TEST REPORT

LabRef	███████
ClientRef	████
Project	DEFAULT
ProductCode	IRON_ORE
Status	Final
Received	28/08/20
Reported	01/09/20
Samples	1
FirstSample	Iron Ore
LastSample	Iron Ore
Pages	Page 1 of 6

Notes

ResultsApprovedby:……………………………………………….

ResultsApprovedby:……………………………………………….

ResultsApprovedby:……………………………………………….

ResultsApprovedby:……………………………………………….

Onbehalfof:SGSSouthAfrica

ResultsApprovedby:…………………………………….

ResultsApprovedby:…………………………………….

ResultsApprovedby:…………………………………….

ResultsApprovedby:…………………………………….

Theresultsinthefollowinganalyticalreportpertaintothislaboratoryfor preparationand/oranalysisasrequestedbyLABCORP(PTY)LTD.

T0265

TheAnalyticalresultsreportedhereinrefertothesamplesonanasreceivedbasis,unlessspecifiedthatsamplestobeassayedonadrybasis.

Please refer to Appendix A: Accredited methods & Appendix B: Non-accredited methods

Tests marked with an asterisk (*) in this report are included in the SANAS Accreditation Schedule for this Laboratory.

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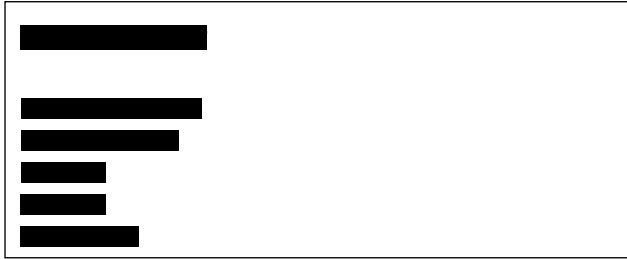**SGS South Africa (Pty) (Ltd)**

Reg No. 1949/032643/07

Off The R559

Zuurbekom, Randfontein

1760

Phone: +27 11 100 2170

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TEST REPORT

	WtKg	Al2O3*	CaO*	Cr2O3*	Fe2O3*	K2O*
Scheme	**WGH79**	**XRF76V**	**XRF76V**	**XRF76V**	**XRF76V**	**XRF76V**
Units	**KG**	**%**	**%**	**%**	**%**	**%**
Reporting Limit	**0.000**	**0.04**	**0.01**	**0.01**	**0.04**	**0.01**
Test Completed	**2020-08-28**	**2020-09-01**	**2020-09-01**	**2020-09-01**	**2020-09-01**	**2020-09-01**
Iron Ore	5.900	0.41	0.63	0.02	78.7	0.06
REP-Iron Ore		0.42	0.65	0.02	78.9	0.07
STD-AMIS0437		1.06	0.12	0.01	91.7	0.15
BLK-BLANK		<0.04	<0.01	<0.01	<0.04	<0.01

- notanalysed | -- elementnotdetermined | I.S. insufficientsample | L.N.R. listednotreceived / U.T.D.UnableToDetermine

CONTAM-contaminated | D.I.P.-destroyedinprep | L.I.P.-lostinprocess | N.D.-notdetected / NVL.-notvalidated

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	MgO*	MnO*	Na2O*	P2O5*	SiO2*	TiO2*
Scheme	**XRF76V**	**XRF76V**	**XRF76V**	**XRF76V**	**XRF76V**	**XRF76V**
Units	**%**	**%**	**%**	**%**	**%**	**%**
Reporting Limit	**0.09**	**0.01**	**0.01**	**0.002**	**0.17**	**0.02**
Test Completed	**2020-09-01**	**2020-09-01**	**2020-09-01**	**2020-09-01**	**2020-09-01**	**2020-09-01**
Iron Ore	<0.09	0.01	0.02	0.026	18.8	<0.02
REP-Iron Ore	<0.09	0.01	<0.01	0.026	19.1	<0.02
STD-AMIS0437	<0.09	0.01	0.03	0.137	6.55	0.05
BLK-BLANK	<0.09	<0.01	<0.01	<0.002	<0.17	<0.02

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LabRef █████████

ClientRef ████

Project DEFAULT

Reported 01/09/20

Status Final

TEST REPORT

	V2O5*	BaO	SO3	LOI*
Scheme	**XRF76V**	**XRF76V**	**XRF76V**	**XRF76V**
Units	**%**	**%**	**%**	**%**
Reporting Limit	**0.01**	**0.03**	**0.02**	**-50.00**
Test Completed	**2020-09-01**	**2020-09-01**	**2020-09-01**	**2020-09-01**
Iron Ore	<0.01	<0.03	<0.02	0.72
REP-Iron Ore	0.02	<0.03	<0.02	0.73
STD-AMIS0437	0.02	0.04	0.03	0.71
BLK-BLANK	<0.01	<0.03	<0.02	100.00

- notanalysed | -- elementnotdetermined | I.S. insufficientsample | L.N.R. listednotreceived / U.T.D.UnableToDetermine

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APPENDIX A - ACCREDITED METHODS

METHOD DESCRIPTION	SCHEME CODE
Au by Lead fusion followed by AAS finish	FAA303/FAA505/FAA35V
Au by Lead fusion followed by Gravimetric Finish	FAG303/FAG505
Au in Carbons by direct cupellation followed by Gravimetric finish	FAG01V
Au, Pt, Pd by Lead fusion followed by ICP_OES finish	FAI313
Uranium Oxide by pressed pellet analysis using XRF	XRF75G
Major Element Oxides by Borate Fusion,	
XRF on Mn Ore, Bauxite Ore and Fe Ore	XRF76V
Total Sulphur by Leco Combustion Infrared Detection	CSA06V
Total Carbon by Leco Combustion Infrared Detection	CSA01V
Graphite carbon by LECO	CSA05V
Chrome (Cr) by Potentiometric Method	CON10B
Rare Earth Elements (REE) by Na2O2 fusion, ICP-MS	IMS90A
Sodium peroxide fusion, ICP-OES, ICP-MS finish (REE elements only)	ICM90A
Major Element Oxides by Borate Fusion, XRF -PGM Ore	XRF79P
Determination of Lithium by sodium peroxide fusion, followed by ICP-OES	ICP90A / ICM90A

APPENDIX B - NON-ACCREDITED METHODS

METHOD DESCRIPTION	SCHEME CODE
Sample Prep Methods	
Sample weight on receipt	WGH79
Sample screening (DRY)	SCR32
Bulk density	PHY04V
Relative Density/Specific Gravity (by Helium pyncometer)	PHY03V
Moisture (105 °C)	PHY08D
LOI by TGA	PHY01K
LOI by Furnace	PHY02V
Fire Assay Methods	
Gold (Au) by Lead fusion, Fire Assay, ICP-OES finish - Trace levels	FAI515
Silver (Ag) by Fire Assay, gravimetric finish	FAG303
Rh by Pd fusion by ICP-OES finish	FAI353
XRF Methods	
Trace elements by pressed pellet, XRF	XRF75G
Base Metals by Potassium Pyrosulphate Fusion XRF	XRF77R
Major Element Oxides by Borate fusion, XRF	XRF79V
Leco Methods	
Sulphide Sulphur (S2-) by Leco	CSA08V
Elemental sulphur (S°) by gravimetric finish	CSA12V
Aqueous sulphate (SO4) by Dionex	CLA31V
Sulphate (SO4) on solids by Dionex	CSA11V
Carbonate (CO3) by LECO	CSA02V
Organic carbon by LECO	CSA03V
Sulphate after pyrolysis by LECO	CSA13V
Carbonate Carbon after roasting by LECO	CSA14V

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APPENDIX B - NON-ACCREDITED METHODS (continuing)

METHOD DESCRIPTION	SCHEME CODE
Wet Chem Methods	
pH determination	ISE06T
Anions by IC (F, Cl, NO2, NO3, SO4)	CLA31V
Alkalinity by titration	CLA28V
Chloride (Cl) by titration (solutions)	CLA27V
Chloride (Cl) by titration (solids)	CLA04E
Fluoride (F) by ISE (solutions)	ISE07W
Fluoride (F) by ISE (solids)	ISE07A
Cyanide (CN) species - Free, WAD & Total	CLA25V
Thiocyanate (SCN) by IC	CLA31V
Free acid titration	CLA15F
Lime (CaO) by titration	CLA07C
Ferrous (Fe2+) iron by titration (solids)	CLA01A
Ferrous (Fe2+) iron by titration (solutions)	CLA34V
Ferric (Fe3+) iron by diff (incl. Fe total, Fe2+) - solutions	CLA35V
Iron (Fe) by titration (solids)	CON08V
Tin (Sn) by titration (solids)	CON14V
Manganese (Mn) by back titration	CON15V
Vanadium (V) by titration	CON16V
AAS Methods	
Metals by AAS (solutions)	AAS84T
Gold (Au) in CN solutions by AAS	SOL81X , SOL81T
Silver (Ag) by acid digestion, AAS	AAS21E
Arsenic (As) by Aqua Regia digestion, AAS	AAS11C
Multi Acid digestion, AAS finish	AAS40D
Acid soluble Cu, Co by Sulphuric Acid leach, AAS	AAS72Q
As by strong acid, AAS	AAS42S
Acid Soluble Cu and Ni by Acid digestion and analysis by AAS	AAS13C
ICP_OES and ICP_MS Methods	
Aqua Regia digestion, ICP-OES finish	ICP14B
Multi Acid digestion, ICP-OES finish	ICP40B
Gold (Au) in Carbon, ICP-OES finish	ARS12D
Sodium Peroxide fusion, ICP-OES finish	ICP90A
Semi quantitative ICP-OES +ICP-MS scan, Aqua Regia digestion	ICM14B
As, Hg, Se, Te by Aqua Regia digestion, ICP-MS finish	IMS12Q
Multi Acid digestion, semi quantitative scan, ICP-OES + ICP-MS	ICM40B
Multi acid digestion, ICP-MS	IMS40B
Sodium peroxide fusion, ICP-OES, ICP-MS finish	ICM90A
Total & Dissolved metals by ICP-OES	ICP84B

- notanalysed | -- elementnotdetermined | I.S. insufficientsample | L.N.R. listednotreceived / U.T.D.UnableToDetermine

CONTAM-contaminated | D.I.P.-destroyedinprep | L.I.P.-lostinprocess | N.D.-notdetected / NVL.-notvalidated

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