



ALGOMA STEEL INC.

Environmental Accountability

ABSTRACT

A discussion regarding the absence of fines imposed on ASI and their accountability for their emissions despite health and environmental concerns. Potential fines issued by the MECP could be levied to create an environmental community fund in Sault Ste. Marie.

Selva Rasaiah

Submitted to: Mr. Peter McLarty
ACLC Public Member

Submitted by: Selva Rasaiah

Date Submitted: October 20, 2020

*Revised: October 21, 2020

Dear Mr. McLarty,

Thank you for your response. Although, the fines may appear insignificant, the total cost for all violations issued by Allegheny County against United States Steel (Clairton) for the six-month periods in 2019 and 2020 were \$743,625 and \$361,400 (US) respectively. To my knowledge, in the last 10 years the MECP has issued less than \$350,000 (CDN) in environmental fines to Algoma Steel Inc. (ASI). More importantly, environmental fines often stipulate that a percentage of the total fine or a separate fine (victim surcharge) is allocated to environmental programs and initiatives to directly help the communities and residents impacted. Without fines, there is no incentive to make the necessary repairs or upgrades to meet current standards. Capital expenses are expected and are considered in long term planning for future operations and changes to environmental standards. ASI receive grants and loans to assist in them in meeting current regulations but there is no monetary subsidy for residential impacts.

ASI is currently not meeting regulatory guidelines, more specifically with respect to coke oven battery stack violations and opacity limits. ASI averages over 1300 stack violations per month and the No. 7 Battery averages over two times the opacity limit (20%) every month. ASI is fully aware of the No.7 Battery's inability to meet these regulations due to design issues and maintenance costs which they have recognized since 2009. In the recent ACLC meeting on September 15, 2020, ASI stated, "The longer term measures to reduce opacity involve either replacing through walls or replacing #7 coke oven battery, both of which require extensive investment." ASI should place the No. 7 Battery in "hot idle" or develop an effective plan to commit the necessary funding required to operate the battery within provincial regulations. The rising costs to continue to operate a coke oven battery that has reached its end of service life is inevitable. ArcelorMittal Dofasco (AMD) was faced with this reality and made the decision to shut down their No. 1 Coke Plant in 2015 which is a similar vintage (1950s) as ASI's No.7 Battery.

The federal and provincial governments have continued to invest millions of taxpayer's dollars in ASI operations and a reasonable ambient air monitoring network should exist. The MECP is aware of issues regarding the Ambient Air Quality Monitoring (AAQM) network. SSM MECP Greco responded in an e-mail on September 03, 2019, "On January 21, 2019 a request to review air monitoring in SSM was made to our MECP Northern Region Tech Support office to review and determine the level of reliability and accuracy of the current monitoring program for SSM. Due to limited resources and priority ranking, a definitive date for completion has not been set."

Funding should be allocated for maintenance and upgrades for any deficiencies in the monitoring network. Residents are paying for the reduction of the emissions they are exposed to but are not receiving adequate assurance from the MECP that network that protects their health is sufficiently accurate and reliable. For numerous years, Mr. Trowbridge (ACLC Public Member) has been persistent in the need for monitoring equipment east of ASI's property. A previous MOE air study (2006) did show exceedances at a station located on Cathcart St. near Jamestown. ASI repeatedly responds to requests for more monitoring equipment by simply stating, "The potential installation of an additional monitoring station remains a discussion with the MECP through the development of a new Industry Standard." The health of the public and the environment is the priority and the funding required should be available through a community fund.

There is a need for greater advocacy for cleaner air emissions and the creation of an environmental community fund in Sault Ste. Marie similar to Allegheny County's Community Benefit Trust. The fund would help with the challenges of current environmental issues, education, community improvements and future programs to fight Climate Change. The public should also be confident that ASI is liable and accountable by the MECP for environmental violations and committed to a cleaner environment. I encourage you to discuss with the local MECP, ASI and city council to develop an environmental action plan that will protect the people and the environment for future generations.

Thank you.

Selva

ESSAR STEEL ALGOMA PREVIOUS ACKNOWLEDGEMENT OF NO. 7 BATTERY'S OPERATING CONDITION (2009)

Essar looks at replacing coke oven battery

Essar Steel Algoma says problems with its coke oven battery Number 7 are bad enough that one option it's considering is replacement of the 1950s-vintage facility.

Nov 24, 2009 7:43 PM By: Carol Martin



Essar Steel Algoma says problems with its coke oven battery Number 7 are bad enough that one option it's considering is replacement of the 1950s-vintage facility.

Jerry Suurna, Essar's local general manager for safety, environment and emergency services, says the Number 7 battery may be too old to be worth the cost to retrofit a pollution control device to its door.

It's the oldest of the three operating coke oven batteries at Essar Steel Algoma.

Speaking last night at a community open house, Suurna talked about recent developments, current priorities and planned emission control initiatives at the Sault Ste. Marie steel mill.

He said the company had thought it would be able to install an automatic, mechanized door and door-jam cleaners on the battery door without a lot of changes to the door itself or its frame.

The company was mistaken, said Suurna.

When engineers checked on the door frame they found it would not support the weight of the equipment Essar Steel Algoma was looking at buying for it.

And no other equipment that could do the job was immediately obvious or available.

A multi-thousand dollar project quickly grew to a multi-million dollar project and Suurna said Essar management is having second thoughts about investing that much money on such an old battery.

What Essar wants the ministry to do

So Essar Steel Algoma is asking the Ontario Ministry of the Environment whether it can delay action of any sort on that furnace for a few months while the company investigates its options and comes up with a new coke oven emission reduction program.

It's seeking four amendments to its certificate of approval from the Ministry of the Environment to discharge emissions into the natural environment. These are:

- To defer the installation of door and jam cleaners on number 7 coke oven battery to coincide with the Ministry of the Environment's discussions of Essar Steel Algoma's alternative coke oven emission reduction program

*Full story: <https://www.sootoday.com/local-news/essar-looks-at-replacing-coke-oven-battery-126899>

DELAYS TO MAKE REPAIRS TO NO. 7 COKE BATTERY TO MEET CURRENT STANDARDS (2011)

CONTENT COPY OF ORIGINAL



Ministry of the Environment
Ministère de l'Environnement

NOTICE OF REFUSAL

AIR

REFERENCE NUMBER 8383-8FHM86

ESSAR Steel Algoma Inc.
105 West Street
Sault Ste. Marie, Ontario
P6A 7B4

Site Location: 105 West Street
Sault Ste. Marie City, District of Algoma, Ontario

In accordance with Section 139(1)(c) of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, I hereby give notice that, under Section 9(4) of the Act, I have refused to issue a certificate of approval under Section 9 of the Act for your Application for Certificate of Approval (Air) dated 2010/12/14, for extension of the date of completion of the installation of automatic door and jamb cleaners on your existing No. 7 coke oven battery from June 30, 2011 to June 30, 2012.

The reasons for this refusal are as follows:

- (1) Postponing the installation of the door and jamb cleaners on your existing No. 7 coke oven battery would not prevent or alleviate an adverse effect, as the extension will only prolong the adverse effects from benzene and benzo(a)pyrene discharged from your existing No. 7 coke oven battery.
- (2) There is no dispute that cleaning of the oven door seal and the mating face of the oven door jamb will promote quicker sealing of the door following a fresh charge of coal and the benefit is reduced amount of leakage of contaminants such as benzene and benzo(a)pyrene.
- (3) The alternative measures proposed by you for the manual cleaning of the No. 7 coke oven battery are not equivalent to the automatic door and jamb cleaners as these measures do not provide the benefits of consistency and certainty in the reduction of the discharges.
- (4) This is the second request for extension. ESSAR Steel Algoma Inc. had almost 3 years to assess the installation of the automatic door and jamb cleaners on the existing No. 7 coke oven battery and the work has not been completed to date. Therefore the Director has no basis for belief that this installation will be completed by the proposed extension date of June 30, 2012.
- (5) The automatic door and jamb cleaners on your existing No. 7 coke oven battery will not reduce all the off-property emission levels of benzene and benzo(a)pyrene below where potential adverse effects may occur, but the installation of the automatic door and jamb cleaners is considered to be one of the potential several steps that would need to be taken to reduce the levels of these carcinogenic contaminants.

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written Notice served upon me, the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, S.O. 1993, Chapter 28, the Environmental Commissioner, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

1. The grounds on which you intend to rely at the hearing considering your appeal.

The Notice should also include:

ARCELORMITTAL DOFASCO (AMD) DECISION TO SHUT DOWN NO.1 COKE PLANT (2013)

ArcelorMittal Dofasco to close No. 1 coke plant

By The Hamilton Spectator

Fri., June 28, 2013 timer 2 min. read

Update Article was updated Feb. 29, 2020



There will be no job losses when ArcelorMittal Dofasco shuts down its 62-year-old No. 1 coke plant in March 2015.

The company made the announcement to employees Thursday morning.

About 100 people will be affected but the company believes it can find work for them elsewhere in the plant, says company spokesperson Tony Valeri.

ArcelorMittal Dofasco (AMD) expects to have to hire about 1,500 people over the next three to five years as a wave of retirements rolls through.

The company will continue to operate its No. 2 and 3 coke-making facilities, which are 43 and 34 years old respectively.

Ward 4 Councillor Sam Merulla said he's "doing somersaults" over the decision. He says the company's emissions have been the single biggest source of complaints from residents in the northeast part of his ward. Merulla is thrilled by the company's move because it won't result in job losses but will improve public health.

Valeri says the company has been studying the performance of the No. 1 coke plant for several years. Eighty per cent of its coke ovens are operational but that's expected to decline to 50 per cent by 2015. That's the tipping point at which maintenance costs - pegged at \$10 million a year - do not pay off in production, he said.

The decision to idle No. 1 is "completely separate" from 13 charges laid against the company by the Ministry of the Environment for exceeding visible pollution standards for its coke ovens last year, Valeri says.

The company made a court appearance earlier this month but the case was put off until Sept. 3 because the MOE had not made its evidence available to the company's lawyers.

Lynda Lukasik, executive director of grassroots group Environment Hamilton, has closely monitored AMD's smokestack emissions and reported findings to the MOE. She says the No. 1 coke battery was the biggest culprit but the black particulate won't disappear when it's closed.

"No. 1 was particularly problematic but it's safe to say there are issues with all three coke plants," she said. "There is frustration that (closure) is still a couple of years away. I just hope the company is committed to doing what it needs to do to prevent the place from running into the ground and then emissions get worse."

Lukasik says AMD is 20 years behind American pollution standards for coke ovens, adding U.S. Steel's coke ovens in Hamilton are probably the best in the province.

AMD has said it has spent about \$175 million updating its coke operations, including monitoring systems, emissions cameras and repairs and rebuilds to ovens. It vowed to continue maintaining No. 1 through to its closure.

<https://www.thespec.com/business/2013/06/28/arcelormittal-dofasco-to-close-no-1-coke-plant.html>

PAST MINISTRY OF THE ENVIRONMENT (MOE) FINES FOR PARTICULATE STACK EMISSIONS FROM 2008

Court Bulletin Nouvelles judiciaires



Ministry of the
Environment

Ministère de
l'Environnement

For Immediate Release
October 15, 2010

ESSAR STEEL ALGOMA INC. FINED \$100,000 FOR PARTICULATE DISCHARGE

SAULT STE. MARIE – On September 30, 2010, Essar Steel Algoma Inc. was fined \$100,000 for causing or permitting the discharge of a contaminant, namely particulates, into the natural environment, contrary to the Environmental Protection Act.

The Court heard that the company operates a steel making facility in Sault Ste. Marie. On August 28, 2008, the ministry received complaints about emissions from the company's smokestacks. The smoke emissions had prompted the complainants to go inside their homes. Ministry staff observed smoke being emitted from the site and noted that it appeared to drop to ground level and migrate in a northerly direction off the property.

The company was charged following an investigation by the ministry's Investigations and Enforcement Branch.

The company was fined \$100,000 plus a victim fine surcharge and given 90 days to pay.

For further information:

Members of the media:

Kate Jordan
Communications Branch
(416) 314-6666

Contact information for the general public:

416-325-4000 or 1-800-565-4923/
www.ontario.ca/environment

ARCELORMITTAL DOFASCO (AMD) FINES FOR STACK OPACITY VIOLATIONS FROM 2012

Coke dust plumes cost steelmaker \$390,000

ArcelorMittal Dofasco admits to six charges

Matthew Van Dongen

The Hamilton Spectator

Tuesday, May 27, 2014

ArcelorMittal Dofasco faces a government order to cut pollution at its steelmaking plant even as it prepares to pay \$390,000 in fines for releasing coke-oven dust into the air two years ago.

The company pleaded guilty Monday to six charges of exceeding visible pollution standards.

But it noted in a statement that past and ongoing repairs — including an \$87 million investment — are improving the environmental performance of its coke-making plants.

Seven other charges were dropped.

The rare provincial charges — the first of their kind laid against the steelmaker since local air regulations were updated almost a decade ago — came after nearly 200 air pollution violations were recorded in 2012.

But hundreds of new "opacity exceedances" — basically thick smoke plumes that linger for more than six minutes — have since been recorded by the Ministry of the Environment, said local spokesperson Jennifer Hall.

Ministry staff have noted more than 500 violations since April 2012, an average of one every day-and-a-half.

That's no surprise to residents living in the shadow of the steelmaker, said Barbara LaFleshe, who attended provincial offences court to hear the verdict. "It hasn't gotten better. All you have to do is sit there and watch and you'd see (a smoke plume) practically every day," said the resident of McNulty neighbourhood, where studies show residents face a higher risk of dying due to air pollution.

LaFleshe said she was disappointed a sustained citizen effort to submit photos of pollution to the MOE resulted in what she called a "slap on the wrist" and questioned whether it would deter future pollution.

Hall said the ministry is poised to issue an order that sets deadlines for a series of planned environmental fixes between this June and 2018.

But company spokesperson Marie Verdun said via email that ArcelorMittal "worked closely" with the MOE on the actions outlined in the order, and required improvements are already underway.

Verdun said the company previously committed to close by early 2015 its oldest coke-making plant, which turns coal into fuel for steel-making blast furnaces.

That move alone is expected to cut the number of opacity violations by 30 per cent, she said

Full article: <https://www.simcoe.com/news-story/4540106-coke-dust-plumes-cost-steelmaker-390-000/>

ALLEGHENY COUNTY HEALTH DEPARTMENT FINES AGAINST UNITED STATES STEEL - (CLAIRTON) 2019



January 14, 2020

CERTIFIED MAIL - 9489 0090 0027 6037 9427 77

Michael Rhodes
United States Steel Corporation
Clairton Plant
400 State Street
Clairton, PA 15025

RE: United States Steel – Clairton Plant; Demand for Stipulated Penalties Under Settlement Agreement and Order #190604 Section IX. Stipulated Penalties - April 1, 2019 through September 30, 2019 (2nd and 3rd Quarters)

Dear Mr. Rhodes:

The Department is seeking enforcement of stipulated penalties pursuant to Section IX of Settlement Agreement and Order #190604 (SAO). The Department has determined that United States Steel is in violation of Article XXI, § 2102.03.c and various provisions of § 2105.21, of the ACHD's Rules and Regulations by failing to meet the applicable requirements stated in Article XXI, § 2105.21 and ACHD Installation Permit #0052-I011b.

The stipulated penalties were calculated pursuant to Section IX, SOA from the violations observed by the Department's Coke Oven Process Technicians and Method 303 contractor, and including data reported by U.S. Steel, at your company's Clairton Plant, during the second and third quarters of 2019, April 1, 2019, through September 30, 2019. The violations and associated penalties are set forth in the attachments.

The Department is claiming \$743,625.00 in penalties. Pursuant to SOA, V. Civil Penalty Payment, Paragraph A, 90 percent of the stipulated penalties \$669,262.50 is to be paid to the Community Benefit Trust and 10 percent of the stipulated penalties \$74,362.50 is to be paid to the Allegheny Clean Air Fund. Payments are to be made within thirty (30) days of receipt of this order. Payment to the Clean Air Fund shall be made by corporate check, or the like, and made payable to the "Allegheny County Clean Air Fund", and sent to Air Quality Program Manager, Allegheny County Health Department, 301 39th Street, Bldg. #7, Pittsburgh, PA 15201



**ALLEGHENY COUNTY HEALTH DEPARTMENT
AIR QUALITY PROGRAM**
301 39TH STREET, CLACK HEALTH CENTER, BUILDING 7
PITTSBURGH, PA 15201-1811
PHONE (412) 578-8103 • FAX (412) 578-8144
24-HR (412) 687-ACHD (2243) • WWW.ALLEGHENYCOUNTY.US

ALLEGHENY COUNTY HEALTH DEPARTMENT FINES AGAINST UNITED STATES STEEL - (CLAIRTON) 2020



May 28, 2020

John R. Michaud
United States Steel Corporation
Clairton Plant
400 State Street
Clairton, PA 15025

RE: United States Steel – Clairton Plant; Demand for Stipulated Penalties Under Settlement Agreement and Order #190604 Section IX. Stipulated Penalties - October 1, 2019 through March 31, 2020 (4th and 1st Quarters)

Dear Mr. Michaud:

The Department is seeking enforcement of stipulated penalties pursuant to Section IX of Settlement Agreement and Order #190604 (SAO). The Department has determined that United States Steel is in violation of Article XXI, § 2102.03.c and various provisions of § 2105.21, of the ACHD's Rules and Regulations by failing to meet the applicable requirements stated in Article XXI, § 2105.21 and ACHD Installation Permit #0052-I011b.

The stipulated penalties were calculated pursuant to Section IX, SOA from the violations observed by the Department's Coke Oven Process Technicians and Method 303 contractor, and including data reported by U.S. Steel, at your company's Clairton Plant, during the fourth quarter of 2019 and first quarter of 2020, October 1, 2019, through March 31, 2020. The violations and associated penalties are set forth in the attachments.

The Department has calculated a potential penalty in the amount of **\$361,400.00**. Pursuant to SOA, V. Civil Penalty Payment, Paragraph A, 90 percent of that amount, or **\$325,260.00**, is to be paid to the Community Benefit Trust and 10 percent of the potential penalties, **\$36,140.00**, shall constitute a civil penalty and is to be paid to the Allegheny Clean Air Fund. Payments are to be made within thirty (30) days of receipt of this order. Payment to the Clean Air Fund shall be made by corporate check, or the like, and made payable to the "Allegheny County Clean Air Fund", and sent to Air Quality Program Manager, Allegheny County Health Department, 301 39th Street, Bldg. #7, Pittsburgh, PA 15201



DEBRA BOGEN, MD, DIRECTOR
**ALLEGHENY COUNTY HEALTH DEPARTMENT
AIR QUALITY PROGRAM**
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WWW.ALLEGHENYCOUNTY.US/HEALTHDEPARTMENT



COMPARISON OF HOURS OF STACK VIOLATIONS TO ALLEGHENY COUNTY FINES FOR US STEEL – (CLAIRTON) 2019

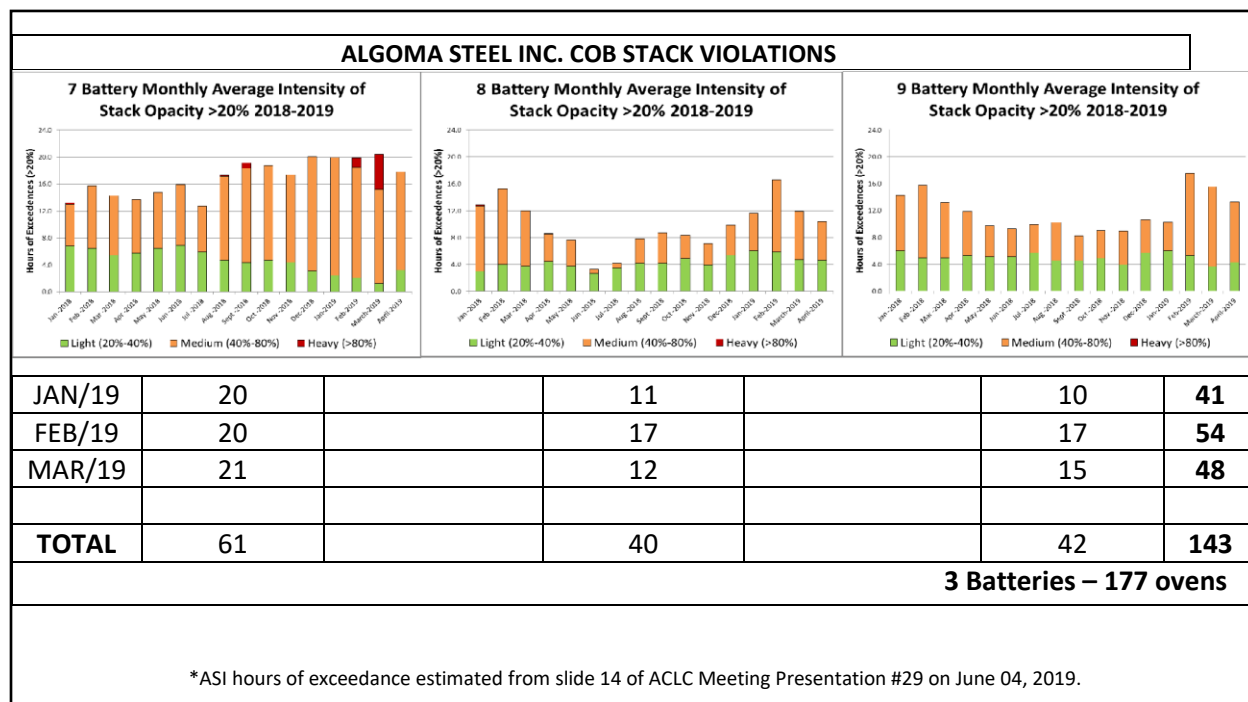


Photo 1: Modified from: ASI ACLC Meeting Presentation #29, June 04, 2019, slide 14

UNITED STATES STEEL - CLAIRTON PLANT
OPACITY VIOLATIONS (HOURS OF EXCEEDENCE >20%)

Combustion Stack COM Non-compliant Clock Hours

Battery	July	August	September	Total Clock Hours 2nd Qtr 2019	amount
1	5	2	4	11	\$2,200
2	13	12	10	35	\$8,600
3	4	5	10	19	\$3,800
13	2	2	6	10	\$2,000
14	4	2	8	14	\$2,800
15	3	10	11	24	\$4,800
19	3	9	10	22	\$4,400
20	13	1	1	15	\$3,000
B	5	5	2	12	\$2,400
C	0	1	1	2	\$400
Count:	52	49	63	164	\$34,400

* Note: 33 hrs. @ \$200 & 2 hrs. @ \$1000 = \$8,600

10 Batteries - 708 ovens

Photo 2: Modified from: *Report by Allegheny Health Department Air Quality Program (January 14, 2020), pg.9

*United States Steel Clairton Plant; Demand for Stipulated Penalties Under Settlement Agreement and Order #190604 Section IX. Stipulated Penalties April 1, 2019 through September 30, 2019 (2nd and 3rd Quarters)

Note: There is currently no fines issued for opacity violations at ASI. US regulations in Allegheny County are also stricter than Ontario where an opacity violation (>20%) occurs after 3 consecutive minutes versus 6 consecutive minutes in Ontario.

COMPARISON OF ASI PUSHING VIOLATIONS TO ALLEGHENY COUNTY FINES FOR US STEEL – (CLAIRTON) 2020

ALGOMA STEEL INC. PUSHING VIOLATIONS (JAN -MAR 2020)											
DATE	BATTERY	OVEN#		DATE	BATTERY	OVEN#					
04-Jan	8	90		04-Feb	8	91					
04-Jan	9	33		24-Feb	8	89					
05-Jan	8	85		24-Feb	8	71					
05-Jan	9	26		27-Feb	9	39					
05-Jan	9	44									
06-Jan	8	18		DATE	BATTERY	OVEN#					
06-Jan	9	13		01-Mar	8	70					
06-Jan	9	24		07-Mar	8	98					
06-Jan	9	26		08-Mar	9	19					
06-Jan	9	46		08-Mar	9	29					
07-Jan	8	84		10-Mar	8	ND					
09-Jan	8	64		19-Mar	7	51					
11-Jan	9	33		28-Mar	8	68					
13-Jan	8	97		29-Mar	8	64					
19-Jan	8	97									
19-Jan	9	38		MONTH	FAILS						
24-Jan	8	108		JAN	23						
24-Jan	9	25		FEB	4						
26-Jan	8	70		MAR	8						
28-Jan	8	97									
30-Jan	8	68		TOTAL	35						
30-Jan	9	26									
31-Jan	8	74									

Note: All data was compiled from ASI Process Upset Tables

Photo 3: Number of pushing violations at ASI recorded on their Process Upset Table

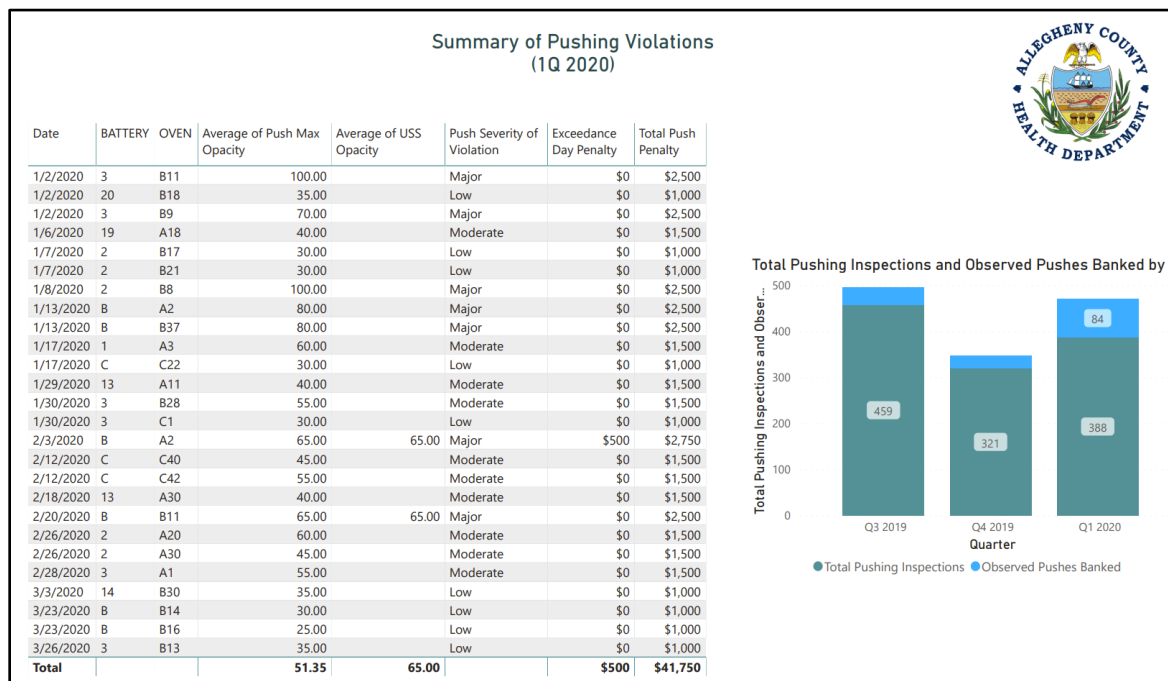


Photo 4: Modified from: *Report by Allegheny Health Department Air Quality Program (May 28, 2020), pg.18

*United States Steel Clairton Plant; Demand for Stipulated Penalties Under Settlement Agreement and Order #190604 Section IX. Stipulated Penalties October 1, 2019 through March 31, 2020 (4th and 1st Quarters)

Note: There is currently no fines issued for pushing violations at ASI.



Photo 5: High opacity (100%) acrid stack emission from No. 7 Battery on May 07, 2019



Photo 6: Heavy emissions from a failed push (emptying of coke from an oven) on No. 7 Battery

ALGOMA STEEL INC. COKE OVEN BATTERY OPACITY VIOLATIONS (2019-2020)

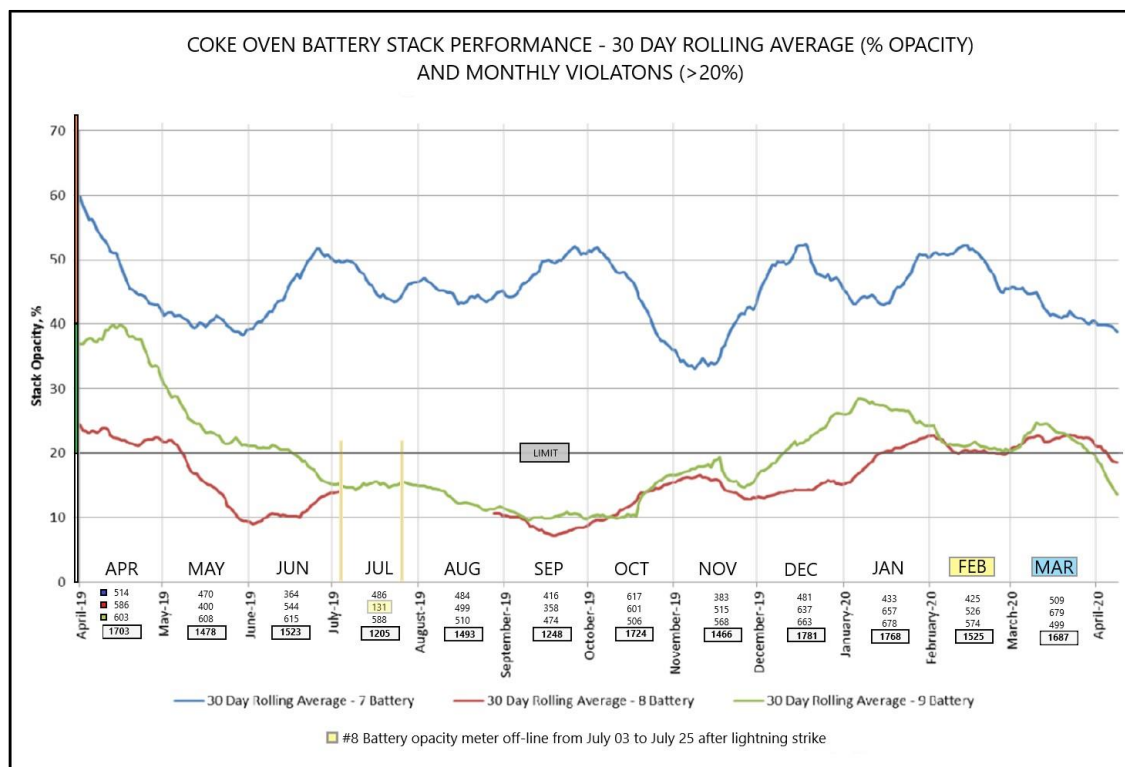


Photo 7: Modified from: ASI ACLC Meeting Presentation #33, June 09, 2020, slide 7.

Total Year Violations 2019					Total Year Violations 2020				
Month	7 Battery	8 Battery	9 Battery		Month	7 Battery	8 Battery	9 Battery	
JAN	no data	no data	no data	no data	JAN	433	657	678	1768
FEB	270	545	530	1345	FEB	425	526	574	1525
MAR	323	633	488	1444	MAR	509	679	499	1687
APR	514	586	603	1703	APR	437	610	618	1665
MAY	470	400	608	1478	MAY	341	443	638	1422
JUN	364	544	615	1523	JUN	506	484	562	1552
JUL	486	131	588	1205	JUL	479	462	444	1385
AUG	484	499	510	1493	AUG	324	536	349	1209
SEPT	416	358	474	1248	SEPT*	117	323	198	638
OCT	617	601	506	1724	OCT	*	*	*	*
NOV	383	515	568	1466	NOV				
DEC	481	637	663	1781	DEC				
TOTAL	4808	5449	6153	16410	TOTAL	3571	4720	4560	12851

All data compiled from ASI Process Upset Tables
 *Data incomplete, data no longer posted on ASI Process Upset Table

Photo 8: Chart showing the difference in the number of monthly violations from 2019 to 2020.

COMPARISON OF ASI 2020 COB STACK VIOLATIONS SINCE 2017

ALGOMA STEEL INC. COB STACK MONTHLY VIOLATIONS (>20%) (JANUARY 01 - JUNE 30)																								
Total Year Violations 2017									Total Year Violations 2019								Total Year Violations 2020							
Month	7 Battery	8 Battery	9 Battery			2017	Month	7 Battery	8 Battery	9 Battery			2019				Month	7 Battery	8 Battery	9 Battery			2020	
JAN	608	698	546	1852		1852	JAN	no data	no data	no data	no data		ND				JAN	433	657	678	1768		1768	
FEB	451	598	468	1517		1517	FEB	270	545	530	1345		1345				FEB	425	526	574	1525		1525	
MAR	498	614	601	1713		1713	MAR	323	633	488	1444		1444				MAR	509	679	499	1687		1687	
APR	622	549	569	1740		1740	APR	514	586	603	1703		1703				APR	437	610	618	1665		1665	
MAY	436	583	651	1670		1670	MAY	470	400	608	1478		1478				MAY	341	443	638	1422		1422	
JUN	568	522	625	1715		1715	JUN	364	544	615	1523		1523				JUN	506	484	562	1552		1552	
TOTAL	3183	3564	3460	10207		10207	TOTAL	1941	2708	2844	7493		7493				TOTAL	2651	3399	3569	9619		9619	
* All data compiled from ASI Process Upset Tables																								

Photo 9: Comparison of Coke Oven Battery (COB) stack monthly violations for 2017, 2019 and 2020.



Photo 10: Emissions from high opacity stacks from Carmen's Way and Second Line on July 04, 2019



Photo 11: ASI COB stacks with opacities over 20% (L to R: 9 battery, 8 battery, 7 battery) on May 22, 2020

SIGNIFICANT EMISSIONS EVENTS AT ALGOMA STEEL INC. (2019)



Photo 12: Heavy emissions on March 09, 2019 from ASI due to power failure



Photo 13: Heavy emissions and flaring from ASI on October 18, 2019 due to pipe burst (Soo Today)

HAZES RESULTING FROM HIGH PARTICULATE EMISSIONS FROM ASI (2019)



Photo 14: High particulate emissions from ASI at Cathcart St. (east of ASI near Jamestown)



Photo 15: High particulate emissions from ASI on the Sault Ontario Boardwalk (along St. Mary's River)



Photo 16: High particulate emissions and a rooftop iron emission from ASI's BOSP Plant (right)



Photo 17: High particulate emissions seen from the

HAZES RESULTING FROM HIGH PARTICULATE EMISSIONS FROM ASI (2020)



Photo 18: High particulate emissions and a heavy casthouse emission from ASI No.7 Blast Furnace (left)



Photo 19: High particulate emissions from No. 7 Blast Furnace casthouse heading south to US side.



Photo 20: High particulate emissions (banding) from ASI from Carmen's Way



Photo 21: Closer view of banding from High particulate emissions from ASI from Carmen's Way



Photo 22: High particulate emissions from ASI COB stacks from Carmen's Way



Photo 23: High particulate emissions from ASI COB stacks (L to R: 7 battery, 8 battery, 9 battery)

HAZES FROM ASI EMISSIONS ON THE US SIDE OF THE BORDER (SAULT STE. MARIE, MICHIGAN)



Photo 24: High particulate emissions (banding) from ASI on the US side of the St. Mary's River



Photo 25: High particulate emissions from ASI on the US side from the Sault Ontario Boardwalk

HIGH OPACITIES STACKS AND VARIABLE STACK COLOURS



Photo 26: Heavy emissions from ASI COB Stacks (L to R: 7 Battery (black), 8 Battery (orange), 9 Battery (Yellow))



Photo 27: Heavy emissions from ASI COB Stacks (L to R: 7 Battery (black), 8 Battery (orange), 9 Battery (Yellow))

MECP PARTICULATE SAMPLE RELATIVE TO HISTORICAL DEPOSITION (AIR) 2006

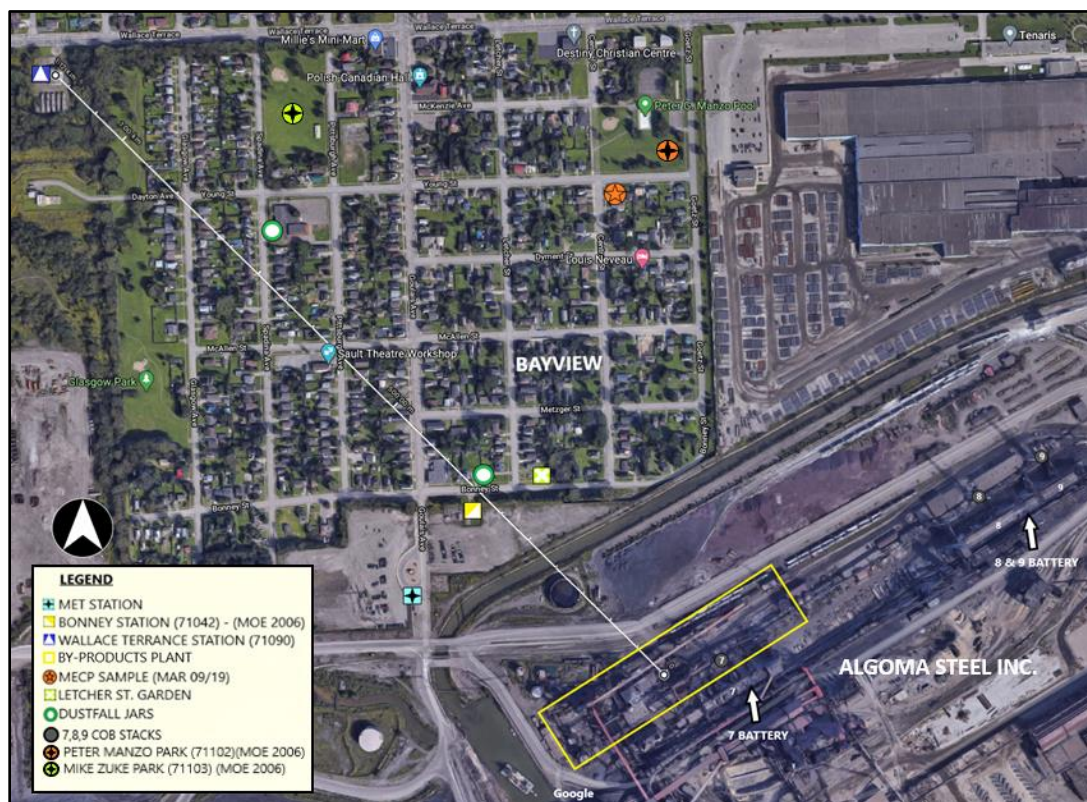


Photo 28: Modified google map showing monitoring devices relative to sources of contaminants

The continuous particulate monitoring illustrated that TSP concentrations quickly decline as one moves away from the ASI property line. The majority of exceedances of the schedule 1 0.5-hr suspended particulate standard and the highest TSP concentrations were measured at the 71042 Bonney St. location which is on the fence-line of ASI. The 71042 Bonney St. data also showed that storage piles and unpaved areas associated with ASI are the most significant contributor to TSP concentrations at this location.

There were over 1000 exceedances measured of the schedule 1 0.5-hr standard at 71042 Bonney St. The other two sites within the Bayview area (71102 Peter Manzo Pool and 71103 Mike Zuke Park) had approximately 6 to 8 times fewer 0.5-hr suspended particulate exceedances; the number of exceedances at these locations was comparable to those measured at locations outside the Bayview area (i.e., 71100 WESTP, 71101 Second Line West Pump House, 71104 Cathcart).

Through averages calculated from the continuous data, 71042 Bonney St. also recorded the highest number of exceedances of the schedule 3 24-hr suspended particulate standard with 33. The only other location at which the 24-hr standard was exceeded was 71101 Second Line West Pump House. 24-hr TSP averages were highest at Bonney St.: averages at the other Bayview monitoring stations were comparable to those outside Bayview.

Photo 29: Portion of the conclusion of MOE particulate study conducted in 2006*

*Report on Sault Ste. Marie 2006 Particulate Monitoring Special Study, pg. 19

Note: The only current continuous monitor close ASI's property line near Bayview is the Wallace Terrace Station (71090)

BENZO-A-PYRENE CONCENTRATIONS IN SOIL SAMPLES FROM BAYVIEW NEIGHBOURHOOD (SOIL) 2012



Photo 30: Locations of soil samples taken in MOE soil study* relative to MECP sample (Mar09/19)

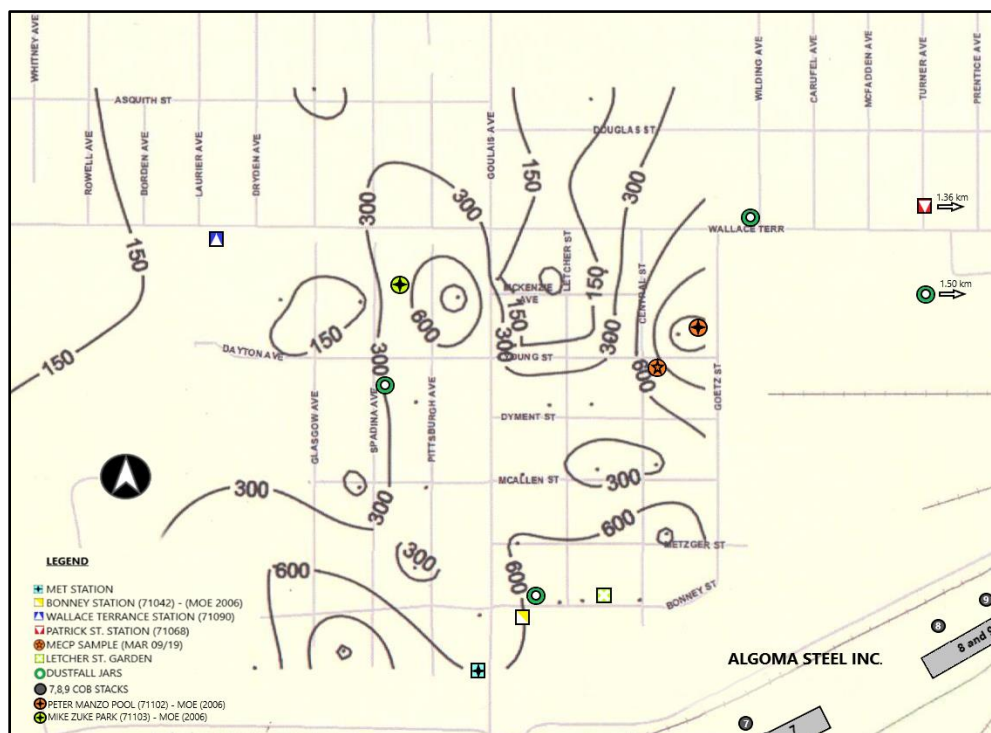


Photo 31: Concentration Contour Map showing pattern of BaP (Benzo-a-pyrene) in surface soil samples

*Soil Survey in the Bayview Neighbourhood Adjacent to Essar Steel Algoma Incorporated, Sault Ste. Marie, Ontario (2012)

MAP OF LANDMARKS AND LOCATIONS RELATIVE TO ASI'S AAQM NETWORK

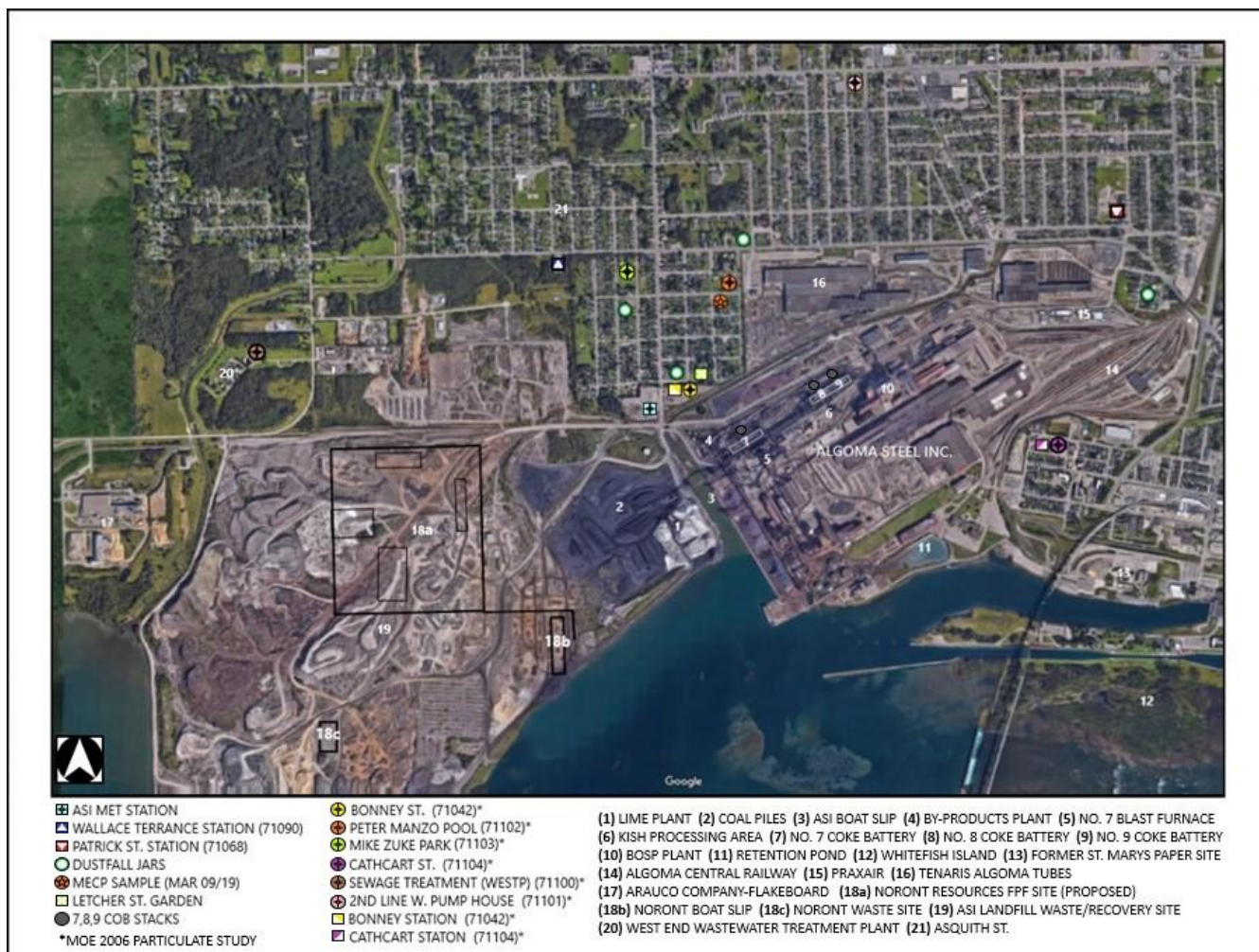


Photo 32: Modified Google Image (2020) of current Algoma Steel Inc. AAQM (Ambient Air Quality Monitoring) network with MOE 2006 Aerocet Met Stations, MECP March 09 sample and key landmarks.

Note: The only current monitoring station near the Bayview neighbourhood (where the MECP collected a particulate sample on March 09, 2019) which has continuous monitors that measure particulate matter (TSP) and PAHs (ex. benzene) are located at the Wallace Terrance Station (71090)

There are currently no monitoring devices on the east side (Cathcart St.) of ASI in the Jamestown neighbourhood.

The proposed Noront Ltd. Ferrochrome Production Facility (FPF) will have cumulative impacts on air and water quality in the area surrounding Algoma Steel Inc. Health impacts to residents are anticipated due to the highly carcinogenic chemical, Chromium VI, that this facility will generate during its operations. There is insufficient annual continuous real-time and measured data to determine the accuracy and reliability of ASI's AAQM network to account for any potential cumulative impacts from the addition of another industry located on or near their property.

CURRENT ASI AMBIENT AIR QUALITY MONITORING DEVICES NEAR BAYVIEW (2020)



Photo 33: Goulais Ave. meteorological station (MET station) located on ASI Property (Gate 4)



Photo 34: Bonney St. dustfall jar



Photo 35: Spadina Ave. dustfall jar



Photo 36: Wallace Terrace comprehensive continuing monitoring station (MOE Station ID: 71090)

HEALTH STUDY SHOWING THE POTENTIAL HEALTH IMPACTS TO BAYVIEW RESIDENTS FROM ASI EMISSIONS

Shutt et al. *Environmental Health* (2017) 16:4
DOI 10.1186/s12940-016-0206-0

Environmental Health

RESEARCH

Open Access



Exposure to air pollution near a steel plant is associated with reduced heart rate variability: a randomised crossover study

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Abstract

Background: Epidemiological studies have shown that as ambient air pollution (AP) increases the risk of cardiovascular mortality also increases. The mechanisms of this effect may be linked to alterations in autonomic nervous system function. We wished to examine the effects of industrial AP on heart rate variability (HRV), a measure of subtle changes in heart rate and rhythm representing autonomic input to the heart.

Methods: Sixty healthy adults were randomized to spend five consecutive 8-h days outdoors in one of two locations: (1) adjacent to a steel plant in the Bayview neighbourhood in Sault Ste Marie Ontario or (2) at a College campus, several kilometers from the plant. Following a 9–16 day washout period, participants spent five consecutive days at the other site. Ambient AP levels and ambulatory electrocardiogram recordings were collected daily. HRV analysis was undertaken on a segment of the ambulatory ECG recording during a 15 min rest period, near the end of the 8-h on-site day. Standard HRV parameters from both time and frequency domains were measured. Ambient AP was measured with fixed site monitors at both sites. Statistical analysis was completed using mixed-effects models.

Results: Compared to the College site, HRV was statistically significantly reduced at the Bayview site by 13% (95%CI 3.6,19.2) for the standard deviation of normal to normal, 8% (95%CI 0.1, 4.9) for the percent normal to normal intervals differing by more than 50 ms, and 15% (95%CI 74.9, 571.2) for low frequency power. Levels of carbon monoxide, sulphur dioxide, nitrogen dioxide, and fine and ultrafine particulates were slightly, but statistically significantly, elevated at Bayview when compared to College. Interquartile range changes in individual air pollutants were significantly associated with reductions in HRV measured on the same day. The patterns of effect showed a high degree of consistency, with nearly all pollutants significantly inversely associated with at least one measure of HRV.

Conclusions: The significant associations between AP and changes in HRV suggest that ambient AP near a steel plant may impact autonomic nervous system control of the heart.

Keywords: Air pollution, Steel production, Heart rate variability, Industrial air pollution, Environment, Epidemiology

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LOCAL PRESENTATION BY DR. ROBERT SUPPES SHOWING INCREASED CANCER RATES IN THE P6C AREA CODE

Local Importance

- Higher incidence of Follicular Lymphoma within 5 km of industry (22)
- Acute Myeloid leukemia rate significantly higher for Sault Ste. Marie (23)
 - National average rate 30.61 per 1,000,000 persons/year
 - Sault Ste Marie's rate was 44.91
 - ✕ P6C area code had a rate of 65.1

Photo 37: P6C area code has higher rates of acute myeloid leukemia than local and national rates (*Slide 25)

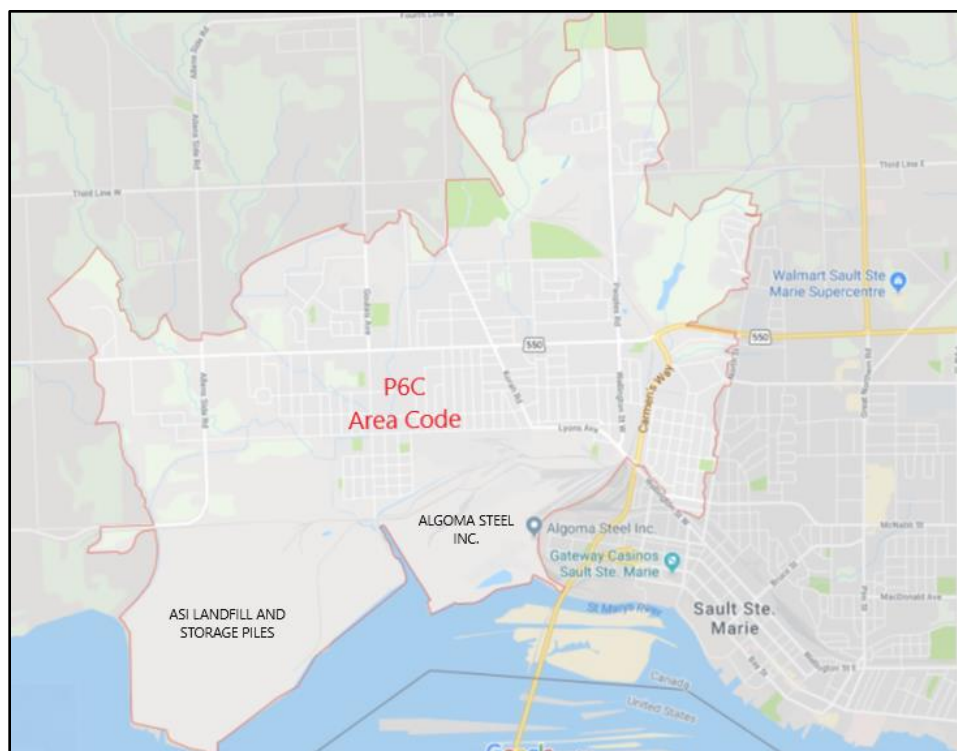


Photo 38: Boundary of the P6C area code (*Slide 26 - Modified)

* Ferrochrome in Sault Ste. Marie, Dr. Robert Suppes (Contributors: Dr. Geoff Skelton, Dr. Pedro Antunes), 2019.

POTENTIAL RECREATIONAL IMPROVEMENTS FROM A COMMUNITY FUND

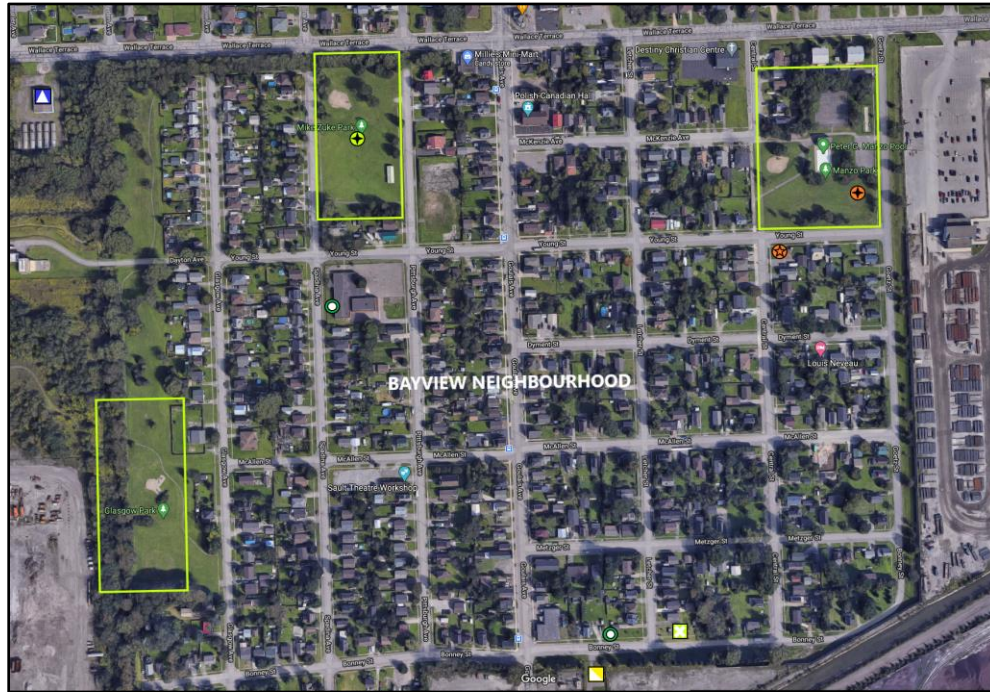
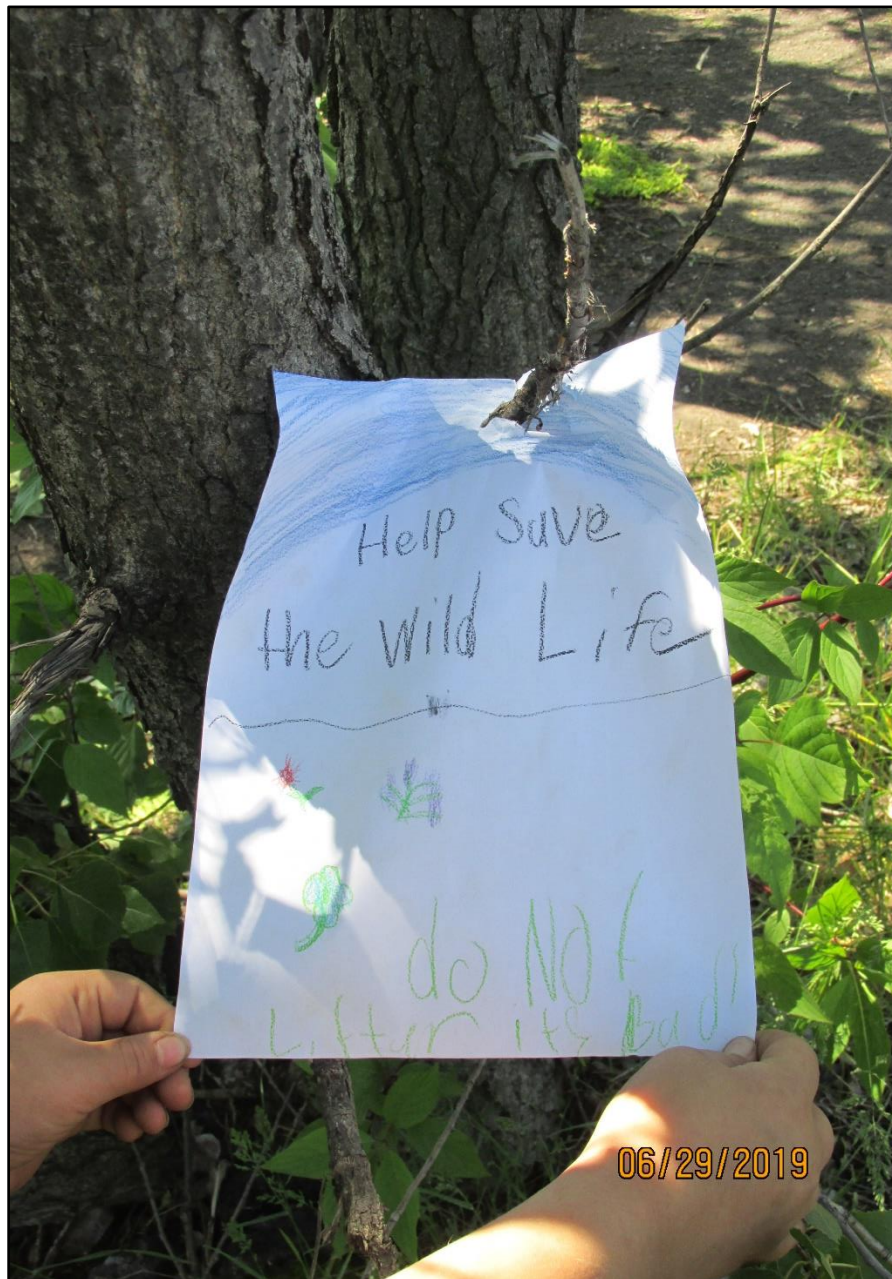


Photo 39: Recreational parks located within the Bayview Neighbourhood (Modified Google Image 2020)



Photo 40: City of Sault Ste. Marie Draft Concept for Jamestown Area east of ASI (Soo Today 2020 - Modified)

<https://www.sootoday.com/local-news/tobogganing-hill-proposed-for-jamestown-4-photos-2784799>



Drawing by an 8-year-old from the Jamestown neighbourhood near Cathcart Station (71104)