



FILE No.: 2015526/3

**INSPECTION REPORT****ЗВІТ З ІНСПЕКЦІЇ**

In accordance with instructions received from **KRIVOJ ROG'S IRON-ORE COMBINE.**, we attended at the territory of Ternivska mine, JSC "KRYVBASSZALIZRUDKOM", Krivoy Rog, Ukraine, for the purpose of:

Відповідно до інструкцій, отриманих від **АТ «КРИВБАСЗАЛІЗРУДКОМ»**, Україна, ми провели інспекцію на території шахти «Тернівська», АТ "КРИВБАСЗАЛІЗРУДКОМ", Кривий Ріг, Україна, з метою:

**IDENTIFICATION OF THE CARGO  
SAMPLING  
ANALYSES AT SGS UKRAINE LABORATORY**

**ІДЕНТИФІКАЦІЯ ВАНТАЖУ  
ВІДБІР ПРОБ  
ПРОВЕДЕННЯ АНАЛІЗІВ В ЛАБОРАТОРІЇ  
СЖС УКРАЇНА**

On a consignment described as (as declared by client):

Sintering iron ore the base contents Fe 61 %.

Найменування вантажу (як заявлено клієнтом):

Руда залізна агломераційна з базовим вмістом Fe 61%.

**Wagons Nos / Номера вагонів:**

No.	Wagon No.	Railway Bill No.	Net Weight as per documents, kg
№	Вагон №	Залізнична накладна №	Вага нетто за документами, кг
1	58587627	47008693	70000
2	56352743	47008701	70000
3	65020802	47008719	70000
4	60032711	47008727	70000
5	56739568	47008735	71000
6	64861545	47008743	70000
7	58585910	47008750	70000
8	56352180	47008768	70000
9	52179629	47008776	70000
10	56357924	47008784	70000
11	56366438	47008792	70000
12	52367455	47008800	70000
13	56739717	47008818	71000
14	58585647	47008826	70000
15	55267629	47008834	70000
16	56343643	47008842	70000
17	56740012	47008859	71000
18	56229966	47008867	70000
19	58587429	47008875	70000

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No.	Wagon No.	Railway Bill No.	Net Weight as per documents, kg
№	Вагон №	Залізнична накладна №	Вага нетто за документами, кг
20	52368479	47008883	70000
21	52228483	47008891	70000
22	53319273	47008909	70000
23	52367208	47008917	70000
24	56351976	47008925	70000
25	64054489	47008933	70000
26	55421101	47008941	70000
27	60033628	47008958	70000
28	58587544	47008966	70000
29	52379393	47008974	70000
30	55427140	47008982	70000
31	52471752	47008990	70000
32	63659478	47009006	70000
33	58598533	47009014	70000
34	60035573	47009022	70000
35	57652935	47009030	70000
36	56433899	47009048	70000
37	52228707	47009055	70000
38	52292026	47009063	70000
39	60035300	47009071	70000
40	55162010	47009089	70000
41	64908874	47009097	70000
42	52471620	47009105	70000
43	52368008	47009113	70000
44	60032968	47009121	70000
45	60034683	47009139	70000
46	60034287	47009147	70000
47	56357585	47009154	70000
48	64962558	47009162	70000
49	53153789	47009170	70000
50	55222061	47009188	70000
51	58587619	47009196	70000
52	59782011	47009212	70000
53	55236483	47009220	69300
<b>Total / Всього:</b>			<b>3712300</b>


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On which we report as follows:

Place of inspection: Ternivska mine, JSC  
"KRYVBASSZALIZRUDKOM", Krivoy Rog,  
Ukraine

Route : №11

Quantity loaded (as per documents): 3712300kg

Date of inspection: 28/10/2024

Analysis completed: 30/10/2024

Ми повідомляємо наступне:

Місце інспекції: шахта «Тернівська»,  
АТ "КРИВБАСЗАЛІЗРУДКОМ", Кривий Ріг,  
Україна

Маршрут: №11

Кількість завантаженого (згідно з документами):  
3712300кг

Дата інспекції: 28/10/2024

Закінчення аналізів: 30/10/2024

#### IDENTIFICATION OF THE CARGO

Review of available documents presented by the client and visual checking confirmed the cargo was sintering iron ore the base contents Fe 61 %, loaded into 53 wagons.

#### ІДЕНТИФІКАЦІЯ ВАНТАЖУ

Перевірка наданих клієнтом документів і візуальний огляд підтвердили, що пред'явлений до інспекції вантаж являє собою - руда залізна агломераційна з базовим вмістом Fe 61%, завантажена в 53 вагонах.

#### SAMPLING

Sampling by SGS in presence of representative of Ternivska from the surface of each wagon in accordance with DSTU 3195:2015.

#### ВІДБІР ПРОБ

Відбір проб проводився інспектором SGS в присутності представника шахти "Тернівська" з поверхні кожного вагона відповідно до ДСТУ 3195:2015.

Due to the impossibility of mechanical sampling/sampling from the flow, sampling was performed manually, with evenly distributed points on the surface of the cargo, to the depth of the sampling part in accordance with the DSTU 3195:2015 standard.

Через неможливість механічного пробовідбору/відбору з потоку, відбір проб виконувався вручну, з рівномірно розподіленими точками на поверхні вантажу, на глибину пробовідбірної частини згідно зі стандартом ДСТУ 3195:2015.

The manual sampling method was agreed with the SGS Principal, as sampling by more reliable methods that provide probability samples was not possible or was not selected by the SGS Principal. The Holder of this document is cautioned that collected MANUAL samples of this type do not satisfy the minimum requirements for probability sampling, and as such cannot be used to draw statistical inferences such as precision, standard error, or bias. The suitability of this sampling method is defined by the sampling standard.

Ручний метод відбору проб був узгоджений з Клієнтом SGS, оскільки відбір проб надійнішими методами, які забезпечують представництво проб, був неможливим або не був обраний Клієнтом SGS. Власника цього документа попереджено про те, що відбір проб РУЧНИМ способом не задовольняє мінімальним вимогам представницького пробовідбору, а отже, не може бути використаний для встановлення статистичних похибок, таких як точність, стандартна помилка або усунення результату. Можливість застосування цього методу визначено

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стандартом відбору проб.

#### ANALYSES AT SGS UKRAINE LABORATORY

Testing of sample were performed at the laboratory of SGS Ukraine in accordance with requirements of the standards.

The results of testing are presented in the following tables:

#### ПРОВЕДЕННЯ АНАЛІЗІВ В ЛАБОРАТОРІЇ СЖС УКРАЇНА

Аналізи зразків здійснювалися в лабораторії СЖС Україна відповідно до вимог стандартів.

Результати аналізів представлені в наступних таблицях:

Size composition / Гранулометричний склад	
Method ISO 4701:2019/ Стандарт ISO 4701:2019	
mm	Result / Результат %
>10.0 mm	1.3
<10.0 mm	98.7

Quality Parameter / Показник якості	Analysis results / Результати аналізу, %	Method / Стандарт
Moisture / Масова частка води	4.45	ISO 3087:2020
Fe total on dry basis / Загальний вміст заліза на сухій основі	60.17	ISO 2597-1:2006
SiO <sub>2</sub> on dry basis / SiO <sub>2</sub> на сухій основі	10.65	ISO 11535:2006 (ICP method)
Al <sub>2</sub> O <sub>3</sub> on dry basis / Al <sub>2</sub> O <sub>3</sub> на сухій основі	0.89	ISO 11535:2006 (ICP method)
CaO on dry basis / CaO на сухій основі	0.10	ISO 11535:2006 (ICP method)
MgO on dry basis / MgO на сухій основі	0.85	ISO 11535:2006 (ICP method)
MnO on dry basis / MnO на сухій основі	0.032	ISO 11535:2006 (ICP method)
P on dry basis / P на сухій основі	0.018	ISO 11535:2006 (ICP method)
Na <sub>2</sub> O on dry basis / Na <sub>2</sub> O на сухій основі	0.147	ISO 13313:2017
K <sub>2</sub> O on dry basis / K <sub>2</sub> O на сухій основі	0.011	ISO 13312:2017
S on dry basis / S на сухій основі	0.012	ISO 4689-3:2017 (IR-Method)



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The testing center of the FOREIGN ENTERPRISE "SGS UKRAINE" is accredited by the National Accreditation Agency of Ukraine for testing in accordance with the requirements of the DSTU EN ISO/IEC 17025 standard, accreditation certificate No.20641 valid until 23/02/2028. The list of locations covered by accreditation and scope of accreditation is available upon request at [sgs.ukraine@sgs.com](mailto:sgs.ukraine@sgs.com). The testing parameters out of the scope of accreditation of the Testing Centre of the FOREIGN ENTERPRISE "SGS UKRAINE" are marked ( ' ) at the end of the parameter name.

Випробувальний центр ІНОЗЕМНОГО ПІДПРИЄМСТВА "СЖС УКРАЇНА" акредитований Національним агентством з акредитації України на випробування відповідно до вимог стандарту ДСТУ EN ISO/IEC 17025, атестат акредитації №20641 чинний до 23.02.2028. Список місць розташування, що охоплені акредитацією та сфера акредитації доступні за запитом на адресу: [sgs.ukraine@sgs.com](mailto:sgs.ukraine@sgs.com). Параметри поза сферою акредитації випробувального центру ІНОЗЕМНОГО ПІДПРИЄМСТВА "СЖС УКРАЇНА" мають позначку ( ' ) наприкінці назви параметра.

Findings are limited to the date, time and place of our inspection only.

Ці результати стосуються лише місця та часу виконання інспекції.

Signed and dated in Odessa  
30<sup>th</sup> of October 2024  
Natural Resources (MIN)  
For and on behalf of  
SGS UKRAINE

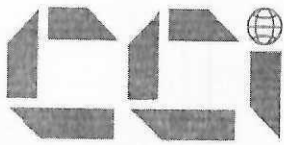
г. Одеса  
Дата 30 Жовтня 2024 г.  
Природні ресурси (МІН)  
Від імені  
СЖС УКРАЇНА



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CONTEMPORARY  
CERTIFICATION  
AND INSPECTION

MEMBER OF THE COTECNA GROUP

ORIGINAL



Ref. No UA0104/2024/3.1

**CERTIFICATE OF ANALYSIS**

**CUSTOMER:** -

**PRODUCTS: \*** iron-ore pellets fraction

FILE No CC2400009  
iron-ore pellets fraction  
8-18 mm

**CUSTOMER'S  
SAMPLE No: \*** -

**DATE OF DELIVERY:** 02.04.2024

**LABORATORY  
SAMPLE No:** 0104/3.1

**DATE OF ANALYSIS:** 02-03.04.2024

**SAMPLE  
DESCRIPTION: \***

According to the Customer the manufacturer of the producer of " iron-ore pellets", according to the TU U 07.1-37215105-002:2023 is

**ANALYSES:**

The sample with the laboratory No 0104/3.1 was analyzed in the accredited according DSTU EN ISO/IEC 17025:2019 (EN ISO/IEC 17025:2017, IDT; ISO/IEC 17025:2017, IDT) (certificate: No 20880, registered in the NAAU Register on December 28, 2022) in accordance with the normative documents nominated below.

**ANALYSIS RESULTS**

PARAMETERS	NORMATIVE DOCUMENTS**	PARAMETERS VALUE
Fe <sub>total</sub> , %	DSTU 8811.1:2018	65.3
FeO, %	DSTU 8811.5:2020	0.75
Fe <sub>2</sub> O <sub>3</sub> , %	calculated	92.6
Fe <sub>3</sub> O <sub>4</sub> , %	DSTU 3203-95	1.1
SiO <sub>2</sub> , %	ISO 9516-1:2003	5.57
Al <sub>2</sub> O <sub>3</sub> , %		0.19
CaO, %		0.21
MgO, %		0.41
Na <sub>2</sub> O, %		0.096
K <sub>2</sub> O, %		0.039
Zn, %		0.0012
Mn, %		<0.02
H <sub>2</sub> O, %	DSTU 3201-95	3.50

\* - According to customer's data

\*\* - The test methodology is agreed with the Customer.

The test results relate only to the sample received from the customer. CCI is not responsible for the quality of product that is produced, sold or purchased by the Customer. This certificate cannot be partially/completely reproduced as an official document without the permission of "CCI" LLC.

Date: 03.04.2024

Kryvyi Rih

On behalf of  
Contemporary Certification and Inspection LLC.



Marina BUKARANOVA

This inspection has been performed on the goods for which it was requested according to our professional standards and to the best of our knowledge on the date and at the place it was performed, within the scope of instructions received. This inspection does not release seller(s) and/or supplier(s) and/or shipper(s) and/or other parties involved from their respective contractual obligations and does not prejudice the buyer(s)/receiver(s)' right to claim, under applicable law and contract, compensation from seller(s)/supplier(s)/shipper(s) regarding any defects not detected during our inspection or occurring thereafter. This inspection is also subject to the COTECNA General Terms and Conditions (<http://www.cotecna.com/en/About-Cotecna/Terms-Conditions>). Headings and titles in this certificate/report are for reference only and the findings contained herein prevail as stated.



20880  
Випробування

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307588  
1 page of 1

ISO/IEC 17020:2012



**International Forecastle Marine  
Trader & Cargo Services LLC  
Marine Surveyors**

**CERTIFICATE OF QUALITY**

**We, International Forecastle Marine Trader & Cargo Services LLC. Marine Surveyors, Independent Surveyors, have been appointed to perform the inspection at load port of a cargo said to be:**

GENERAL CARGO INFORMATION			
VESSEL	MV BROAD GLORY	QUANTITY LOADED:	24,706.00 MT
TYPE OF CARGO	IRON ORE PELLET CHIPS AND FINES	VESSEL'S HOLDS	1, 2, 3, 4 & 5.
PORT OF LOADING:	SIDOR, VENEZUELA	SAMPLING METHOD:	ISO 10835
PORT OF DISCHARGE:	RIZHAO PORT, CHINA	GROUP:	C (IRON OXIDE)
PRODUCER	SIDOR	Date of Issue:	August 16th 2023

On the following tables are listed the values obtained from the samples during vessel's loading operations. The recollection of the samples and the execution of the chemical analysis and physical specification were witnessed.

**CHEMICAL COMPOSITION**

(% by weight on dry basis)

Test		Results
Total Iron	FeT	66.81
Silicon Dioxide	SiO2	2.99
Aluminum Oxide	Al2O3	0.24
Phosphorus	P	0.077
Sulphure	S	0.019
Propylene Carbonate	PPC	0.16
Magnesium Oxide	MgO	0.45
Calcium Oxide	CaO	0.48
Titanium Oxide	TiO2	0.094

**PHYSICAL SPECIFICATION**

(% On Natural Basis)

Parameters	Results
> 10mm	8.93
≤ 10 mm	91.07

**PHYSICAL PROPERTIES**

%H2O	5.21
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The responsibility of International Forecastle Marine Trader & Cargo Services LLC., is limited to perform the sampling using the Method ISO 10835 and observing that the tests are carried out on the correct sample.

It is responsibility of the Laboratory and assumed by International Forecastle Marine Trader & Cargo Services LLC., that all measuring equipment are properly calibrated, in good working order and all standards were as described in the equipment's label.

The inspection was carried out to the best of our knowledge and our findings are valid at time and place of survey only.



*Mirkides Ortega*  
**Mirkides Ortega**

Issued at: Puerto Ordaz, Venezuela

August 16th 2023

TESTING METHOD	
FeT: Stannous chloride reduction dichromate titration	Fe <sup>+</sup> : Ferric chloride
C / S: Infrared absorption after the combustion by induction furnace (LECO)	SiO <sub>2</sub> : Gravimetric
P: Molybdenum blue spectrophotometric	Al <sub>2</sub> O <sub>3</sub> / CaO / MgO: Spectrophotometric of atomic absorption

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# ESPECIFICACIONES / SPECIFICATIONS

Hierro de Reducción Directa (A): Briquetas, Moldeadas en Caliente  
(Direct Reduced Iron (A): Briquettes, Hot Moulded)

## ESPECIFICACIONES QUIMICAS (CHEMICAL SPECIFICATIONS)

PARAMETROS (PARAMETERS)	% (p/p) (w/w)
Hierro Total/Total Iron (FeT)	89,00 Min.
Hierro Metálico/Metallic Iron (Fe <sup>o</sup> )	72,00 Min.
Carbono/Carbon (C)	0,80 Min.
Fósforo /Phosphorus (P)	0,130 Max.
Azufre/Sulfur (S)	0,030 Max.
Ganga/Gangue (Al <sub>2</sub> O <sub>3</sub> +SiO <sub>2</sub> +MgO+CaO)	4,40 Max.
Residuales/Residual: (Ni, Cr, Mo, Sn) Trazas/Trace	

## ESPECIFICACIONES FISICAS (PHYSICAL SPECIFICATIONS)

PARAMETROS (PARAMETERS)	
Tamaño/Size	90 mm x 58 mm x 29 mm Briquetas rotas son aceptables (Broken pieces are acceptable)
Peso/Weight	0,5 – 0,7 kg
Densidad Aparente/Apparent Density	≥ 5,00 g/cm <sup>3</sup>
Densidad a Granel/Bulk Density	2,72 t/m <sup>3</sup> Min.
Distribución de Tamaño Partícula/Particle Size Distribution	
> 6,35 mm	95,0 % (p/p) (w/w) Min.
< 6,35 mm	5,0 % (p/p) (w/w) Max.
Humedad/Moisture	0,50 % (p/p) (w/w) Max.