



Our Ref: 41105442

22 March 2023

NOTICE OF A BASIC ASSESSMENT PROCESS AND AMENDMENT OF THE ATMOSPHERIC EMISSION LICENCE FOR THE PROPOSED UPGRADING OF THE M3 AND M4 FURNACES, PSP AND ASSOCIATED ABATEMENT INFRASTRUCTURE AND INSTALLATION OF PRE-HEATERS AT SAMANCOR MIDDELBURG FERROCHROME, MIDDELBURG, MPUMALANGA PROVINCE.

- Draft Basic Assessment Report available for public review.

Dear Stakeholder,

Samancor Chrome produces charge chrome at its Middelburg Ferrochrome (MFC) site in two complete Submerged-Arc furnaces (SAFs) and two complete Direct-Current furnaces (DCFs) with associated atmospheric emissions abatement and other related equipment. The products are produced from the smelting of a combination of chrome ore, reductants and fluxes.

The production facilities at the MFC site also comprises a pelletising and sintering plant (PSP), in which chrome ore fines and furnace dust are agglomerated and sintered to produce pellets which join lumpy chrome ore as feed to the SAFs. Slag tapped from the furnaces contains entrained ferrochrome. It is allowed to cool, then crushed and fed to a metal recovery plant. The barren slag is disposed on a site located on the southern side of the MFC site.

MFC is proposing to upgrade the existing M3 and M4 furnaces and PSP to increase the current production rate. In addition, pre-heaters will be installed for the M3 and M4 furnaces and the gas abatement equipment for the M3 furnace and PSP will be upgraded.

WSP Group Africa (Pty) Ltd (WSP), an independent environmental assessment practitioner (EA), is appointed by MFC to conduct the required environmental authorisations for the proposed project.

DESCRIPTION OF THE ACTIVITIES TO BE UNDERTAKEN

In order to achieve the increase production rate and to upgrade the abatement equipment, MFC is proposing to install and upgrade to the following infrastructure within the existing footprint of the plant area (Figure 1):

Building 1, Maxwell Office Park
Magwa Crescent West, Waterfall City
Midrand, 1685
South Africa
Tel: +27 11 254 4800
wsp.com

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1999/008928/07



INCREASED IN THROUGHPUT OF THE M3 AND M4 FURNACES

The proposed preheating of raw materials is expected to increase the throughput of the M3 and M4 furnaces. This will result in more raw materials being required proportional to the improvement in efficiency. Consequently, more alloy product would be produced in the process. The anticipated increase in production will require an increase in the licensed consumption, production and off-gas volumes.

Additional infrastructure will be incorporated in the process feed stream of the furnace. This will improve the furnace electrical efficiency and will result in the furnace producing more ferrochrome, consuming more raw materials and other utilities. It will increase the gas stack volumetric flow.

PELLETISING AND SINTERING PLANT

The Pelletising and Sintering Plant (PSP) makes use of a steel belted sintering furnace. Historically the steel belt was replaced on a six-to-nine-month cycle. An improved technology steel belt has been installed, and this increases the availability of the PSP. An opportunity presents itself to increase the annual throughput of the PSP. This will require an increase in the licensed annual consumption and production volumes of the unit.

The proposed change to PSP involves an improved operating philosophy resulting in an increased production throughput. This will result in a higher consumption of raw materials and other plant utilities and an increase in the gas stack volumetric flow.

PREHEATERS

Carbon Monoxide gas (CO-gas) is produced by the carbonaceous reduction of chromite ore into ferrochrome in the M3 and M4 furnaces. Historically, this flammable CO-gas was flared into the atmosphere after being cleaned in a gas scrubbing plant, converting it to carbon dioxide gas and heat before being release to atmosphere.

Currently, the sole source of energy supplied to the M3 and M4 furnaces is electrical energy supplied by a DC arc inside the furnace reaction zone. An opportunity was identified to utilise the CO-gas produced by the furnace as an energy source to preheat the raw material feed to the furnace. This will reduce the energy requirement per unit of ferrochrome produced. The electrical energy input to the furnace will remain unchanged thus increasing the throughput of the furnaces. Each of the preheaters will receive combustion gas from the CO-gas reticulation system and burn this gas to generate thermal energy, which will in turn be used to heat up the raw material feed to the furnace. Sasol gas, from an existing source at the MFC site, will be used as a backup energy source if CO-gas is not available from the DC furnaces.

The selected preheating technology will have indirect heat transfer from the combustion products to the raw material. Therefore, the off gas from the preheater will have similar particulate matter content than that of the off gas. Since the gas is already fully combusted in a highly oxidizing atmosphere, it is not expected that this gas will contain any CO.

The preheaters will be installed at both the M3 and M4 furnaces.

M3 AND PSP ABATEMENT EQUIPMENT

In a continuous drive for improvement and to ensure future legal compliance, the current gas scrubbing plants on the M3 furnace and PSP will be upgraded which is expected to improve the particulate matter remissions.



The proposed changes to the M3 furnace and PSP will include the upgrade of the current furnace off gas abatement equipment to ensure future environmental compliance to the latest air emissions requirements¹.

ENVIRONMENTAL AUTHORISATION PROCESSES

In terms of the *Environmental Impact Assessment (EIA) Regulations (2014, as amended) GN R.983 Listing Notice 1 Activity 34* pertaining to the *expansion of existing facilities or infrastructure for any process or activity where such expansion will result in the need for a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the release of emissions*, MFC must submit an application for Environmental Authorisation (EA) to the Mpumalanga Department of Agriculture, Rural Development, Land & Environmental Affairs (MDARDLEA), supported by a Basic Assessment process, which entails the compilation of a Basic Assessment Report (BAR) and an Environmental Management Programme (EMPr), which describes how the potential environmental impacts of the proposed upgrading activities will be managed and mitigated.

MFC is also required to submit written notification and an Atmospheric Emission License (AEL) amendment application to the AEL licensing authority regarding the proposed upgrading of the above-mentioned infrastructure.

Invitation to register as an I&AP and to comment

Stakeholders are invited to register as interested and affected parties (I&APs) and to participate in the environmental authorisation process by commenting on the proposed Basic Assessment Process as follows:

- Completing the enclosed Registration and Comment Sheet and return it to the WSP Public Participation (PP) Office by post or email.
- Providing comments on the proposed project, draft BAR and EMPr by contacting the WSP PP Office telephonically, by email or post.

I&APs are invited to register as stakeholders and comment on the draft BAR and EMPr which is available for public review and comment from **Wednesday, 22 March 2023 to Monday, 24 April 2023**.

Printed copies of the draft BAR and EMPr are available at the public places listed below. This background information letter and the draft reports can be downloaded from the following websites: WSP website - <https://www.wsp.com/en-za/services/public-documents> or data free website - <https://wsp-engage.com/>.

PUBLIC PLACE	TOWN
Gerard Sekoto Library, Cnr Sisulu and Wanderers Street, Middelburg	Middelburg
Nazareth Library, 16 Fort Napier Street, Nazareth	Middelburg
Samancor Middelburg Ferrochrome Security Entrance, Hendrina Road, Middelburg	Middelburg

¹ Section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEM:AQA) (Government Notice 893 in Government Gazette 37054 of 2013)



We would like to encourage you to actively participate in the environmental authorisation process. Should you wish to obtain more information to comment, please contact the WSP PP Office at (011) 254 4800, fax: 086 582 1561 or email: gld.pp@wsp.com.

WAY FORWARD

After the public review period on the draft BAR and EMPr has closed, the report will be updated with comments received and submitted to the MDARDLEA for decision making.

Yours sincerely

WSP Group Africa (Pty) LTD

MS/AS

Attachments: Figure 1: Locality Map
Figure 2: Site Layout Map
Registration and Comment Sheet

WSP will be processing certain personal information about you as an I&AP for purposes of enabling your registration as an I&AP and for purposes of storing your details on our database, if you consent for us to do so. WSP uses these details to contact you about other projects in the future. WSP will always process your personal information in accordance with the Protection of Personal Information Act 4 of 2013. You are entitled to exercise your rights as a data subject and let us know if you wish to be deregistered as an I&AP or if you no longer want your contact details to be included on our database

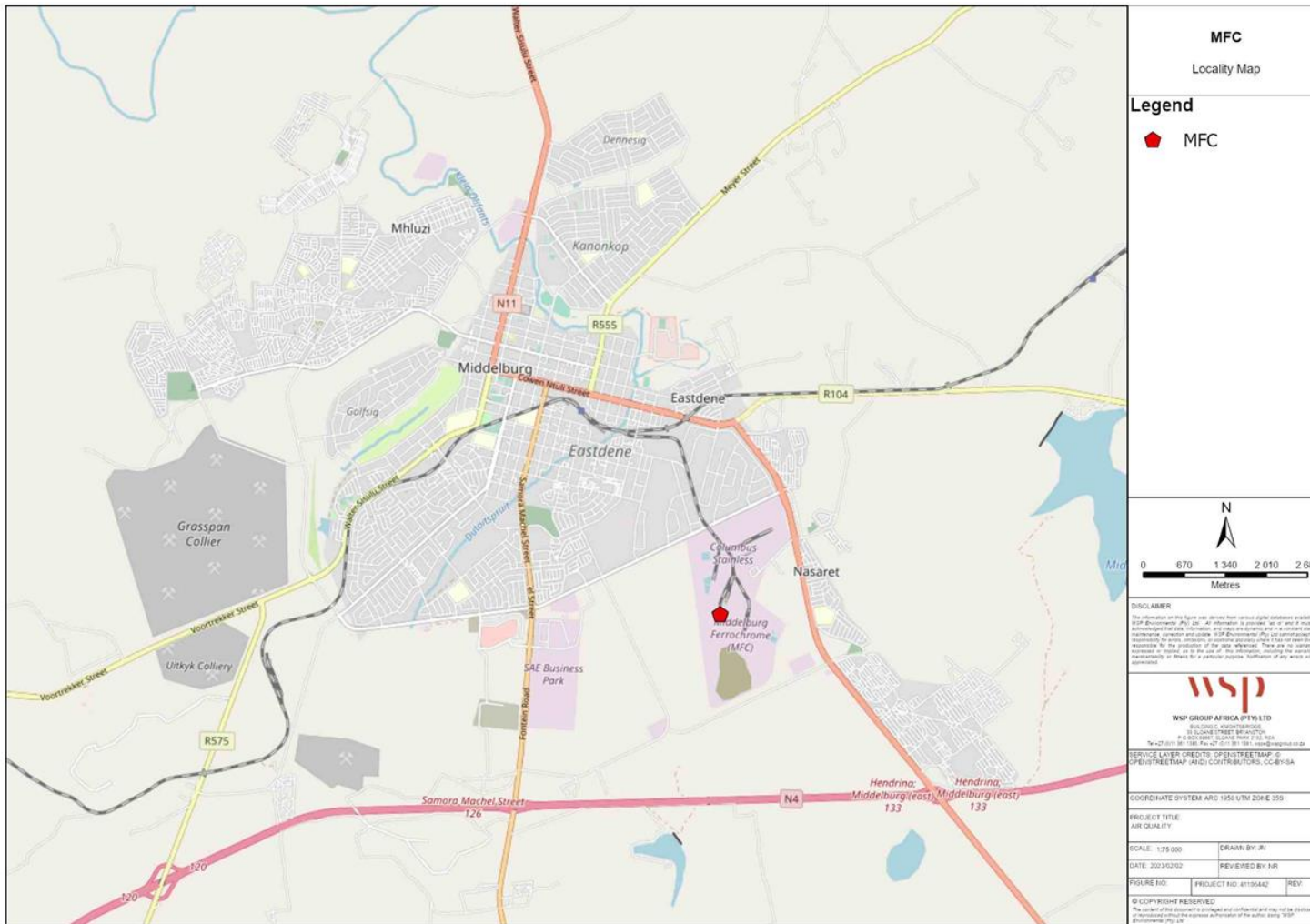


Figure 1: Locality of the MFC site.

Building 1, Maxwell Office Park
 Magwa Crescent West, Waterfall City
 Midrand, 1685
 South Africa
 Tel: +27 11 254 4800
 wsp.com

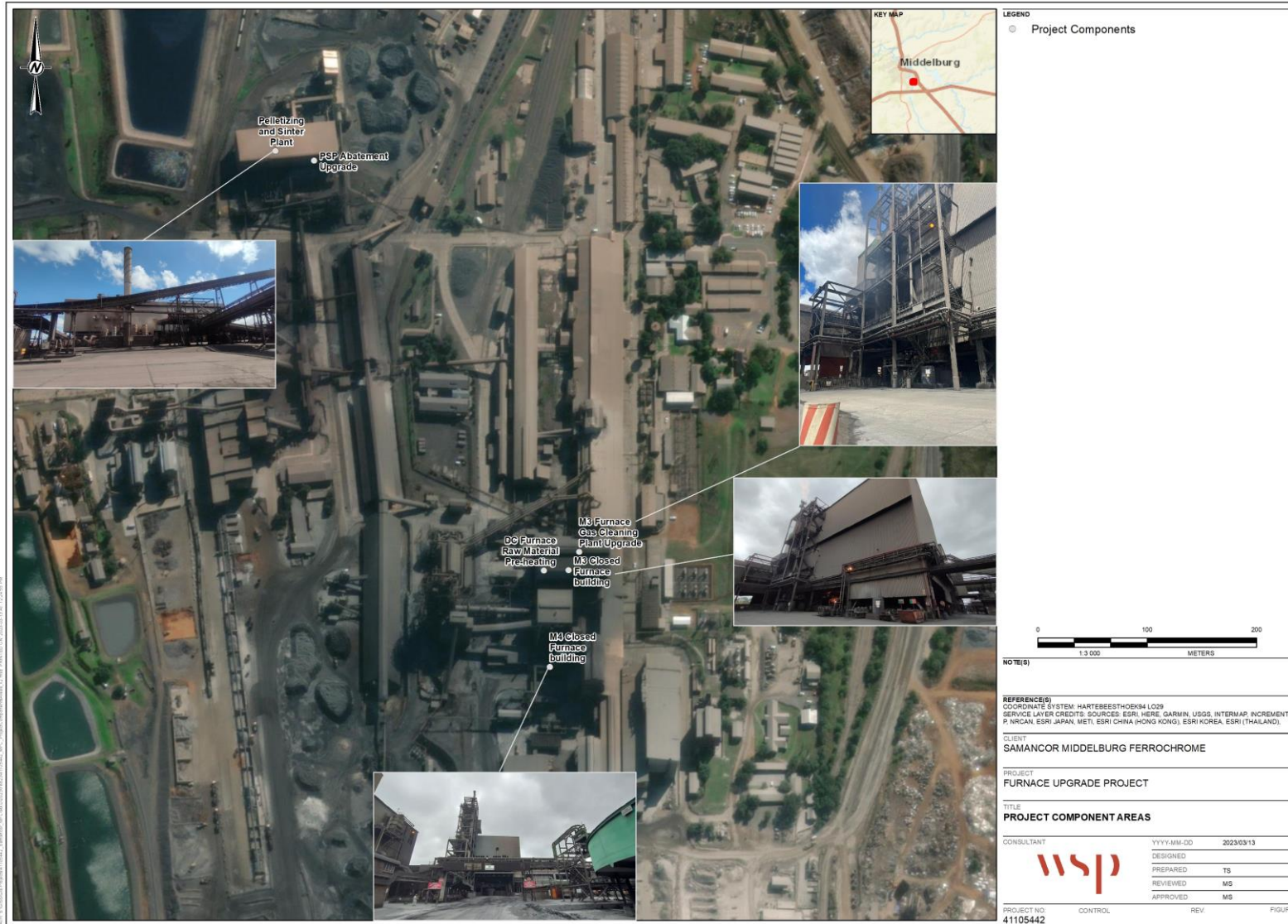


Figure 2: Location of the project components

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Registration and Comment Sheet

Draft Basic Assessment Report Review Period: Wednesday, 22 March 2023 to Monday, 24 April 2023



Your comments make an important contribution to these permitting processes. We would like to encourage you to register as an Interested and Affected Party (I&AP) so that we can keep you updated and can respond to any questions or concerns that you may have.

PERSONAL DETAILS			
Name	Surname	Title	Organisation / Department / Farm/ Community <i>(If applicable)</i>
Contact Details			
Mobile Number			
Office Number			
Home Number			
Fax Number			
Email Address			
Postal Address			Postal code
WSP, will not share personal information with a third party			
LANDOWNERS			
If your property is adjacent to the MFC site, please tell us your, street address, farm name and/or erf/portion number			
WOULD YOU LIKE TO REGISTER AS AN INTERESTED AND AFFECTED PARTY? (Mark with an X)			YES NO
Preferred Method of Communication (Mark with an X)	Post	Email	Fax
In terms of the EIA Regulations, 2014 (as amended), I disclose below any direct business, financial, personal or other interest that I may have in the approval or refusal of the application:	Date		
	Signature		

