



# POLLUTION PREVENTION PLAN ANNUAL PROGRESS REPORT

## Metalloids

June 2019

<b>CONTENTS</b>	<b>Page</b>
Declaration	3
Mitigation Plan	4
Summary and Conclusion	6



CONTACT DETAILS	
Name	HANNELIE JORDAAN
Contact Number	016 360 2579
Email Address	<a href="mailto:Hannelie.jordaan@south32.net">Hannelie.jordaan@south32.net</a>
Company Name	Samancor Manganese (Pty) Ltd
Registration Number	2003/020080/07
Physical Address	FARM KOOKFONTEIN, MEYERTON
Postal Address	PO BOX 66, MEYERTON 1960

## CONTENTS

Declaration of Accuracy of Information .....	3
Detail of planned mitigation measures .....	4
Progress report.....	5

## DECLARATION

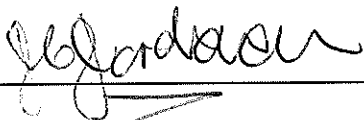
### DECLARATION OF ACCURACY OF INFORMATION

Name of Company: **Samancor Manganese (PTY) Ltd (Metalloys, Meyerton)**

Declaration of accuracy of information provided:

I, JC Jordaan, declare that the information provided in this report is in all respects factually true and correct to the best of my knowledge and as at the date of signature.

Signed at Meyerton on this 28 day of May 2019.



HSE Lead, Execution

On behalf of Operations Manager

Metalloys

# MITIGATION PLAN

## DETAIL OF PLANNED MITIGATION MEASURES

Mitigation measure	Description of mitigation measure	Anticipated implementation date	Assumptions used to estimate anticipated GHG emission reduction	Affected GHG	Anticipated emission reduction (tonnes CO <sub>2</sub> e)					Total over 5 years	
					Y1	Y2	Y3	Y4	Y5		
Energy reduction at M14 closed circuit water cooling	Installation of variable speed drives (VSD) on larger motors and fans in the M14 closed circuit water cooling	01/12/2018	A 40% saving in electricity estimated. Current consumption: 6 x 30kW motors currently running at full load for 24h/day. The calculation is based on a 40% saving in energy. $6 \times 30 \times 24 \times 365 = 1576800 \text{ kWh}$ $1576800 \times 0.6 = 946080$ 40% saving is 630720 kWh $(630720 / 1000) \times 0.99 \text{ Kg CO}_2 \text{ eq} = 624.41$	CO2		312.21	624.41	624.41	624.41	624.41	2185.44
Elgen Optimization	Control system optimization which entailed the following optimisation processes: <ul style="list-style-type: none"> <li>Gas flow</li> <li>Air fuel ratio</li> <li>Maintenance of valves</li> </ul>	01/12/2017	Improvement in MW/kg gas efficiency. Potential to improve ratio from 1.1 to 1.4 MW/kg gas. (0.3 MWh improvement when Elgen is running) $0.3 \text{ MWh} \times 24 \times 365 = 2628 \text{ MWh /Year}$ Assume 90% availability	CO2	2341.548	2341.548	2341.548	2341.548	2341.548	2341.548	11707.74



## SUMMARY AND CONCLUSION

Metalloys remains committed to being a responsible corporate citizen and reducing our impact on our impact on the environment. To this end the projects will be prioritised for implementation over the next five years.