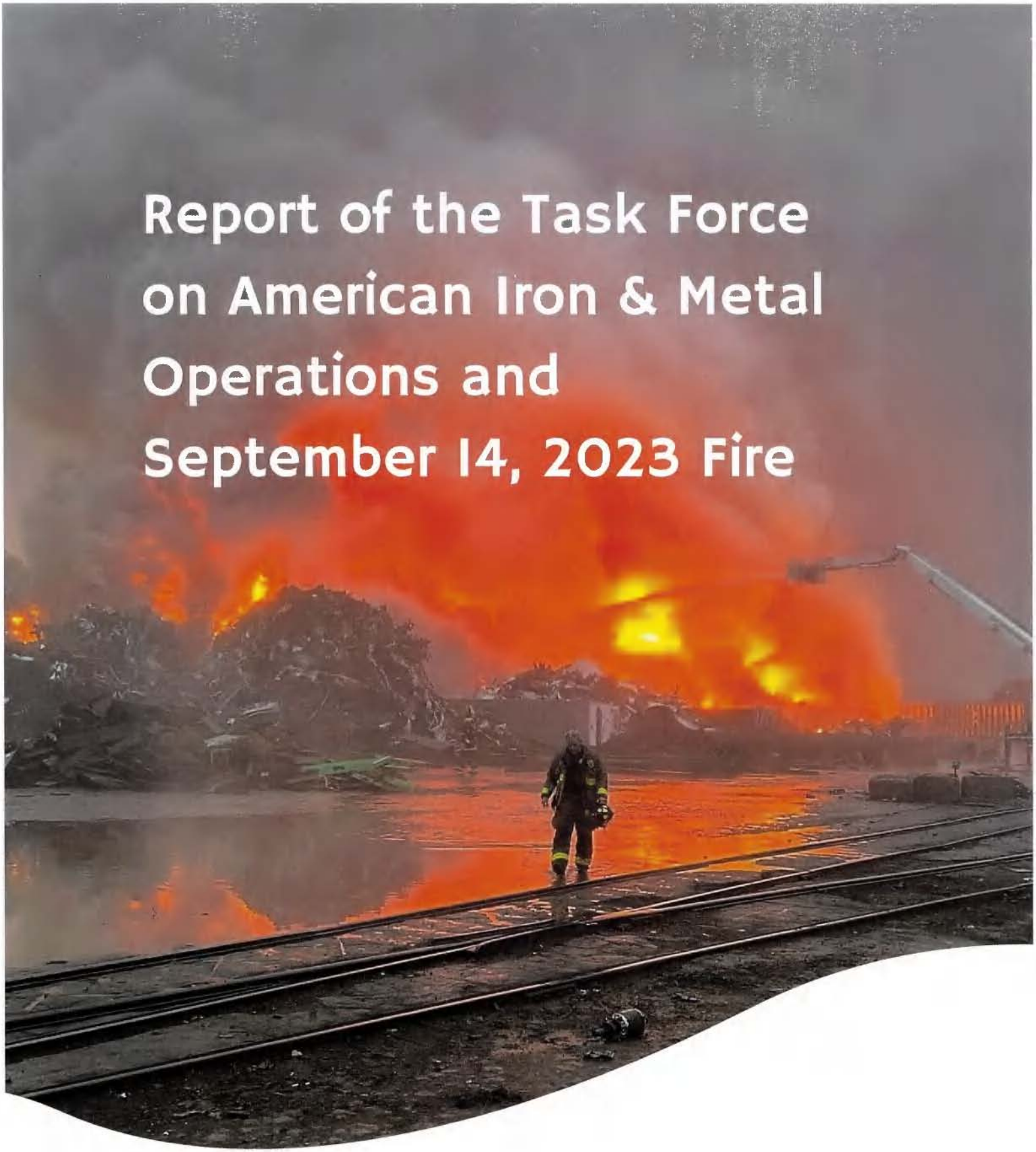
Report of the Task Force on American Iron & Metal Operations and September 14, 2023 Fire



Port Saint John

New Nouveau Brunswick CANADA

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MESSAGE FROM THE TASK FORCE

The fire at the American Iron and Metal (**AIM**) facility at the Port of Saint John (**PSJ**) on September 14, 2023 had profound impacts on our community. Emergency orders were issued. Residents were ordered to shelter in-place. Schools and businesses were closed, impacting the local economy and a sizeable portion of the downtown workforce. Air quality warnings required hospitals and other buildings to restrict air flow to protect vulnerable residents, while the public sheltered indoors and watched with mounting alarm as the fire sent plumes of toxic smoke, ash and soot throughout the City of Saint John and beyond.

Despite the prompt response of first responders, the Saint John Fire Department (**SJFD**) is entirely underequipped and lacks the capacity to contain an industrial fire of this size and magnitude at the AIM location. Hours after the SJFD arrived on site, the fire continued to grow and burn out of control, while firefighters drew upon the municipal water distribution system until its levels became critically low. By happenstance, the Atlantic Osprey (**Osprey**), a private vessel owned by Atlantic Towing and designed for use in offshore oil fields, was in port at the time of the fire. With its extraordinary firefighting capabilities of more than 1,000 litres of water per second, the Osprey sprayed 17 million gallons[1] of water on the fire in the span of approximately 17 hours, far exceeding the firefighting capability of the SJFD. The capability of the Osprey, along with the Irving Oil firetruck and a second Atlantic Towing vessel, allowed the City of Saint John to narrowly avoid wide-spread, catastrophic consequences.

The aftermath of this event left residents, businesses, institutions and community organizations with many questions.

The Joint Task Force was appointed to ensure a full and thorough investigation of the fire event, along with any existing and potential risks, threats and vulnerabilities associated with the operations of AIM. Led by the Clerk of the Executive Council, the Task Force discharged its mandate by engaging a lead investigation consultant, Robert Simonds, an independent forensic fire investigation firm, and environmental and structural engineers; reviewing video footage and documentation from a wide variety of sources; and reaching out to a broad cross-section of community stakeholders impacted by this event, including representatives from school districts, public health, government departments, municipal leaders, emergency responders, community organizations, business leaders, and concerned citizens.

It is our hope that this report provides answers to the important questions many have asked since the fire of September 14, 2023, and provides the facts necessary for stakeholders to assess the steps needed to mitigate the risk of a similar catastrophic event recurring in the future.

Members of the Task Force

- Cheryl Hansen, Clerk of Executive Council, Province of New Brunswick (Chair)
- Andrew Dixon, Chief Operating Officer of PSJ (Vice Chair)
- Hon. Hugh J. Flemming K.C, Attorney General, Province of New Brunswick
- Hon. Arlene Dunn, Minister of Post-Secondary Education, Training and Labour, Province of New Brunswick
- Bruce Connell, Vice-President, Risk and Compliance of PSJ
- Alex Calvin, Vice-President, Infrastructure and Planning of PSJ

EXECUTIVE SUMMARY

This report provides the facts relating to the fire: its cause, origin, duration, and the extensive efforts required to bring the fire under control. It addresses the community impacts of the fire, both during the event and in its aftermath. It also examines AIM's operations in the lead up to the fire, in an effort to address questions in the community about the safety of these operations.

History of AIM Operations

Prior to 2011, the site of AIM operations was approved for receiving, storing, sorting and loading scrap metal for waterborne shipment. The operations changed significantly in 2011 when AIM obtained regulatory approval to operate an industrial metal shredder on site to shred End of Life Vehicles ("**ELVs**") prior to shipment for scrap metal recycling. The site increased in size from 4.3 acres to 22.5 acres, and later to 26.4 acres, a six-fold increase.

In 2010, to obtain environmental approval to operate its industrial metal shredder, AIM represented to the New Brunswick Department of Environment, the business community and the broader public that, among other things:

- AIM had an enviable record of environmental stewardship;
- AIM would take extensive measures to ensure no hazardous materials were ever brought on site; and
- AIM would adopt a rigorous environmental management system to ensure all of its suppliers of ELVs complied with stringent de-pollution measures.

The AIM proposal did not contemplate the possibility of fire events or explosions. All socioeconomic impacts presented were positive, with a predicted positive economic impact to the community without any significant noise, dust, pollutants or nuisance. Operation of the shredder was not anticipated to have any direct impact on water or air quality.

By September of 2023, AIM operations on site had proven to be significantly different from those contemplated at the time the EIA was approved. While the EIA foresaw pre-shred scrap piles of no more than six meters high, the size of pre-shred piles on site at the time of the fire far exceeded these recommendations, with piles reaching 12-15 metres in height. The size of the scrap piles also exceeded the limitations of the National Fire Code. Air-borne particulate had become a significant concern for neighbouring tenants and property owners. AIM suppliers of ELVs were not fully compliant with de-pollution measures, resulting in hazardous and explosive materials on site.

Many alarm bells rang in the lead up to the fire. While the EIA approval process based upon the proposal presented by AIM did not identify explosions or fire as a significant risk, AIM has experienced at least 181 explosions and 22 fires since 2011, with a sharp increase in the number of such events reported in the last five years. From the perspective of workplace health and safety, there have been 21 incident investigations by the WorkSafe NB compliance and enforcement division since 2011, five of which were significant and, tragically, two of which were fatalities. A total of 59 orders have been issued, 43% of which were under the *Occupational Health and Safety Act*.

The Fire

The fire began at approximately 1:18 a.m. on September 14, 2023 in a pre-shred scrap metal pile measuring approximately 2,100 square meters and 12-15 metres high. AIM called 911 at 1:38 a.m. and the SJFD arrived on site within minutes. Firefighters promptly deployed a pumper and a ladder truck and additional firefighting equipment, but faced significant logistical challenges due to the location of the fire which was approximately 70 feet from the perimeter of the pile and 40-50 feet high. Despite reinforcements including two additional ladder trucks and other SJFD equipment, it quickly became apparent that the size of this industrial fire and associated fuel load exceeded the capacity of the SJFD. The fire continued to grow out of control, with increasingly dangerous conditions involving explosions and flying projectiles. Within hours, the firefighting water demand placed the west side municipal water supply at critical levels, requiring assistance from private vessels to draw water from the harbour. Additional resources were sought from the Kennebecasis Valley Fire Department, Irving Oil Ltd., and the Atlantic Environmental Response Team (**ALERT**).

By chance, the Osprey, a private vessel owned by Atlantic Towing and equipped to fight fires on oil rigs, was in port. Despite hazardous conditions, its Captain agreed to assist. The Osprey engaged the fire at approximately 1:00 p.m. on September 14, 2023. For almost 17 hours, it sprayed 17 million gallons of water on the fire. It would have taken the SJFD six to seven days to supply this same volume of water without depleting the water reservoir, and its firetrucks could not have achieved the arc and distance required to smother the fire. Without the Osprey, this extremely dangerous event would have been catastrophic.

Community Impact

The fire had a profound impact on citizens. A plume of toxic smoke, soot and ash engulfed uptown Saint John, with its effects and odour felt outside of the City in surrounding municipalities. By midday, residents were asked to shelter in place due to air quality concerns. Four schools and dozens of businesses closed. Hospitals, senior residences and other buildings were forced to turn off their air circulation systems out of concern for vulnerable residents. The public was and remains in doubt about the public health impacts, such as whether the contaminants released make it unsafe for their children to play in the park or to eat garden vegetables. Interruptions to the operations of PSJ and its tenants spanned several weeks. In total, over 22 million gallons (83 million litres) of water were sprayed onto the fire, giving rise to concerns about contamination of the harbour and marine environment.

In the aftermath, operations of AIM were restricted to emergency operations directly related to stabilizing the onsite fire situation. Its Approval to Operate was formally suspended by the New Brunswick Department of Environment and Local Government.

Engineering Experts

The Task Force retained independent engineering experts to investigate and provide opinions and reports relating to the cause of the fire and its consequences; actual and potential on site and off site environmental contamination relating to the fire and firefighting activities; a review of the adequacy of the EIA performed in 2010 in light of information that has become known since that date; and structural damage or concerns at the AIM site as a result of the fire.

The opinion of Arcon Forensic Engineers (**Arcon**), an independent engineering firm specializing in investigation of fires and explosions, was that the origin of the fire was likely an electrical ignition

from the crushing and resultant failure of a rechargeable battery discarded within the contents of a vehicle. Arcon found, among other things, that:

- The height of AIM's scrap piles at the time of the fire was twice the maximum height recommended by the EIA and significantly exceeded the maximum height and area permitted by the National Fire Code.

- Considering the history of explosion and fire at the AIM site, there is a high likelihood of future fire events.

- The capacity of the City water supply and the SJFD is insufficient to respond to a similar fire event at the AIM site in the future. In order for firefighting capabilities to be able to respond, piles would need to be substantially reduced in size, and the available water supply to the site would need to be substantially increased.

Dillon Consulting (**Dillon**), an independent engineering firm, conducted environmental testing, structural testing, and a review of the EIA that had been completed in 2010.

Dillon identified contamination at the AIM facility as a result of the fire and efforts to extinguish the fire that may pose a risk to human and ecological health. Further environmental testing and atmospheric modeling is needed to analyze the effects of contaminants released from the fire on neighbouring properties, in the harbour, and other areas. Dillon recommended that an environmental site assessment be completed and remediation take place.

Upon review of the EIA from 2010 with the benefit of hindsight information relating to AIM's actual operation of the industrial metal shredder, Dillon concluded that the EIA was inadequate to address the present-day operations of AIM. Dillon recommended that the conditions of the Approval to Operate be reviewed and strengthened, with the need for AIM to establish that it could meet strengthened conditions.

The structural engineering review recommended additional testing of the structure under the burn pile and the stormceptor drainage system.

Findings

Based upon its investigation, the Task Force has made the following twelve findings:

1. The EIA submitted by AIM in 2010 was insufficient in many material respects and did not adequately address key environmental issues or events such as fires, explosions and the potential release of contaminating substances.

2. AIM's operations and its risks are significantly different than those AIM presented at the time it obtained its regulatory approval to operate an industrial metal shredder and expanded its site by more than 6-fold.

3. The scrap metal piles maintained by AIM at the AIM site exceeded the size recommended in the EIA and prescribed by the National Fire Code by 2 to 2.5 times.

4. AIM did not, and does not, have an emergency plan capable of effectively responding to the September 14, 2023 fire or a similar fire in the future.

5. The SJFD was not, and is not, equipped or resourced to effectively respond to the September 14, 2023 fire or a similar fire in the future at the AIM site.

6. The City of Saint John water resources were not, and are not, sufficient to effectively respond to the September 14, 2023 fire or a similar fire in the future at the AIM site.

7. Had the Osprey not been in port on September 14, 2023, the repercussions for the community would have been disastrous.

8. The AIM site was contaminated as a result of the September 14, 2023 fire. Contaminants were also released into the air and the water, and significant additional testing and analysis is required to assess the existence and scope of the environmental and human health impacts to protect the citizens of Saint John.

9. AIM operations carry a significant risk of explosion and fire, with a high likelihood of future fires at the AIM site, including a material risk that a catastrophic fire similar to that of September 14, 2023 could recur.

10. The location of the AIM operation, in the middle of the Saint John community, adjacent to the harbour and a residential neighbourhood, is entirely inappropriate given its now known hazards and risks.

11. The negative socio-economic impacts of the AIM operations at its present site are unacceptable to the City of Saint John, its residents, and surrounding communities.

12. The AIM operations are an environmental, health and safety risk to Saint John, surrounding communities, and their citizens.

I. HISTORY AND OVERVIEW OF AIM OPERATIONS

PSJ occupies 120 hectares of land along 3,900 metres of waterfront in the Saint John Harbour. In 2022, PSJ received 921 vessels, handled 27,454,799 metric tonnes of cargo, and welcomed 226,872 cruise passengers and crew.

The area leased to AIM is 26.4 acres in size and located in West Saint John on Gateway Street. The site is bordered by the Saint John Harbour on two sides and is within 300 metres of a community garden, Market Place Splash Pad, U.C.T. Kidds Play Park, Market Place Volleyball Court, a baseball diamond, and Carleton Curling Club. There are 108 residential properties within 300 metres of AIM operations. A map of the AIM site and adjacent properties is attached as **Appendix A** to this report.

Initial Activities: 2002 to 2010

In 2002, PSJ leased 17,720 m^2 (4.3 acres) adjacent to Pier 10 to Maritime Metal Inc. (**Maritime Metal**). The operations of Maritime Metal were limited to receiving, storing, sorting and loading scrap metal for waterborne shipment. On December 31, 2008, Maritime Metal assigned its lease to AIM, without any change to the scope of operations or approved activities.

From 2002 to 2010, when activities on site were limited to receiving, storing, sorting and loading scrap metal, there were no reports of fires or explosions from either Maritime Metal or AIM.

Environmental Impact Assessment – Metal Shredder

On October 1, 2010, AIM initiated an Environmental Impact Assessment process with the New Brunswick Department of Environment in relation to the proposed installation of an industrial metal shredder to supplement its existing operations. As part of this process, AIM held public consultations and meetings with its corporate neighbours in which it represented that:

- AIM is a responsible corporate citizen, with an enviable record of environmental stewardship;
- AIM had and would continue to take steps to minimize and neutralize impacts to noise, water, air, safety and security;
- the shredder would only operate between 7:00 a.m. to 7:00 p.m. Monday to Saturday;
- AIM would take extensive measures to ensure no hazardous materials were ever brought on site;
- all suppliers would be compliant with the *National Code of Practice*[2] which requires, among other things, removal of all hazardous substances from ELVs;
- AIM would implement a stringent environmental management system to mitigate potential environmental impacts, including inspections and audits of its suppliers; and
- liquid contaminants would be captured in a stormceptor system, with run-off from the storm water system constantly analyzed.[3]

The Environmental Impact Assessment (**EIA**) prepared for AIM by Conestoga-Rovers & Associates and provided to the Department of Environment described the AIM proposal in relation to the metal shredder in a manner consistent with these representations.

Specifically, the EIA described the proposed metal shredder as a "state of the art facility built around strict environmental policies".[4] The feed material for the shredder was described as "light iron" and auto bodies. AIM agreed that it would not accept ELVs on site if they contained hazardous materials,[5] and that AIM would not accept containers or material containing the following:

- Aerosol
- Antifreeze
- Batteries
- Brake fluids
- Chemical or toxic products
- Components that may contain mercury (i.e. mercury switches used in ABS brakes, lighting, etc.)
- Coolants
- Dangerous goods or residues
- Diesel
- Domestic waste
- Drugs, medical waste
- Explosives
- Fuel/Gas

- Hazardous fluids
- Insulation material that could pose a health danger (i.e. asbestos)
- Lubricants
- Non-deployed safety airbags
- Oil filters (with oil content that could assimilate them to hazardous materials)
- Paints or cleaners
- PCB (i.e. light ballasts)
- Pesticides
- Pressurized containers (i.e. propane tanks, etc.)
- Radioactive substances
- Refrigerants/halocarbons (i.e., used in refrigerators, air conditioning units, etc.)
- Soils
- Tires
- Toxic chemical products
- Used oils
- Windshield washer.[6]

AIM agreed to train all of its new suppliers on the disposal of hazardous materials; to follow-up with suppliers to ensure de-pollution measures were followed off-site; and to ensure that all fuel tanks were emptied and perforated or removed, along with removal of all other pollutants or hazardous material (batteries, lubricating oils, brake fluid, coolant, fuel, tires, propane tanks, etc.).[7] AIM was required to track all shipments from suppliers to ensure that the shipment would be refused and environmental authorities notified if the supplier was not in compliance with its stringent de-pollution obligations.[8]

AIM was to conduct detailed sampling of "fluff" (the non-ferrous byproduct generated during the shredding operation) to monitor for the presence of contaminants in metal that was shredded[9] and to install radiation detectors at the entrance gate of the site to ensure radioactive material was not accepted at the facility.[10]

AIM was also to install a stormceptor system to prevent the run-off of hazardous contaminants into the Saint John Harbour and establish procedures to address spills and regular maintenance of the system.[11]

The height of stockpiles of metal scrap was to be restricted to six metres, with a minimum distance of ten metres to be maintained between the edges of each stockpile.[12]

Air quality was not included in the EIA submission because the undertaking proposed by AIM was not expected to significantly contribute to the emission of sulphur dioxide, carbon monoxide, nitrogen dioxide, volatile organic carbon or ground level ozone due to the mitigation measures that will be implemented to control dust emissions. Similarly, it was not anticipated that there would be any direct impact on the water in the Saint John Harbour.

Following the EIA process, the New Brunswick Department of Environment issued an Approval to Operate to AIM, which has been renewed periodically since its issuance. The Approval to Operate is subject to numerous conditions including requirements to control dust and suspended particulate matter; to reduce noise to non-significant levels; to carry out a thorough and continuous program of inspection of scrap metal to identify and remove potentially explosive components; and to maintain an Emergency Response Plan.

To accommodate the addition of this industrial metal shredder to its operations, AIM entered into a further lease with PSJ for property adjacent to the Rodney Terminal, bordering Piers 10, 11 and 12, which increased its total footprint to 91,054 m^2 (22.5 acres). This additional leased space was to be used to receive, shred, process, store, load and unload scrap metal or non-ferrous materials for water borne shipment, as well as to handle fluff. In addition to the obligation to strictly adhere to all laws, including rules and regulations relating to hazardous substances, environmental protection, security and occupational health and safety, the lease had stringent requirements preventing the site from being used for any dangerous, noxious or offensive business or nuisance, and required AIM to immediately notify PSJ in the event any hazardous substances were produced on, or brought onto, the site.

Impact of Shredder Activities: 2011-2023

In the last decade, numerous representations made by AIM at the time of the EIA approval have not been fulfilled. For example:

- post-fire inspections of scrap metal piles on site identified batteries and pressurized tanks in pile materials destined for the shredder, revealing that AIM was not ensuring supplier compliance with the *National Code of Practice for Automotive Recyclers*, refusing shipments that failed to comply with these stringent standards, and preventing hazardous materials from being brought on site;

- the size of pre-shred piles has far exceeded the six metre height recommended at the time of EIA approval, with the burn pile from the fire estimated at 12 to 15 metres, more than twice the recommended limit;

- dust and particulate had become matters of concern for neighbouring tenants and property owners, when the EIA had only contemplated "minimal" dust or air-borne particulate from AIM operations;

- the EIA contemplated continuous monitoring of the site by numerous cameras, however, AIM acknowledged that, at the time of the fire in September of 2023, its cameras had not been functional since the spring; and

- while the EIA only contemplated positive socio-economic impacts, it is reported that the presence of the industrial shredder has had negative socio-economic impacts on the quality of life of residents, the value of their residential properties, and the appeal of the area to businesses in its vicinity.

Perhaps most significantly, while no risk of explosion or fire was identified in the EIA process, explosions and fire have become a significant, recurring hazard since the operation of the industrial metal shredder began. Since 2011, at least 181 explosions and 22 fires have been recorded in relation to AIM's operations, with notable increases to the frequency of these reported explosions and fires over time:

Years	Tenant	Leased Area ±	Operations on Site	Reported (site & rail)	
				Explosions	Fires
2002-2009	Maritime Metal Inc.	17,720 m^2 (4.38 acres)	Receiving, storing, sorting and loading scrap metal for waterborne shipment	0	0
2009-2011	American Iron & Metal	17,396 m^2 (4.3 acres)	Receiving, storing, sorting and loading scrap metal for waterborne shipment	0	0
2011-2017	American Iron & Metal	91,054 m^2 (22.5 acres)	Receiving, **shredding, processing**, storing, loading **and unloading** of scrap metal **and non-ferrous materials** for waterborne shipment, and **handling and shipment by rail of "fluff" (byproduct of shredding);**	41	2
2017-present	American Iron & Metal	106,837 m^2 (26.4 acres)	Receiving, **shredding, processing**, storing, loading **and unloading** of scrap metal **and non-ferrous materials** for waterborne shipment, and **handling and shipment by rail of "fluff" (byproduct of shredding);**	140	20
			Total	181	22

Fires have occurred in the following areas:

- rail cars
- shredding facility
- scrap piles
- fluff

AIM has also been the subject of several high profile WorkSafe NB investigations, two of which, tragically, were fatal accidents.

II. THE FIRE

The fire and emergency response were captured by video and drone footage, providing time-stamped visuals of the events.

Chronology of the Fire & Emergency Response

At approximately 1:18 a.m. on September 14, 2023, smoke began emanating from a pile of pre-shredded ELVs awaiting processing by the metal shredder.[13] The pile was massive, with an estimated height of 40-50 feet; a length of more than 200 feet long; and a width of approximately 137 feet wide at its widest point. The area covered was 2,100 m^2, more than four basketball courts. The fire originated near the top of the pile, about 70 feet from the perimeter of the pile and more than 40 feet above the ground. Fire investigators concluded that the probable ignition source was failure of discarded rechargeable batteries.[14]

Video footage shows that, within 15 minutes of the appearance of smoke, a major fire broke out:

Thurs. Sept 14th, 1:18a.m. and 1:33a.m. – Smoke quickly progresses to major fire.

At 1:33 a.m., AIM dispatched its own water truck. An AIM employee called 911 at 1:38 a.m.[15] The AIM water truck was entirely incapable of providing any effective mitigating response to the fire because of the massive size of the pre-shred pile. The water stream of the AIM truck had a reach of approximately 20 feet,[16] which was not even sufficient to reach the perimeter of the pile, much less the fire:

Sept. 14th, 1:42a.m. - AIM water truck ineffective at reaching flames.

The SJFD arrived on site within minutes to take control of the scene. Given the magnitude of the fire, the SJFD immediately called for reinforcements.[17] By 2:03 a.m., a SJFD ladder truck was working to extinguish the fire. It quickly became apparent that the SJFD is not equipped to respond to a largescale industrial fire of this nature at such a site. Despite sustained efforts of the SJFD and the arrival of additional fire trucks by 2:27 a.m.,[18] the fire continued to grow.

Thurs. Sept 14th, 2:04a.m. and 2:34a.m. - 30 minutes of SJFD firefighting activity from fire ladder as flames worsen.

Because the AIM fire hydrants on site were only sufficient to support three firetrucks, subsequent firetrucks connected to City of Saint John hydrants in the nearby residential area. By 3:00 a.m., the situation was worsening and the SJFD was advised that it would not be able to continue to draw water at its current rate without depleting the water supply of the City's west side to critical levels. Emergency responders began identifying a plan for an alternate water source.

Sept. 14th, approx. 2:50a.m. :
Fire grows uncontrollably despite efforts of 2 ladder trucks and 1 ground line

By 4:35 a.m., an effective alternate water source was urgently being sought and the blaze was completely out of control. The size and location of the pile made it extremely difficult to effectively position firefighting resources to fight the fire. Black smoke and dense fog severely reduced visibility. Explosions and flying projectiles from the fire pile made it increasingly unsafe for firefighters, requiring equipment to be pulled back from the perimeter. While emergency responders on scene were advised to wear breathing apparatuses for their own health and safety, it was impractical for firefighters to wear self-contained breathing apparatuses for the entire duration of the fire. The SJFD was and is simply not equipped or resourced to combat a dangerous industrial fire of this size and scale at such a site.

Thurs., Sept. 14th, 4:35a.m. - Fire burns at AIM Site.

Thurs. Sept. 14th, 6:14a.m. - Moments before and after explosion occurs on AIM Site as SJFD work to combat the fire.

Reinforcements continued to be called, drawing upon all available resources. The Kennebecasis Valley Fire Department arrived to provide water tanker support. The Irving Oil internal fire response team responded to a call for mutual aid. By 5:12 a.m., Irving Oil had firefighting foam and personnel on site to support the fight. Still, the fire raged on. As dawn broke, residents awoke to toxic clouds of smoke:

Thurs, Sept. 14th, 7:43a.m. - SJFD works to combat fire at AIM Site.

By mid-morning, an Irving Oil ladder truck, with a capacity of approximately three times that of a SJFD truck, was set up near the west end of the burning pile,[19] and a vessel owned by Atlantic Towing, the Spitfire **III (Spitfire)**, had been mobilized to supply water from the harbour to SJFD and Irving Oil firetrucks.[20]

Thurs., Sept. 14th, 2:39p.m. - Irving Oil on AIM Site providing assistance to SJFD.

By noon, five streams of water were being applied to the fire by the SJFD and Irving Oil. While these extraordinary efforts slowed the fire, they could not prevent its continued spread through the pile.[21] The billowing clouds of toxic smoke were so dense that 911-dispatchers received reports of structural fires as far away as the Kennebecasis Valley as individual citizens mistook smoke and odour conditions in their neighbourhood for a fire near their homes.

Sept. 14th, approx. 1:06p.m. - Efforts to fight the AIM Site fire include three SJFD trucks, other SJFD equipment, an Irving Oil truck, the Atlantic Osprey, and the Spitfire III.

In the meantime, the SJFD had learned that Atlantic Towing had a second vessel, the Osprey, in port. The Osprey is a vessel equipped with firefighting capabilities for offshore oil drilling operations. Its Captain agreed to provide emergency assistance to the firefighting efforts. The Osprey engaged in firefighting activities at 1:06 p.m. It was able to direct a water stream from the harbour onto the east end of the pile, a distance of approximately 300 m, at a phenomenal rate, ultimately delivering 17 million gallons of water over a period of approximately 17 hours.

The presence of the Osprey averted massive disaster. After having burned unabated for approximately 12 hours, progress was finally being made in battling the blaze. The volume of water delivered by the Osprey was extraordinary, causing the area to flood to knee deep levels. The water volume overwhelmed the stormceptor system and began flowing over into the harbour, while debris from the site migrated to nearby properties.

22 million gallons used to combat fire at AIM Site running into harbour.

The surrounding area flooded, with floating propane tanks, a gas tank and other hazardous debris from the site littering the area.

Thurs., Sept 14th, 2:41p.m. - 22M gallons of standing water at AIM site destined to run into harbour.

The Osprey delivered a steady stream of water to the heart of the fire until 4:31p.m. At that juncture, the intensity of smoke, ash and soot gave rise to concerns for the health and safety of the Osprey crew, requiring the Osprey to temporarily disengage.

Sept. 14th, approx. 1:06p.m. - Dense smoke from AIM fire flows into city center.

The crew of the Osprey re-engaged at 5:37 p.m. equipped with breathing apparatuses, and continued a steady stream, with only a brief 15-minute pause, until 7:30 a.m. on Friday, September 15, 2023,[22] when the fire was deemed to be under control.

SJFD crews remained on site and firefighting activity continued until 5:52 p.m. on September 15, 2023.[23] As the fire was brought under control, the focus turned to moving debris and extinguishing fire pockets.[24] These efforts included the use of grappling hooks to pick up large pieces of material and pass the material in front of aerial streams of water to be cooled, extinguished, and then spread out on the deck.[25] SJFD presence remained on site until 8:00 p.m. on Saturday, September 16, 2023[26] to address these localized smoldering hot spots.[27]

Lessons Learned from the Emergency Response

The emergency response to this event demonstrated the strength of the community in a time of crisis. A total of 83 firefighters responded to the scene, from three different platoons. Firefighters worked a combined 336 hours of overtime, braving extremely dangerous fire and air quality conditions. PSJ provided continuous emergency response and community liaison support throughout the event. The prompt response of Irving Oil and Atlantic Towing, and the willingness of their crews, equipment and vessels to join the battle, was extraordinary. The efforts were further supported by the Atlantic Environmental Response Team (ALERT).[28]

However, the occurrence of a serious industrial fire of this magnitude in the heart of the City also served as a wake-up call. Had the Osprey, which is normally anchored in its home port of St. John's Newfoundland, not been in port by happenstance, the City would have faced unmitigated disaster. It is noted that:

- A total of 22 million gallons (83 million litres) of water was required to douse the fire, 17 million of which came from the Osprey. The firefighting capacity of the SJFD, even

supported by neighbouring municipal fire departments, falls far short of what would be required to respond to a fire event of this nature.

- Of the 22 million gallons used to extinguish the fire, 19 million gallons were sea water, supplied either directly by the Osprey or through the Spitfire. The Lancaster Reservoir, which is the City water supply to fire hydrants on site and in the surrounding area, is entirely insufficient to successfully battle a blaze of this magnitude. It would have taken 6-7 days to draw the volume of water necessary to combat the fire from the City water supply.

- Fortuitously, no cruise ships were in port at the time of the event. Had there been one or more cruise ships in port, passengers would not only have suffered hazardous inhalation at a very close range, without proper protective equipment, but the ships themselves would have been blackened by contaminated soot and ash, unable to move until high tide.

Community Impacts of the Fire

The fire had a profound and widespread impact on the community.

There were immediate **economic and business impacts.** There was widespread disruption to the operations of PSJ and that of its tenants. Pier 10, a deep-water berth operated by PSJ, was closed, without any indication of when it would be safe to re-open, causing disruption to PSJ operations. These interruptions extended to PSJ tenants. Rail operations and transportation links were closed as a result of the fire (including smoke, ash and projectiles from burning pile) and flooding (resulting from the sheer volume of water from firefighting efforts). AIM's neighbours requiring fuel trucks, water trucks, welding trucks or other heavy equipment had to delay their operations or relocate their equipment to receive these services, at significant cost and inconvenience. Closures and service interruptions were not only for the duration of the fire, but for approximately three weeks afterwards while engineering verifications were undertaken to ensure the fire and flooding had not affected the structural integrity of infrastructure.[29]

Beyond the SJP and its tenants, businesses in close proximity to the fire closed on September 14, 2023, and many remained closed on September 15th, with staff being sent home due to smoke, odour and uncertainty with respect to the level of contaminants that had been released into the air. For example, Sunbury Transport lost two full days of port operations due to the Fire. DP World was also closed for a 24-hour period. The International Longshoremen's Association Local 273 lost two full shifts of work.[30]

There were also immediate **social impacts** on community members. Environment Canada issued a special air quality statement for uptown Saint John on the morning of September 14, 2023 as a result of the pollution levels.[31] A shelter in place order was issued for Saint John residents living in the South End and Millidgeville areas just before 11:00 a.m., which was expanded to include the entire City by 5:00 p.m.[32] Residents were also asked to remain in their homes, with doors and windows shut and HVAC systems turned off. Particular caution was expressed for persons with respiratory or underlying health issues. Four schools closed, while many others kept children indoors due to air quality concerns. Filters were installed in air-handling units at St. Joseph's Hospital in an effort to mitigate the impact of smoke in the facility, while other buildings had to turn off air circulation and HVAC units entirely. In some buildings, HVAC systems are connected to elevator functioning, meaning that elevators were not operational during the event, posing particular anxiety, inconvenience and safety concerns for persons with mobility challenges who were unable to enter or leave their residences.[33]

The full extent of **reputational impacts** to the City, its residents and its economy, are not yet known. Cruise ships are critical to the local economy. The day prior to the fire, there were three cruise ships in the harbour. A fourth cruise ship scheduled for September 14, 2023, with 3,800 passengers, had, thankfully, been diverted due to a pending hurricane. If the event had occurred with a cruise ship in port, passengers would have been subjected to extreme air quality hazards, and ships may have been forced to return to sea at high tide, possibly stranding disembarked passengers. Industrial accidents of this magnitude impact the reputation of the City as a safe and exciting port of call for cruise line destinations. Similarly, they undermine significant efforts to promote the overall brand of the City as a desirable place to live, work and invest. Investors will be hesitant to become established in a location in which neighbouring operations pose a significant risk of explosion or fire.[34]

The full extent of **environmental impacts** is not yet known. AIM relies on a stormceptor system to prevent liquid contaminants from entering the marine environment. The stormceptors in ordinary operation were only effective at removing limited types of contaminants, suspended solids and non-soluable liquids with specific gravities (for example, petroleum products in water). Because of the enormous amount of water required to fight the fire, they were completely overwhelmed by the fire event, permitting any liquid contaminants on site to be released, untreated, into the marine environment. Further, the plume of smoke, ash and soot would have deposited contaminants in the southern peninsula of Saint John or further afield towards the Kennebecasis Valley. Further testing and analysis are necessary to assess the full scope of environmental impacts.

The fire event prompted calls from community stakeholders that AIM be shut down or otherwise held accountable. On September 18, 2023, the City of Saint John passed a council motion seeking to have the AIM operation shut down. The Uptown Saint John Business Improvement Association, representing over 500 businesses, many of which were impacted by the fire, called for AIM to be held accountable. The Conservation Council of New Brunswick raised concerns about the release of a "chemical cocktail" into the environment, echoed comments made by the City that the location of AIM is unacceptable and incompatible with residential communities, and called for a close look at the regulatory and enforcement context to prevent recurrence of a similar industrial incident.[35]

III. SUMMARY OF ENGINEERING INVESTIGATIONS

The Task Force engaged independent engineering consultants to investigate and prepare expert reports regarding:

A. The AIM Fire, its cause and consequences (**Fire Investigation**);

B. The actual and potential on site and off-site environmental contamination related to the fire and firefighting activities (**Environmental Contamination Review**);

C. The 2010 EIA relating the AIM industrial metal shredder (**EIA Review**); and

D. Any apparent structural damage or concerns related to the fire (**Structural Review**).

The Task Force received detailed reports from these expert investigations, for which summaries are provided below.

A. Fire Investigation – Arcon Forensic Engineers

The Task Force engaged Arcon Forensics Engineers ("**Arcon**"), a consulting engineering company specializing in the investigation of fires and explosions, to investigate and report on the cause and origin of the fire and its consequences. In addition, Arcon examined the firefighting capacity of the City of Saint John and considered other possible outcomes of the fire event.

Source of the Fire

The fire was discovered high up in a pile of pre-shred material including crushed vehicles at approximately 1:32 am on September 14, 2023. Arcon was unable to determine the precise cause and origin of the fire because the fire burned so intensely that the evidence was completely destroyed, leaving a pile of molten metal. However, its opinion is that the fire was likely started by an electrical ignition from the crushing and resultant failure of rechargeable batteries, either as vehicle components or discarded within the contents of a vehicle.[36] Rechargeable lithium ion batteries were found at the fire site.[37]

Size of Scrap Piles and Fuel for Fire

Upon review of documentation and relevant site restrictions, Arcon noted that the 2010 EIA attached a 2003 report that recommended limiting the height of piles to six metres. The National Fire Code of Canada similarly specifies a maximum height of six metres and further recommends that scrap pile sizes not exceed 1,000 square metres in area. The pile where the fire originated was 12-15 metres in height and was estimated to be 2,100 square metres[38] – more than twice what AIM indicated the maximum pile size would be and in apparent contravention of the National Fire Code.[39] The size of the pile where the fire originated far exceeded engineering recommendations for safety.

Capacity of SJFD to Fight the Fire and Water Supply Limitations

Over the course of the fire, the SJFD deployed 83 fire fighters,[40] five fire and ladder trucks and called on neighbouring municipalities to assist. All of these combined resources were not sufficient to control the fire which continued to expand until the Osprey intervened.

The volume of water used to fight the fire was enormous: Arcon estimates that the firefighting efforts consumed 22 million gallons, or approximately 83 million litres, of water from potable and non-potable sources.[41]

The firefighting efforts occurred over 40 hours, but Arcon determined that it would have taken substantially longer (six to seven days), had the Osprey not been able to assist by pumping massive volumes of water from the harbour onto the fire.[42]

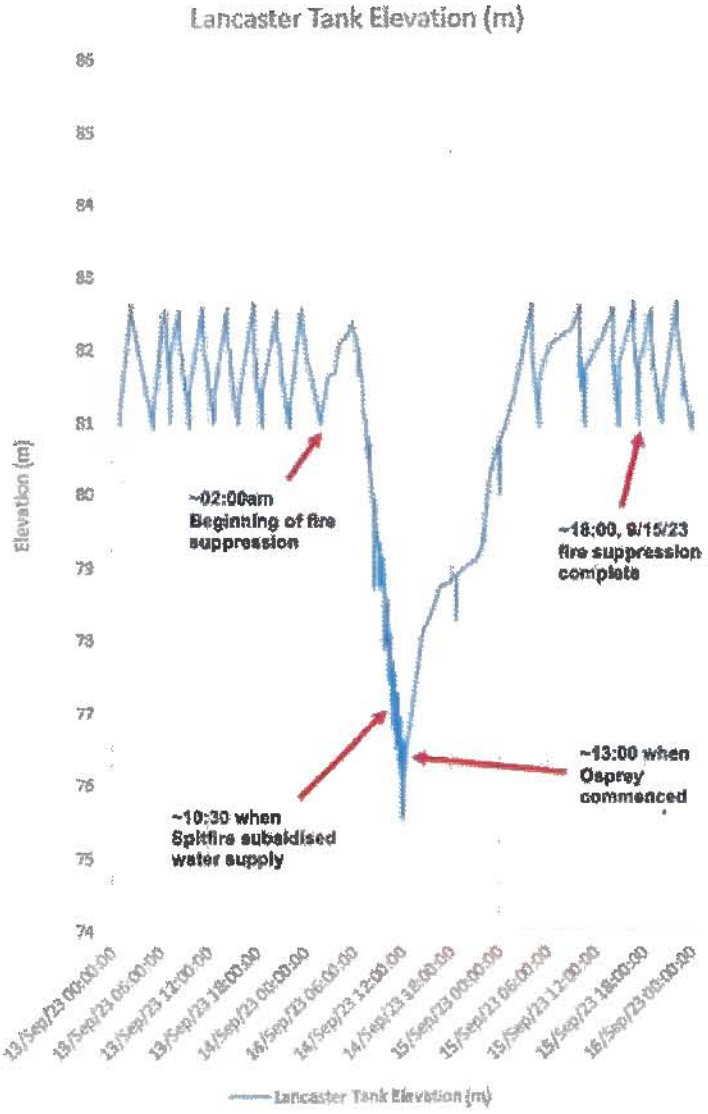
Arcon reviewed the fire suppression infrastructure available to combat the fire at AIM (i.e. available water reservoir, interview of fire personnel and access to hydrants and flow). It determined that the City of Saint John and AIM site infrastructure is insufficient to combat a fire of a similar magnitude and is unable to control the fire in the same period of time.[43]

Although AIM would not permit its personnel to be interviewed by Arcon, Arcon reviewed AIM's emergency management plan and video of firefighting efforts, including video of AIM's one small water truck trying to suppress the fire before Saint John firefighters arrived. Arcon determined that AIM is completely incapable of effectively responding to a fire of a similar magnitude.

The maximum flow rate deliverable to the AIM site via the on site hydrant system without depleting the Lancaster reservoir is approximately 2,100 gallons per minute.[44] The addition of the Osprey and Spitfire increased the amount of water being delivered to 18,000 gallons per minute.[45] Approximately three million of the 22 million gallons consumed to extinguish the fire, were from the City's potable water source in the Lancaster reservoir. Arcon determined that the Lancaster reservoir was being unsustainably drawn down until the Osprey and Spitfire joined the firefighting efforts.[46]

Figure 7 in the Arcon report,[47] copied below, shows the beginning of the firefighting efforts and the substantial dip in the reservoir levels as the firefighting efforts continued. The draw down in the reservoir was only alleviated as a direct result of the Osprey's assistance.

Arcon determined that the Lancaster reservoir was drained of almost half its capacity during the first 6 hours of firefighting efforts, and could not have been maintained for more than an additional six hours without critically affecting the water supply to the West Side of Saint John.[48]



Osprey & Spitfire Essential to Extinguishing the Fire

Of the 22 million gallons used to extinguish the blaze, 19 million gallons were delivered by the Osprey and Spitfire. It is certain that without the assistance of the Osprey and the Spitfire, the City of Saint John response would not have been able to quickly control the fire and the SJFD would have been forced to seek other alternative sources of water to supress the fire.[49] The City of Saint John water supply has significant limitations with respect to its ability to respond to fires of a similar magnitude at the AIM site.

Risk of Future Fires

Arcon concluded that the likelihood of future fire events at the AIM facility is high.[50] Given that the size of pre-shred piles exceeds engineering recommendations and that the capacity of the existing water service of the City of Saint John is insufficient to combat a similar fire in the future, Arcon concluded that it would be necessary to substantially reduce the size of the scrap piles and the amount of combustible material contained in a pile, and to substantially increase the available supply of water[51] for fire suppression purposes.

Summary

Several Fire Investigation conclusions of Arcon are set out below:[52]

- Height of AIM's scrap piles at the time of the fire appeared to be approximately twice the maximum height recommended in AIM's EIA submitted in September 2010.
- The AIM piles of ELVs and components on site significantly exceeded the maximum height and area permitted by the National Fire Code.
- Heat damage may have occurred in the concrete slab which may include spalling, cracking and erosion beneath it, which could lead to leakage of contaminants through the slab.
- Although required to be removed from vehicles, unburned tires remained on some crushed vehicles and on some truck trailers.
- To prevent a future event from exceeding the capacity of the existing water supply and the ability to suppress the fire within a pile of ELVs with similar pre-shred material, it would be necessary to substantially reduce the size of the piles and the amount of combustible material in a pile, and substantially increase the available supply of suppression water to the site.
- Considering the history of frequent fires and fire department responses required during the preceding six years, there is a high likelihood of future fire events at the AIM facility.
- The capacity of the existing city water services at the AIM facility are insufficient to supply the necessary quantity and flow of suppression water to respond to a fire that develops within such a large pile of pre-shred material and ELVs.
- Due to the limitations of the available water supply, the SJFD would be unable to effectively respond to a future similar event without also being assisted with an alternative source of suppression water that could supply the necessary flow and volume of water.

B. Environmental Contamination Review – Dillon Consulting

The Task Force retained Dillon Consulting ("**Dillon**") to conduct independent testing and review of any environmental contamination as a result of the fire.

Dillon identified contamination at the AIM facility which likely resulted from both the fire and the efforts to extinguish it. Contaminants were identified which exceed criteria that may pose a risk to human and ecological health. In addition, it is likely that the smoke generated by the fire carried significant contaminants through the air, which were then deposited where soot or particulate landed. To determine the complete extent and severity of the contamination, Dillon recommends further significant testing and analysis.

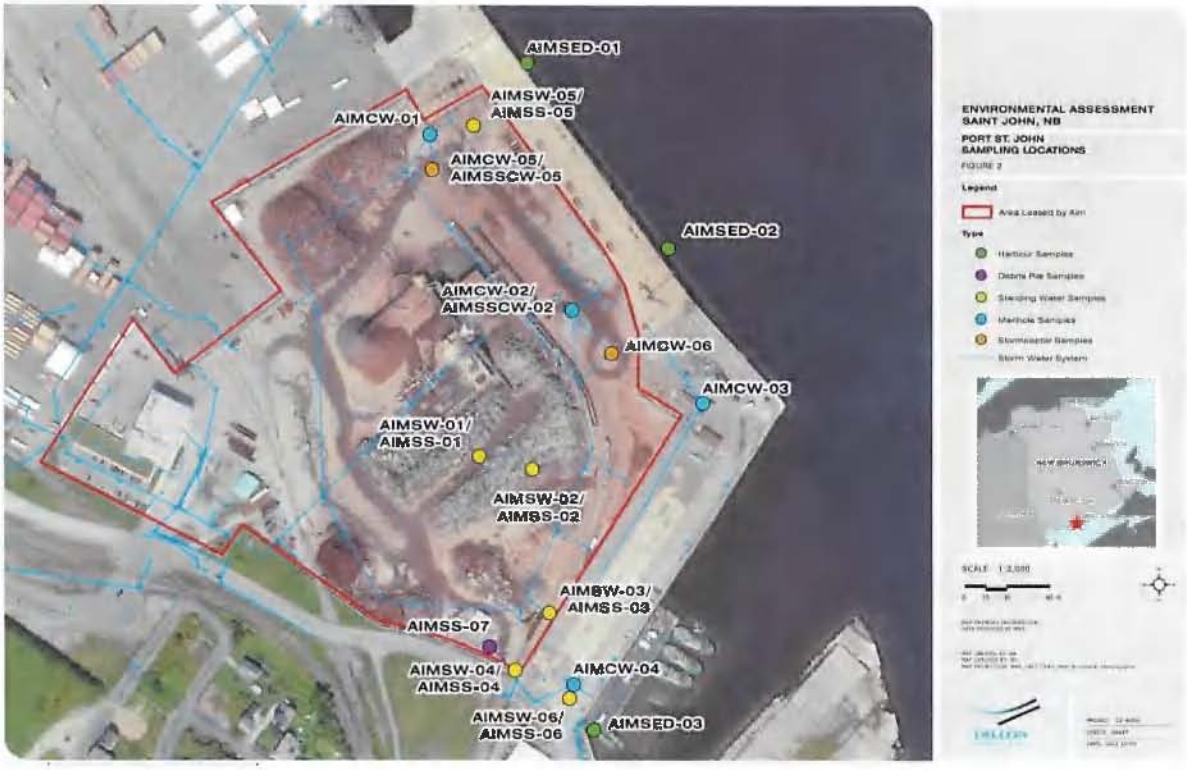
The fuel for the fire contained metals which were on site to be shredded and ultimately recycled. Like any fire, metal fires carry with them soot and ash; however, motor vehicle fires can also carry particulate containing carbon ash, metals, metal oxides, types of hydrocarbons, dioxins and furans each of which alone can be harmful contaminants.[53]

While the amount of water required to supress the fire was estimated to be 22 million gallons, in addition, firefighting foams containing chemicals necessary to fight large industrial fires were used. As a result of the large volume of water necessary to fight the fire, the storm water system at the site was completely overwhelmed, and millions of gallons of water containing contaminants from the fire and firefighting efforts poured into the harbour.

Below is a summary of some of the key findings from the AIM site testing.

Testing

Dillon tested soils, surface water and in catch basins and stormceptors at the AIM site for contaminants. Figure 2 shows the Sampling Locations.[54]



Metal Contaminants

Testing was completed for various metals that can be harmful to human health and found metals present at levels which exceed human health criteria by up to 18 times the allowable levels, and ecological health criteria by up to over 1,890 times allowable levels. Examples of excess metal contaminants are set out below:

METALS EXCEEDING HUMAN HEALTH CRITERIA[55]

		Exceeding Values		Magnitude of Exceedance	
Substance	Criteria	High	Low	High	Low
Antimony	63	85	71	135%	113%
Iron	164,000	365,000	194,000	223%	118%
Lead	740	13,800	1,090	1,865%	147%

METALS EXCEEDING ECOLOGICAL CRITERIA[56]

		Exceeding Values		Magnitude of Exceedance	
Substance	Criteria	High	Low	High	Low
Arsenic	12.5	32	32	256%	256%
Barium	500	4,310	571	862%	114%
Boron	1,200	1,930	1,610	161%	134%
Cadmium	0.12	36.7	0.15	30,583%	125%
Chromium	56	401	61	716%	109%
Cobalt	4	74	10	1,850%	250%

		Exceeding Values		Magnitude of Exceedance	
Copper	2	6,820	6	341,000%	300%
Lead	2.0	3,780	5.9	189,000%	295%
Mercury	0.016	2.1	0.017	13,125%	106%
Nickel	8.3	625	9	7,530%	108%
Selenium	2	3	3	150%	150%
Silver	1.5	13.4	1.6	893%	107%
Thallium	0.3	0.4	0.4	133%	133%

Hydrocarbon Contaminants

Petroleum hydrocarbons would have been burned off in the fire over the 40 hours it took to extinguish. In one instance, in a soil sample taken from the deck near where the escaping water poured into the harbour, the human health criteria for modified total petroleum hydrocarbons was more than double the recommended limit.[57]

Dioxin and Furan Contaminants

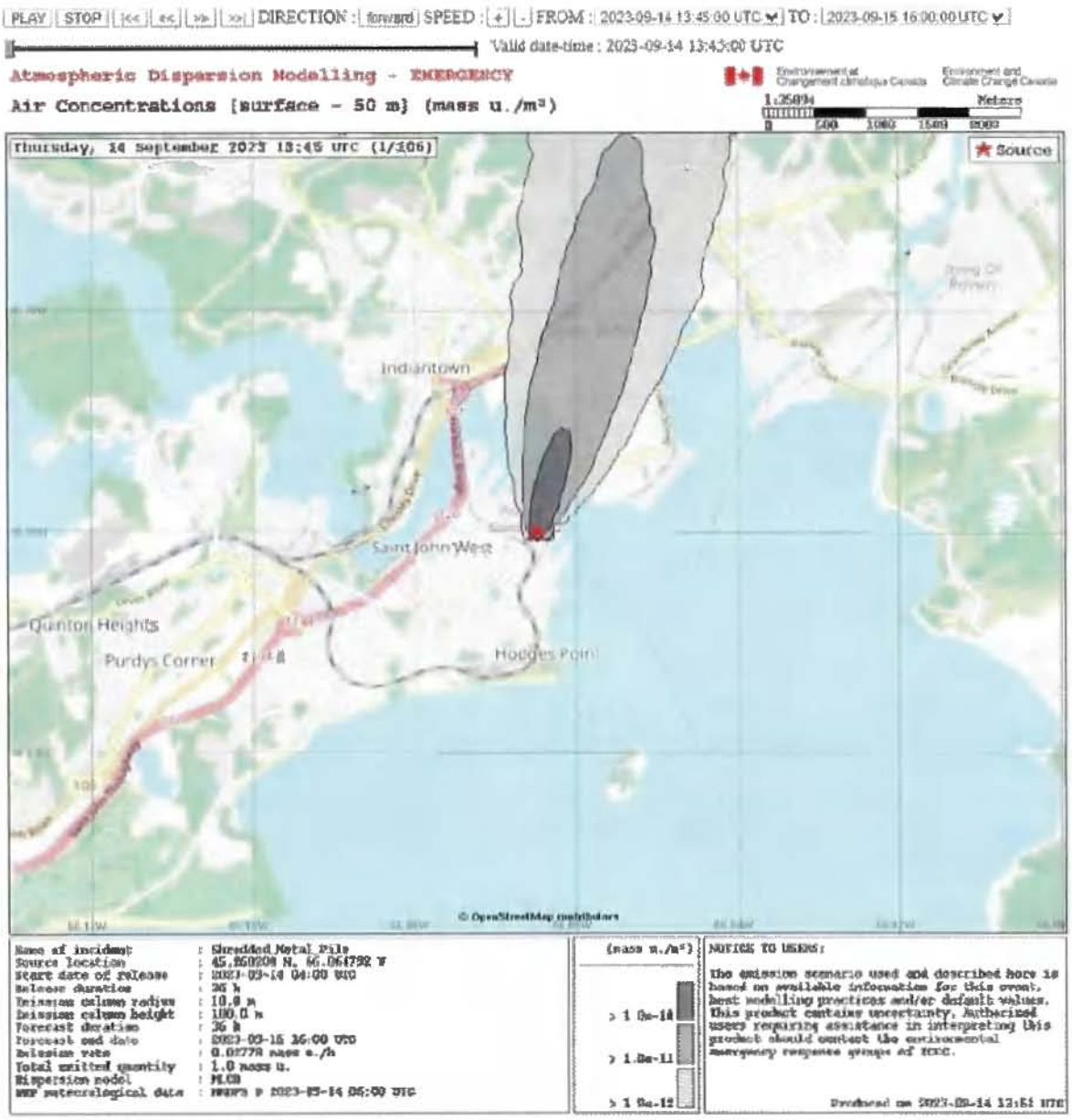
Dioxins and furans (which are listed as possibly carcinogenic) are a family of toxic chemicals which are released by fires. Dioxins and furans were present in six of seven soil samples that exceeded human health criteria, as high as 34.5 times the allowable limit as summarized below:[58]

		Exceeding Values		Magnitude of Exceedance	
Substance	Criteria	High	Low	High	Low
Dioxins and Furans	4	138	4.77	3,450%	119%

Plume of Smoke, Soot and Contaminants

On September 14 and 15, 2023, there was a significant visible plume of smoke coming from the fire. The smoke contained soot, ash and likely other contaminants. The plume travelled to the northwest covering the southern peninsula of Saint John and travelling generally in the direction of the Kennebecasis Valley towards Rothesay.

The smoke plume would inevitably land at locations in the region, carrying with it soot, ash and other contaminants. Dillon performed testing at several community gardens in the Saint John area. One community garden, located in the southern peninsula, contained elevated levels of lead. Dillon was unable to conclude where the smoke plume would have landed and deposited various contaminants without further extensive testing and analysis. It recommends additional environmental testing and atmospheric modeling to determine the locations at which the plume likely made land fall.[59]


PLAY STOP DIRECTION : forward SPEED : + - FROM : 2023-09-14 13:45:00 UTC TO : 2023-09-15 16:00:00 UTC
Valid date-time : 2023-09-14 13:45:00 UTC
Atmospheric Dispersion Modelling - EMERGENCY
Air Concentrations (surface - 50 m) (mass u./m³)
Environnement et Changement climatique Canada
Environment and Climate Change Canada
1:35094
Meters
0 500 1000 1500 2000
Thursday, 14 September 2023 13:45 UTC (1/106)
Source
Indiantown
Saint John West
Quinton Heights
Purdys Corner
Hodges Point
© OpenStreetMap contributors
Name of incident : Shredded Metal Pile
Source location : 45.250208 N, 66.064792 W
Start date of release : 2023-09-14 04:00 UTC
Release duration : 36 h
Emission column radius : 10.0 m
Emission column height : 100.0 m
Forecast duration : 36 h
Forecast end date : 2023-09-15 16:00 UTC
Release rate : 0.0277R mass u./h
Total emitted quantity : 1.0 mass u.
Dispersion model : MLCD
NWP meteorological data : NAM3 @ 2023-09-14 06:00 UTC
(mass u./m³)
> 1.0e-10
> 1.0e-11
> 1.0e-12
NOTICE TO USERS:
The emission scenario used and described here is based on available information for this event, best modelling practices and/or default values. This product contains uncertainty. Authorized users requiring assistance in interpreting this product should contact the environmental emergency response groups of ECCC.
Produced on 2023-09-14 12:51 UTC

60

Summary

The Environmental Contamination Report:

- Recommends that significant further environmental testing be undertaken to analyse the effects of the contaminants that were released from the fire at the AIM site and other affected properties.[61]
- Concludes the site contains environmental contaminants, some of which pose risks to both human and likely ecological health.[62]
- Recommends that an environmental site assessment be completed and remediation take place.[63]
- States there is a likelihood some perforations, cracks or other openings exist in the AIM facility deck covered by debris, but this cannot yet be determined. If this is the case, leachable metals, PHCs, PAHs, VOCs and PFAs may have migrated through the deck into subsurface soil and groundwater resulting in a potential environmental liability.[64]
- Shallow soils in private residential, commercial and public properties in the areas where the particulate plume deposited soot, etc. require further testing and may result in reduced value/usability and could result in potential environmental liability.

C. EIA Review – Dillon Consulting

Dillon reviewed the EIA submitted by AIM in 2010, the current Approval to Operate and related correspondence to provide an opinion as to the adequacy of the EIA. It determined, with the benefit of the knowledge of the actual operations of AIM since 2010, that the 2010 EIA was inadequate. Increased regulatory requirements and AIM obligations would be necessary through Approval to Operate conditions. AIM must be required to establish that it can meet recommended additional requirements.

EIA Evaluation

In summary, the EIA conducted in 2010 was not comprehensive and did not adequately address key environmental concerns, including:[65]

- Effluent treatment and release, and related impacts to marine fish and fish habitat associated with the routine release of effluent or the unplanned release of objectionable materials;
- Accidental spills, and related impacts to marine water quality, sediment quality, and marine fish and fish habitat;
- Fire, emergency response to a fire, and related impacts to local air quality or receiving water quality from a fire, and water supply in response to a fire;
- Explosion, emergency response to an explosion, and related impacts to air quality and noise from an explosion;
- Effects on birds, particularly migratory birds, from the operation of the facility;

- Electrical supply for the shredder and related facilities during normal operation;
- Water supply to the facility during routine operation and during unplanned events (such as firefighting);
- Material acceptance procedures;
- Inspection of incoming loads; and
- Potential effects of the environment on AIM operations (e.g., extreme weather, seismic events, etc.).

The EIA did not address all the environmental issues and concerns associated with AIM operations, particularly with respect to accidental events such as fires, explosions, and the inadvertent potential release of residual liquid contaminating substances that might remain in the feedstock material to the metal shredder.[66]

It is possible that key issues or concerns other than the above were not addressed in the EIA-related documentation, but the above represent major omissions that could have been addressed in a more comprehensive manner, knowing AIM's actual operations and history.[67]

Given that there was no mention of fire or explosions in the AIM EIA, it completely failed to effectively address the possibility of fire or explosion.[68]

D. Structural Review – Dillon Consulting

The infrastructure of the site was reviewed for structural concerns related to the fire. Dillon visually inspected the property and used ground penetrating radar (**GPR**) to inspect the structural elements near the burn site. However, the use of ground penetrating radar was not possible under the burn pile and other areas due to debris. Dillon recommends that additional testing be performed once the burn pile is cleared and comments that:

- There were significant limitations on actual GPR testing due to areas covered by scrap, moist areas, water covered areas and uneven ground surface resulting in poor data collection. Any areas that could not be scanned should be cleared and observed to determine if any visual surface defects would indicate any possible subsurface voids.[69]
- The electrical inspection did not have any access to manholes containing electrical equipment as many were covered by scrap that prevented access and further electrical review is necessary to evaluate electrical status after the fire.[70]
- The deck was estimated to be covered in water 900 mm deep (three feet) in some places during firefighting.[71]
- Water overwhelmed the capacity of the stormcepter system by exceeding its capacity by eight to ten times. The stormcepters would, under these flows, provide little to no treatment of the stormwater as they would have been in a flow-through state; pollutants or oils passing through the system would have directly ended up in the harbour.[72]
- Video inspection of the underground infrastructure of the stormceptor system and the sanitary system was prevented as AIM has not prepared a methodology to clean these systems to allow the video inspection. It is important that the pipes be verified, that no

structural issues are present, and the cleaning and flushing is completed as per approved technology.[73]

IV. FINDINGS

Following the fire event of September 14, 2023, residents of the City of Saint John have sought answers. The Task Force was mandated to make findings relating to the origin of the fire, its community impacts, and the safety of AIM operations. This responsibility has been taken seriously.

The Task Force has had the benefit of input, information, and expertise from countless sources, from a lead investigator to independent engineering experts, the SJFD, first responders, the PSJ, tenants of the PSJ, municipal leaders, municipal institutions, public health, provincial government departments, local businesses and business leaders, community organizations, environmental organizations, citizen groups and individual citizens.

The Task Force also solicited the participation of AIM, whose personnel would have first-hand information regarding its operations and the events leading to the fire. While AIM did provide some information and participation in relation to the excavation of the fire pile and structural evaluations, it did not permit its personnel to meet with the independent fire investigators engaged by the Task Force.

Based upon the extensive information available to and reports received by the Task Force, the Task Force makes the following findings:

1. **The EIA submitted by AIM in 2010 was insufficient in many material respects and did not adequately address key environmental issues or events such as fires, explosions and the potential release of contaminating substances.**

2. **AIM's operations and its risks are significantly different than those AIM presented at the time it obtained its regulatory approval to operate an industrial metal shredder and expanded its site by more than 6-fold.**

   Significantly, while explosions and fire were not identified as a risk when AIM underwent an EIA in 2010, these risks have materialized as regular, recurrent events, with 181 recorded explosions and 22 fires prior to September 14, 2023. Similarly, the assurances that all suppliers would comply with stringent de-pollution measures and no hazardous materials would ever be brought onto the site have proven to be unfulfilled.

3. **The scrap metal piles maintained by AIM at the AIM site exceeded the size recommended in the EIA and prescribed by the National Fire Code by 2 to 2.5 times.**

   The EIA recommended piles of no more than six metres high, which is also the requirement imposed by the National Fire Code. The National Fire Code further prescribes a maximum area of 1,000 square meters. The scrap pile maintained by AIM in which the fire occurred was 12-15 metres high and had an estimated area of 2,100 m^2.

4. **AIM did not, and does not, have an emergency plan capable of effectively responding to the September 14, 2023 fire or a similar fire in the future.**

5. **The SJFD was not, and is not, equipped or resourced to effectively respond to the September 14, 2023 fire or a similar fire in the future at the AIM site.**

6. **The City of Saint John water resources were not, and are not, sufficient to effectively respond to the September 14, 2023 fire or a similar fire in the future at the AIM site.**

   The amount of water required to extinguish this fire (22 million gallons, being 83 million litres) is, by a wide margin, the greatest volume of water that has ever been applied to a fire in the City of Saint John.

7. **Had the Osprey not been in port on September 14, 2023, the repercussions for the community would have been disastrous.**

8. **The AIM site was contaminated as a result of the September 14, 2023 fire. Contaminants were also released into the air and the water, and significant additional testing and analysis is required to assess the existence and scope of the environmental and human health impacts to protect the citizens of Saint John.**

9. **AIM operations carry a significant risk of explosion and fire, with a high likelihood of future fires at the AIM site, including a material risk that a catastrophic fire similar to that of September 14, 2023 could recur.**

10. **The location of the AIM operation, in the middle of the Saint John community, adjacent to the harbour and a residential neighbourhood, is entirely inappropriate given its now known hazards and risks.**

    Within a 300-metre radius of the AIM operation, there are 108 residential properties and a significant number of businesses and public and recreational spaces, not to mention regular cruise ship traffic close by.

11. **The negative socio-economic impacts of the AIM operations at its present site are unacceptable to the City of Saint John, its residents, and surrounding communities.**

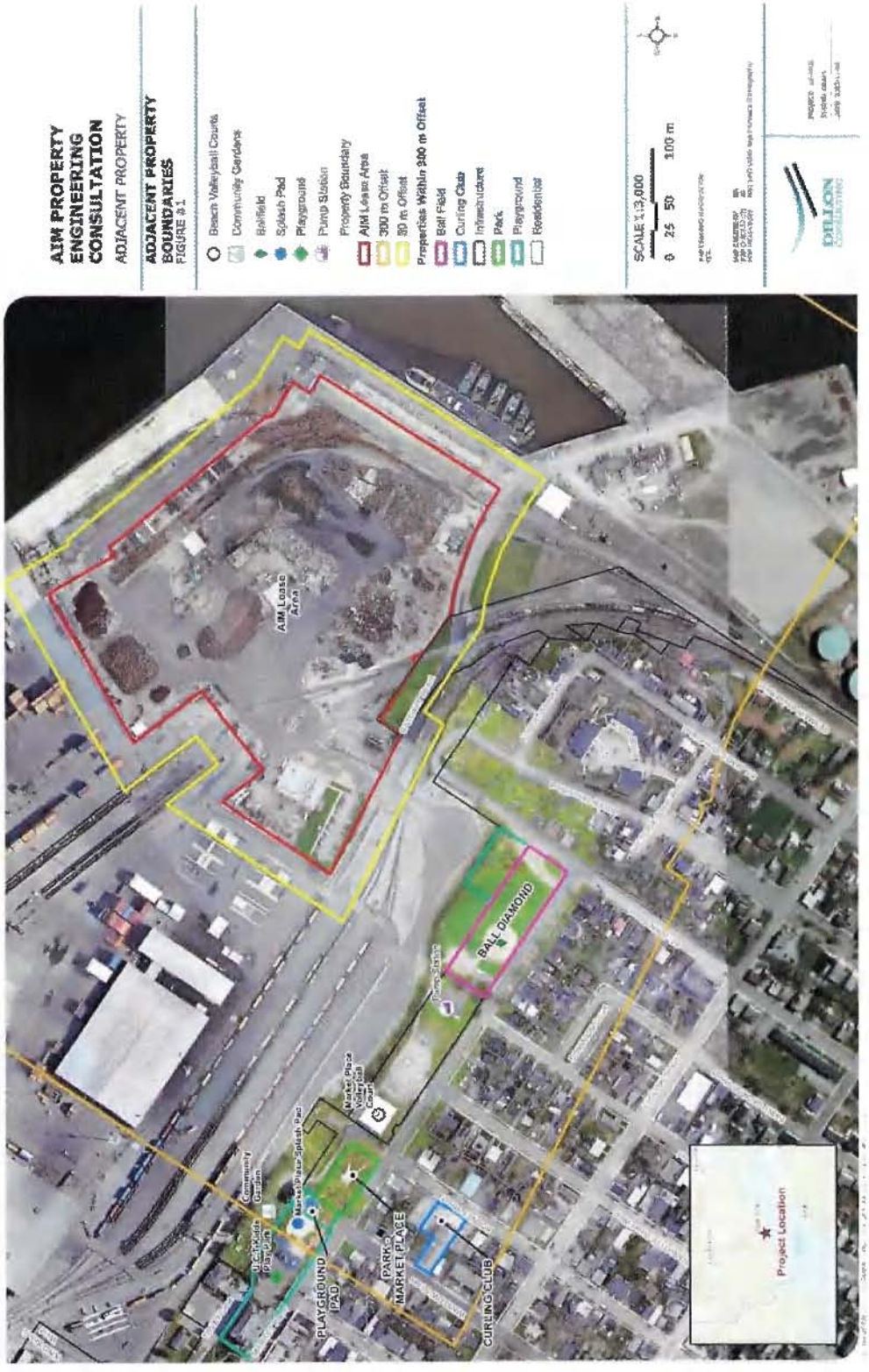
12. **The AIM operations are an environmental, health and safety risk to Saint John, surrounding communities, and their citizens.**

The Task Force would like to thank Atlantic Towing, Irving Oil, the SJFD, first responders, and all those who responded without hesitation on September 14, 2023 and the days that followed. The Task Force is further grateful to all of the municipal leaders, community leaders, business leaders, organizations and citizens who participated in this investigation. The events of September 14, 2023 demonstrated the strength of our community. It is hoped that this report provides the factual information needed for all stakeholders to ensure the long-term safety of all residents and businesses and to identify next steps in order to ensure that the City of Saint John maintains its reputation as a desirable place to live, work and do business.

Cheryl Hansen,
Chair

Andrew Dixon,
Vice Chair

APPENDIX A


AIM PROPERTY
ENGINEERING
CONSULTATION
ADJACENT PROPERTY
ADJACENT PROPERTY BOUNDARIES
FIGURE 8.1
Beach Volleyball Courts
Community Gardens
Ballfield
Splash Pad
Playground
Pump Station
Property Boundary
AIM Lease Area
300 m Offset
30 m Offset
Properties Within 300 m Offset
Ball Field
Curling Club
Infrastructure
Park
Playground
Residential
SCALE 1:3,000
0 25 50 100 m
AIM Lease Area
Pump Station
BALL DIAMOND
Market Place Volleyball Courts
Community Garden
Market Place Splash Pad
PLAYGROUND (PAD)
PARK - MARKET PLACE
CURLING CLUB
Project Location

AIM PROPERTY ENGINEERING CONSULTATION

ADJACENT PROPERTY

PROPERTY OVERVIEW

FIGURE #2

- Beach Volleyball Courts
- Community Gardens
- Ballfield
- Splash Pad
- Playground
- Pump Station
- Property Boundary
- AIM Lease Area
- 300 m Offset
- 30 m Offset

Properties Within 300 m Offset

- Ball Field
- Curling Club
- Infrastructure
- Park
- Playground
- Residential

SCALE 1:5,000

0 25 50 100 m

DILLON

END NOTES

[1] All references to gallons in this report are to US gallons.
[2] *National Code of Practice for Automotive Recyclers Participating in the National Vehicle Recycling Program* (Environment Canada, March 2010).
[3] AIM Proposed Metal Shredder PowerPoint, November 9, 2010.
[4] EIA, p. 4.
[5] EIA, p. 28.
[6] EIA, pp. 28-29, Appendix F.
[7] EIA, p 29, Appendix F.
[8] EIA, p. 28, 30, Appendix F.
[9] EIA, Appendix L.
[10] EIA, Appendix D-6.
[11] EIA, Appendix D-1.
[12] EIA, Appendix C, s. 3.11.2.2.
[13] CCTV Footage of Camera 107 at 1:18:31 on September 14, 2023.
[14] Arcon Engineering Report, 12.
[15] CCTV Footage of Camera 107 at 1:40:07 on September 14, 2023.
[16] Arcon Engineering Report, p. 10-11.
[17] Arcon Engineering Report, p. 12.
[18] Arcon Engineering Report, p. 12, 16.
[19] Arcon Engineering Report, p. 16.
[20] Arcon Engineering Report, p. 16.
[21] Arcon Engineering Report, p. 17.
[22] CCTV Footage of Camera 107 at 17:37:02 on September 14, 2023.
[23] CCTV Footage of Camera 17:52:04 on September 15, 2023.
[24] CBC News, Saint John lifts shelter-in-place notice as AIM fire brought under control, September 15, 2023, as of 12:40 p.m.
[25] CHSJ News, UPDATED: AIM Recycling fire extinguished, say port officials, September 15, 2023 as of 8:21 p.m.
[26] Marcotte, A., 5 Day Report (to PNB) Post Fire at AIM, September 18, 2018. AIM 5 Day Report (Post-Fire).
[27] City of Saint John Emergency Management Organization, Update: Shelter in place order expanded to include all Saint John due to concerns over air quality from fire at AIM facility, September 14, 2023.
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