment (PPE), leave immediately and do not re-enter the site until appropriate PPE is available.

If radioactivity exceeding the Ohio Department of Health (ODH) dose limit of 2 mrem/hour (0.02 mSv/hour) for the general public is detected, leave the site immediately and contact ODH.

Site Name: Layer Park

Section 7: Site-Specific Hazard Evaluation

Table 1 — Chemical Hazards Present or Anticipated at Site

(Please refer to Table 2 for Air Monitoring Equipment, Action Levels and Responses)

Chemical Name and Group (e.g., Benzene, VOC)	Highest Observed Concentration (ppm) and Media Impacted	OSHA PEL (TWA)	ACGIH TLV (TWA)	NIOSH IDLH	Carcinogen?	NIOSH or ICSC Data Card Attached?
lead	3331 in soil	0.050 mg/m3		100 mg/m3	☐ Yes ☒ No	☒ Yes ☐ No
arsenic	121 in soil	0.002 mg/m3		5 mg/m3	☐ Yes ☒ No	☒ Yes ☐ No
mercury	15 in soil	0.1 mg/m3		10 mg/m3	☐ Yes ☒ No	☐ Yes ☐ No
					☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes ☐ No	☐ Yes ☐ No
					☐ Yes ☐ No	☐ Yes ☐ No

Contaminated Media and Potential Routes of Chemical Exposure Based on Work Activities

Contaminated Media	Inhalation	Absorption	Ingestion	Injection
☒ Soil or Soil Fill	☐	☒	☒	☐
☐ Sediment	☐	☐	☐	☐
☐ Ground Water	☐	☐	☐	☐
☐ Surface Water	☐	☐	☐	☐
☐ Indoor Air	☐	☐	☐	☐
☐ Soil Gas	☐	☐	☐	☐

Area asbestos-containing materials present in site structures?	☐ Yes ☐ No ☒ Don't Know
Oxygen deficient (<19.5%) or enriched (>23.5%) conditions?	☐ Yes ☒ No ☐ Don't Know

Site Name: Layer Park

Section 7: Site-Specific Hazard Evaluation (continued)

Physical Hazards Present or Anticipated at Site Based on Work Activities

- ☒ Slip, Trip or Fall
- ☒ Lifting
- ☐ Vehicle Traffic
- ☐ Weather and Temperature Stress
- ☒ Noise
- ☐ Active or Abandoned Utilities
- ☒ Structural Hazards (buildings or other structures)
- ☐ Mechanical Hazards
- ☐ Electrical Hazards
- ☐ Water Hazards
- ☐ Flammable or Explosive Materials or Substances
- ☐ Dusty Atmospheres
- ☐ Explosive Atmospheres
- ☐ High Pressure (for example, compressed gas cylinders)
- ☐ Other physical hazards (please describe)

Biological Hazards Present or Anticipated at Site Based on Work Activities

- ☐ Poison Plants (for example, poison ivy)
- ☐ Heavy Brush or Thorned Plants
- ☐ Hornets, Wasps or Bees
- ☐ Mosquitoes
- ☐ Ticks
- ☐ Snakes
- ☐ Other biological hazards (please describe)

Radioactive Hazards Present or Anticipated at Site Based on Work Activities (please describe)
None

Additional Information Regarding Site Hazards Based on Work Activities (please describe)

Site Name: Layer Park

Section 8: Health and Safety Air Monitoring

Air monitoring will be conducted when performing site assessment activities that involve drilling or excavating, and may be performed during other types of activities depending on the hazards encountered at the site. All air monitoring equipment is maintained and calibrated per manufacturer's recommendations. Background monitoring conditions will be established prior to the start of assessment activities.

Table 2 — Air Monitoring Equipment Needed with Action Levels and Responses
(Based on Site-Specific Hazard Evaluation)

Atmospheric Hazard	Monitoring Equipment	Action Level(s) and Response(s)
☐ Explosive Atmosphere	Lower Explosive Level Meter (or Combustible Gas Indicator)	< 10% LEL: Continue monitoring 10-25% LEL outdoors: Continue monitoring 10-25% LEL inside structure: Leave, explosion hazard >25% LEL: Leave site, explosion hazard
☐ Oxygen-Deficient Atmosphere	Oxygen Meter	< 19.5% Oxygen: Leave site, toxic or explosive gas or vapors may be displacing oxygen, LEL readings are invalid
☐ Oxygen-Enriched Atmosphere	Oxygen Meter	> 23.5% Oxygen: Leave site, a chemical reaction may be generating oxygen, LEL readings are invalid
☐ Volatile Organic Compounds	Photoionization Detector (PID) or Flame Ionization Detector (FID)	1 ppmv > breathing zone background: Leave site and obtain appropriate PPE to continue work upon reentry
☐ Hydrogen Sulfide	Hydrogen Sulfide Meter	10 ppmv: Leave site
☐ Carbon Monoxide	Carbon Monoxide Meter	35 ppmv: Leave site
☐ Ionizing Radiation	Gamma Radiation Survey Meter or Dosimeter	< 2 mrem/hr: Continue monitoring > or = 2 mrem/hr: Leave site and notify ODH
☐ Particulate Matter (Dust)	Monitoring Instrument (please describe)	Action Level(s) and Response(s) (please describe; consult NIOSH Pocket Guide to Chemical Hazards)
☒ Other (please describe)	Monitoring Instrument(s) (please describe) XRF	Action Level(s) and Response(s) (please describe; consult NIOSH Pocket Guide to Chemical Hazards)

Site Name: Layer Park

Section 9: Personal Protective Equipment, Site-Specific Work Practices and Additional Site Control Measures Based on Site Hazard Evaluation

Personal Protective Equipment

☒ Level D: Safety boots, chemical-resistant gloves, protective eye wear, hearing protection (if needed), hard hat (if needed) and coveralls (if needed)

☐ Level C: Chemical-resistant coveralls (NFPA 1993) with a full-face air-purifying canister equipped respirator, chemical-resistant gloves, safety boots, protective eye wear, two-way communications system, hearing protection (if needed) and a hard hat (if needed); NOTE - specific contaminant concentration(s) must be known for Level C PPE; otherwise, use Level B PPE for situations where contaminant concentrations are unknown.

☐ Level B: Splash protective/chemical resistant suit (NFPA 1992) with a pressure-demand full-face SCBA, inner and outer chemical-resistant gloves, chemical-resistant safety boots, two-way communications system, hearing protection (if needed) and a hard hat (if needed)

Ohio EPA has a comprehensive PPE program which is documented by policy OEPA-SM-06-004, Personal Protective Equipment. Decisions to upgrade to a higher level of PPE will be based on air monitoring results as presented in Table 2 or other site conditions or circumstances encountered in the field.

Site-Specific Work Practices and Control Measures (please describe)
Must use safe practices when hand augering.

Section 10: Spill Containment Program

If a spill or release of a hazardous substance occurs at the site, call the Ohio EPA Spill Hotline (800-282-9378) for immediate assistance.

Section 11: Decontamination Program

Disposable PPE used during site work activities will be contained and disposed of as investigation-derived waste (IDW) per the site-specific work plan. Sampling equipment used during site work activities will be washed in a solution of tap water and non-phosphate detergent, rinsed once with tap water and rinsed a second time using deionized or distilled water in accordance with DERR FSOP 1.6, Sampling Equipment Decontamination. Decontamination fluids will be contained and disposed of as investigation-derived waste (IDW) per the site-specific work plan.

Site Name: Layer Park

Section 12: Emergency Response Plan

Emergency Evacuation

The Ohio EPA field team leader will notify other field staff in the event of an emergency. Three vehicle horn blasts or cell phone or radio communication will be used to signal an emergency evacuation. Ohio EPA staff will immediately proceed to their vehicles and meet outside the main entrance to the site for additional instructions. If the site or facility has a written emergency response plan, Ohio EPA staff will follow all applicable requirements.

Emergency Contact Information

Is 911 service available? ☒ Yes ☐ No

Local Police	2660 Lyons Road Miami Township, OH 45342	Phone	(937) 433 — 2301
Sheriff		Phone	( ) —
Fire Department	2710 Lyons Rd Miamisburg	Phone	(937) 560 — 2152
Poison Control Center Phone	(937) 222 — 2227	Ohio EPA Spill Hotline	(800) 282 — 9378

Urgent Care Information

Urgent Care				Phone	( ) —
Address		City		Zip	—

Hospital Information

Hospital	Charles F Kettering Memorial Hospital			Phone	(937) 223 — 4725
Address	3535 Southern Blvd,	City	Dayton	Zip	45429 —

Please attach driving directions from the site to the hospital to this HASP

Site Name: Layer Park

ATTACHMENT 1
NIOSH Pocket Guide to Chemical Hazards Data Sheets

Centers for Disease Control and Prevention
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SEARCH

Enter search terms separated by spaces.

Arsenic (inorganic compounds, as As)

Synonyms & Trade Names Arsenic metal: Arsenia
Other synonyms vary depending upon the specific As compound. [Note: OSHA considers "Inorganic Arsenic" to mean copper acetoarsenite and all inorganic compounds containing arsenic except ARSINE.]

CAS No. 7440-38-2 (metal)	**RTECS No.** CG0525000 (metal) (/niosh-rtecs/CG802C8.html)	**DOT ID & Guide** 1558 152 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx/guide152/) (http://www.cdc.gov/Other/disclaimer.html) (metal) 1562 152 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx/guide152/) (http://www.cdc.gov/Other/disclaimer.html) (dust)
Formula As (metal)	**Conversion**	**IDLH** Ca [5 mg/m³ (as As)] See: 7440382 (/niosh/idlh/7440382.html)
Exposure Limits **NIOSH REL** : Ca C 0.002 mg/m³ [15-minute] See Appendix A (nengapdxa.html) **OSHA PEL** : [1910.1018] TWA 0.010 mg/m³		**Measurement Methods** **NIOSH** 7300 (/niosh/docs/2003-154/pdfs/7300.pdf), 7301 (/niosh/docs/2003-154/pdfs/7301.pdf), 7303 (/niosh/docs/2003-154/pdfs/7303.pdf), 7900 (/niosh/docs/2003-154/pdfs/7900.pdf), 9102 (/niosh/docs/2003-154/pdfs/9102.pdf); **OSHA** ID105 (http://www.osha.gov/dts/sltc/methods/inorganic/id105/id105.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Metal: Silver-gray or tin-white, brittle, odorless solid.

MW: 74.9	**BP:** Sublimes	MLT: 1135°F (Sublimes)	**Sol:** Insoluble	**VP:** 0 mmHg (approx)	**IP:** NA
Sp.Gr: 5.73 (metal)	**Fl.P:** NA	**UEL:** NA	**LEL:** NA		

Metal: Noncombustible Solid in bulk form, but a slight explosion hazard in the form of dust when exposed to flame.

Incompatibilities & Reactivities Strong oxidizers, bromine azide [Note: Hydrogen gas can react with inorganic arsenic to form the highly toxic gas arsine.]

Exposure Routes inhalation, skin absorption, skin and/or eye contact, ingestion

Symptoms Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, resp irritation, hyperpigmentation of skin, [potential occupational carcinogen]

Target Organs Liver, kidneys, skin, lungs, lymphatic system

Cancer Site [lung & lymphatic cancer]

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contaminated/Daily
Remove: When wet or contaminated
Change: Daily
Provide: Eyewash, Quick drench

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap wash immediately
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations
(See Appendix E) (nengapdxe.html)

NIOSH

At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted acid gas canister having an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0013 (/niosh/ipcsneng/neng0013.html)
See MEDICAL TESTS: 0017 (/niosh/docs/2005-110/nmed0017.html)

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Mercury compounds [except (organo) alkyls] (as Hg)

Synonyms & Trade Names Mercury metal: Colloidal mercury, Metallic mercury, Quicksilver
Synonyms of "other" Hg compounds vary depending upon the specific compound.

CAS No. 7439-97-6 (metal)	**RTECS No.** OV4550000 (metal) (/niosh-rtecs/OV456D70.html)	**DOT ID & Guide** 2809 172 (http://wwwapps.tc.gc.ca/saf-sec-sur/3/erg-gmu/erg/guidepage.aspx/guide172/) (http://www.cdc.gov/Other/disclaimer.html) (metal)
Formula Hg (metal)	**Conversion**	**IDLH** 10 mg/m3 (as Hg) See: 7439976 (/niosh/idlh/7439976.html)
Exposure Limits **NIOSH REL** : Hg Vapor: TWA 0.05 mg/m3 [skin] Other: C 0.1 mg/m3 [skin] **OSHA PEL** † (nengapdxg.html) : TWA 0.1 mg/m3		**Measurement Methods** **NIOSH** 6009 (/niosh/docs/2003-154/pdfs/6009.pdf) ; **OSHA** ID140 (http://www.osha.gov/dts/sltc/methods/inorganic/id140/id140.html) (http://www.cdc.gov/Other/disclaimer.html) See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description Metal: Silver-white, heavy, odorless liquid. [Note: "Other" Hg compounds include all inorganic & aryl Hg compounds except (organo) alkyls.]

MW:	BP:	FRZ:	Sol:	VP:	IP:
200.6	674° F	-38°F	Insoluble	0.0012 mmHg	?

Sp.Gr:	Fl.P:	UEL:	LEL:		
13.6 (metal)	NA	NA	NA		

Metal: Noncombustible Liquid

Incompatibilities & Reactivities Acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper

Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headache, lassitude (weakness, exhaustion); stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria

Target Organs Eyes, skin, respiratory system, central nervous system, kidneys

Personal Protection/Sanitation (See protection codes (protect.html))	**First Aid** (See procedures (firstaid.html)) **Eye:** Irrigate immediately

Skin: Prevent skin contact **Eyes:** No recommendation **Wash skin:** When contaminated **Remove:** When wet or contaminated **Change:** Daily	**Skin:** Soap wash promptly **Breathing:** Respiratory support **Swallow:** Medical attention immediately

Respirator Recommendations

Mercury vapor:

NIOSH

Up to 0.5 mg/m3:
(APF = 10) Any chemical cartridge respirator with cartridge(s) providing protection against the compound of concern†
(APF = 10) Any supplied-air respirator

Up to 1.25 mg/m3:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode
(APF = 25) Any powered, air-purifying respirator with cartridge(s) providing protection against the compound of concern†(canister)

Up to 2.5 mg/m3:
(APF = 50) Any chemical cartridge respirator with a full facepiece and cartridge(s) providing protection against the compound of concern†
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern†
(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode
(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and cartridge(s) providing protection against the compound of concern(canister)
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Up to 10 mg/m3:
(APF = 1000) Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern
Any appropriate escape-type, self-contained breathing apparatus

Other mercury compounds: NIOSH/OSHA

Up to 1 mg/m3:
(APF = 10) Any chemical cartridge respirator with cartridge(s) providing protection against the compound of concern†
(APF = 10) Any supplied-air respirator

Up to 2.5 mg/m3:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode

(APF = 25) Any powered, air-purifying respirator with cartridge(s) providing protection against the compound of concern†(canister)

Up to 5 mg/m3:
(APF = 50) Any chemical cartridge respirator with a full facepiece and cartridge(s) providing protection against the compound of concern†
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern†
(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode
(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and cartridge(s) providing protection against the compound of concern(canister)
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Up to 10 mg/m3:
(APF = 1000) Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against the compound of concern
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0056 (/niosh/ipcsneng/neng0056.html) See MEDICAL TESTS: 0136 (/niosh/docs/2005-110/nmed0136.html)

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Lead

Synonyms & Trade Names Lead metal, Plumbum

CAS No.	RTECS No.	DOT ID & Guide
7439-92-1	OF7525000 (/niosh-rtecs/OF72D288.html)	

Formula	Conversion	IDLH
Pb		100 mg/m3 (as Pb) See: 7439921 (/niosh/idlh/7439921.html)

Exposure Limits

NIOSH REL *: TWA (8-hour) 0.050 mg/m3 See Appendix C (nengapdxc.html) [*Note: The REL also applies to other lead compounds (as Pb) -- see Appendix C.]

OSHA PEL *: [1910.1025] TWA 0.050 mg/m3 See Appendix C (nengapdxc.html) [*Note: The PEL also applies to other lead compounds (as Pb) -- see Appendix C.]

Measurement Methods

NIOSH 7082 (/niosh/docs/2003-154/pdfs/7082.pdf), 7105 (/niosh/docs/2003-154/pdfs/7105.pdf), 7300 (/niosh/docs/2003-154/pdfs/7300.pdf), 7301 (/niosh/docs/2003-154/pdfs/7301.pdf), 7303 (/niosh/docs/2003-154/pdfs/7303.pdf), 7700 (/niosh/docs/2003-154/pdfs/7700.pdf), 7701 (/niosh/docs/2003-154/pdfs/7701.pdf), 7702 (/niosh/docs/2003-154/pdfs/7702.pdf), 9100 (/niosh/docs/2003-154/pdfs/9100.pdf), 9102 (/niosh/docs/2003-154/pdfs/9102.pdf), 9105 (/niosh/docs/2003-154/pdfs/9105.pdf);

OSHA ID121 (http://www.osha.gov/dts/sltc/methods/inorganic/id121/id121.html) (http://www.cdc.gov/Other/disclaimer.html), ID125G (http://www.osha.gov/dts/sltc/methods/inorganic/id125g/id125g.html) (http://www.cdc.gov/Other/disclaimer.html), ID206 (http://www.osha.gov/dts/sltc/methods/inorganic/id206/id206.html) (http://www.cdc.gov/Other/disclaimer.html)

See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html) (http://www.cdc.gov/Other/disclaimer.html)

Physical Description A heavy, ductile, soft, gray solid.

MW:	BP:	MLT:	Sol:	VP:	IP:
207.2	3164° F	621°F	Insoluble	0 mmHg (approx)	NA

Sp.Gr:	Fl.P:	UEL:	LEL:
11.34	NA	NA	NA

Noncombustible Solid in bulk form.

Incompatibilities & Reactivities Strong oxidizers, hydrogen peroxide, acids

Exposure Routes inhalation, ingestion, skin and/or eye contact

Symptoms lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension

Target Organs Eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue

Personal Protection/Sanitation (See protection codes (protect.html))
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: Daily
Remove: When wet or contaminated
Change: Daily

First Aid (See procedures (firstaid.html))
Eye: Irrigate immediately
Skin: Soap flush promptly
Breathing: Respiratory support
Swallow: Medical attention immediately

Respirator Recommendations
(See Appendix E) (nengapdxe.html)
NIOSH/OSHA

Up to 0.5 mg/m³:
(APF = 10) Any air-purifying respirator with an N100, R100, or P100 filter (including N100, R100, and P100 filtering facepieces) except quarter-mask respirators.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 10) Any supplied-air respirator

Up to 1.25 mg/m³:
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode
(APF = 25) Any powered, air-purifying respirator with a high-efficiency particulate filter.

Up to 2.5 mg/m³:
(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
(APF = 50) Any supplied-air respirator that has a tight-fitting facepiece and is operated in a continuous-flow mode
(APF = 50) Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece

Up to 50 mg/m³:
(APF = 1000) Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode

Up to 100 mg/m³:
(APF = 2000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

Escape:
(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.
Click here (pgintrod.html#nrp) for information on selection of N, R, or P filters.
Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0052 (/niosh/ipcsneng/neng0052.html) See MEDICAL TESTS: 0127 (/niosh/docs/2005-110/nmed0127.html)

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Site Name: _____

ATTACHMENT 2
Directions from Site to Hospital

YOUR TRIP TO:

Charles F Kettering Memorial Hospital

5 MIN | 2.6 MI

Trip time based on traffic conditions as of 11:05 AM on February 26, 2016. Current Traffic: Light

1. Start out going **west** on Bushwick Dr toward Cordell Dr.

Then 0.30 miles — 0.30 total miles

2. Turn **right** onto Lamme Rd.
Lamme Rd is just past Joyce Dr.

If you reach Latonia Ave you've gone a little too far.

Then 0.93 miles — 1.23 total miles

3. Turn **right** onto W Stroop Rd.
W Stroop Rd is 0.1 miles past Owendale Dr.

Then 0.96 miles — 2.19 total miles

4. Turn **left** onto Southern Blvd.
Southern Blvd is 0.4 miles past Tait Rd.

If you reach Stonebridge Rd you've gone about 0.1 miles too far.

Then 0.41 miles — 2.60 total miles

5. Charles F Kettering Memorial Hospital, 3535 SOUTHERN BLVD.
Your destination is 0.1 miles past Blossom Heath Rd.

If you reach Ridgeleigh Rd you've gone a little too far.