PA DEP Proposed Statewide Health Standards



2025

Walter H. Hungarter III, P.E.
Vice President
RT Environmental Services, Inc.

April 16, 2025





- Proposed Statewide Health Standards
 - Changes <u>Currently</u> Proposed
 - Future Changes (Arsenic)
- Lead in Soil
- PFAS
- Impacts to Clean Fill

Due Diligence Resources





3-Year Review Cycles

July 2, 2024 - Proposed Updates by DEP

Public Comments, Environmental Quality Board Review, Then Implementation



REMEMBER THAT DEP STATEWIDE
HEALTH STANDARDS ARE USED AS THE
CLEAN FILL STANDARDS





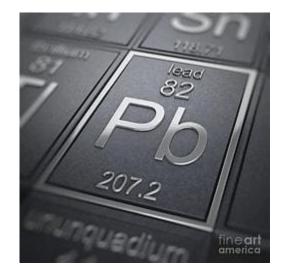
2024 Proposal

Update Lead SHS for Direct Contact

Addition of MORE PFAS

Revise PAH Toxicity Values

Update Toxicity Values for 19 Other Compounds to be Consistent with EPA Values







Appendix A Table 3—Medium-Specific Concentrations (MSCs) for Organic Regulated Substances in Soil A. Direct Contact Numeric Values

				Nonresidential				
REGULATED SUBSTANCE	CASRN	Residenti	ial	Surface	,	Subsurfa	ce	
NEGOLATED GODGTANGE	OAGAN	0—15 fee	et	Soil		Soil		
				0—2 fee	et .	2—15 feet		
BENZO[A]ANTHRACENE	56-55-3	[6.1] <u>42</u>	G	[130] <u>910</u>	G	190,000	С	
BENZO[A]PYRENE	50-32-8	4.2	G	91	G	190,000	С	
BENZO[B]FLUORANTHENE	205-99-2	[3.5] <u>42</u>	G	[76] <u>910</u>	G	190,000	С	
BENZO[GHI]PERYLENE	191-24-2	13,000	G	190,000	С	190,000	С	
BENZO[K]FLUORANTHENE	207-08-9	[3.5] <u>420</u>	G	[76] <u>9,100</u>	G	190,000	С	
BENZOIC ACID	65-85-0	190,000	С	190,000	С	190,000	С	
BENZOTRICHLORIDE	98-07-7	1.4	G	7	G	10,000	С	
BENZYL ALCOHOL	100-51-6	10,000	С	10,000	С	10,000	С	
BENZYL CHLORIDE	100-44-7	9	N	45	N	52	Ν	
BETA PROPIOLACTONE	57-57-8	0.11	N	0.55	N	0.63	N	
BHC, ALPHA	319-84-6	3	G	14	G	190,000	С	
BHC, BETA-	319-85-7	10	G	51	G	190,000	С	
BHC, GAMMA (LINDANE)	58-89-9	[17] <u>2.2</u>	G	[83] <u>32</u>	G	190,000	С	
BIPHENYL, 1,1-	92-52-4	8.2	Ν	34	N	40	Ν	
BIS(2-CHLOROETHOXY)METHANE	111-91-1	660	G	9,600	G	10,000	С	
BIS(2-CHLOROETHYL)ETHER	111-44-4	1.3	N	6.7	N	7.6	N	
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	[44] <u>8,800</u>	[N]	[220]	[N]	[250]	[N]	
			<u>G</u>	<u>10,000</u>	<u>C</u>	<u>10,000</u>	<u>C</u>	





RT Environmental Services, Inc.

Appendix A

Table 3—Medium-Specific Concentrations (MSCs) for Organic Regulated Substances in Soil

B. Soil to Groundwater Numeric Values¹

			Used Aquifers									Nanua Anulfara			
REGULATED SUBSTANCE		TDS ≤ 2500 mg/L					TDS > 2500 mg/L				Nonuse Aquifers				
	CASRN	Res	Residential		sidential	Res	Residential		Nonresidential		Residential		Nonresidential		
NEGOLATED GODOTATIOE	OAGHIV.	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value		
BENZIDINE	92-87-5	0.000092	0.12 E	0.0012	1.6 E	0.0092	12 E	0.12	160 E	0.092	120 E	1.2	1,600 E	5	
BENZO[A]ANTHRACENE	56-55-3	[0.03] <u>0.21</u>	[26] <u>180</u> E	[0.39] 1.1	[340] <u>960</u> E	1.1	960 E	1.1	960 E	1.1	960 E	1.1	960 E	5	
BENZO[A]PYRENE	50-32-8	0.02	46 E	0.02	46 E	0.38	860 E	0.38	860 E	0.38	860 E	0.38	860 E	5	
BENZO[B]FLUORANTHENE	205-99-2	[0.018] 0.12	[25] <u>170</u>	0.12	170 E	0.12	170 E	0.12	170 E	0.12	170 E	0.12	170 E	5	
BENZO[GHI]PERYLENE	191-24-2	0.026	180 E	0.026	180 E	0.026	180 E	0.026	180 E	0.026	180 E	0.026	180 E	5	
BENZO[K]FLUORANTHENE	207-08-9	[0.018] 0.055	[200] <u>610</u>	0.055	610 E	0.055	610 E	0.055	610 E	0.055	610 E	0.055	610 E	5	
DENZOIO AOID	CE OF O	44.000	0.700	20,000	7.000 [400 000	E0 000 E	400 000	F0 000 F	44.000	0.700 F	20,000	7 F00 F	AIA	







Appendix A

Table 4—Medium-Specific Concentrations (MSCs) for Inorganic Regulated Substances in Soil

A. Direct Contact Numeric Values



LEAD Reduced and Increased

CADMIUM Reduced

CLEAN FILL?

				Nonresidential MSCs						
REGULATED SUBSTANCE	CASRN	Residential N 0—15 fee		Surface So 0—2 feet		Subsurface Soil 2—15 feet				
ALUMINUM	7429-90-5	190,000	С	190,000	С	190,000	С			
ANTIMONY	7440-36-0	88	G	1,300	G	190,000	С			
ARSENIC	7440-38-2	12	G	61	G	190,000	С			
BARIUM AND COMPOUNDS	7440-39-3	44,000	G	190,000	С	190,000	С			
BERYLLIUM	7440-41-7	440	G	6,400	G	190,000	С			
BORON AND COMPOUNDS	7440-42-8	44,000	G	190,000	С	190,000	С			
CADMIUM	7440-43-9	[110] <u>22</u>	G	[1,600] <u>320</u>	G	190,000	С			
CHROMIUM III	16065-83-1	190,000	С	190,000	С	190,000	С			
CHROMIUM VI	18540-29-9	37	G	180	G	140,000	N			
COBALT	7440-48-4	66	G	960	G	190,000	N			
COPPER	7440-50-8	7,200	G	100,000	G	190,000	С			
CYANIDE, FREE	57-12-5	[130] <u>140</u>	G	[1,900] <u>2,000</u>	G	190,000	С			
FLUORIDE	16984-48-8	8,800	G	130,000	G	190,000	С			
IRON	7439-89-6	150,000	G	190,000	С	190,000	С			
LEAD	7439-92-1	[500] <u>200</u>	[U] <u>I</u>	[1,000] <u>1,100</u>	[S] <u>A</u>	190,000	С			
LITHIUM	7439-93-2	440	G	6,400	G	190,000	С			
MANGANESE	7439-96-5	31,000	G	190,000	С	190,000	С			





RT Environmental Services, Inc.

Table 4 - Medium-Specific Concentrations (MSCs) for Inorganic Regulated Substances in Soil B. Soil to Groundwater Numeric Values¹

		$\overline{}$			Used	Aquifers				$\overline{}$	Nonuse Aquifers			
			TDS <	= 2500			TDS:	> 2500		l	Nonuse	Aquiters	!	Buffer
REGULATED SUBSTANCE	CASRN	F	R		R	F	R	N	R	R		N	IR .	Distance
		100 X	Generic	100 X	Generic	100 X	Generic	100 X	Generic	100 X	Generic	100 X	Generic	1 V
	<u> </u>	GW MSC	Value	GW MSC	Value	GW MSC	Value	GW MSC	Value	GW MSC	Value	GW MSC	Value	(feet)
ANTIMONY	7440-36-0	0.6			27	60		_	2,00	600	27000	600	27000	15
ARSENIC	7440-38-2	1	29	1	29	100	2900	100	2900	1000	29000	1000	29000	15
BARIUM AND COMPOUNDS	7440-39-3	200	8200	200	8200	20000	190000	20000	190000	190000	190000	190000	190000	15
BERYLLIUM	7440-41-7	0.4	320	0.4	320	40	32000	40	32000	400	190000	400	190000	10
BORON AND COMPOUNDS	7440-42-8	600	1900	600			190000	60000	190000	190000	190000	190000	190000	30
CADMIUM	7440-43-9	0.5	38	0.5	38	50	3800	50	3800	500	38000	500	38000	15
CHROMIUM (III)	16065-83-1	10			190000		190000			10000	190000	10000	190000	
CHROMIUM (VI)	18540-29-9	10	190	10	190	1000	19000	1000	19000	10000	190000	10000	190000	15
COBALT	7440-48-4	-	45						13000	1000	45000	2900	130000	15
COPPER	7440-50-8							_						
CYANIDE, FREE	57-12-5	20	200	20	200	2000	20000	2000	20000	20000	190000	20000	190000	20
FLUORIDE	16984-48-8	400	44	400					4400		44000			
LEAD	7439-92-1	0.5	450				45000			500	190000	500	190000	10
LITHIUM	7439-93-2	6.9	2100	19	5700	690	190000	1900	190000	6900	190000	19000	190000	10
MANGANESE	7439-96-5	30	2000	30	2000	3000	190000	3000	190000	30000	190000	30000	190000	15

NO LEAD OR CADMIUM REDUCTIONS PROPOSED FOR SOIL TO GROUNDWATER VALUES



Clean Fill Impacts

RT Environmental Services, Inc.

				Nonresidential				
REGULATED SUBSTANCE	CASRN	Resident	ial	Surface)	Subsurface		
NEODENTED OCDOTATOE	OAONIV	0—15 fe	et	Soil		Soil		
				0—2 fee	et .	2—15 feet		
PEBULATE	1114-71-2	[10,000]	[C]	[10,000]	[C]	10,000	С	
		<u>150</u>	<u>G</u>	<u>2,200</u>	<u>G</u>			
PENTACHLOROBENZENE	608-93-5	180	G	2,600	G	190,000	С	
PENTACHLOROETHANE	76-01-7	210	G	1,000	G	10,000	С	
PENTACHLORONITROBENZENE	82-68-8	72	G	350	G	190,000	С	
PENTACHLOROPHENOL	87-86-5	47	G	230	G	190,000	С	
PERFLUOROBUTANE SULFONATE (PFBS)	375-73-5	66	G	960	G	10,000	С	
PERFLUOROBUTANOIC ACID (PFBA)	375-22-4	220	<u>G</u>	3,200	<u>G</u>	190,000	<u>C</u>	
PERFLUOROHEXANOIC ACID (PFHxA)	307-24-4	<u>110</u>	G	1,600	G	10,000	C	
PERFLUOROOCTANE SULFONATE (PFOS)	1763-23-1	[4.4] <u>0.68</u>	G	[64] <u>9.9</u>	G	190,000	С	
PERFLUOROOCTANOIC ACID (PFOA)	335-67-1	[4.4] <u>0.86</u>	G	[64] <u>12</u>	G	190,000	С	
PHENACETIN	62-44-2	8,500	G	41,000	G	190,000	С	
PHENANTHRENE	85-01-8	66,000	G	190,000	С	190,000	С	
PHENOL	108-95-2	3,800	N	16,000	N	18,000	N	
PHENYL MERCAPTAN	108-98-5	220	G	3,200	G	10,000	С	
PHENYLENEDIAMINE, M-	108-45-2	1,300	G	19,000	G	190,000	С	
PHENYLPHENOL, 2-	90-43-7	9,600	G	47,000	G	190,000	С	
PHORATE	298-02-2	[44] <u>37</u>	G	[640] <u>540</u>	G	10,000	С	
PHTHALIC ANHYDRIDE	85-44-9	380	N	1,600	N	1,800	N	
PICLORAM	1918-02-1	15,000	G	190,000	С	190.000	C	
POTASSIUM PERFLUOROBUTANE SULFONATE	29420-49-3	66	G	960	G			

PFAS Reduced, Adding New Compounds







PFAS

Appendix A

Table 3—Medium-Specific Concentrations (MSCs) for Organic Regulated Substances in Soil

B. Soil to Groundwater Numeric Values¹

			Used Aquifers TDS ≤ 2500 mg/L TDS > 2500 mg/L							Nonuse Aquifers				Soil Buffer Distance
REGULATED SUBSTANCE	CASRN	Residential		Nonres	sidential	Resi	Residential		Nonresidential		Residential		Nonresidential	
	OASKN	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value	100 X GW MSC	Generic Value							
PERFLUOROHEXANOIC ACID (PFHxA)	<u>307-24-4</u>	<u>1.7</u>	N/A	4.9	N/A	<u>170</u>	N/A	<u>490</u>	<u>N/A</u>	<u>1.7</u>	N/A	<u>4.9</u>	N/A	<u>NA</u>
PERFLUOROOCTANE SULFONATE (PFOS)	1763-23-1	[0.007] 0.0018	N/A	[0.007] 0.0018	N/A	[0.7] <u>0.18</u>	N/A	[0.7] <u>0.18</u>	N/A	[0.007] 0.0018	N/A	[0.007] 0.0018	N/A	NA
PERFLUOROOCTANOIC ACID (PFOA)	335-67-1	[0.007] 0.0014	N/A	[0.007] 0.0014	N/A	[0.7] <u>0.14</u>	N/A	[0.7] <u>0.14</u>	N/A	[0.007] 0.0014	N/A	[0.007] <u>0.0014</u>	N/A	NA
DHENIACETIN	62-44-2	30	10 =	120	46	3 000	1 200 E	12 000	4 600 E	30 000	12 000 E	76 000	20 UUU E	MΛ

PFAS Reduced, Adding New Compounds





Proposed Statewide Health Standards STATUS MARCH 2025

From: Sterling, Brie < bsterling@pa.gov>
Sent: Tuesday, March 11, 2025 10:59 AM
To: Walter Hungarter < whungarter@rtenv.com>
Cc: Brown, C David < cdbrown@pa.gov>

Subject: RE: [External] Act 2 Standard Update 2025

Good morning,

We are currently planning to present the final regulations to the EQB in the 3rd quarter of 2025 and have them published as final before the end of the year. This is not guaranteed to happen, but this is our current plan.

Please let me know if you have any other questions.

Thank you, Brie

Brie Sterling | Environmental Group Manager Department of Environmental Protection | Bureau of Environmental Cleanup and Brownfields Rachel Carson State Office Building 400 Market Street | Harrisburg, PA 17105-8471

Phone: 717.783.9469 | Fax: 717.772.5598 www.dep.pa.gov





REMEMBER THAT DEP STATEWIDE HEALTH STANDARDS ARE USED AS THE CLEAN FILL STANDARDS

Clean Fill Determined by Due Diligence



Clean Fill Determined by Analytical Testing





REMEMBER THAT DEP STATEWIDE HEALTH STANDARDS ARE USED AS THE CLEAN FILL STANDARDS

SOIL CLEAN FILL STANDARDS AND LABORATORY DATA

- Lower of Direct Contact and Soil to Groundwater Generic Value
 - Currently Lead CF Value 450 mg/kg (based on Soil to Groundwater Value)
 - Proposed Lead CP Value 200 mg/kg (based on Direct Contact Value)
 - Currently Cadmium CF Value 38 mg/kg (based on Soil to Groundwater Value)
 - Proposed Cadmium Value 22 mg/kg (based on Direct Contact Value)





REMEMBER THAT DEP STATEWIDE HEALTH STANDARDS ARE USED AS THE CLEAN FILL STANDARDS

SOIL CLEAN FILL STANDARDS AND LABORATORY DATA

- Lower of Direct Contact and Soil to Groundwater Generic Value
 - Currently PFOS 4.4 mg/kg Direct Contact
 - Proposed PFOS 0.68 mg/kg Direct Contact
 - Currently PFOA 4.4 mg/kg Direct Contact
 - Proposed PFOA 0.86 mg/kg Direct Contact
 - NO GENERIC VALUE FOR PFAS. Groundwater Standards for PFAS are much Lower!! SO DIRECT CONTACT DRIVES CLEAN FILL VALUES





REMEMBER THAT DEP STATEWIDE HEALTH STANDARDS ARE USED AS THE CLEAN FILL STANDARDS

SOIL CLEAN FILL STANDARDS AND LABORATORY DATA

- Default to Direct Contact
 - New PFAS
 - PFBA 220 mg/kg (Direct Contact)
 - PFHxA 110 mg/kg (Direct Contact)
 - PFBS 66 mg/kg (Direct Contact)
 - HFPO [GEN-X] and Salts 0.66 mg/kg (Direct Contact)





Groundwater Standards will also be Updated!!

- Important for Water Management at Construction Sites
- NPDES Permitting Impacts (TOPIC FOR ANOTHER TIME)
- Health and Safey Impacts (TOPIC FOR ANOTHER TIME)







Future Proposed Statewide Health Standards

3-YEAR CYCLE FOR REVIEW

- Statewide Health Standards are Risked Based Standards
- EPA Proposed New Toxicity Values which WILL impact SHS
- Arsenic reduced over an order of Magnitude (EPA Regional Screening Level) for Residential and Non-Residential Situations
- Finalize in May of 2025 (BUT WE'LL SEE WHAT HAPPENS)
- DEP can do interim update after the SHS are Finalized Later This Year
- Or can incorporate into the current version.
- Either way, anticipate that after more than 20+ years dealing with an arsenic standard lower than BACKGROUND, the standard will likely be lower!





Clean Fill Due Diligence Vs. Testing

- Clean Fill Does NOT Default to Testing (even though it seems to be the case for every receiving site)
- Due Diligence push may become more of a priority!
- Due Diligence is Defined in Management of Fill Policy (Clean Fill)
- Could be a full Phase I or Could be an Environmental Review
- Focus on Sources for Environmental Review





HistoricAerials.com

General Atlas View of Project Area

Topographic Images over Many Years

Aerial Photographs over Many Years

FREE TO VIEW!!!!!!

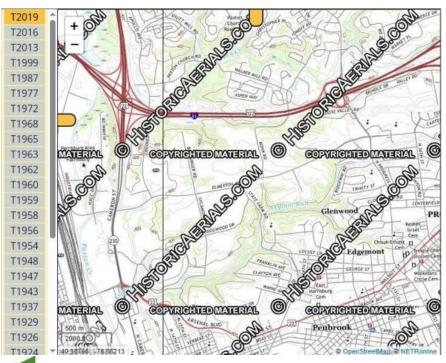


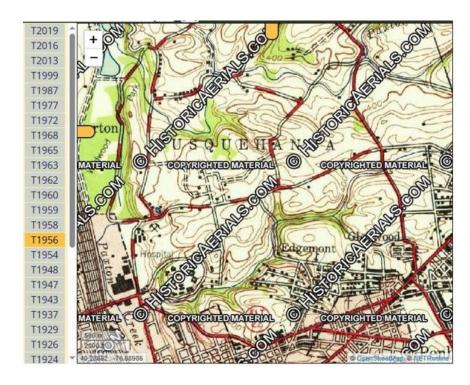




HistoricAerials.com

Topographic Images over Many Years



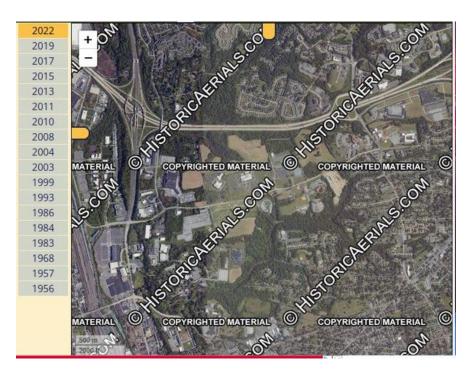






HistoricAerials.com

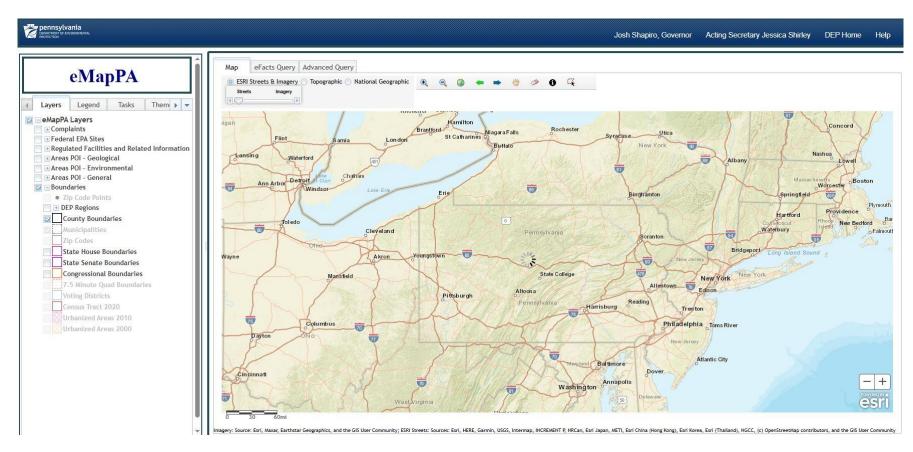
Aerial Images over Many Years







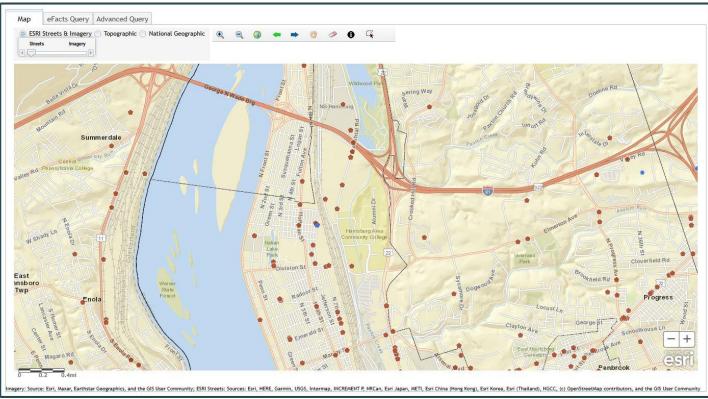
eMapPA (IT'S FREE!)







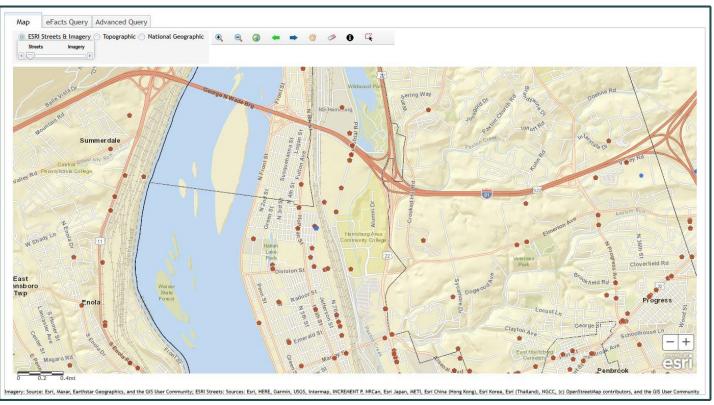






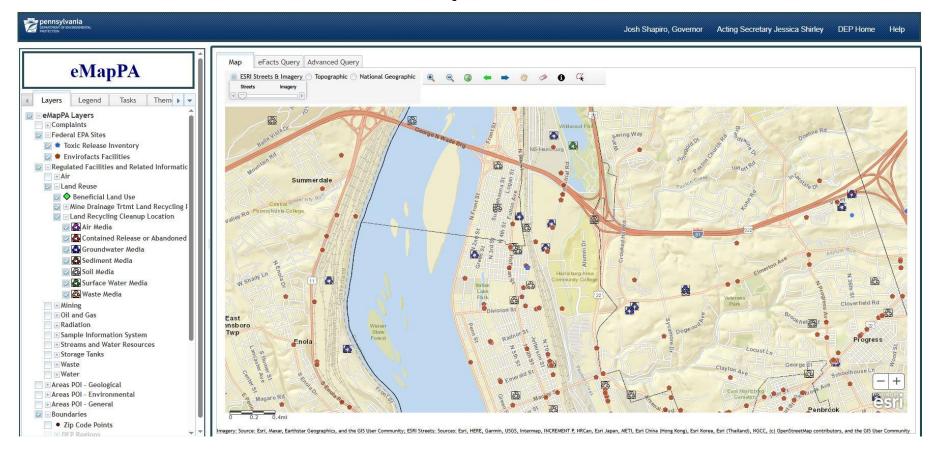






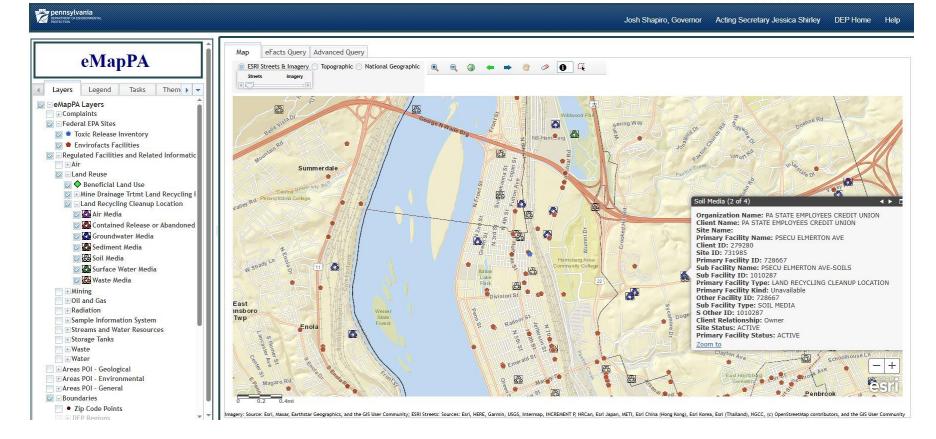






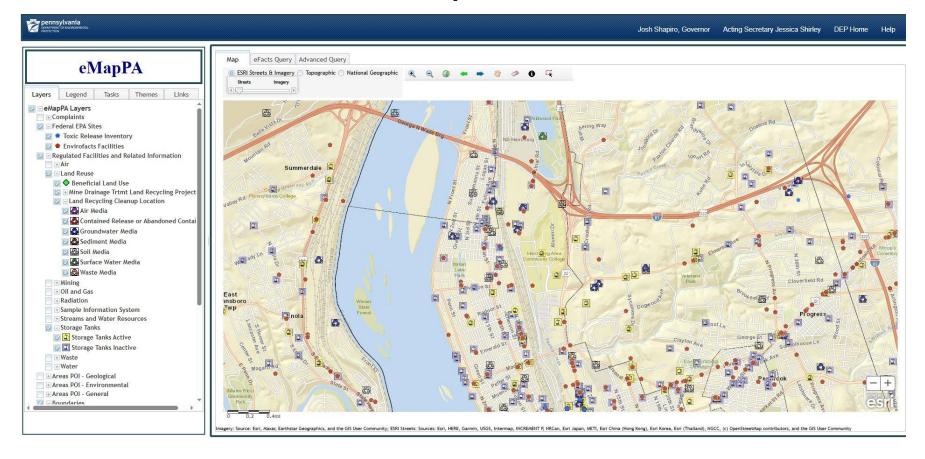






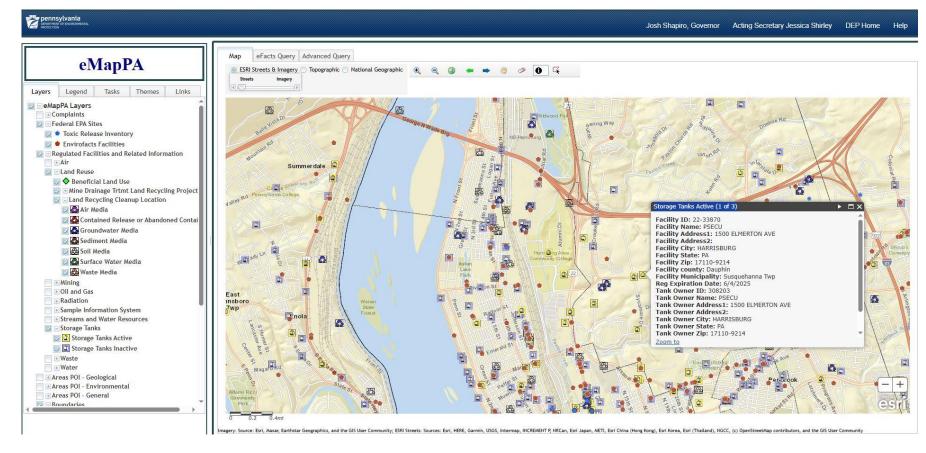






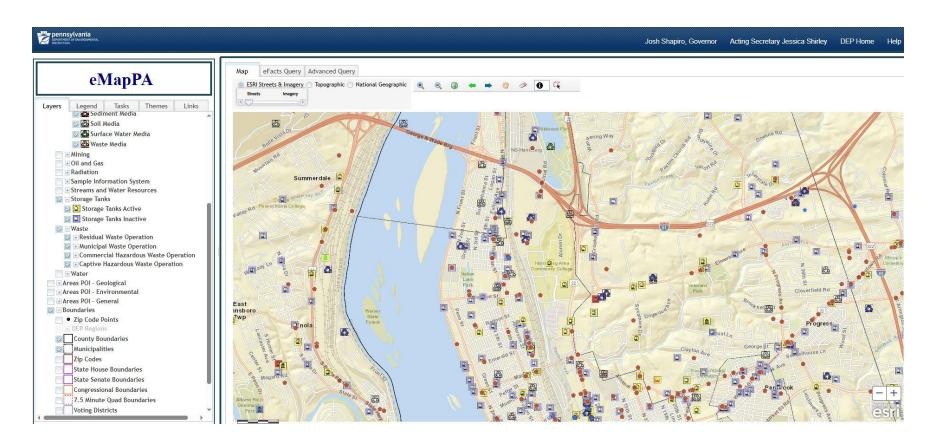






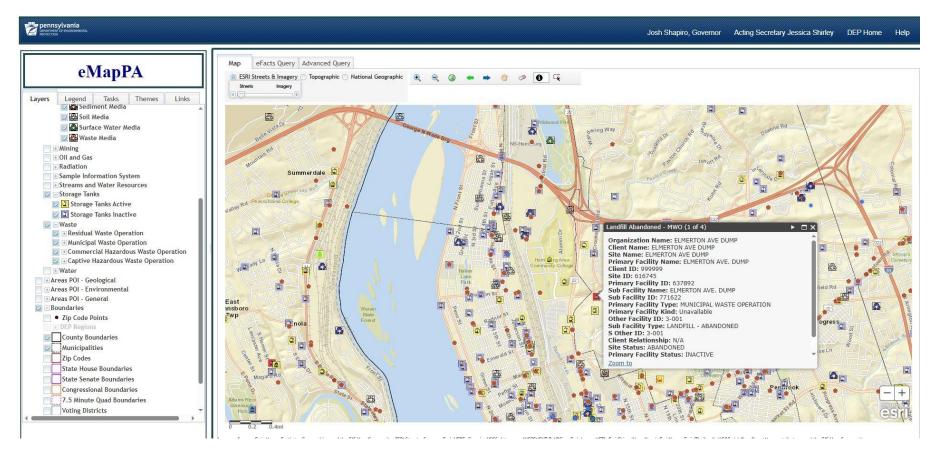










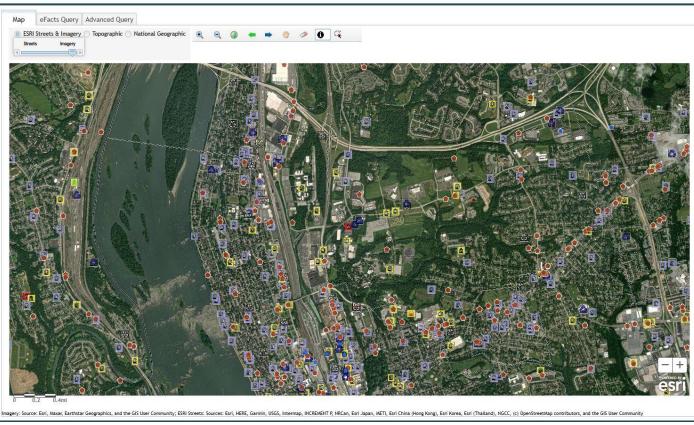










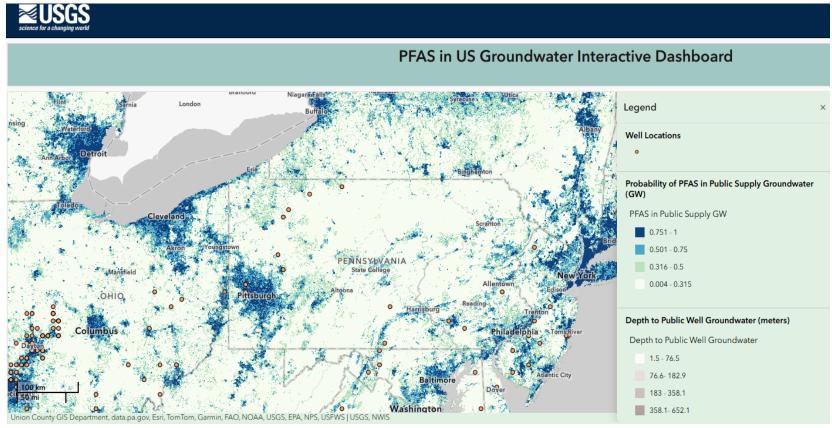






RT Environmental Services, Inc.

US EPA, USGS, PA DEP – Numerous Other Sources Available MOSTLY Focused on GROUNDWATER AND SURFACE WATER

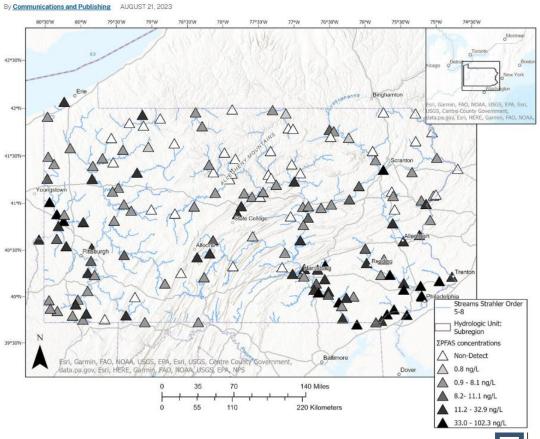








Pennsylvania state-wide surface water PFAS study







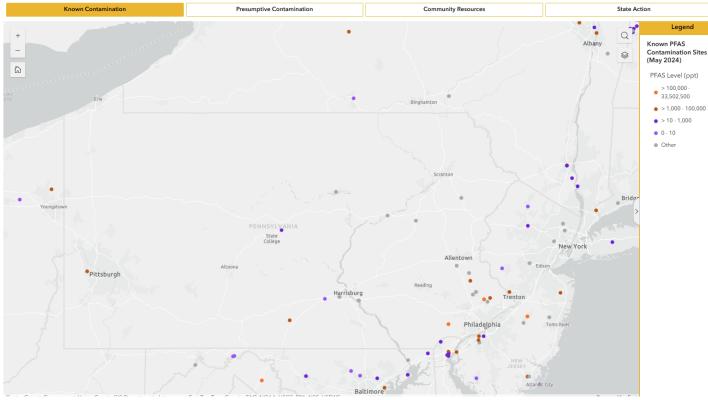
PFAS Sites and Community Resources An interactive mapping project from the PFAS-REACH team

How to use this map:

- Click on a site to learn more about it.
- Choose one of the buttons below to learn more about the layers shown on this map.
- Click the layers button in the top right of the map to display Tribal Lands boundaries.
- To collapse or expand the legend, click the arrow on the right side of the map.
- To share information with us about a site or source of contamination, please contact us.

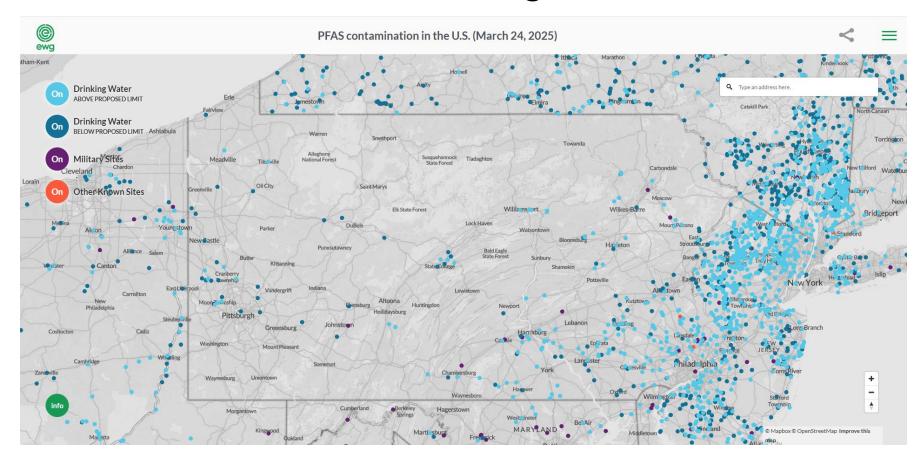
Details: The Known Contamination map contains over 2,000 sites throughout the United States where PFAS have been tested for and detected in the environment. These sites are tracked in the PFAS Contamination Site Tracker, developed and maintained by Northeastern University's PFAS Project Lab. Due to the lack of widespread testing for PFAS, the true extent of contamination is underrepresented in this map. The number of sites identified in each state reflects the amount of testing conducted by that state, as well as the extent of PFAS contamination. Some states appear to have many contamination sites due to comprehensive statewide regulatory efforts to identify and address contamination. Conversely, states that have few known sources of contamination have likely done less testing and may not be aware of other contamination sites in their state. Please note that some sites may have incomplete or missing data due to a lack of publicly available information.

Known Contamination Sites









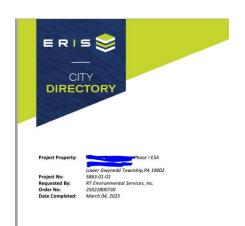




Due Diligence Database Services

- ERIS or EDR Reports (typically part of Phase I ESA)
- Can be Purchased Outside of a Phase I







Phase I ESA
Lower Gwynedd Township PA 1900
5863-01-01
Database Report
25031900038
RT Environmental Services, Inc.
March 21, 2025



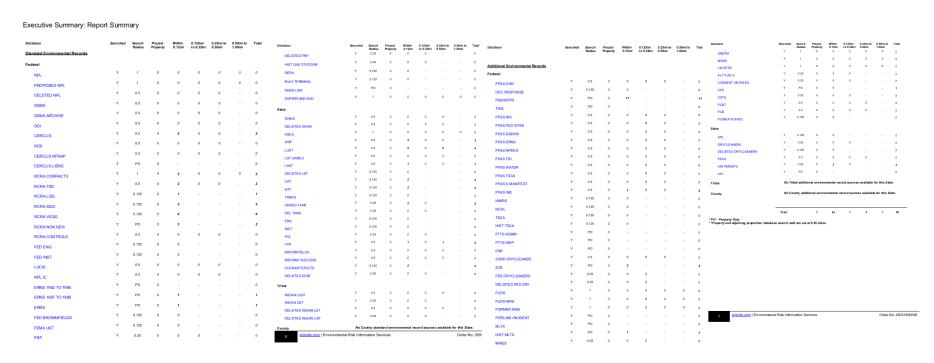






Due Diligence Database Services

- More Aerials, and Topographic Maps
- More Environmental Databases on Your Site AND in Your Project Area
- City Directory Listings for former Businesses In Project Area (can find listing of potential owners who could contaminate sites)

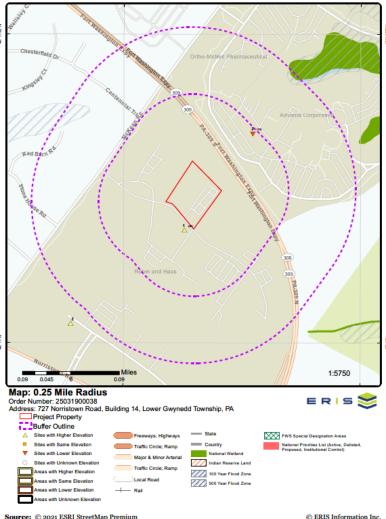






Due Diligence Database Services

Site and Surrounding Areas – Potential Due Diligence Concerns?





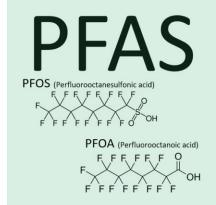


Due Diligence Database Services PFAS

Data	base	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
	SMCRA	Υ	f	o	0	O	0	0	0
	MRDS	Y	f	ø	0	O	٥	O	O
	LM SITES	Υ	f	o	0	0	ø	o	0
	ALT FUELS	Υ	0.25	o	0	0	-	-	0
	CONSENT DECREES	Υ	0.25	o	0	0		-	0
	AFS	Υ	PO	o	1	-	-	-	1
	SSTS	Υ	0.25	o	0	0		-	0
	POBT	Υ	0.5	0	0	O	0	-	ø
	POB	Y	0.5	o	0	O	0	-	o
	POWER PLANTS	Υ	0.125	o	O	-	-	-	0
Stat	e								
	SPL	Υ	0.125	ø	0	-		-	o
	DRYCLEANERS	Υ	0.25	o	0	0		-	0
	DELISTED DRYCLEANERS	Υ	0.125	o	0	-	-	-	o
	PFAS	Υ	0.5	o	0	O	0	-	ø
	AIR PERMITS	Υ	0.25	o	3	0			3
	uic	Υ	PO	0	-				0

- Potential Impacts for Projects Soil and Groundwater Management, Clean Fill, Health and Safety
- Free Sources for Due Diligence
- Paid Database Service Providers
- Environmental Consultant Phase I ESAs













- Proposed Statewide Health Standards
 - Changes <u>Currently</u> Proposed Likely Effective 2026 Construction Season
 - Future Changes (Arsenic)
- Due Diligence Resources
 - Spend Some Time on Due Diligence and Decide IF Testing is Needed OR NOT
 - Receiving Party of Clean Fill and Need for Testing
 - If Testing is Necessary Check the Current SHS





OPEN DISCUSSION AND QUESTIONS



(TIME PERMITTING)



