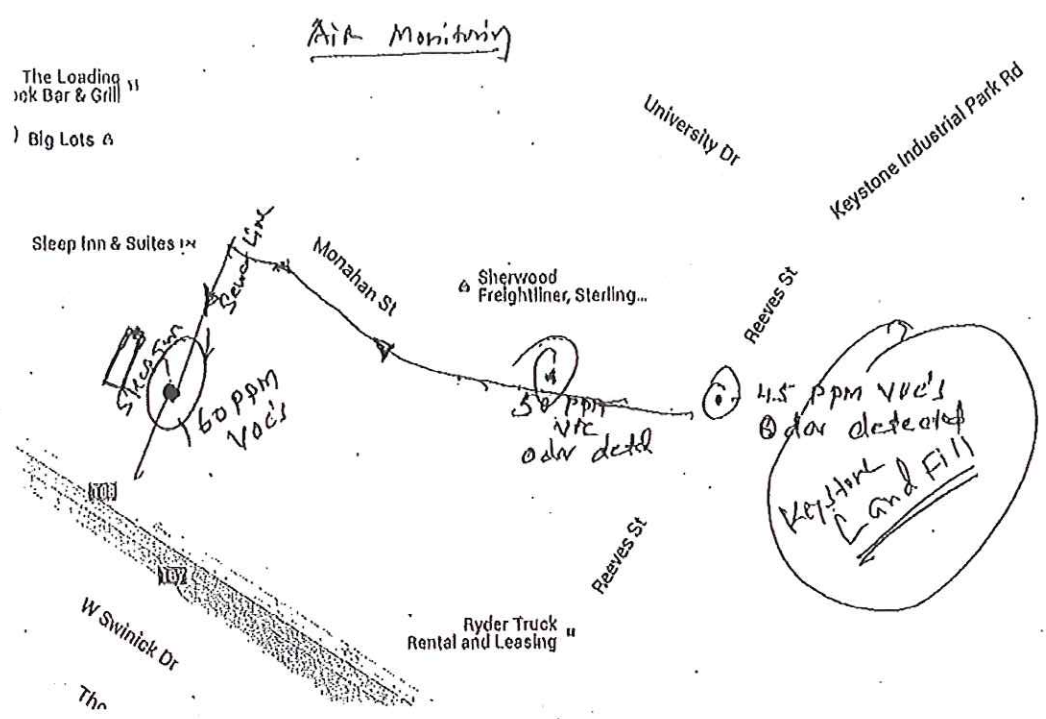


## **Attachment A**

**DEPARTMENT OF ENVIRONMENTAL PROTECTION  
EMERGENCY RESPONSE FIELD INSPECTION REPORT**

<b>Type of incident:</b> Chemical odor		<b>Date:</b> 9/24/15
<b>Facility or Location:</b> Green ridge Section		
<b>Municipality:</b> Scranton City		<b>County:</b> Lackawanna
<b>Call Out Time:</b> 21:00	<b>Return Time:</b> 4:00	
<b>Site Arrival Time:</b> 21:10	<b>Site Departure Time:</b> 3:45	
<b>Complainant Name and Address:</b> Eileen Higginson, 1916 Capouse Avenue, Scranton, PA		
<b>Responsible Party Name and Address:</b> Unknown		
<b>Telephone Number</b>	41° 25' 57.46'' -75° 38' 40.03''	
<b>Weather Conditions:</b> 60° F		
<p><b>Remarks:</b></p> <p>At 21:00 a request by Bob Bisignani, AERPM to respond to a report of horrendous odor originating from the sanitary sewage system in the Green ridge Section of Scranton City, Lackawanna County.</p> <p>At 21:20, reached at the site and met complainant. Complainant reported horrendous odor emanating from the sewer lines near Capouse Avenue and Drinker Pl. Very strong chemical odor detected along 1900 block of Capouse Avenue and along Drinker Pl. The odor, reportedly chemical odor, appeared to be coming from the sewers.</p> <p>Complainant said earlier at around 8:00PM, odor was very strong; a crew from the Scranton Sewer Authority (SSA) had responded to her complainant. Before I reached at the site, Scranton Sewer Authority Crew had left the site. I requested Scranton Sewer Authority crew back at the site to assist in investigation. Personnel from SSA arrived at the scene at 23:05. Mr. Eric Rooney of PA DEP/ERT arrived at the scene to assist in investigation.</p> <p>We inspected and conducted air monitoring along the sewer line manhole with SSA personnel. VOC reading ranging from 100 PPM to 400 PPM obtained on PID gas monitoring meter along sewer line. No other abnormal reading (% LEL, H2S, CO and O2) were obtained during air monitoring. We identified a "solvent" smell and noticed a "black flow" in the sewage line. At 23:55, effluent sample collected from manhole located along Drinker Pl upstream of Capouse Avenue. Decided to start monitoring from upstream end of sewer line to identify origination of chemical into the sewer line system.</p> <p>Manhole along Reeves Street and Monahan Street monitored. Similar odor detected emanating from the manholes found during monitoring. Only VOC reading ranging from 45 PPM to 160 PPM obtained. Strong odor emanating from the manhole behind Sleep Inn hotel detected. Sleep Inn hotel guest were evacuated due to strong odor detection inside the hotel building. Hotel was advice to ventilate the affected building area. Suggestion was made to SSA to flush the line from upstream. At about 3:15 the line was flushed from Monahan Avenue.</p> <p>At 1:50 we reached at the Keystone Sanitary landfill and contacted Mr. Dan O'Brien, Facility Manager to conduct an inspection at their leachate treatment plant. At around 3:00 conducted an inspection of leachate treatment plant with Mr. O'Brien. No odor detected at the plant other than ammonia. According to Mr. O'Brien the plant was discharging treated leachate into Reeves Street sewer line branch.</p> <p>At 3:20, collected more samples for lab analysis from manhole along Drinker Pl. (upstream of Capouse Avenue). No evidence of CSO discharged into Lackawanna river found during inspection.</p> <p>Presence of strong chemical odor in the sewage system found along sewer line runs from Monahan Avenue to Capouse Avenue. We were unable to found the source of the odor. At 3:45 left the site.</p> <p>SSA personnel will continue to monitor sewer line to identify the source of discharge.</p>		
<b>Materials Used:</b> N/A		
<b>Sample Collected?</b> Yes	<b>Sample Numbers:</b>	<b>Analysis?</b> BOD, VOC's, Unknown



## **Attachment B**



## MEMO

**TO:** Keystone Sanitary Landfill, Inc. (KSL)  
Correspondence File

**FROM:** Roger Bellas  
PADEP  
Northeast Regional Office  
Waste Management Program  
Program Manager

**DATE:** October 27, 2015

**RE:** Scranton Sewer Authority – Green Ridge –  
Malodor/Chemical Discharge October 27, 2015  
Investigation of Reeves/Monahan Manhole D255

A meeting was held on October 27, 2015, between the Department, the Scranton Sewer Authority (SSA), and KSL to discuss the events that occurred the night of the Malodor and Chemical Discharge Incident in the Green Ridge Section of Scranton and at the Sleep Inn in Dunmore. In attendance from the PADEP were Roger Bellas, Len Schall, Shailesh Patel, and Eric Rooney. In attendance from SSA were Chris Wesolowski, Tara Roche, Jeremy Hull, and Sean Loughney. In attendance representing KSL were Dan O'Brien, Dominic DeNaples, and Jim Eiden.

On the night of September 24, 2015 members of the staff of PADEP's Emergency Response Team were dispatched to the Green Ridge Section of Scranton to investigate complaints of a strong odor emanating from the sewer lines. As part of that investigation PADEP ERT members Shailesh Patel and Eric Rooney, assisted by SSA personnel opened SSA manhole number D255 at the intersection of Reeves and Monahan Streets. This manhole is the confluence of Reeves Street north (D256 thru D257F), Reeves Street south (D258 thru D259C) and the alternate pretreated leachate line from KSL. These three lines combine and then flow through the line beneath Monahan Street. At the time of the odor investigation (approximately 1:00 am) Eric Rooney and Shailesh Patel observed flow of fluids into the Reeves/Monahan Manhole (D255), but did not document from which direction the flows were entering the manhole. That same night Shailesh Patel conducted an inspection of KSL's leachate treatment plant with Dan O'Brien. At the time of the inspection, Mr. Patel did not observe any odors at the landfill or the leachate

treatment plant that were similar to the odors emanating from the sewer lines. When asked, Mr. O'Brien indicated that KSL may have been discharging treated leachate to the Reeves Street line.

PADEP is aware that this is not typically the sewer line through which KSL's treated leachate is discharged. Under normal operations the treated leachate is pumped via force main to the primary discharge line located on Drinker Street.

At a meeting between PADEP and KSL it was suggested by KSL that the only way treated leachate could have been discharged to the Reeves Street sewer line the night of the odor incident was if the valve that is used to control that discharge line was manually opened. At this meeting KSL indicated that the valve had not been manually opened the night of the incident. KSL inspected the valve on September 29, 2015 and determined that the valve was not completely shut. It took an additional three (3) turns of the valve handle to completely seat the valve.

During subsequent discussions with Mr. Patel and Mr. Rooney while looking at sewer maps, it was determined that a visit to the Reeves/Monahan Manhole (D255) was necessary to definitely determine the direction of flow as observed on September 24th. The Department thought that it would also be beneficial to attempt to recreate the events of the night of September 24<sup>th</sup> to try to determine if treated leachate could have been leaking through KSL's valve and contributed to flow at the Reeves/Monahan Manhole (D255).

At approximately 10:45 am on October 27, 2015, PADEP staff members Shailesh Patel and Eric Rooney observed the open Reeves/Monahan Manhole (D255). Jeremy Hull of SSA was also present to observe the flow. Upon observation of the flow of fluids into the chamber of the manhole, both Mr. Patel and Mr. Rooney agreed that the flow observed the night of September 24<sup>th</sup> was coming from the lines parallel to and beneath Reeves Street. The flow was not coming from the line leading from KSL. They did indicate that the flow that was observed the night of the incident was significantly higher than the flow observed during our observations today. Len Schall of the DEP was also present to observe the flow into the manhole. Mr. Schall had been out to look at the manhole a few days after the incident, on Monday September 28<sup>th</sup>. He indicated that the flow observed today was slightly more than the flow he observed shortly after the incident, but from the same directions.

Once DEP and SSA staff had clarified the flow directions, Dominic DeNaples, who was also present at the Reeves/Monahan Manhole (D255), contacted Jim Eiden, who was stationed at the KSL valve that controls flow to the alternate line that flows to the Reeves/Monahan Manhole (D255). Mr. Eiden was directed to open the valve three turns to replicate the position of the valve the night of the incident. Chris Wesolowski and Tara Roche of SSA observed the operation of the valve. Flow of water from the sump at the leachate treatment plant was initiated at the same time that the valve was opened. Flow into the Reeves/Monahan Manhole (D255) was observed for approximately 10-15 minutes. No increased flow was observed from the line leading to KSL. After 15 minutes Mr. Eiden was directed to completely open the KSL valve. Within minutes of



opening the valve a significant increase of flow from the line leading to KSL was observed. Again Mr. Patel and Mr. Rooney indicated that the flow that they had observed the night of the incident was not coming from the line leading from KSL.

Mr. Eiden was then directed to close the valve and we concluded the test. At the end of the test an SSA lock was placed on the KSL valve. In the future, the only way that treated leachate can leave the landfill through the alternate route is if SSA personnel physically remove the lock. In conclusion it appears to the Department that there was no discharge from the sewer line leading from KSL the night of the incident.

The Department suggested to KSL that they develop a statement to explain the misinformation that was conveyed to the Department the night of the incident regarding treated leachate discharging through the alternate line.

## **Attachment C**





November 20, 2015

Mr. Roger Bellas  
Program Manager  
Pennsylvania Department of  
Environmental Protection  
Waste Management Program  
2 Public Square  
Wilkes Barre, PA 18711

**Re: SSA Green Ridge  
Malodor/Chemical Discharge 9/24/15**

Dear Mr. Bellas:

With respect to circumstances surrounding initial statements to PADEP and the media by the undersigned and Albert Magnotta, Keystone Consultant, on September 25, 2015 that Keystone was discharging treated wastewater via the Reeves Street sanitary sewer connection, we offer the following:

I was contacted in the early morning hours of Friday, September 25, 2015 by representatives of PADEP concerning a malodor investigation in the Green Ridge section of Scranton and its possible connection to Keystone. Upon arrival at the Keystone site, I was met by two PADEP representatives and we proceeded down to the treatment plant.

Upon arrival at the plant I was asked if we were discharging to Reeves and my response was I did not know but I would call Mr. Eiden, Keystone Plant Operator, and get an answer. I was then informed by PADEP that they observed a significant flow and my response to that was we must be discharging to Reeves Street. In retrospect, I should have asked some additional questions which would have probably eliminated the ensuing confusion.

Later in the morning of September 25 and prior to me having any additional conversations with plant personnel, Mr. Magnotta called me to discuss the situation and I informed him about the PADEP visit earlier and the conversations that transpired. Based on the information provided by me to Mr. Magnotta, he informed a local reporter that Keystone was discharging treated leachate to Reeves Street.

We apologize for the confusion caused by the breakdown in communication on our part.

Very truly yours,

A handwritten signature in black ink that reads 'Dan O'Brien'.

Dan O'Brien  
Business Manager

## **Attachment D**

## Sample results from the Greenridge odor investigation

Sample Location Columns	Sample ID 2309 (570,572)	Sample ID 2309 (575,576)	Sample ID 3206 (237)	Sample ID 3206 (238)	Sample ID 2242 (247-249)
Constituent results Rows	Taken By ERT from Drinker Place Manhole# G376 9/24/15 at 2350 hrs	Taken By ERT from Drinker Place Manhole# G376 9/25/15 at 0240 hrs	Taken by Sandra Insalaco from SSA primary tank 9/25/15	Taken by Sandra Insalaco from KSL leachate treatment plant discharge (treated Leachate) 9/25/15	Taken by Lisa Hannigan from KSL raw leachate discharge to lagoon pipe (9/28/15)
IR	Similar to petroleum hydrocarbon		Characteristic of diesel fuel	No Petroleum	Characteristic of tall oil
UV	Unknown spectrum, but similar to 237		Unknown spectrum, but similar to 572	Some organic too low to identify	Unknown spectrum
Ammonia as total N					2216 mg/l
BOD		226 mg/l			2100 mg/l
BOD inhibited		210 mg/l			
COD					6738.8 mg/l
	<u>VOASW</u>				<u>VOAWW</u>
1,2,4-Trimethyl benzene	172 µg/l				8.4 µg/l
1,3,5-Trimethyl benzene	54.7 µg/l				ND
1,4- dichloro benzene	83 µg/l				ND
4-Isopropyl toluene	425 µg/l				25 µg/l
Acetone	1580 µg/l				11600 µg/l
Benzene	ND				7.6 µg/l
Carbon Disulfide	ND				12.4 µg/l
Ethyl Benzene	76.4 µg/l				33.6 µg/l
m/p xylene	196 µg/l				21.4 µg/l
MEK	1870 µg/l				7430 µg/l
MIBK	ND				49.5 µg/l

Sample Location Columns	Sample ID 2309 (570,572)	Sample ID 2309 (575,576)	Sample ID 3206 (237)	Sample ID 3206 (238)	Sample ID 2242 (247-249)
Constituent results Rows	Taken By ERT from Drinker Place Manhole# G376 9/24/15 at 2350 hrs	Taken By ERT from Drinker Place Manhole# G376 9/25/15 at 0240 hrs	Taken by Sandra Insalaco from SSA primary tank 9/25/15	Taken by Sandra Insalaco from KSL leachate treatment plant discharge (treated Leachate) 9/25/15	Taken by Lisa Hannigan from KSL raw leachate discharge to lagoon pipe (9/28/15)
	<u>VOASW (continued)</u>				<u>VOAWW (continued)</u>
Naphthalene	313 µg/l				10.5 µg/l
o-xylene	88.8 µg/l				9.6 µg/l
t-butly alcohol	ND				1600 µg/l
Toluene	103 µg/l				37.7 µg/l
		<u>SV-SW</u>	<u>SV-WW</u>	<u>SV-WW</u>	<u>SV-WW</u>
1,4-Dichlorobenzene		2570 µg/l	ND	ND	ND
1-Methylnaphthalene		3680 µg/l	616 mg/kg	ND	ND
2-Methylnaphthalene		6380 µg/l	1030 mg/kg	ND	ND
3&4 Methyl phenol		ND	ND	10 µg/l	3380 µg/l
Acenaphthene		2720 µg/l	500 mg/kg	ND	ND
Alpha-terpineol		ND	ND	16.1 µg/l	687 µg/l
Dibenzofuran		1360 µg/l	ND	ND	ND
Fluorene		1350 µg/l	ND	ND	ND
Napthalene		11000 µg/l	1220 mg/kg	ND	ND
Phenanthrene		741 µg/l	ND	ND	ND
Phenol		ND	ND	228 µg/l	3560 µg/l



## **Attachment E**

## Analytical Assessment of Samples Submitted for UVIR and SV-SW Characterization

Four samples were submitted to the Bureau of Laboratories for analysis by UVIR and SV-SW (EPA Method 8270D). Sample 1 was collected from a manhole. Sample 2 was collected from the clarifier tank of the sewer authority which was linked to the manhole. Sample 3 was untreated leachate from a nearby landfill. Sample 4 was treated leachate from the same landfill.

Two questions were asked. 1. What is the material found in the manhole and clarifier tank? 2. Is the material in the manhole/clarifier tank the same as the landfill leachate?

### Question 1

Both the UV and IR analysis of Samples 1 and 2 show similar characteristics, with the exception that concentration of material in Sample 1 is less than that in Sample 2. The lower concentration found in Sample 1 reduced the quality of the spectral match. Sample 2 was identified as diesel fuel based on the UV and IR analyses.

The SV-SW analysis of Samples 1 and 2 also showed similar characteristics. Both samples contained a lightly weathered mid-weight petroleum product. The petroleum product consisted of a mixture of aliphatic (alkanes, alkenes, cycloalkanes) and aromatic (ring) compounds, containing between 9 and 15 carbon atoms, and with a greater proportion of aliphatic than aromatic components. This description is consistent with diesel fuel or heating oil.

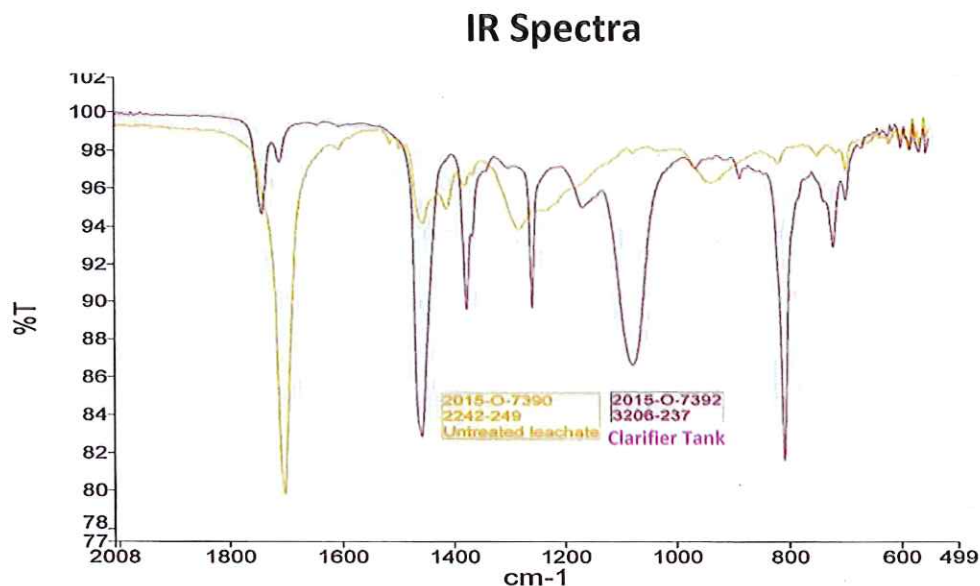
Both Sample 1 and Sample 2 also contained a number of components not typically associated with petroleum products. Specifically, a number of terpenes (limonene, pinene, carene) and methylated cyclosiloxanes.

The type of petroleum product, and more importantly, the presence of the other unusual compounds (terpenes, cyclosiloxanes) in both Sample 1 and Sample 2 indicate that they are the same material.

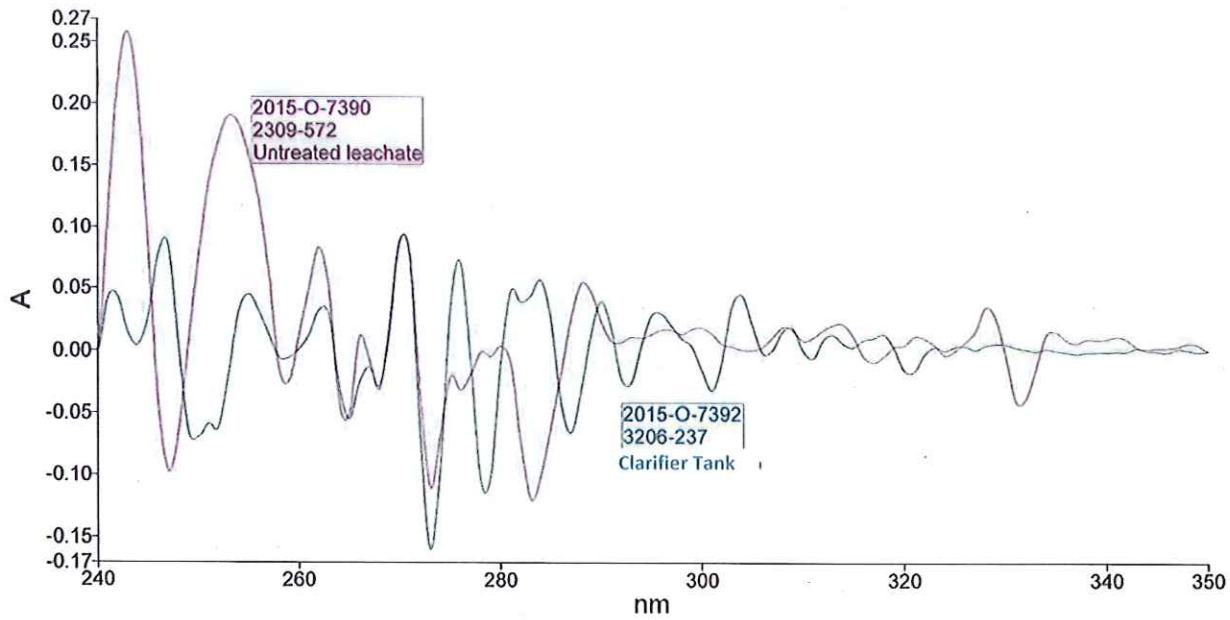
### Question 2

The concentration of analytes in the treated leachate sample (Sample 4) was less than in the untreated leachate sample (Sample 3). For purposes of comparison to the samples taken from the manhole and clarifier tank, the untreated leachate sample will provide more useful information.

UV and IR analysis of Sample 3 indicated that an organic material was present, but was unable to identify the material. Below are overlays of the UV and IR analyses of the untreated leachate and the material taken from the clarifier tank:

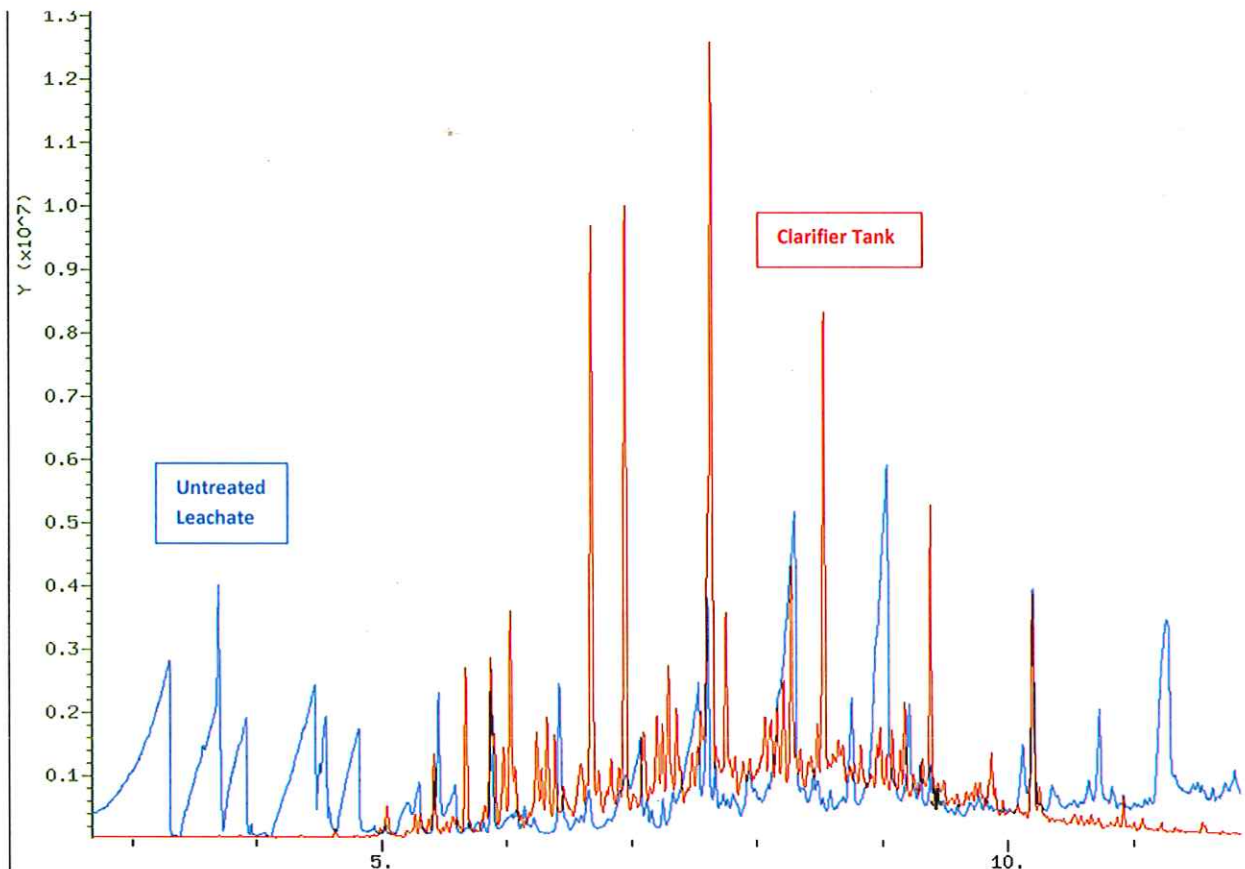


## UV Spectra (2<sup>nd</sup> Derivative)



Despite the fact that the UV and IR analysis could not identify the material present in Sample 3, it is clear that it is NOT the same material as is present in Sample 2.

The SV-SW analysis of Sample 3 is typical of landfill leachate, containing a number of organic acid compounds such as phenol and benzoic acid. The SV-SW analysis of Sample 3 did NOT contain any indications of the petroleum product, terpenes, or cyclosiloxanes noted in Sample 2. Below is an overlay of the chromatograms of Samples 2 and 3:



Visual inspection of the chromatograms makes it clear that the material present in the untreated leachate is not the same as the material present in the sewer authority clarifier tank.