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The Contaminated Realities of a Post-IBM Endicott Today

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The Contaminated Realities of Post-IBM Endicott Today

Abstract:

Endicott, a small town in the Southern Tier of New York, experienced great economic success due to the birth of IBM in 1911 through the late 1900s. Today, the town is left with environmental degradation and is tainted by carcinogens as a result. The post-industrial town has endured corporate-state mitigation efforts for years. This research will explore the realities of the toxic plume in the twenty years since operations have ended at the IBM-Endicott plant. Through implementing participant observations and a myriad of interviews with experts, including NYSDEC (New York State Department of Environmental Conservation) officials and Endicott residents, the plume's lingering situation was revealed. The chemical spill continues to leave mixed emotions within the community. Some are angered at IBM, some retain their loyalty and respect, and others have come to terms with the efforts made and now see the plume as a part of Endicott's history. This "toxic plume" is the worst reality of the possible effects that powerful corporations can impose on small towns, a reality that has become a fear for many such communities around the world. The ongoing story of the Endicott plume fits into the greater picture for the need of environmental justice; it is an example of precautions needed to be put into place for other industrial towns to prevent pollution and contamination.

Endicott and the History of the Plume

Endicott has such a heterogeneous history. It is one of the three cities in the Southern Tier of New York known as the Triple Cities (Binghamton, Endicott, and Johnson City). Out of the three, Endicott has had a rich industrial history with the success stories of the Endicott-Johnson Shoe Company's tannery and the start of the world famous company IBM. However, with the departure of IBM from the area in 2002, Endicott has been dealing with not only economic despair, but also contamination problems that IBM introduced to the area. IBM is a multibillion dollar corporation whose name evokes a sense of respect and innovation around the world. However, juxtaposing this is the sense of harm and sadness it brings to those who reside in Endicott, the birthplace of the company. The *toxic plume*, the word coined for the 350-acre area south of the plant where the groundwater is contaminated with the polluted volatile organic compounds used by IBM, is really the worst reality of what big corporations can impose on industrial small towns - something many comparable towns around the world have a fear of

(Department of Health, 2004). The central ideas circling this issue include the history of the plume's mitigation, the impacts the plume continues to have on the town today, the attitudes of Endicott residents on the matter, and what the future of Endicott holds. This somber story of Endicott has been resonating for years now, but with the plume being 41 years old, the present impact of the plume on the local community is still unknown. This research deciphers the lingering thoughts of IBM's departure to understand how the plume is seen not only in the town of Endicott, but also in other post-industrial towns.

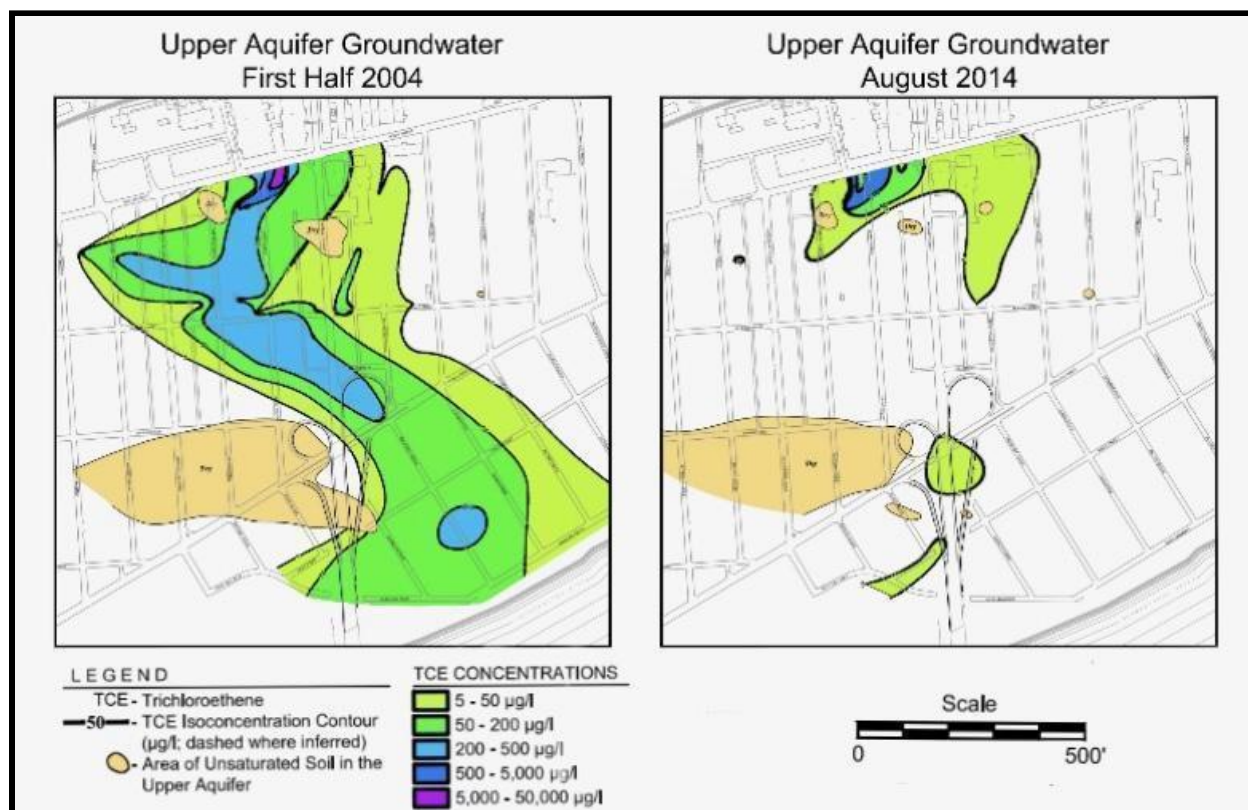
The tainted plume in Endicott has been well publicized both in the media and through documents on the progress of the plume cleanup published by New York State Department of Environmental Conservation (NYSDEC). There have been significant remediation efforts to shrink the plume. These efforts brought it to a stage of no harm in 2015 (DEC, 2015). The contamination began in 1979 when the IBM Plant in Endicott reported an accidental spill of 4,100 gallons of the printed circuit board (PCB) solvents (EPA, 2017). At first, only TCA (methyl chloroform) was reported to be spilt; however, a further hydrogeologic report concluded a larger spill with more industrial solvents - mainly TCE (trichloroethene) as well as PCE (tetrachloroethene), DCA (dichloroethane), DCE (dichloroethene), and more (EPA, 2017). This comprehensive study took years and with growing concern of contaminant vapor mitigation, NYSDEC required IBM themselves to investigate for potential soil vapor intrusion, a process where contaminants vaporize and migrate from groundwater through the soil and into basements of homes above the plume (EPA, 2017). Though this had the potential to threaten Endicott's local drinking water quality, there were no reports of it doing so (Vincente, 2019). With the identification of soil vapor intrusion in 2003, IBM began installing vapor mitigation systems in

what would become 480 structures in Endicott that had potential exposure to these vapors along with other remediation efforts including groundwater extraction and treatment (DEC, 2015).

The discovery of vapor intrusion was the first major breakthrough of a real harm that the plume imposed on the health and wellbeing of residents. Even with the installation of each home vapor mitigation system, this was the tipping point where residents grew angry with the plume's impact on their community (Forand, 2012). According to the Department of Environmental Conservation, the plume has had no harmful impositions to the public since 2014 as "the plume has shrunk significantly since remediation efforts started" in regards to concentration and exposure (Figure 1).

Figure 1

Upper Aquifer Groundwater TCE Concentration Maps



The size of the plume as well as the concentration of TCE ten years after remediation efforts began show a significant decrease within the study boundaries.

The anger from the vapor intrusion, however, was channeled by filing a class action lawsuit against the IBM corporation in 2008. With resident Edward Blaine as the chief plaintiff accompanied by 93 other residents, the suit went on for about seven years and ended in a settlement of monetary rewards for each of the residents involved (Edward Blaine v. International Business Machines Corporation, 2012). This calmed the concerns of residents for a while until a study came out about the cancer and birth defect rate in relation to the exposure of trichloroethylene (TCE), the main pollutant. The study was inconclusive as it found no significant correlation between the rise in cancer and birth defects rates in Endicott and the exposure to TCE (Wilber, 2016). This revved up the anger of many yet again, especially those who developed health issues after the plume was identified. The current state of the plume and residents' lifestyle in its boundaries are not clearly defined; hence, this research will explore the current atmosphere of the plume and what the future of it entails.

A Mixed Methods Approach

To conduct this research, a mixed methods approach was utilized. The main data collection method of conducting interviews steered the conversation to reveal rich insights. With their permission to disclose their identity, the three main individuals interviewed via telephone call include the *Toxic Town author* Peter Little, ex-IBMer and plume resident Andrea Palmeri, and NYSDEC liaison James Little. Each interviewee provided unique and interesting insights, especially on the state of the plume today. The other research method utilized was a participant observation at the Endicott History and Heritage Center. Here, an IBM retiree by the name of Joe Titti provided a shocking insight on the plume from an ex-IBMer's perspective, a perspective also shared with many other ex-IBMer residents in Endicott like Mrs. Palmeri. Along with the interviews and participant observation, a review of NYSDEC documents, the study of the plume

and its effect on residents completed in 2010 (*Toxic Town*), and articles published in the media about the matter found a few common perspectives on the legacy of contamination in Endicott.

The Attitudes of Residents

The Success of Cleanup

The interview with James Little (with no relation to Peter Little) uncovered some positive feelings towards the cleanup process felt by residents who represented the community during mitigation efforts with being a part of the Western Broome Environmental Stakeholders Coalition (WBESC). The WBESC is a residential liaison group to the NYSDEC who voiced the concerns of residents to the mitigation team and worked collaboratively to keep the best interest of the community in mind. Little's expression of why he got involved with the group in the first place, his interactions with other residents, and his alliance with the mitigation group revealed not only a timeline of the remediation efforts, but also accompanied them with how the attitude of the residents' changed as well. Many of his sentiments explained that the NYSDEC was very responsive to the concerns the residents voiced to his coalition which he carried onto the mitigation team. He confirmed that most of the mitigation has shrunk the plume and it is a job of time that will completely vanish it. He expressed that it is of no harm and the systems are being updated to keep it that way.

Living in the Plume

Andrea Palmeri, who was the first to be interviewed, expressed her narrative of plume life. This interview was very informative as it came from a person who experienced the consequences of the plume first hand since its birth. Speaking with her revealed that the "plume" is not of any major concern for her in this day and age anymore. This interview most importantly gave me insight on daily life in the "plume" today. The reality of the plume from Mrs. Palmeri's

view was that there were no issues imposed by it. “It's really not on my radar most of the time...it really hasn't affected our lives much at all.” She agreed that the plume seemed to be more of a back burner of an issue for the residents as the mitigation systems took care of the contamination and the monetary compensation satisfied their resentment.

Lasting Health and Fiscal Impacts Lead to Continuing Anger

In respect to the physical plume, it has “been cleaned up very well, given the extent of the contamination” according to the NYSDEC and as Mrs. Palmeri stated, the majority of residents have come to terms with the efforts made (Platsky, 2019). However, the chemical spill continues to leave disappointed emotions within the community. Some are frustrated with devaluation of property. Though this was not seen first hand in the interviews conducted, a plume resident Edward Blaine, who also was the lead on the class action lawsuit against IBM, publicly stated that “Unfortunately, if you're renting or selling, it puts a big 'X' on your house” (Vincente, 2019).

Others also visually showed their anger on the lasting effects of the plume on their health and psyche. These include individuals who may be experiencing health conditions developed after the plume was found. In Peter Little's interview, he emphasized that the health study conducted on the residents' wellbeing in the plume, which was found to be inconclusive, was forgetting the more common daily health issues such as headaches and coughs by only accounting for cancer and birth defects. People in the community who now have such health problems will deal with their condition and the costs to regulate it for their entire lifetime. These mental and physical costs all lead back to the plume's existence and therefore, many still feel bitterness towards the plume today.

One resident who is very public about this anger is Mark Bacon. Although an interview with this individual was not able to be conducted, his statements are widely expressed online and

physically in town with how he dressed his building in warning signs of the plume's presence in the town (Figures 2 and 3).

Figure 2 & 3

Local Building Dressed in “Warning” Signs to Beware the Plume



Signs present today in Endicott put up by local resident Mark Bacon. These signs he placed on the side of his building (LEFT) and on the roof of his building (RIGHT) expressed his continuous frustration about the plume and how he felt moved to warn others.

The Ex-IBMer Loyalty

Many who still reside in the area are ex-IBMers whether it be because this is where they have rooted their lives or because they have trouble selling their property. Many people in this group have always had the utmost respect and loyalty to IBM and applaud the company's efforts in cleanup. Mrs. Palmeri, for example, is one of these people showing such loyalty through her family's role in the class action lawsuit. She described her family's loyalty to the company as her and her husband did not sign onto the class action lawsuit due to having feelings of guilt. They previously worked for the company which had shaped their career and given them both so much. Mrs. Palmeri also disclosed information about an approximation of the settlement they lost out on - around twenty thousand dollars. Although this may have been different in their case

compared to other residents' rewards, it was interesting to see the extent of IBM's mitigation efforts as no news outlet had any estimates of the settlement.

The participant observation exercise at the Endicott History and Heritage Museum showed a similar perspective to that of Mrs. Palmeri in *Loyalty to IBM*. An IBM retiree by the name of Joe Titti now works at the museum with his wife and other ex-IBMer friends. He was so kind as to lead a tour of the museum and describe his time with the company. He presented the history of the company absent of talking about the spill through a tour. When questioned about the plume, he described the spill directing the narrative towards emphasizing IBM's great work in the cleanup and mitigation efforts. This great resonating pride for IBM from Mr. Titti was felt the entire time, even with the toxic footprint it left on the town. However, this participant observation imposed some bias due to the prior employment of Mr. Titti. With this being said, there are a good amount of ex-IBMers that still live in this area probably have this same fondness for the company as they remained in this small town as confirmed in Mrs. Palemeri's interview. This loyalty was interesting to find on how people can place their gratitude for what a company has given them over anger for potential personal health and potential remuneration.

The Plume: a Historic Event in Endicott

Peter Little, the author of *Toxic Town*, was a unique interview as this individual had already studied this topic and its relation to environmental justice in the early 2010s. However, a greatly productive conversation led to some connections, both similar and different, with the past account of plume residents' perspective and the perspectives seen today. The plume seen in the light as a historical event for Endicott was also discussed, a perspective not yet revealed, but found to be very true. He explained how today, based on the contacts he has kept within the community, the majority of residents have found the plume to be another part of the town's

history next to IBM and the EJ tannery. He talked about how one elementary school teacher, who incorporated learning about Endicott's history in her curriculum, talked about the plume in this unit.

The Legacy of the Plume

Place in the Environmental Justice Conversation

Loyalty and respect for IBM's and efforts made are clearly present within the community along with a sense of community pride as they try to move on and not highlight this negative of their place of residence. The plume for the community in Endicott has been the center of attention in their town; an attention that has exceeded its welcome. The whole situation, however, lies in a different place in the context of environmental justice, specifically for industrial towns. The environmental justice movement is just beginning, but thus far, environmental justice can be seen as a term that looks at the relationship between a larger economic system and its forms of exploiting populations and creating a tainted relationship with the community it is settled in (93, Little, 2012). Looking at the relationship between IBM and Endicott in light of the toxic plume is something other industrial towns look towards as an example of how to take precautionary steps. This contaminated reality has become a fear for many such communities around the world. The ongoing story of the Endicott plume fits into the greater picture for the need of environmental justice; it is an example of precautions, such as groundwater inspection when working with volatile chemicals and stricter rules on using such substances, needed to be put into place so a community will never have to suffer as such.

Impact on Future Economic Opportunities

With the plume now in the past for many residents, people wonder and look towards what will be the next big progressive step to revive Endicott and its economy. Well, a lithium-ion

battery recycling plant has been proposed by SungEel MCC Americas to be brought to the village and residents have a strong stance. It is this new topic of contention in the village as most voice to keep it out of town. They justify this position rightly so with all the inconveniences and disruption the IBM plant brought with the plume it caused. As many as 240 people attended a video call town hall meeting that lasted over four hours going back and forth on the issue (Platsky, 2020). Many seemed to be voicing this concern with the support of bringing up memories from the plume - just as the town was starting to forget about it and look past all they have been through. Those who are not proponents of the new plant had concerns of public health as the high temperature gasification and burning steps of the recycling process can produce harmful PFAs (Per- and Polyfluoroalkyl Substances) (Binghamton Homepage, 2021). A surprising comment was made by Frank Roma, the lead on the WBESC board, who actually supports the plant; this could possibly portray his confidence in working with the NYSDEC as he did with the plume mitigation as well as express the good that this recycling center can do for the town such as bringing back some jobs and economic vitality the town lost with IBM. This struggle between bringing back economic prosperity into the area and possibly risking another situation like the IBM plume in doing so is just another lasting impact the town will have.

Limitations and Potential Further Study Endeavors

This research provided great insights on the current view of the famous Endicott toxic plume. However, hearing more perspectives from more residents would have helped to back the conclusive attitude of the plume today found from the interviews conducted, the participant observation exercise, and the quotes of a few residents publicized in the media. Unfortunately, due to the unseen circumstances of COVID-19, this opportunity was unable to be explored. Thus, the heavy reliance on the personal interviews conducted to illustrate various views. This

collection of interviews is limited to a small number and has inherent biases of those who choose to respond to my interview requests and those who I was able to find a contact for. As such, the project also lacks some sort of quantitative data. Although the conclusion from data ascertained in my interviews and lit review is confirmed by many residents, it is limited in forming a true generalization by definition that embodies the true perspective of the entire endicott population; even though it may be representative of the overall feeling of the population, there may be other views on the plume that were not addressed and still linger for some today, specifically to those whom may have experiences the roughness of the housing market in the plume as well as those who deal with health issues.

A plan to move forward in solidifying the views towards the plume that are present was to conduct a questionnaire that surveyed Endicott residents about their attitude towards the current plume situation. I had hoped to get a diversified and representative subset of the population in order to understand the entire population's prevailing thoughts about the plume. Another interviewee to further research would be nurse and WBESC member Wanda Hudak. An interview with her would be able to expose some of the health issues that rose due to exposure with the toxins and how they played a role in the health study conducted. Another step would be an analysis of the recent buying and selling of property within the plume boundaries and maybe even reach out to the owners of such properties to hear their experience. Getting in touch with Mark Bacon would also expose the side of the town which still has resentment towards the plume and see whether it is backed by fact that the plume is harmful for them or just an ongoing expression of anger. Hearing from the teacher who utilizes the plume as a history lesson in her class to see how plume is illustrated to those in the future generations to come would also add to the lens of the plume seen as a historic event. Lastly, with the new lithium recycling plant trying

to gain traction in the town and the community's current resistance towards it, it would be interesting to see whether it gets approved and how the plume will impact the town's own environmental justice relationship with the new company. Frontier technology is a repeated venture in the Endicott area first seen with IBM and now with the potential recycling plant; it seems to persist as the only economic development opportunity for Endicott. Further discussion on why this might be so and whether there may be other options for economic growth in the community would be an interesting avenue to explore and potentially propose another idea to see future economic prosperity in Endicott.

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