3.12.3 LOCKLAND SHEPHERD LANE LANDFILL

Facility Name: Lockland Shepherd Lane

A.K.A.:

Location: 611 Shepherd Lane

Parcel(s): 64100020002

Lat/Long: 39.233958 -84.463529

Region: City of Lockland

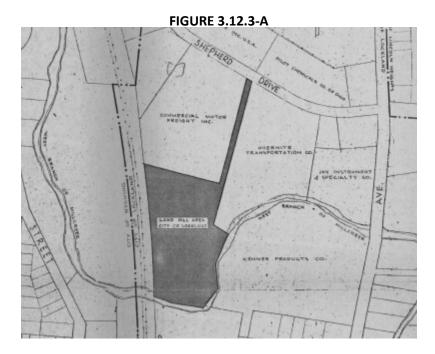
Owner: Eagle Materials LLC

Operation (yrs): 1969 – 1983



FACILITY OVERVIEW

According to a study completed by the Ohio Department of Health, DuPont –Lockland Works operated a chemical manufacturing facility on the site and surrounding property from 1929 to 1951. The facility produced various chemicals such as sulfuric acid and muriatic acid.

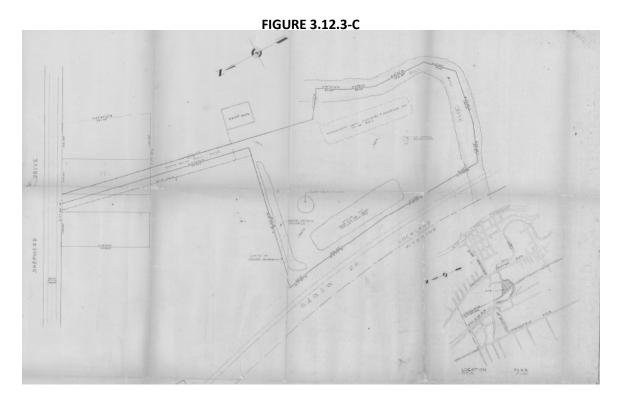


Some waste from these processes was buried on site in shallow unlined pits, but the location of these pits is unknown. After the closure of DuPont-Lockland works in 1951, the site sat vacant until 1958 when a developer bought the site and turned it into an industrial park. In aerial pictures from 1932 and 1950 (figure 3.12.3-B) it appears that the landfill area is untouched and the plant is contained to the area north of the future landfill.

FIGURE 3.12.3-B



According to a solid waste disposal questionnaire completed in 1974 by the Ohio EPA the landfill was first licensed in 1969 by the Lockland City Health Department. The site received approximately 36 tons per week that consisted of 90% household and 10% commercial waste.

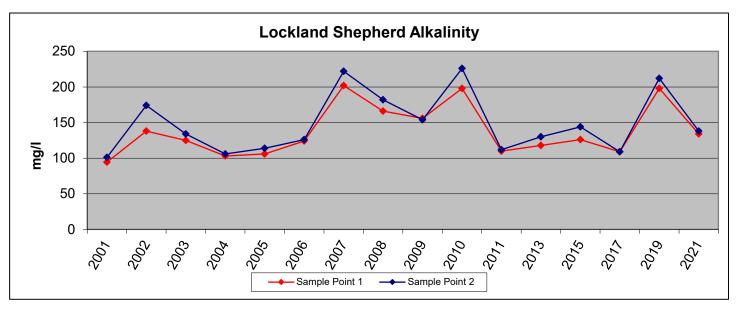


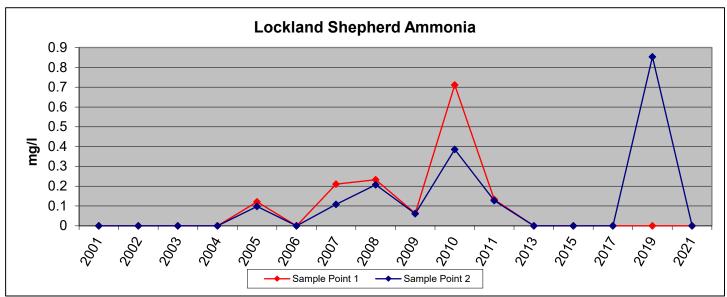
This site map above (Figure 3.12.3-C) was originally submitted in 1969 by Lockland, but this version is dated 1976 and shows the location of a completed pit and an active pit. The site was operated by Lockland until December 31, 1983, when the village's lease with the property owner expired. In February of 1984 the village indicated they had an opportunity to buy the site and inquired about obtaining a license. The village was informed that the site would not meet the hydro geological requirements of the solid waste rules, but that the site could be used to dispose of clean fill including construction and demolition materials. At the time this type of operation required no license.

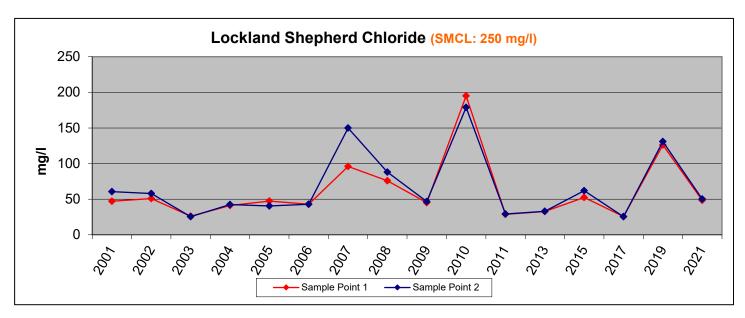
SAMPLING RESULTS

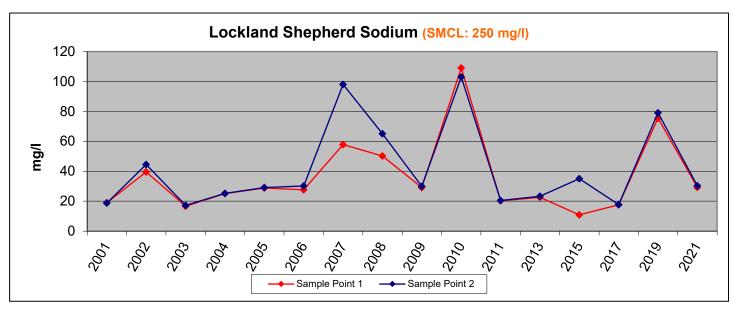
The West Fork of the Mill Creek flows along the south and east sides of the Lockland (Shepherd) Landfill. Stream samples are taken above (S-1) and below (S-2) the landfill. The Lockland landfill at Shepherd Lane is located adjacent and below the Wyoming landfill. Samples around Lockland Shepherd Lane Landfill were collected on October 13, 2021. The samples were collected during average flow as the area had received approximately 1.5 inches of rain during the previous 14 days none of which occurred over the 5 days prior to sampling. Both S-1 and S-2 sample locations consists of pools and riffles with a gravel and rocky bottom. The referenced locations are shown on Figure 3.12.3-D.

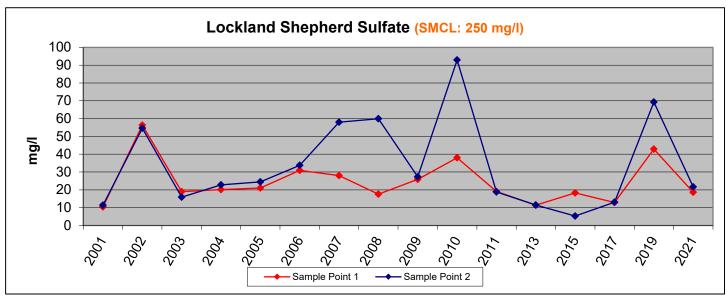
In 2010, alkalinity, chloride, sodium, sulfate, TDS, ammonia, and conductivity all exhibited highest levels since sampling began for both upstream and downstream samples (Appendix A). During subsequent sampling events in 2011, 2013, 2015, and 2017 concentrations of the above mentioned compounds returned to previously observed levels. In 2019 sampling results again increased to concentrations approaching those observed during 2010. For 2021, concentrations have trended downward and generally returned within ranges historically observed. Alkalinity, chloride, sodium, and sulfate all showed a decreasing trend when compared to 2019 and all remained below their respective SMCL's. During 2019 sampling, ammonia concentrations at sample point 2 were 0.853 mg/L. During 2021 sampling, ammonia concentrations were below the detection limit for both sampling locations. Iron fell below the SMCL (0.3 mg/L) at the upstream sample location (0.233 mg/L) while the downstream sample location (0.756 mg/L) exceeded the SMCL. Manganese exceeded the SMCL at both sampling points, however, the concentrations were within the elevated levels annually observed across the watershed. All other compounds remained below their respective MCL, secondary MCL, or action level at all sampling locations. Surface water chemical data is illustrated for Lockland Shepherd Lane Landfill in the graphs on the subsequent pages.

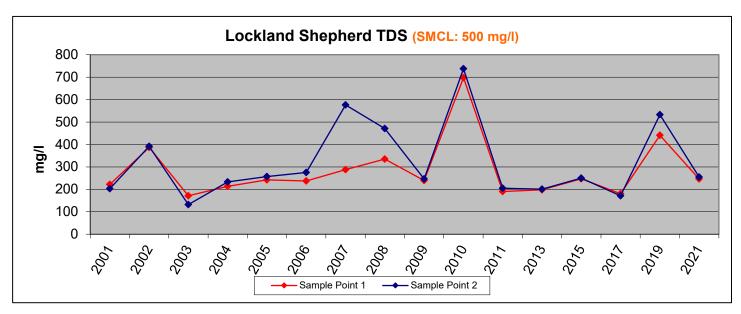












During 2019 sampling, many surface water chemical data parameters showed an increasing trend. No corresponding decrease in number or type of biological organisms has been observed during 2019 or 2021 monitoring. In 2021, 8 organisms were found at sample point 1 with 7 of them indicative of high or moderate quality (Table 3.12.3-A). This is a slight increase in the number of organisms found at this location compared to the last several sampling events where 5 (2019) and 6 (2017) organisms were observed. At the downstream sample point, 6 total organisms were observed with 5 of them indicating high or moderate water quality. This compares to 6 total organisms observed in 2019 and 4 organisms observed in 2017. The Health District staff will continue to monitor the biological water data in this area for any trends.

-																			•	Tal	ole	3.:	<u> 12</u>	.3-	Δ_							CROUD 2 (Leaves One litt)															
		GROUP 1 (Higher Quality) GROUP 2 (Moderate Quality)												GROUP 3 (Lower Quality) No												Ion-indicative																					
	Micropterus	Notropis	Etheostoma	Amphibia	Gastropoda	Gastropoda	Coleoptera	Coleoptera	Coleoptera	Coleoptera	Trichoptera	Ephemeroptera	Plecoptera	Plecoptera	Chelydra	Pimephales	Amphibia	Pelecypoda	Pelecypoda	Pelecypoda	Diptera	Diptera	Diptera		Odonata	Odonata	Odonata	Odonata	Isopoda	Amphipoda	Decapoda	Turbellaria	Nematoda	Annelida	Annelida	Gastropoda	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Diptera	Hemiptera	Hemiptera	Hemiptera	Hemiptera
	Bass	Shiner	Darter	Plethodontinae (Salamander)	Lymnea (Snail)	Planorbidae (Snail)	Dytiscidae (Crawling Water Beetle)	Hydrophilidae (Beetle Larva)	Psephenidae (Water Penny)	Elmidae (Adult Riffle)	Caddis Fly	Mayfly	Stonefly Nymph	Stonefly Adult	Snapping Turtle	Minnow	Ranidae (Frogs)	Mussel	Fingernail Clam	Other Clams	Crane Fly Larvae	Crane Fly Adult	Ptychopteridae (Phantom Crane Fly)	Sialidae (Alderfly)	Dragonfly Nymph	Dragonfly Adult	Damselfly Nymph	Damselfly Adult	Sow Bug	Scud	Crayfish	Flat Worm	Round Worm	Oligochaeta (Aquatic Worm)	Hirudinea (Leech)	Physa (Pouch Snail)	Simuliidae (Blackfly)	Tendipedidae Tendipes (Midge)	Tendipedidae Psychoda (Northfly)	Culex (Mosquito Larva)	Culex (Mosquito)	Tubifera (Rat-Tailed Maggot)	Unknown Larva	Gerridae (Water Strider)	Notonectidae (Back Swimmer)	Corixidae (Water Boatman)	Belostomatidae (Giant Water Bug)
Location S-1		_	_	_	_						4	40	_		-														-						1		_	_		Щ,		_				_	
9/24/2003 7/28/2004			-	-	2	1			1	2	1 19	13				*				3 8*								1	3		1*	2			1	6		7		\vdash	\vdash	Н			-	\vdash	\vdash
9/15/2005			1	+	_	-			-	9*		17*				*				4		\vdash						9*	3		*	5*				U		6		\vdash	\vdash	\vdash	H	*	H	\vdash	\Box
10/9/2006			1	+	+	_	_			1		23		-					1	-		Н					4	*				*	2	*	*		3	4		Н	\sqcap	H	H	*	1	*	\Box
10/11/2007										4	6	4				3			-	3		П							2				_				_				\Box	Н		1*	m	<u> </u>	
10/23/2008									1		3					6*			8	2							4		13	6	*	7		*	4	11		3			\Box	П				\vdash	
11/5/2009										1	8	1															2		6			2				2					\sqcap	П					П
9/23/2010												20				3															25							3			\sqcap	П					
11/1/2011											2	50							5								1		5	1		5									П						
9/3/2013										2*						1	2			5							1*		1*		2	>100															
10/13/2015											5	50																				>100															
9/21/2017											10	5															26		3			38			1												
10/23/2019											11	43				*													2			16									П						
10/13/2021									3		46	28							1		1						9				5	3										П					
Location S-2				_																																											
9/24/2003			Т	Т	Т	П				4	1	13		_						3				П					1			2			1			3					1				\Box
7/28/2004		*			1						3									2*								1				*				3		3			П						
9/15/2005					1					2		4*				2*				1								5				8*												1*			
10/9/2006									1		2	12						4		5											1	*	2		*												
10/11/2007										2		9				3				1							7		5	4														1*			
10/23/2008												4				1				*							7		18	3	*	3*				2				*							
11/5/2009											1	12																	4							4	2			Ш	ш	Ш			<u> </u>		
9/23/2010												2				3											4					1								Ш	ш	Ш			<u> </u>		
11/1/2011			_	_	_		_				5	50								5							1		5	1		5								Ш	┙	ш		<u> </u>	L_'	ـــــ	$\vdash \vdash$
9/3/2013												2*				>100														1*		50*			2*					Ш	ப	ш		<u> </u>	L	\perp	—
10/13/2015			_			_	_					35		_			*													1	*							1		Ш	┙	ш		L	<u> </u>	₩	<u> </u>
9/21/2017		_	4	4	4	_	_		2		_	21		4	_									-		-	!	-				30								Н	\sqcup	$\vdash \vdash$		L	<u> </u>	₩	—
10/23/2019			4		4	_	_		7			>100	_	_	-				_							1	1	<u> </u>				31			1					Щ	\vdash	Ш	<u> </u>	<u> </u>	<u></u>	₩	—
10/13/2021											34	38				*			1								17					5								Ш	ш	ш		L'		<u> </u>	

^{* -} Observed while sampling

No gas sampling is performed at this landfill. Lockland Landfill is bordered to the south and east by the West Fork of the Mill Creek and to the west by the B&O Railroad. To the north are various businesses and a majority of the area is paved.

SITE INSPECTIONS

The site was last inspected by HCPH on December 6, 2021. No violations or nuisance conditions were observed on the site.

SITE PRESENT DAY

Currently a concrete company operates a plant on the site with equipment and material storage on top of the former landfill area.









Figure 3.12.3-D

erd

= Surface Water Sampling Location

= Approximate Limits of Waste

Wyoming and Lockland Shepherd Closed Landfills

