

RioTinto

# 2021 Sustainable Development Report

Rio Tinto Fer et Titane  
Havre-Saint-Pierre Mining facilities  
and Sorel-Tracy Metallurgical complex



# Introduction

This sustainable development report is a summary of 2021 and provides an operations update, business priorities and key highlights of the Havre-Saint-Pierre Mining facilities and the Sorel-Tracy Metallurgical complex. The year 2021 was an unusual one, again marked by COVID-19. At Rio Tinto Fer et Titane, the pandemic allowed us to pursue our involvement with regional organisations in Sorel-Tracy and Havre-Saint-Pierre, with investments of \$467,000 in Sorel-Tracy and \$62,000 in Havre-Saint-Pierre.

The corporate vaccination hub, in cooperation with ArcelorMittal and the CISSS de la Montérégie-Est, was also a highlight in 2021. Through this initiative, we helped protect RTFT employees, their families and the community from COVID-19 by administering 6,500 doses.

We set major priorities to reach our full potential and position our facility for its future, for us, for future generations and for the community. You will find these major priorities in the diagram on page 3. This positioning will also allow us to deliver the large-scale projects we are working on.

In addition to investments and major projects, we want to continue evolving and promoting our way of doing things and our everyday habits to achieve our goals. Our collective contribution is necessary so that, together, we can take on big and small challenges on a daily basis. Feel free to share this report with your network and send us your comments by email: [rtft.info@riotinto.com](mailto:rtft.info@riotinto.com).

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**Cover photo:**

Nathalie St-Louis, operations and maintenance, Scandium plant

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**Thank you to our contributors:**

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Aerial view of the Sorel-Tracy Metallurgical complex (2021) and the Tio Mine near Havre-Saint-Pierre (2018)



# Rio Tinto Fer et Titane's mission

RTFT continues to focus on its six priorities to reach its full potential. Throughout the year, we demonstrated agility and flexibility by adapting production in response to the pandemic to meet our customers' needs.

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Marilyn Fafard, supervisor, Ore pretreatment plant



# Health and safety

Health and safety remains an absolute priority at RTFT, where the main goal is to provide a healthy and safe working environment, with a focus on physical and emotional safety.

The actions taken by RTFT focus on a collaborative approach and the management of fatality risk, total injury management and process safety.

The quality of interactions among employees and managers in the field is essential to improving and especially ensuring that everyone returns home safely.

## Special commendations

**Havre-Saint-Pierre:** For their performance in 2020, Guillaume Noël and Gino Albert received the recognition award for occupational health and safety (OHS) from the Association minière du Québec for 100,000 hours and 150,000 hours, respectively, without any incidents.

**Sorel-Tracy:** The Metallurgical complex ranked third out of 50 business units analysed in the Safety Maturity Model (SMM) internal audit. The SMM internal audit is an internal process at Rio Tinto that assesses the maturity of the safety culture of our operations.

## LEGEND

Increasing
 Stable
 Decreasing
 Proportionate to production

Health and safety performance	Havre-Saint-Pierre Mining facilities	Sorel-Tracy Metallurgical complex
Indicators as at 31 December	2021	2021
Number of injuries recorded	1	9
AIFR*	0.38	0.47

\*Number of cases of lost time incidents, work restrictions and medical follow-up x 200,000/number of hours worked

The main injuries are hand related. Action plans in various areas are being rolled out to reduce this type of injury.



### Occupied buildings programme (OBP) continues

The Occupied buildings programme is aimed at minimising the exposure of employees working in buildings close to process and operational safety risks with catastrophic potential. All Rio Tinto business units carried out similar projects aimed at reducing risks related to operational safety.

Occupied buildings programme at RTFT is one of the bigger projects because of the risks at the site, but especially because of the operational changes generated by the project. All plant employees are impacted by OBP in one way or another.

Since the beginning, more than 600 construction workers from more than 50 companies have worked more than 175,000 hours.

This project brought together teams from operations, and maintenance and support, as well as numerous teams of external consultants and contractors, around a common goal.

# Health and industrial hygiene

## A vaccination clinic for our employees and the public



From left to right: Serge Péloquin, Mayor of Sorel-Tracy; Vincent Deguise, Mayor of Saint-Joseph-de-Sorel; Jean-Bernard Émond, Member of the National Assembly for Richelieu; Guy Gaudreault, Managing Director at RTFT; François Perras, President and Chief Executive Officer, ArcelorMittal; and Maud Allaire, Mayor of Contrecoeur

### A successful vaccination clinic

RTFT employees showed resilience during this second year of the pandemic. RTFT continued to make every effort to ensure the health and safety of its employees and communities. In 2021, it helped set up a vaccination clinic at Place Fer et Titane, in collaboration with the CISSS de la Montérégie-Est and ArcelorMittal. More than **6,500 doses** were administered to employees and the public.

## Summary of actions | Industrial hygiene

### Samples of employee exposure

#### Sorel-Tracy

- 973 samples of employee exposure taken
- 13 situations involving exceedance of standards for dust where employees had appropriate respiratory protection
- 15 situations involving exceedance of standards for dust where employees did not have appropriate protection, followed by a joint investigation and identification of possible solutions
- Monitoring of carbon monoxide exposure – development of a work plan with reduction furnace managers and employees
- Dissemination of sampling results to teams from each area and identification of opportunities to reduce exposure

#### Havre-Saint-Pierre

- 168 samples of employee exposure taken
- 2 situations involving exceedance of standards for dust where employees had appropriate respiratory protection

### Employee health risk reduction plan

- Continuous improvement project aimed at reducing exposure to nickel at the Powder plant
- Ergonomic assessments of the Steel plant's overhead cranes to improve work postures
- Support for the implementation of a new way to park vacuum trucks next to D&C to reduce the noise impacts for nearby employees
- Implementation of double hearing protection in the GU gas compressor building and reduction project under evaluation
- Visit from a noise expert to identify possible noise reduction solutions for employees who are overexposed

### Respiratory fit testing

Support for the resumption of respiratory fit testing, which was discontinued during the pandemic



# Environment and communities

At the international level, Rio Tinto has set ambitious decarbonisation targets to reduce the company's emissions by 15% by 2025, type-1 emissions (produced by the company) by 50% and type-2 emissions (indirectly related to energy consumption) by 2030, and achieve net zero carbon emissions by 2050.

Aware of the impact of its operations on the environment and biodiversity, RTFT wants to accelerate its initiatives and engage its employees and partners to improve its environmental record.

## Greenhouse gas (GHG) and decarbonisation

Emissions come mainly from the Reduction furnaces at the Sorel-Tracy Metallurgical complex. Promising innovative projects are currently being developed to contribute significantly to Rio Tinto's decarbonisation commitments.

### Hydrocarbon consumption and GHG emissions at the Havre-Saint-Pierre Mining facilities

Indicators as at 31 December	2021
<b>Consumption in litres/tonne</b>	
Diesel (litres)	3.94
Gasoline (litres)	0.12
GHG production ktCO <sub>2</sub> eq	0.01

### Energy and GHG emissions at the Sorel-Tracy Metallurgical complex

Indicators as at 31 December	2021
Energy consumption (GWh)	2,739.908
GHG production ktCO <sub>2</sub> eq	952.8

## LEGEND

Increasing   Stable   Decreasing   Proportionate to production

## Water management

Water is central to RTFT operations, and conserving it is a constant concern. It plays a key role in water management at the mine, ore transportation by ship along the St. Lawrence River, and operations at the Sorel-Tracy Metallurgical complex.

Approximately 42.7 million cubic metres of water were drawn from the St. Lawrence River in 2021. The recirculation rate of this water is nearly 64%. The performance of the water treatment plant is stable and below the standard of 15 mg/L.

## Water and waste rock management at the Havre-Saint-Pierre Mining facilities

In the past two years, the Havre-Saint-Pierre Mining facilities have invested in Actiflow treatment units for Tio Mine's wastewater treatment. The sustained efforts of all site stakeholders to improve the pump and treatment systems since the second Actiflow system was commissioned on 25 January 2021 have increased the flow from 250 m<sup>3</sup>/h to 500 m<sup>3</sup>/h. These new units made it possible to meet environmental discharge standards for six consecutive months.

# Residual materials management

The generation of residual materials varies according to operations and the work carried out during the year, and variations can therefore be significant.

Residual materials management in 2021

Indicators as at 31 December	Non-hazardous residual materials		Refractory material		Hazardous residual materials	
	Tonnes/year	% recycled	Tonnes/year	% recycled	Tonnes/year	% recycled
<b>Sorel-Tracy Metallurgical complex</b>	10,525	59	5,483	68.5	423.9	73.9
<b>Havre-Saint-Pierre Mining facilities</b>	609	1,31	N/A	N/A	38	34.82

## LEGEND

Increasing   Stable   Decreasing   Proportionate to production

# Valorisation of process residues

RTFT is continually working on residue valorisation projects to reduce its environmental footprint, for example, the use of sludges in the manufacturing of paving stone and residues from its SO<sub>2</sub> recovery plant (CDS) as soil amendment.

In 2021, RTFT revalorised 60% of its process residues. The following are a few examples:

### Revalorisation of TiO<sub>2</sub>:

We are working on recovering titanium through separation, screening and cleaning.

### Revalorisation of iron:

Cast iron and steel are revalorised in the Steel plant converter.

### Inert materials:

Inert materials are revalorised into aggregates in civil engineering applications, therefore avoiding quarry operations.

For information about  
Rio Tinto Fer et Titane  
or to voice concerns:  
**450 746-3040**





# What is P-84?

It is a tailings facility set up by RTFT in 1994, following a consultation with citizens.

At the time, RTFT was inaugurating its wastewater treatment plant to treat wastewater at its Sorel-Tracy Metallurgical complex. Since the treatment plant was intercepting almost all solid waste, a solution was developed to dispose of the tailings on land, which led to the creation of P-84.

The term P-84 refers to the lot number on which much of the tailings facility is located.

## Monitoring

To measure the possible repercussions resulting from operations at P-84, RTFT implemented an environmental and geotechnical monitoring programme that will remain in place long after RTFT discontinues its use of the facility.

Ilmenite ore



# Mine tailings route

RTFT recycles roughly 60% of mine tailings and industrial waste from its metallurgical processes; another portion is transported to P-84.





### Terres d'en haut citizens committee







On 21 September 2021, the Terres d'en haut citizens committee visited the P-84 tailings facility and the Metallurgical complex. Members of the leadership and operations team explained the tailings facility operations and the stages of RTFT's process. This visit also allowed the committee to discuss and ask questions with full transparency.

The main goal of the Terres d'en haut citizens committee, in place since early 2000, is to provide a space for dialogue and an opportunity for open and transparent discussion, and share relevant information related to operations, environmental management and the impacts of the P-84 mine tailings site.

## Air emissions management



Managing dust emissions has been a serious challenge in facilities for over 70 years. To comply with regulations, the company takes initiatives to continually improve its emissions control with regard to operational practices, scrubbing equipment maintenance and investments.

### Record of atmospheric emissions at the Havre-Saint-Pierre Mining facilities

	PM <sub>tot</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO	NO <sub>2</sub>	SO <sub>2</sub>
	Tonnes/year	% recycled	Tonnes/year	% recycled	Tonnes/year	kg/year
<b>2021</b>	390.3 	173.1 	36.1 	108.4 	304.7 	231.8 

Atmospheric emissions directly related to production have increased compared with 2020.

### Air management at the Sorel-Tracy Metallurgical complex

Indicators as at 31 December	2021
<b>Ambient air quality</b> (particles)*	14 
<b>Sulphur dioxide (SO<sub>2</sub>) emissions</b> in tonnes/year	1,806 

\*Observed exceedances of the ambient air quality criteria set forth in the Clean Air Regulation

### LEGEND

 Increasing    Stable    Decreasing    Proportionate to production

Havre-Saint-Pierre line for comments and suggestions: 418 538-3708

RTFT encourages the use of this line so it can improve its performance.



## Impacts on the community

RTFT fosters close relations with citizens and the community through citizens committees, periodic publications (magazine, newsletter for stakeholders) and its environmental line. The line allows anyone to ask a question or raise concerns. Every situation is handled on a case-by-case basis and monitored.

### Environmental incidents in 2021

Indicators as at 31 December	Number of incidents
Sorel-Tracy Metallurgical complex	209
Havre-Saint-Pierre Mining facilities	147

This data includes near misses, which are reported and investigated to allow for improvements.

## Highlights: Extension of the acoustic wall

At the end of 2021, we extended the acoustic wall to reduce the noise impact of our operations in the community of Saint-Joseph-de-Sorel.

Proximity to residential neighbourhoods in Saint-Joseph-de-Sorel and Havre-Saint-Pierre is a major coexistence challenge, and continuous attention is required to maintain harmonious relations with the neighbourhood. RTFT is concerned about its operational impact in the communities, which is why it adopted a rigorous mechanism for managing complaints and concerns. Through RTFT's feedback line, citizens can report any concerns or comments to the company at any time. In addition, as part of its compensation programme, RTFT washes houses within an impacted perimeter. Citizens committees also provide a means of engaging with citizens representing their respective communities.

Record of complaints for 2021	Havre-Saint-Pierre Mining facilities	Sorel-Tracy Metallurgical complex
Indicators as at 31 December		
Number of complaints	0	13
Number of houses washed	1	236

Each year, RTFT washes houses based on operational impacts in the community. The 2020 pandemic explains the increase compared with 2021.

# Community involvement

In Sorel-Tracy, the 2021 token recognition programme acknowledged employees' financial commitment with the distribution of more than 1,950 tokens corresponding to donations of \$21,150 in the Sorel-Tracy region to the following three organisations: Le Vaisseau d'Or, Centre d'action bénévole (funds dedicated to a school breakfast programme) and La porte du passant.

RTFT maintained its social involvement in the Sorel-Tracy region with a total contribution of \$467,000 in commitments to the community. In the Havre-Saint-Pierre region, RTFT invested \$62,000 in local organisations.

## Applying for donations and partnerships

To apply for donations and partnerships at Rio Tinto Fer et Titane in Sorel-Tracy, visit [RTFTcarriere.com](http://RTFTcarriere.com) and click on Actualités.

# Special commendations

For a second consecutive year, the Rio Tinto Aluminium Canada Fund supported 16 Days of Activism Against Gender-Based Violence. Locally, Maison La Source in Sorel-Tracy, Centre Le Volet des Femmes and Centre de santé Mashtishanitshuap de Ekuanitshit in the Minganie region each received a donation of \$25,000.

## Major partnership with L'Espoir de Shelna in Havre-Saint-Pierre

L'Espoir de Shelna in Havre-Saint-Pierre was able to rely on Rio Tinto Fer et Titane for the expansion of its shelter.

Through an exceptional financial contribution of \$250,000, the organisation will set up a new space to accommodate a day centre, as well as a specialised room for respite, with a fully adapted bathroom, an office from Module d'épanouissement à la vie and, in the basement, a meeting room, a storage room and a sensory stimulation room.





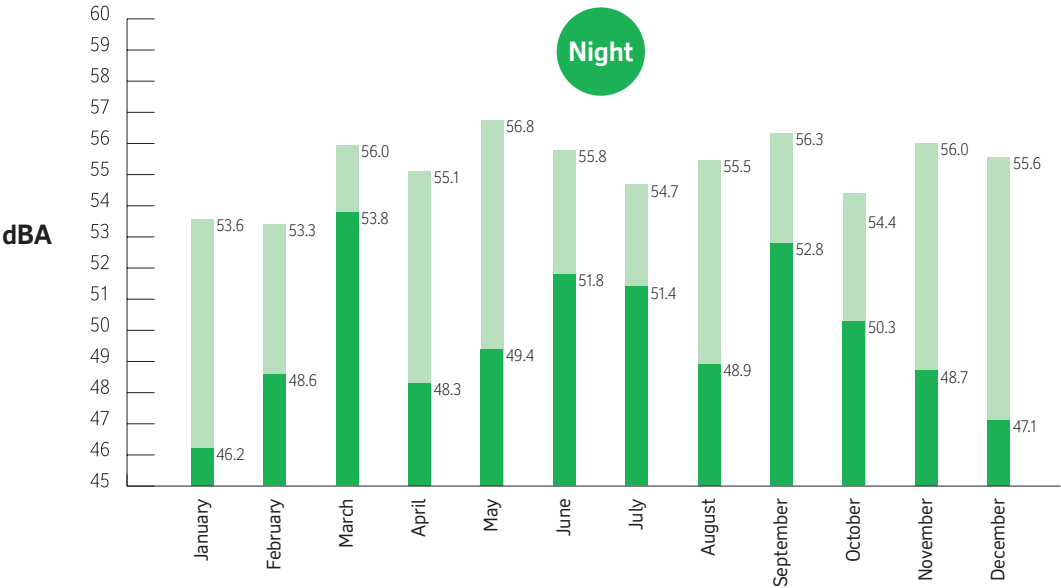
# Environment and communities (cont.)

## Statistics on community noise

► Saint-Ignace-de-Loyola

► Saint-Joseph-de-Sorel

Comparison of monthly averages

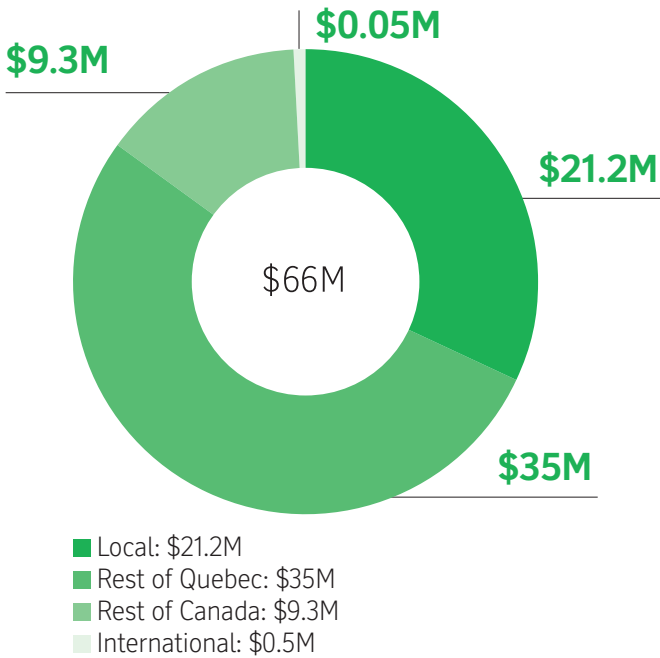


Among the environmental indicators monitored, RTFT models the noise level in areas near the Sorel-Tracy Metallurgical complex. Although the noise level is stable, targeted events can occur and cause complaints. The situations are examined, and corrective actions are implemented promptly.

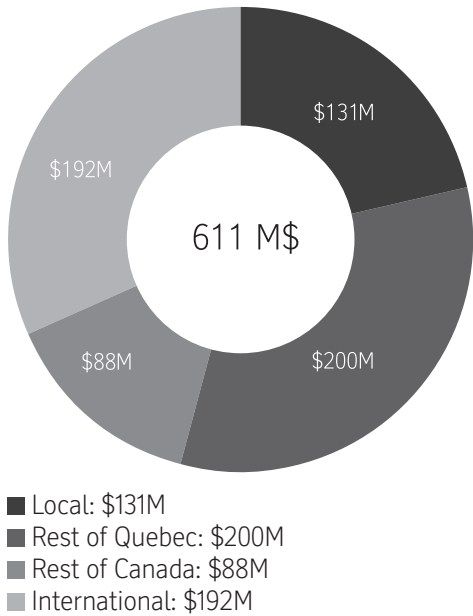
Out of concern for our community, nighttime noise levels are very closely monitored, and operations are carried out during the day whenever possible.

## Regional economic benefits

Breakdown of RTFT expenditures at the Havre-Saint-Pierre mine (in \$M)



Breakdown of RTFT expenditures at the Sorel-Tracy Metallurgical complex (in \$M)



## Highlights

As an incentive, we offered a \$50 gift card to RTFT employees who got their vaccine. This initiative generated \$50,000 in purchases of gift cards to restaurants in Sorel-Tracy, and \$14,000 in Havre-Saint-Pierre.





# Commitment

## Human resources

### ► Havre-Saint-Pierre Mining facilities

295

Number of employees

11%

Percentage of women

26

Number of hires

### ► Sorel-Tracy Metallurgical complex

1,435

Number of employees\*

9.3%

Percentage of women

192

Number of hires

\* Total for Metallurgical complex and Critical Minerals and Technology Centre as at 31 December 2021.

## Training

### ► Havre-Saint-Pierre Mining facilities

6,681

Number of hours  
of training

247

Number of employees  
in training<sup>1</sup>

### ► Sorel-Tracy Metallurgical complex

79,467

Number of hours  
of training

1,232

Number of employees  
in training<sup>1</sup>

To manage labour shortage issues, RTFT developed a recruitment and labour attractiveness strategy aimed at promoting RTFT's mission in Quebec. This strategy is based on:

- A review of processes to accelerate hiring
- The implementation of RTFT's Employee Referral Programme
- The launch of a recruitment campaign
- A review of the employee onboarding process
- The development of critical skills, resources and talent that is reflected in training progress in 2021

RTFT nearly quadrupled its hires in 2021 compared with the previous year, namely 192 new hires at the Sorel-Tracy Metallurgical complex, with a particular focus on the representation of women. A total of 65 women in Sorel-Tracy and 26 women in Havre-Saint-Pierre joined the organisation in 2021.

<sup>1</sup>Employees in training only at the Metallurgical complex



# Operational excellence

## LEAN transformation at RTFT



### **LEAN transformation: a change in culture starting at the reduction plant**

LEAN transformation, which is being rolled out at the Reduction plant, aims to change operational culture and will extend across the entire Metallurgical complex. Centred on customers' needs regarding quality, cost and deadline, LEAN transformation focuses on optimising operating procedures, increasing productivity and eliminating waste throughout the manufacturing process.

### **The goal of LEAN: doing more and better, without working harder**

A dedicated team has been put in place, and a number of employees on the ground are involved at various intensive work sites. By focusing on safety and the concept that value is created in the field, the entire organisation supports production and maintenance employees, facilitating their day-to-day work.

**RioTinto**

## A whistleblowing programme for employees and suppliers

### **myVoice is Rio Tinto's confidential reporting programme.**

If something doesn't feel right at work, you can use myVoice to share your concerns.

This programme is a key part of our commitment to living our Rio Tinto values, building trust, and creating a respectful and inclusive workplace where people feel safe and comfortable to speak freely and provide feedback.

[www.riotintomyvoice.com](http://www.riotintomyvoice.com)

**myVoice**



# Innovation

The team at the Critical Minerals and Technology Centre knows its customers well, from an individual, technical, economic and corporate standpoint. This keen understanding of customers and products allows the team to consider strategic options and develop new products and processes. That is how the world's most environmentally friendly scandium was first produced, through valorisation of UGS plant residue.

An investment of US\$6 million was needed to start up the plant. The initial production was three tonnes of scandium oxide a year, around 20% of the current global market.

2021 marked the official inauguration of the Scandium plant with provincial and local elected officials, and the start of commercial production for demonstration purposes: a testing phase to adapt to the new process.

With its Scandium plant, Rio Tinto Fer et Titane is providing the market with a plant that can produce in a stable geopolitical context and that will be able to produce on a permanent and ongoing basis.

## How scandium is used

Scandium oxide is used to improve the performance of solid oxide fuel cells used as a source of energy in data centres and hospitals, as well as niche products such as lasers and stadium and studio lighting. It is also used to produce high-performance aluminium-scandium master alloys for the aerospace industry, defence and 3-D printing.



From left to right: Simon Letendre; Vincent Deguise, Mayor of Saint-Joseph-de-Sorel; Jean-Bernard Émond, Member of the National Assembly for Richelieu; Frédéric Benoit, Manager, Element North 21 Scandium plant; Guy Gaudreault, Managing Director at RTFT; Jonatan Julien, Minister of Energy and Natural Resources; Serge Péloquin, Mayor of Sorel-Tracy; and Yves Pepin.





## Our values

Rio Tinto Fer et Titane supports Rio Tinto's values, which are simple, human and inclusive; these things are important to us.

They encompass and broaden our former values to include qualities that are essential to our future. We can all make our values come to life by focusing on the positive behaviours that we want to see more of. Our values are as follows:

### **Care:**

We act with care by prioritising the physical and emotional safety and well-being of those around us.

We respect others, build trusting relationships and consider the impact of our actions. We look for ways to contribute to a better future for our people, communities and the planet.

### **Courage:**

We act with courage by showing integrity, speaking up when something is not right and taking decisive action when needed. We are not afraid to try new things. We respond positively in difficult situations and demonstrate commitment to achieving shared goals.

### **Curiosity:**

We act with curiosity by inviting diverse ideas and collaborating to achieve more together than can be done alone. We are continuously learning, creatively looking for better and safer ways of doing things. We draw inspiration from others and the world around us.