



Arab Center العربي

For Engineering Studies L.L.C. للدراسات الهندسية ش.ذ.م.م.

REPORT ON CHEMICAL ANALYSIS

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Client	INTERNATIONAL INNOVATIVE PLATFORM FOR MANAGEMENT CONSULTANT	Report No.	ARE22000466/1
Contractor	MARCELLO GENERAL TRADING	Date Reported	10/08/22
Consultant	NO SPECIFIC CONSULTANT	Sample No.	ASE22000352
Project No.	N.P.	Request No.	AQE22000352
Project Name	INTERNAL TESTING	Client Reference	N.P.
Sample Desc.	SLAG (NICKEL SLAG)	Sampled By	Contractor's Rep.
Source	MURMARSK REGION, RUSSIA	Sampling Date	18/07/22
Sample Location	N.P.	Sample Size	600 g
Sample Prep.	N.P.	Sample Brt in by.	Contractor's Rep.
Test Method	USEPA / ICP	Date Received	18/07/22
Test Method Var.	None	Date Tested	02-09/08/22
Tested Location	ACES Dubai	Tested by	Michellete
Remarks	-		

Constituents	Results (%)
Iron Oxide FeO	33.65
Silicon dioxide SiO ₂	28.83
Aluminium Oxide Al ₂ O ₃	8.14
Calcium Oxide CaO	1.55
Copper Oxide CuO	0.14
Cromium Oxide Cr ₂ O ₃	0.11
Magnesium Oxide MgO	12.57
Manganese Oxide MnO	0.55
Sodium Oxide Na ₂ O	1.12
Nickel Oxide NiO	0.15
Potassium Oxide K ₂ O	0.70
Titanium Oxide TiO ₂	0.45
Sulphur tri Oxide SO ₃	1.50
Phosphorous Pentoxide P ₂ O ₅	0.04
Cadmium Oxide CdO	<0.1
Lead Oxide PbO	<0.1
Zinc Oxide ZnO	<0.1

Sindhu Anil Kumar
Head of Environment Technical Section



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P.O. Box: 60823, Dubai - U A E, Tel.: +971-4-8856466, Fax: +971-4-8856460
E-mail : acesdubai@aces-int.com Website: www.aces-int.com

Abu Dhabi : Tel. +971 2 5502774
Al Ain : Tel. +971 3 7211533
Muscat : Tel. +968 2 4115730

Reported tests / services are carried out under the controls established by a Bureau Veritas Certification approved management system that conforms with ISO 9001 : 2015



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Client	INTERNATIONAL INNOVATIVE PLATFORM FOR MANAGEMENT CONSULTANT	Report No.	ARE22000466/2
Contractor	MARCELLO GENERAL TRADING	Date Reported	10/08/22
Consultant	NO SPECIFIC CONSULTANT	Sample No.	ASE22000352
Project No.	N.P.	Request No.	AQE22000352
Project Name	INTERNAL TESTING	Client Reference	N.P.
Sample Desc.	SLAG (NICKEL SLAG)	Sampled By	Contractor's Rep.
Source	MURMARSK REGION, RUSSIA	Sampling Date	18/07/22
Sample Location	N.P.	Sample Size	600 g
Sample Prep.	N.P.	Sample Brt in by.	Contractor's Rep.
Test Method	SOP 013 & SOP 015 based on USEPA 8260C & USEPA 5035A	Date Received	18/07/22
Test Method Var.	None	Date Tested	02-09/08/22
Tested Location	Subcontractor Lab	Tested by	Sub Contractor
Remarks	-		

Volatile Organic Compounds (VOCs):

Tests	Unit	Test Results
Dichlorodifluoromethane	µg/kg	<2.92
Chloromethane	µg/kg	<3.56
Vinyl chloride	µg/kg	<3.66
Bromomethane	µg/kg	<3.15
Chloroethane	µg/kg	<3.90
Trichlorofluoromethane	µg/kg	<3.43
Acetonitrile	µg/kg	<3.95
Acetone	µg/kg	<2.31
Diethyl ether	µg/kg	<4.89
1,1-Dichloroethene	µg/kg	<2.62
Iodomethane	µg/kg	<3.82
Propionitrile	µg/kg	<2.85
Acrylonitrile	µg/kg	<3.17
Methylene chloride	µg/kg	<4.50
1,1,2-Trichlorotrifluoroethane (CFC-113)	µg/kg	<6.62
Allyl chloride	µg/kg	<2.63
Carbon disulfide	µg/kg	<2.29
trans-1,2-Dichloroethene	µg/kg	<3.20
MTBE	µg/kg	<4.45
1,1-Dichloroethane	µg/kg	<3.97
Chloroprene	µg/kg	<2.71
2-Butanone (MEK)	µg/kg	<8.11
Methacrylonitrile	µg/kg	<4.97



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P.O. Box: 60823, Dubai - U A E, Tel.: +971-4-8856460, Fax: +971-4-8856460
E-mail: acesdubai@aces-int.com Website: www.aces-int.com

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cis-1,2-Dichloroethene	µg/kg	<3.87
Bromochloromethane	µg/kg	<1.70
Chloroform	µg/kg	<2.25
Methyl acrylate	µg/kg	<2.21
2,2-Dichloropropane	µg/kg	<4.31
Tetrahydrofuran	µg/kg	<2.72
1,2-Dichlorethane	µg/kg	<3.0
1,1,1-Trichloroethane	µg/kg	<2.83
1,1-Dichloropropene	µg/kg	<3.65
Carbon Tetrachloride	µg/kg	<3.64
Benzene	µg/kg	<4.36
Dibromomethane	µg/kg	<3.71
1,2-Dichloropropane	µg/kg	<3.45
Trichloroethene	µg/kg	<4.24
Bromodichloromethane	µg/kg	<3.97
Methyl methacrylate	µg/kg	<2.23
cis-1,3-Dichloropropene	µg/kg	<3.71
4-Methyl-2-pentanone (MIBK)	µg/kg	<9.88
trans-1,3-Dichloropropene	µg/kg	<3.32
1,1,2-Trichloroethane	µg/kg	<4.98
Toluene	µg/kg	<4.63
1,3-Dichloropropane	µg/kg	<2.98
Ethyl methacrylate	µg/kg	<4.79
2-Hexanone	µg/kg	<3.79
Dibromochloromethane	µg/kg	<2.73
1,2-Dibromoethane-EDB	µg/kg	<4.31
Tetrachloroethene	µg/kg	<4.51
1,1,1,2-Tetrachloroethane	µg/kg	<3.72
Chlorobenzene	µg/kg	<4.93
Ethylbenzene	µg/kg	<3.64
m & p- Xylene	µg/kg	<4.79
Bromoform	µg/kg	<3.35
cis-1,4-Dichloro-2-butene	µg/kg	<3.56
Styrene	µg/kg	<3.80
1,1,2,2-Tetrachloroethane	µg/kg	<3.82
o-Xylene	µg/kg	<4.60
1,2,3-Trichloropropane	µg/kg	<4.39
trans-1,4-Dichloro-2-butene	µg/kg	<3.15

Isopropylbenzene	µg/kg	<3.21
Bromobenzene	µg/kg	<3.20
n-Propylbenzene	µg/kg	<3.90
2-Chlorotoluene	µg/kg	<5.30
4-Chlorotoluene	µg/kg	<3.42
1,3,5-Trimethylbenzene	µg/kg	<3.95
Pentachloroethane	µg/kg	<4.09
tert-Butylbenzene	µg/kg	<4.21
1,2,4-Trimethylbenzene	µg/kg	<2.86
sec-Butylbenzene	µg/kg	<2.98
1,3-Dichlorobenzene	µg/kg	<4.03
1,4-Dichlorobenzene	µg/kg	<2.07
p-Isopropyltoluene (p-Cymene)	µg/kg	<3.70
1,2-Dichlorobenzene	µg/kg	<4.70
n-Butylbenzene	µg/kg	<4.03
1,2-Dibromo-3-Chloropropane	µg/kg	<4.83
1,2,4-Trichlorobenzene	µg/kg	<3.03
Naphthalene	µg/kg	<4.43
Hexachlorobutadiene	µg/kg	<4.70
1,2,3-Trichlorobenzene	µg/kg	<2.99



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Sindhu Anil Kumar
Head of Environment Technical Section

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Contractor	MARCELLO GENERAL TRADING	Date Reported	10/08/22
Consultant	NO SPECIFIC CONSULTANT	Sample No.	ASE22000352
Project No.	N.P.	Request No.	AQE22000352
Project Name	INTERNAL TESTING	Client Reference	N.P.
Sample Desc.	SLAG (NICKEL SLAG)	Sampled By	Contractor's Rep.
Source	MURMARSK REGION, RUSSIA	Sampling Date	18/07/22
Sample Location	N.P.	Sample Size	600 g
Sample Prep.	N.P.	Sample Brt in by.	Contractor's Rep.
Test Method	METS-IP-44	Date Received	18/07/22
Test Method Var.	None	Date Tested	02-09/08/22
Tested Location	Subcontractor Lab	Tested by	Sub Contractor
Remarks	-		

SI No	Parameter	Unit	Result
Radiation Contamination			
1	²²⁶ Ra	Bq/L	ND ^(DL:10.0)
2	¹³⁷ Cs	Bq/L	ND ^(DL:3.7)
3	¹³¹ I	Bq/L	ND ^(DL:3.0)
4	¹³⁴ Cs	Bq/L	ND ^(DL:3.0)
5	⁴⁰ K	Bq/L	ND ^(DL:50.0)
6	²³² Th	Bq/L	ND ^(DL:10.0)



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