



December 8, 2023

# **St Marys Cement Plant**

## **Community Liaison Committee Meeting**





# Agenda

- ❖ **Welcome and Introductions**
- ❖ **Complaints 2023 Year to Date**
- ❖ **Odour Complaints**
- ❖ **Dust Complaints**
- ❖ **ALCF Update**
- ❖ **ALCF Testing Requirements**
- ❖ **Community Speaker**
- ❖ **Questions Brought Forward in Advance of Today's Meeting**
- ❖ **Round Table**
- ❖ **Closing Remarks**



# Welcome and Introductions



## Community Liaison Committee

The next Community Liaison Committee Meeting will be held on Friday, December 8th at 10am at the St. Marys Municipal Operations Center. Members of the public who wish to observe are welcome to attend.

Residents who wish to speak in front of the Committee may submit a detailed request in writing at least 3 days prior to the meeting in writing to the Committee. The request will be considered by the Committee and approved prior to the meeting. Please submit all requests, questions, and concerns for the meeting to [kara.terpstra@vcimentos.com](mailto:kara.terpstra@vcimentos.com) by December 6th, 2023.

- ❖ **Thank you to the Town of St Marys for allowing us to use their Youtube Channel and the Municipal Operations Center**
- ❖ **Welcome back everyone!**
- ❖ **Round Table Introductions**
- ❖ **Did anyone have questions/concerns about the September 8th meeting?**
- ❖ **You will note that the notice of meeting in the St Marys Independent Newspaper now highlights the procedure for residents who wish to speak in front of the Committee.**



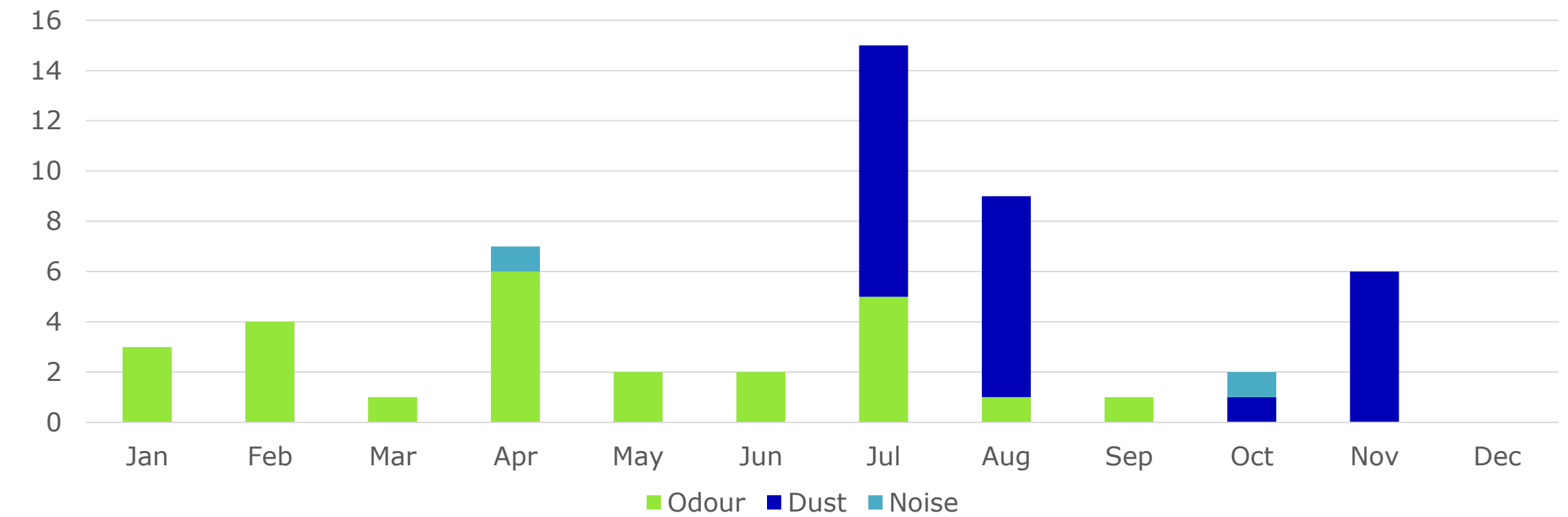
# Complaints Received 2023 Year To Date

		Odour*	Mention Health**	Dust	Invalid Dust	Noise/ Blasting
<b>2023</b>	<b>Total</b>	<b>25</b>	<b>7</b>	<b>23</b>	<b>5</b>	<b>2</b>
	January	3	1	0	0	0
	February	4	2	0	0	0
	March	1	0	0	0	0
	April	6	0	0	0	1
	May	2	0	0	0	0
	June	2	1	0	0	0
	July	5	1	10	1	0
	August	1	0	8	1	0
	September	1	0	0	0	0
	October	0	0	1	1	1
	November	0	0	6	4	0
	December					

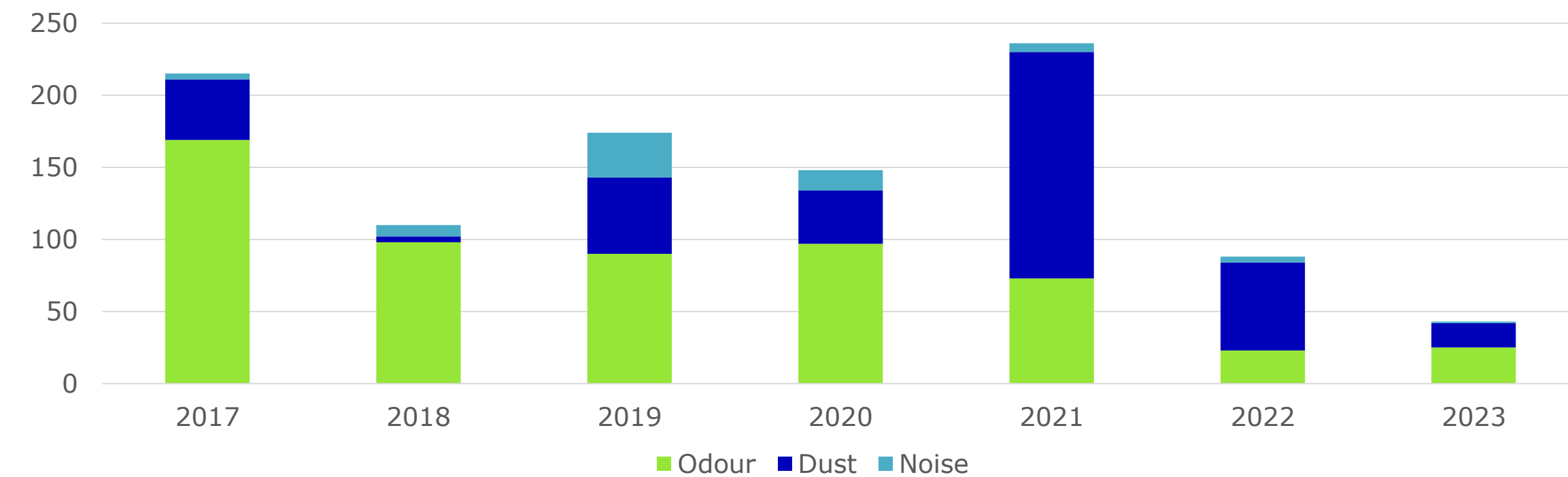
\* Odour complaints reviewed on the next slides

\*\*Complaints which 'Mention Health' are counted when a resident calls with an odour complaint and highlights that they have health concerns. They are not separate complaints received by the plant.

Complaints 2023



Complaints Year to Year



# Odour Monitoring using Enviro-Suite Software



### Likely Originated from SMC

The trajectory generated by Enviro-Suite aligns with the location of the stack.



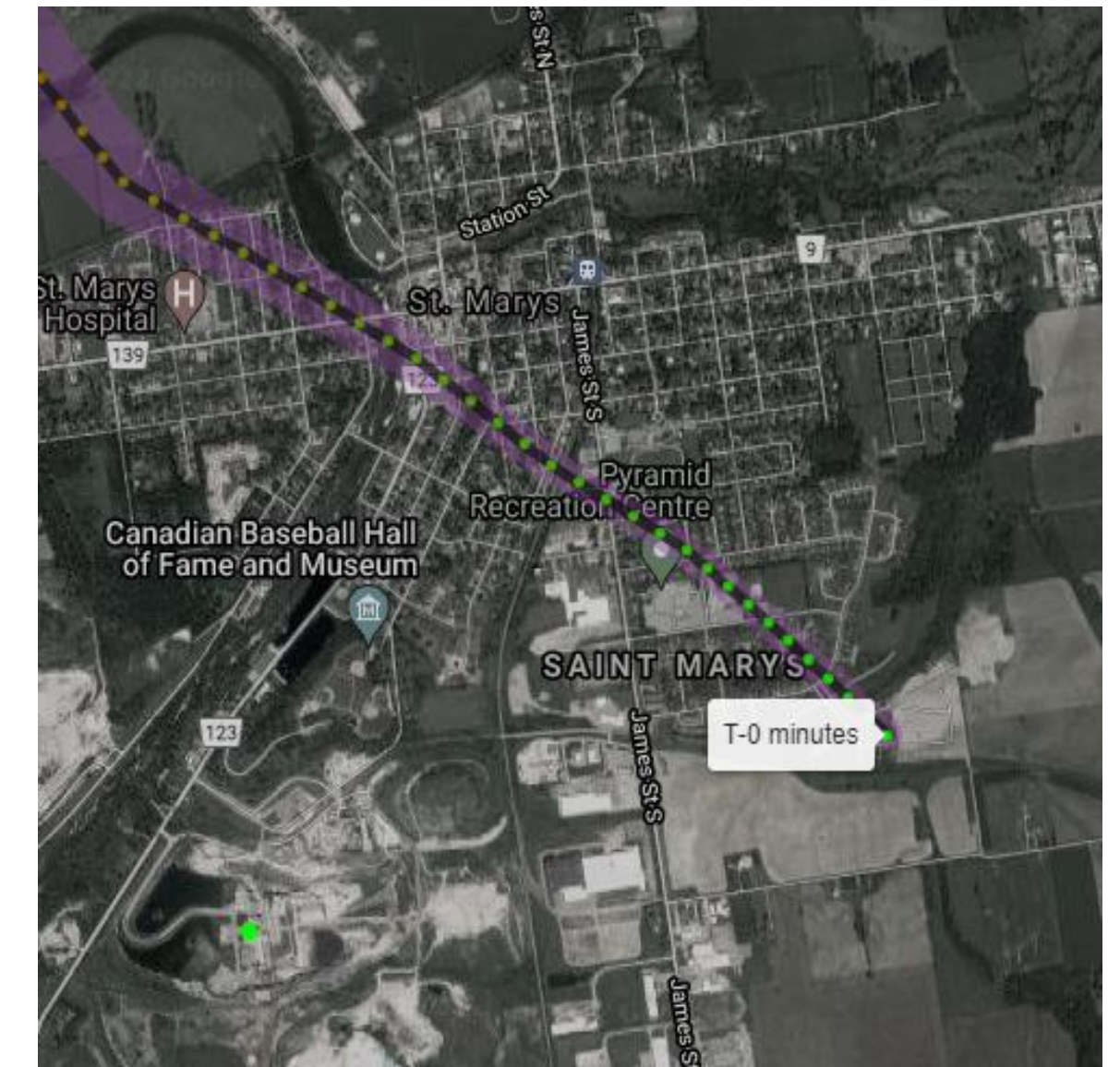
### Possibly Originated from SMC

The trajectory generated by Enviro-Suite is close to aligning with the location of the stack.



### Probably did not Originate from SMC

The trajectory generated by Enviro-Suite is not close to the stack but direction of the trajectory is towards SMC.



### Did Not Originate from SMC

The trajectory generated by Enviro-Suite is clearly not in the direction of the stack.



# Odour Complaints Received

Date	Enviro-Suite Results

Enviro-Suite Results	
	<b>2023 YTD</b>
<b>Likely Originated from SMC</b>	<b>22</b>
<b>Possibly Originated from SMC</b>	<b>0</b>
<b>Did not Originate from SMC</b>	<b>0</b>
<b>Location not Provided</b>	<b>3</b>

\* Out of Enviro-Suite complaints generated using the Enviro-Suite Software

# **Ministry of Environment, Conservation and Parks**

# **Odour Abatement Plan Review**



## Dust Complaints

Date	Number of Complaints	Sample Results
October 13; past few weeks	1	Did not indicate cementitious
November 3; past week	1	Did not indicate cementitious
November 6	1	Limestone
November 15	1	Cementitious with indicators of non-cementitious
November 16; past while	1	Did not want sample taken
November 20	2	Did not indicate cementitious



# ALCF Updates

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- Environmental Compliance Approval **Issued** on August 17<sup>th</sup>, 2023
- On site modifications are ongoing for groundwork. We will be doing a groundbreaking Ceremony in the Spring with members of local parliament and the CLC. Groundbreaking has been postponed because of all of the ongoing traffic for foundations and building footings.
- Estimated timeline for implementation is early 2024 as we are ensuring all requirements are being met and on site modifications are installed as required by the manufacturer.



**Alternative Low Carbon Fuels Building Excavation**

**September 6th, 2023**

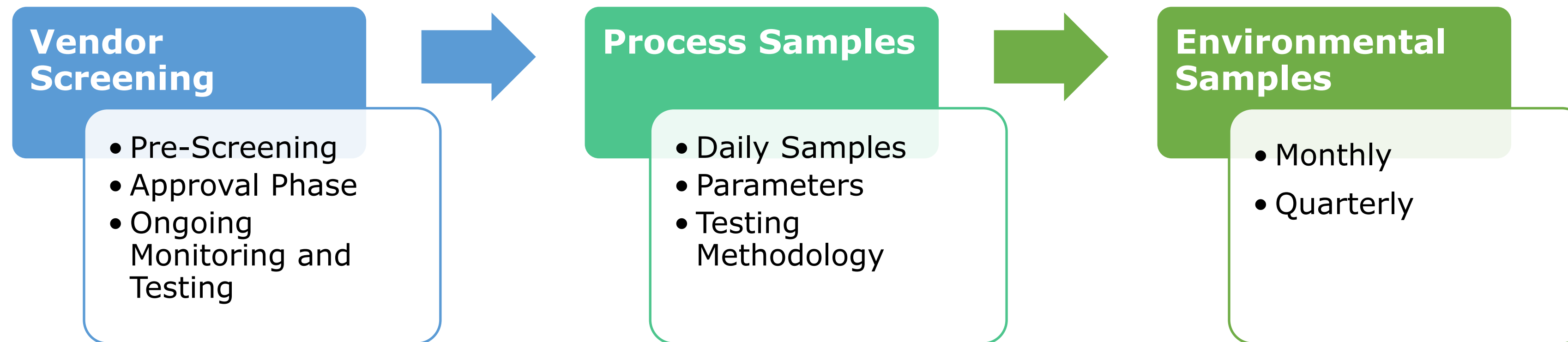


**Alternative Low Carbon Fuels Building Framework**

**December 5th, 2023**



# ALCF Material Monitoring Plan



# Vendor Pre-Screening

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## Vendor Criteria

- To approve a new vendor first we must ensure that the material type meets the requirements of the ECA
- Vendor must be able to demonstrate that the material stream is consistent with time and not subject to variation
- Vendor will provide information on material volumes and delivery timelines
- The location of the vendor will be considered and factored into the overall reduction in CO<sub>2</sub>.

# Vendor Approval

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## Representative sample

- If the vendor meets the pre-screening criteria then they send a sample to St Marys Cement for analysis
- The in-house lab will evaluate for moisture, ash, Sulphur, Carbon and Heat Content and decide if suitable for the plants use
- If deemed acceptable to the plant, the sample will be sent out for third party environmental testing
- The sample is also examined by Safety, Production, Energy, Procurement, Environmental, and the operations manager to each provide feedback on the suitability for the process.
- The raw material and fuels approval form will be filled out accordingly by each area owner and any comments recorded.
- The contract signed with the vendor will include terms about St Marys Cement's ability to decline shipments of ALCF based off material contamination, physical properties such as size or moisture content, or odours.

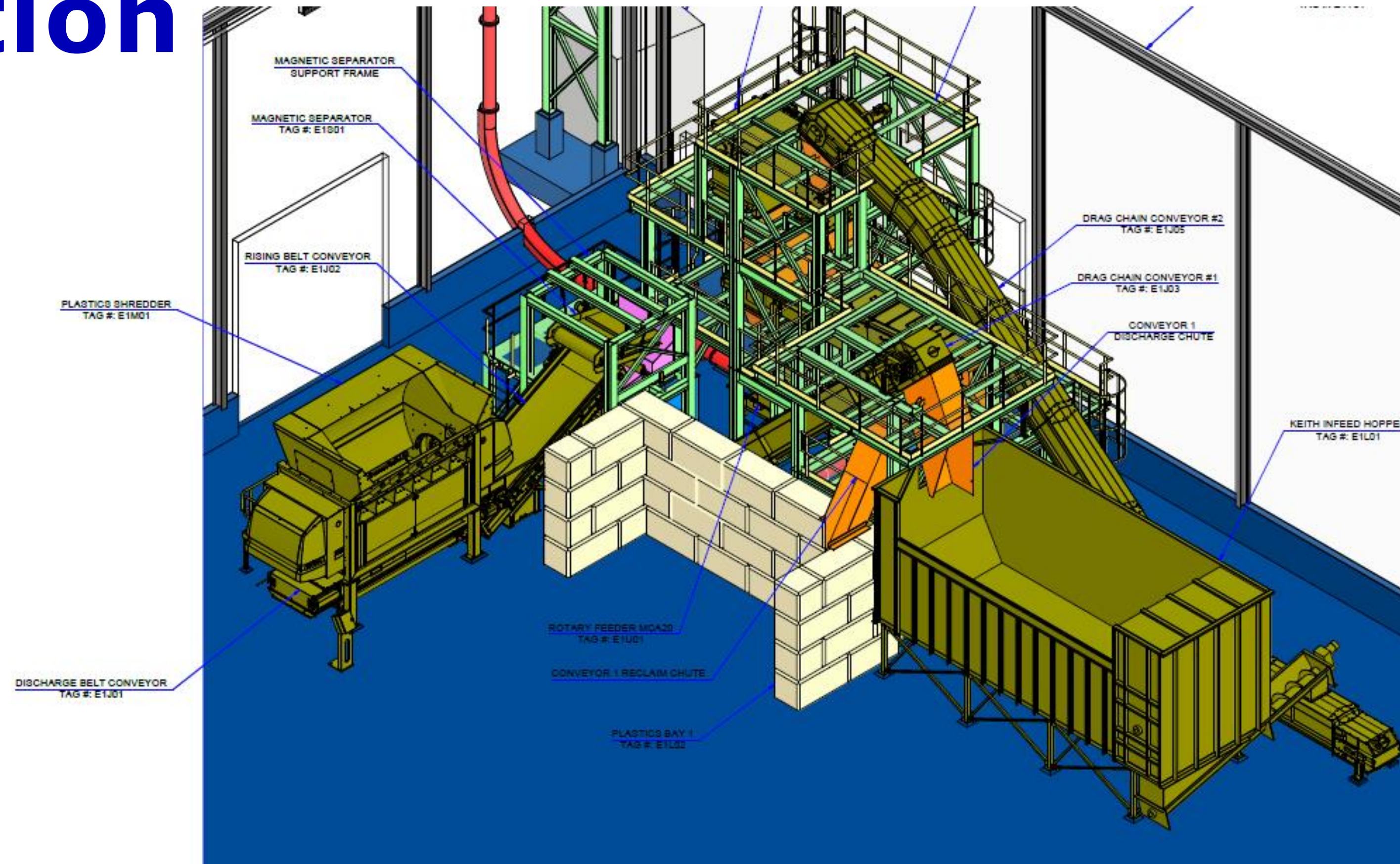
# Vendor Ongoing Monitoring and Testing

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## Screening Period

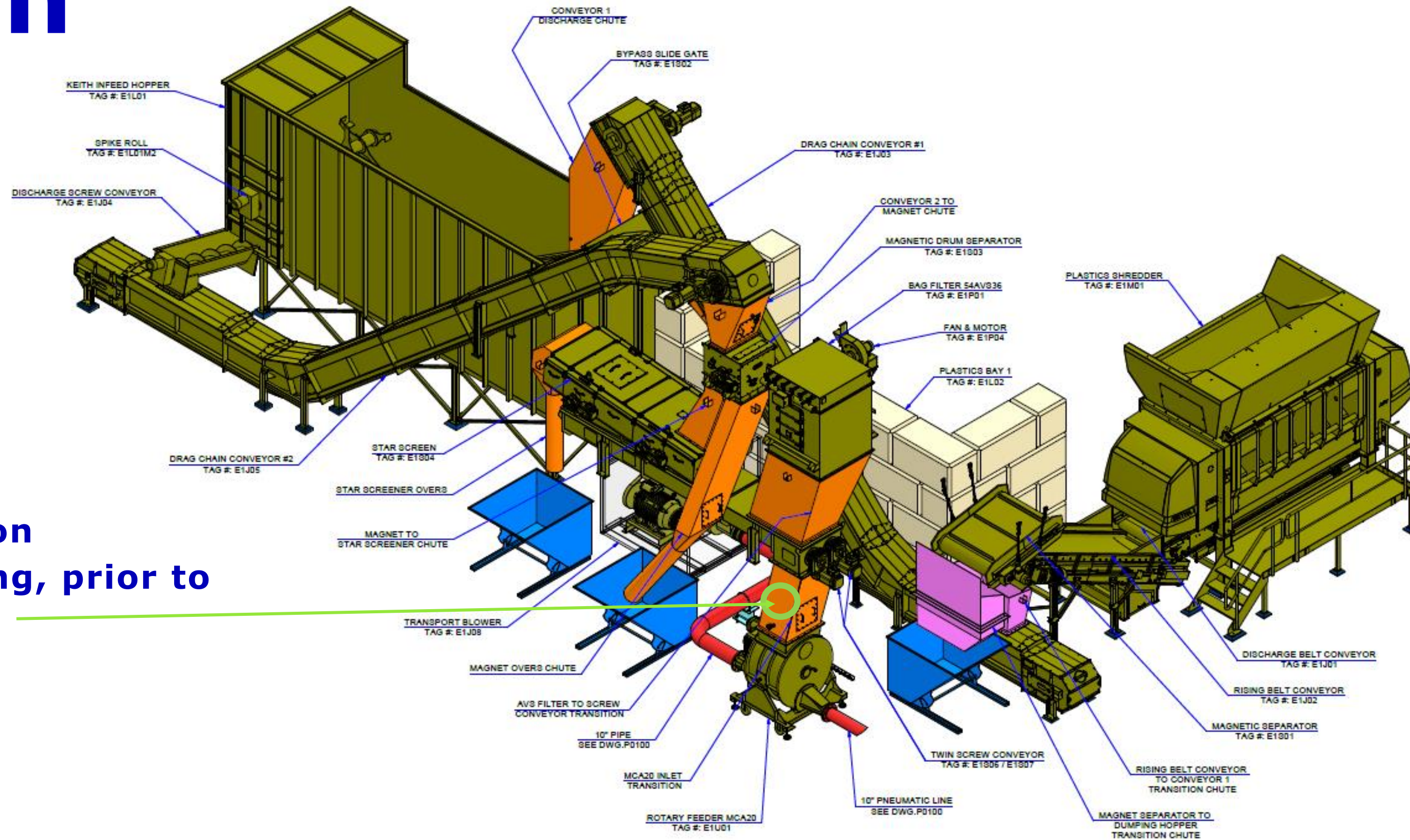
- Once the vendor has been approved for use on site they enter a two month screening period
- Every shipment coming in is visually inspected by St Marys Cement operators
- Operators will also take random samples of the fuel and tested similar to the process samples
- Once the acceptance period is complete and the supplier has established they can consistently meet SMCs ALCF specifications, the frequency of sampling can be decreased.

# Process Samples Location





# Process Samples Location



**Sample Location**  
After processing, prior to  
kiln injection

# Process Samples Testing Parameters

In House Lab Testing



**Moisture**



**Ash**



**Heat Content**



**Sulphur and Carbon**

# Process Samples

# Testing Parameters

## Parameters

- **Moisture content** must be lower than 25% because moisture causes the material to get stuck in the equipment, and adding additional moisture to the system is additional energy that needs to be created to remove the moisture prior to the heat being released from the fuel.
- **Ash** is the residual of what remains after we combust a fuel. It can alter the chemistry of the product.
- **Heat** Content will determine the quantity of fuel used in the process to maintain the overall heat required in the kiln.
- **Sulphur and Carbon** are variables that impact process control and CO2 emissions. These are monitored closely and used as indicators for process changes.

# Process Samples Preparation

- Samples must be in powder form for analysis as per the requirements of the lab equipment.
- First samples are shredded in a lab scale cutting mill which reduces the size of the fuel from 150mm to 4mm.
- Then samples are pulverized in a pulverisette to 0.1mm size.



**Retsch SM 2000**



**Ultra Centrifugal**

**Mill ZM 200**

# Process Samples Testing Parameters



**Moisture**

- Moisture will be measured twice per day using a Mettler Toledo Moisture Analyzer, model HX204
- The instrument performs measurements based on thermogravimetric principles, i.e. the moisture is determined from the weight loss of a sample dried by heating.
- The instrument thus comprises two instruments: An analytical balance and a heating module.
- The heating module is a halogen heating technology (infrared lamp). This ensures fast heating of the sample and thus guarantees rapid availability of the measurement results.
- One sample takes approximately 2 minutes.

# Process Samples

## Testing Parameters



**Ash**

- Ash will be measured using current methods on site
- A sample is weighed and combusted in a controlled oven.
- The residual of what remains will be trapped in the product so we need to factor this into the quality control of the kiln.

# Process Samples Testing Parameters



**Heat Content**

- Heat content analysis is performed using a Parr 6400 Calorimeter
- A calorimeter is a device used to determine the quantity of energy stored within an object, similar to food calorie determination.
- ALCF Samples will be prepared and analyzed daily.

<https://www.youtube.com/watch?v=VG9YG0VviHc>



# Environmental Samples

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## **Third party testing**

- The facility is required to send quarterly samples from each vendor to a third party lab for environmental testing including metals, leachates, and organic content
- The facility is also required to send monthly process composite samples to the lab for moisture, chlorine, heat value, and carbon content.
- The results of these are used to update the Emission Summary Dispersion model for the plant

# ALCF Monitoring Plan

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## Process Monitoring

- The facility has developed an Alternative Low Carbon Fuel Handling Procedures and Testing Manual which captures all of the requirements of the ECA in a standardized manner
- In addition to the ongoing testing the facility is responsible for completing daily inspections of the ALCF facility (both inside and out) to ensure the impact is being mitigated.
- The facility will also continue to randomly inspect random loads from the vendors
- Each load coming in will be monitored by video recording devices

# Community Speaker

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The CLC's Terms of Reference dated July 2023 notes that

“In exceptional circumstances, a member of the public who wishes to speak to the Committee during the meeting may submit a detailed request to the chair at least 3 days prior to said meeting, in writing. The request should contain a description of what the person would like to speak about. The chair will review the merits of the request and will determine whether or not to grant speaking rights to the person. The person may speak for a maximum of 5 minutes during the Committee meeting.”

# Questions Brought Forward in Advance

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None

# Round Table

**For any Questions or Concerns related to St Marys  
Cement Plant Operations please contact**

**Kara Terpstra – Environmental Manager**  
**at 519-284-1020 x 235**  
or at  
[kara.terpstra@vcimentos.com](mailto:kara.terpstra@vcimentos.com)

# The 12 DAYS of SAFETY

- Never use lighted candles near trees or boughs
- Keep poisonous plants out of reach of children and pets
- Keep trees away from fireplaces, radiators and other heat sources
- Make sure your tree has a stable platform
- Choose an artificial tree that is labeled fire resistant
- If using a natural tree, make sure it is well watered
- Check holiday lights for fraying, bare spots, gaps in the insulation or excessive kinking in the wire
- Turn off all tree lights and decorations when not in use
- When putting up decorations, use a step stool or ladder to reach high places
- Designate a sober driver
- When preparing a meal, wash hands, utensils, sink and anything else that touches raw meat
- Reheat leftovers to at least 165°F

**Happy Holidays**

**nsc**  
National Safety Council  
[nsc.org](http://nsc.org)

**On behalf of all of us at St Marys  
Cement we would like to wish  
you a warm and happy holiday  
season!**