



Andorick Acres Groundwater Impacts

What You Need to Know

The Andorick Acres neighborhood is located approximately one (1) mile southeast of the former Kop-Flex facility, which was located at 7565 Harmans Road in Hanover, Anne Arundel County, Maryland. Kop-Flex was a manufacturer of flexible couplings and precision forging for the power transmission industry and operated from 1969 through 2011. The property was redeveloped in 2017 and is currently occupied by Catalent Pharma Solutions. The former Kop-Flex facility is under the oversight of MDE's Voluntary Cleanup Program (VCP) with joint oversight by EPA's Resource Conservation and Recovery Act (RCRA). For the offsite impacts, MDE has jurisdiction and oversight via the Controlled Hazardous Substance (CHS) Enforcement Program (CHS Enforcement, also known as State Superfund).

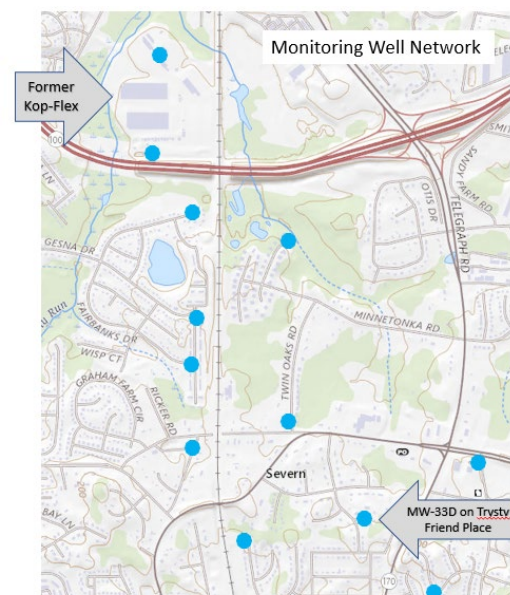
What are the Contaminants present in groundwater?

During operation, the Kop-Flex facility released volatile organic compounds (VOCs) into the groundwater during operation. 1,1,1-trichloroethane (1,1,1-TCA), 1,1,2-trichloroethane (1,1,2-TCA), tetrachloroethene (PCE), trichloroethene (TCE), 1,2-dichloroethane (1,2-DCA), 1,1-dichloroethene (1,1-DCE), and vinyl chloride are present in the groundwater along with 1,4-dioxane, a stabilizer that was used with 1,1,1-TCA. While remedial activities have been occurring at the former Kop-Flex facility since 1997, contaminants migrated off-site to the southeast over time and were identified near Twin Oaks Road in 2012. The chemicals are dense non-aqueous phase liquids, which means that they do not easily dissolve in water and sink in the groundwater. In other words, they stay together in a plume and sink until they reach a barrier layer.

Beneath Andorick Acres, only 1,2-dichloroethane (1,2-DCA), and 1,4-dioxane have been identified consistently in the confined Lower Patapsco Aquifer.

How is the contamination being addressed?

Since March 2017, the responsible party has operated a groundwater remediation system on the property that keeps any additional contamination from leaving the site so concentrations downgradient should attenuate over time. Under the approved "Off-site Groundwater Monitoring Plan," MDE monitors a system of twelve (12) wells off site to ensure that conditions do not change and remaining drinking water use areas are not



impacted. Wells are currently sampled semi-annually in May/June and November/December.

What are the impacts to Andorick Acres?

In the Andorick Acres subdivision, the contaminants of concern are present approximately 300 feet below ground surface with no contamination related to the former Kop-Flex facility above. The monitoring well in Andorick Acres is located on Trysty Friend Place and is screened at 225-235 feet and 285-295 feet in the confined Lower Patapsco Aquifer. The 285-295 foot interval is where we have seen impacts and where they are expected. The 225-235 foot interval is used to make sure that conditions have not changed to impact the shallower groundwater. Even the closer domestic and monitoring wells along Twin Oaks Road and Minnetonka Road are generally not impacted with Kop-Flex related contaminants at such a shallow depth. In November 2021, the monitoring well on Trysty Friend Place (MW-33D) showed no detected contaminants in the 225-235 foot interval and only 1,1-dichloroethene and 1,4-dioxane were detected in the 285-295 foot interval. These concentrations are consistent with data going back as far as 2015 for both wells as shown below.

Well ID		1,1-Dichloroethane	1,2-Dichloroethane	1,1,1-Dichloroethene	cis-1,2-Dichloroethene	1,4-Dioxane	Methylene Chloride	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene
Groundwater Quality Standard (ug/L)		2.8 (1)	5	7	70	4.6	5	200	5	5
MW-33D-235	3/18/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	6/23/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/21/2015	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	1/4/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	3/21/2016	1.0 U	1.0 U	1.0 U	1.0 U	3.0	2.0 U	1.0 U	1.0 U	1.0 U
	7/18/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	9/7/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	12/8/2016	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	2/21/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/2/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	8/31/2017	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	11/14/2017	1.0 U	1.0 U	1.0 U	1.0 U	4.3	12.0	1.0 U	1.0 U	1.0 U
	2/13/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/31/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	11/8/2018	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/20/2019	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/14/2020	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	11/23/2020	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
	5/10/2021	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U
11/15/2021	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	1.0 U	1.0 U	1.0 U	
MW-33D-295	3/18/2015	1.0 U	1.0 U	4.6	1.0 U	8.0	2.0 U	1.0 U	1.0 U	1.0 U
	6/23/2015	1.0 U	1.0 U	3.3	1.0 U	6.8	2.0 U	1.0 U	1.0 U	1.0 U
	9/21/2015	1.0 U	1.0 U	4.8	1.0 U	6.8	2.0 U	1.0 U	1.0 U	1.0 U
	1/4/2016	1.0 U	1.0 U	3.7	1.0 U	7.6	2.0 U	1.0 U	1.0 U	1.0 U
	3/21/2016	1.0 U	1.0 U	3.9	1.0 U	7.8	2.0 U	1.0 U	1.0 U	1.0 U
	7/18/2016	1.0 U	0.36 J	3.2	1.0 U	5.1	2.0 U	1.0 U	1.0 U	1.0 U
	9/7/2016	1.0 U	1.0 U	3.8	1.0 U	7.4	2.0 U	1.0 U	1.0 U	1.0 U
	12/8/2016	1.0 U	1.0 U	5.4	1.0 U	7.4	2.0 U	1.0 U	1.0 U	1.0 U
	2/21/2017	1.0 U	1.0 U	4.0	1.0 U	6.8	2.0 U	1.0 U	1.0 U	1.0 U
	5/2/2017	1.0 U	1.0 U	5.3	1.0 U	7.4	2.0 U	1.0 U	1.0 U	1.0 U
	8/31/2017	1.0 U	1.0 U	5.6	1.0 U	6.3	2.0 U	1.0 U	1.0 U	1.0 U
	11/14/2017	1.0 U	1.0 U	3.4	1.0 U	9.7	11.5	0.49 J	1.0 U	1.0 U
	2/13/2018	1.0 U	1.0 U	4.6	1.0 U	6.9	2.0 U	0.49 J	1.0 U	1.0 U
	5/31/2018	1.0 U	1.0 U	4.6	1.0 U	6.9	2.0 U	0.49 J	1.0 U	1.0 U
	11/8/2018	1.0 U	1.0 U	4.2	1.0 U	6.1	2.0 U	1.0 U	1.0 U	1.0 U
	5/22/2019	1.0 U	1.0 U	4.5	1.0 U	6.1	5.0 U	1.0 U	1.0 U	1.0 U
	11/20/2019	1.0 U	1.0 U	3.7	1.0 U	6.3	5.0 U	1.0 U	1.0 U	1.0 U
	5/14/2020	1.0 U	1.0 U	4.4	1.0 U	6.0	5.0 U	1.0 U	1.0 U	1.0 U
	11/23/2020	1.0 U	1.0 U	3.6	1.0 U	6.0	5.0 U	1.0 U	1.0 U	1.0 U
	5/10/2021	1.0 U	1.0 U	4.4	1.0 U	5.6	5.0 U	1.0 U	1.0 U	1.0 U
11/15/2021	1.0 U	1.0 U	4.2	1.0 U	6.1	5.0 U	1.0 U	1.0 U	1.0 U	

Why isn't remediation of the groundwater or an extension of the water line required in Andorick Acres?

MDE continues to monitor concentrations in the area via the monitoring wells and those results continue to be consistent with previous results confirming that the groundwater remediation system is effective, and conditions are well understood. Given the steady state of the monitoring wells and the continued operation of a groundwater treatment system on the former Kop-Flex facility, MDE does not anticipate any requirements related to the installation of public water lines in Andorick Acres at this time. The responsible party is meeting their obligations for treatment and monitoring.

How would I have my well sampled?

If you choose to have your well water sampled the analysis method for VOCs should be EPA Method 524.2 and for 1,4-Dioxane should be EPA Method SW846 8270 SIM.

Questions

Please contact Richelle Hanson, the project manager, at richelle.hanson@maryland.gov or 410-537-3467 for any questions regarding the former Kop-Flex facility or off-site impacts.