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Executive Summary

## **ORO NICKEL LTD**

## Mambare Nickel Laterite Deposit

## **Northern Province**

#### Papua New Guinea

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For:

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## **Executive Summary**

CSA Global Pty Ltd (CSA) was commissioned by Oro Nickel Ltd (a joint venture of Direct Nickel Pty Ltd and Regency Mines plc) to provide a Mineral Resource estimate for the Mambare nickel laterite deposit, located in the Northern Province of Papua New Guinea. The update is based on resource definition drilling carried out in 2011 and 2008.

This Executive Summary is a preliminary report prepared to provide the results to Oro Nickel, pending the preparation of the full JORC report which will contain full supporting documentation normally accompanying such a report.

This resource calculation is predominately based on results of the 2011 resource definition drilling, including those holes completed in 2008 enclosed by or within 500 metres of the 2011 drill area. A resource estimate including the 2011 drilling and all earlier core drilling is pending.

## QAQC

The database for the Oro Nickel Mambare Nickel Laterite Project comprises multiple generations of data. The most recent (and comprehensive) data were generated by the 2011 drilling, with sample preparation conducted by Intertek Laboratory in Lae, Papua New Guinea. During sample preparation the whole of core is used. Samples are then analysed for the Nickel Laterite XR81 multi-element suite by Intertek Laboratory in Jakarta, Indonesia.

The standard procedures followed by Oro Nickel for the Mambare Nickel Laterite Project prescribe a suitable degree of quality control checks as outlined in Table 1.

Sample Type	Annotation	Frequency	Sample Prep
Client Reference Material (CRM)	Unique sample ID	1 in 50	Independently prepared homogeneous pulp sample.
Field Duplicate	Prefix "DUP_"	1 in 20	Non-routine second split taken from crushed (nominal 2mm) material prior to pulverising.
Pulp Split	Prefix "Dup:"	1 in 15	Second split taken from pulverized sample at the same time as the original sample.
Lab Repeat	Prefix "Ch:"	1 in15-20	Internal repeat on the same pulp packet (95% passing 200um) as the original sample.
Internal Lab Standard	Prefix "St:"	1 in 40	Intertek standard reference material
Blank	Prefix "BLANK"	1 in 60	Intertek reagent blanks

#### Table 1. Summary of Sample Types

Assessment of the analytical results available for each of the different QAQC sample types shows that there is a good level of analytical accuracy achieved by the Intertek laboratory.



There is no indication of a problem of precision (i.e. random error) in the sample preparation and analysis process. One typographic error was identified based upon the Ni and Co results reported for a single internal laboratory standard. The error was isolated to a single sample and did not impact the rest of the samples.

#### Database

The estimate is based on a validated database and only used tungsten cored drillholes.

## **Drilling Coverage**

The 2011 resource definition drilling has been focussed in two separate areas which are reported as North and South respectively. The North drilling area is on the Mambare Plateau, while the South is on the slopes leading up to the Mambare Plateau.

Appendix 1 shows the extent of drilling coverage and the resource, including drilling completed in 2011 and all earlier drilling.

#### **Drilling Statistics**

Drilling statistics per area are shown below in Table 2.

#### Table 2. Drilling Statistics

Area	Number of Holes	Minimum Depth	Maximum Depth	Average Depth	Total Depth
North	50	7	42.2	25.27	1263.66
South	112	4.4	41.8	22.56	2526.48

#### **Cut-Off Grade And Thickness Constraints**

Mineralisation was constrained to a **0.6% Ni** envelope and Limonite and Saprolite zones were interpreted and modelled separately. A minimum mineralised thickness of 2m was used for compositing, and a maximum continuous internal waste thickness of 2m.

#### **Density and Moisture**

There were 55 density measurements available within the resource area, 33 samples within the Limonite and 22 samples within Saprolite see Table 3 below. Average density for each material type was applied to the respective flagged blocks in the block model

#### Table 3. Density and Moisture

Material type	Density (dry)	Moisture
Limonite	1.05 t/m <sup>3</sup>	32.9%
Saprolite	1.17 t/m <sup>3</sup>	35.5%



All tonnes in the tables below are dry metric tonnes.

#### **Resource Estimate**

Statistical analysis of data within the Limonite and Saprolite domains was completed and a variogram modelled for each rock type. Grade estimation by ordinary kriging of one-metre downhole composites was constrained within these domains.

#### 1. Resource class

Resource class is determined mostly by drill spacing. Indicated Resources are defined by 100 x 100m spacing or smaller, and Inferred Resources are defined by 200 x 200m spacing and 200 by 400m spacing.

Area	Lith Type	Class	Cut off	Vol '000m <sup>3</sup>	Tonnes '000 t	Ni%	Fe%	Co%	MgO%	SiO <sub>2</sub> %
South	Limonite	Indicated	0.6	1,618	1,699	1.00	40.93	0.11	4.05	15.84
(Slopes)		Inferred	0.6	36,958	38,805	0.89	39.77	0.11	4.87	16.84
		Total	0.6	38,575	40,504	0.90	39.82	0.11	4.84	16.80
	Saprolite	Indicated	0.6	1,648	1,928	1.05	13.75	0.04	23.12	44.84
		Inferred	0.6	22,565	26,401	1.02	14.29	0.04	22.43	42.82
		Total	0.6	24,213	28,330	1.03	14.25	0.04	22.48	42.96
	Total	Indicated	0.6	3,266	3,627	1.02	26.48	0.07	14.19	31.26
		Inferred	0.6	59,523	65,207	0.95	29.45	0.08	11.98	27.36
		Total	0.6	62,789	68,834	0.95	29.30	0.08	12.10	27.57
North	Limonite	Indicated	0.6	0	0	0.00	0.00	0.00	0.00	0.00
(Mambare		Inferred	0.6	17,647	18,530	0.89	43.48	0.11	2.94	12.71
Plateau)		Total	0.6	17,647	18,530	0.89	43.48	0.11	2.94	12.71
	Saprolite	Indicated	0.6	0	0	0.00	0.00	0.00	0.00	0.00
		Inferred	0.6	6,580	7,699	1.20	14.35	0.05	24.16	40.31
		Total	0.6	6,580	7,699	1.20	14.35	0.05	24.16	40.31
	Total	Indicated	0.6	0	0	0.00	0.00	0.00	0.00	0.00
		Inferred	0.6	24,227	26,228	0.99	34.93	0.10	9.17	20.81
		Total	0.6	24,227	26,228	0.99	34.93	0.10	9.17	20.81
Total		Indicated	0.6	3,266	3,627	1.02	26.48	0.07	14.19	31.26
		Inferred	0.6	83,750	91,435	0.96	31.02	0.08	11.18	25.48
		Total	0.6	87,016	95,062	0.96	30.85	0.08	11.29	25.70

#### 2. Resource Summary by area, lithology type and class at 0.6% Ni cut-off.



#### 3. Tonnage-grade tables

The following tonnage-grade tables show the total Resource, the Indicated Resource and the Inferred Resource. The Total and Inferred tonnage grade curves are an indication only as there is no guarantee of grade continuity in Inferred Resource category.

CUT OFF Ni%	TONNES '000 t	Ni_Pct	Fe_Pct	Co_Pct	MgO_Pct	SiO <sub>2</sub> _Pct
0	100,044	0.94	30.22	0.08	11.71	26.40
0.2	99,922	0.94	30.25	0.08	11.70	26.38
0.4	99,412	0.94	30.33	0.08	11.64	26.29
0.6	95,062	0.96	30.85	0.08	11.29	25.70
0.8	66,366	1.06	29.82	0.09	12.12	26.90
1	30,851	1.25	25.88	0.08	14.91	30.81
1.2	12,560	1.50	21.06	0.07	18.08	35.62
1.4	6,067	1.73	19.84	0.08	18.87	36.68
1.6	3,294	1.94	19.04	0.08	19.61	36.88
1.8	1,987	2.10	19.23	0.09	19.52	36.25
2	1,041	2.29	18.93	0.09	19.77	36.18

#### Total Resource (0.6% Ni wireframe)





## Indicated (0.6% Ni wireframe)

CUT OFF Ni%	TONNES '000 t	Ni_Pct	Fe_Pct	Co_Pct	MgO_Pct	SiO <sub>2</sub> Pct
0	3,758	1.01	25.89	0.07	14.70	31.88
0.2	3,758	1.01	25.89	0.07	14.70	31.88
0.4	3,758	1.01	25.89	0.07	14.70	31.88
0.6	3,627	1.02	26.48	0.07	14.19	31.26
0.8	3,173	1.07	28.08	0.08	12.99	29.57
1	1,684	1.20	26.63	0.07	14.47	30.83
1.2	548	1.46	17.00	0.04	21.44	40.04
1.4	275	1.63	14.80	0.04	22.65	42.10
1.6	135	1.79	15.33	0.04	21.53	42.05
1.8	41	2.03	17.54	0.04	19.77	39.92
2	22	2.14	19.79	0.05	17.99	38.04







#### Inferred (0.6% Ni wireframe)

CUT OFF Ni%	TONNES '000 t	Ni_Pct	Fe_Pct	Co_Pct	MgO_Pct	SiO <sub>2</sub> Pct
0	96,286	0.93	30.39	0.08	11.59	26.18
0.2	96,163	0.94	30.42	0.08	11.58	26.17
0.4	95,654	0.94	30.51	0.08	11.51	26.07
0.6	91,435	0.96	31.02	0.08	11.18	25.48
0.8	63,193	1.06	29.91	0.09	12.08	26.77
1	29,168	1.26	25.83	0.08	14.93	30.81
1.2	12,012	1.51	21.25	0.07	17.93	35.41
1.4	5,791	1.74	20.08	0.08	18.69	36.42
1.6	3,159	1.94	19.20	0.08	19.53	36.66
1.8	1,946	2.10	19.26	0.09	19.52	36.17
2	1,020	2.29	18.91	0.09	19.81	36.14





# Appendix 1 - Drilling Plan

