

# SIGNIFICANT MANGANESE DISCOVERY CONFIRMED AT KORHOGO

#### **HIGHLIGHTS**

- Significant manganese discovery from surface at the Korhogo Project in Côte d'Ivoire, confirmed by 10-hole shallow reconnaissance RC drill program
- Multiple wide shallow zones of mineralisation intersected with results up to 19% Mn, including
  - OURC001: 27m at 10.2% Mn from surface; including 7m at 14.0% Mn from surface; and
    - 19m at 6.7% Mn from 31m

#### Hole ended in mineralisation

- OURC003: 11m at 14.6% Mn from surface; and
  - 10m at 10.8% Mn from 15m;
  - 7m at 8.4% Mn from 36m;
  - 3m at 10% Mn from 47m

# Hole ended in mineralisation

- OURC004: 1m at 12.4% Mn from surface; and
  - 1m at 16.6% Mn from 6m;
  - 3m at 9.6% Mn from 23m
- OURC008: 5m at 7.4% Mn from 4m; including 1m at 12.9% Mn; and
  - 4m at 11.1% Mn from 18m
- OURC010: 7m at 7.4% Mn from 18m
- Based on the highly successful results received to date, some of the remaining 243m may be analysed
- Follow up activities now being planned to test width and depth of mineralised zones considering current drill holes were at an average spacing of 1km over a 14 km strike length
- Côte d'Ivoire is a top 10 global producer of manganese with 36,000MT of Mn produced in 2022 from 4 operating mines, supplying Direct Shipping Ore (DSO) into the steel market
- There are currently 4 manganese mines in Côte d'Ivoire including Shiloh Mining's Lagnonkaha manganese mine along strike of Mako's discovery
- The Korhogo manganese discovery provides Mako with an entry into the critical battery minerals race





# Mako's Managing Director, Peter Ledwidge commented:

"We are extremely excited with the results of our very first drill program at the Korhogo Project testing for manganese.

"Eight out of the ten holes we drilled across the interpreted 14 km combined strike intersected manganese. These results confirm the potential for a globally significant manganese discovery. Given the high prospectivity of the deposit, I spent several days on the project in July and observed first-hand the sheer extent of the Mn outcropping at surface.

"We are following up the drill program with a detailed mapping and rock-chip sampling program. Subsequent to that we will conduct a ground geophysical survey to assess the width and depth. Both of these programs will assist us in targeting the high-grade core of the manganese units for future drilling."



Figure 1: Mako Managing Director sampling a manganese outcrop

**Mako Gold Limited** ("Mako" or "the Company"; ASX:MKG) is pleased to announce the results of our first manganese reconnaissance drilling program on the Ouangolodougou Permit which, along with the Korhogo Nord permit, constitute the Company's 100% owned Korhogo Project in Côte d'Ivoire (Figure 2).

A total of 10 reverse circulation (RC) holes were drilled to test for subsurface manganese mineralisation on two parallel manganese-rich lithological units, each of which are over 7km in strike length for a combined





total exceeding 14km. Eight of the 10 drill holes intersected manganese indicating the potential for a globally significant manganese deposit.

The average spacing of the individual drill holes is over 1km. Holes were only drilled to a downhole depth of 50m, and all holes were singular reconnaissance holes, not drill fences with multiple holes.

Multiple wide zones of manganese were intersected in several holes. **Two holes were mineralised throughout most of the hole and ended in mineralisation**, and only 257m of the 500m drilled have been analysed to date.

Structural mapping has shown that the manganese units are sheared and steeply dipping. Holes were drilled in various directions depending on the orientations measured on outcrops at various locations.

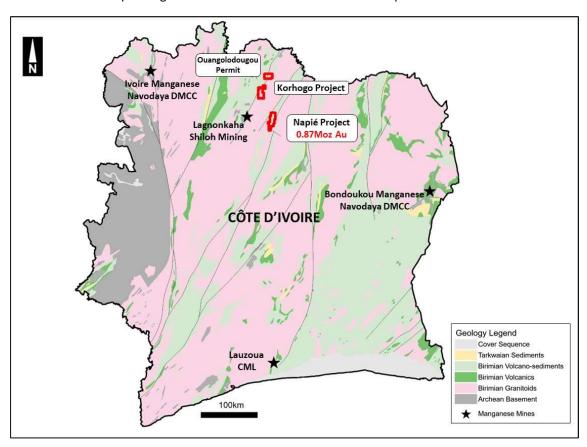


Figure 2: Mako Gold Projects on simplified geology and manganese mines in Côte d'Ivoire

Intervals above 5% Mn cut-off are reported in Appendix 1. A map of the drill hole locations with significant results is shown in Figure 3, highlighting the two 7km interpreted Mn strike lengths.

The grade of Mako's wide spaced reconnaissance results returned in this drill program are similar to several ASX-listed manganese focussed producers/developers. 1

<sup>&</sup>lt;sup>1</sup> Refer to Element 25 (ASX:E25) July 2023 presentation, Black Canyon (ASX:BCA) ASX announcement dated 14 August 2023, and Firebird Metals (ASX:FRB) 4 April 2023 presentation. Mako provides these references to assist in evaluating the significance of Mako's





The Mn-rich units were identified from analysis of the Company's previous auger and soil geochemical sampling programs. Manganese enriched areas are shown in dark green on Figure 3 to Figure 7.

This first 10-hole, shallow reconnaissance drill program has literally only "scratched the surface" and initial field mapping and drilling indicates that the mineralised zone could be much more extensive, and very likely much deeper. Further drilling is warranted to test the full width and greater depth of the prospect.

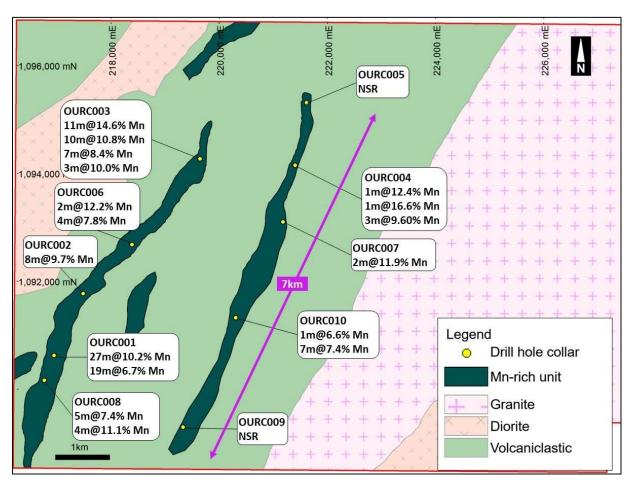


Figure 3: Ouangolodougou Permit with reconnaissance drill hole location and results. There is only one drill hole at each location and that average drill hole spacing is over 1km apart.

results, noting that the Korhogo Manganese project is Mako Gold's first manganese project, and these are Mako Gold's first announced drill results. Please note however that Mako Gold's manganese project is at the discovery stage whereas the aforementioned companies are producers/developers. Mako Gold is neither stating nor implying that its manganese discovery will eventuate into an economic deposit and is only comparing the grade of drill-hole intersects to the aforementioned companies resource/reserve grades for information purposes only. In addition, Mako's deposit type is hydrothermal which is a different mineralization style to the aforementioned companies.





# **Wide Manganese Intercepts**

Several holes confirmed multiple wide manganese intersects at shallow depth. In OURC001 the entire 50m hole was mineralised except for a 4m felsic dyke and ended in mineralisation. This indicates that manganese mineralisation likely continues at depth. Results for this hole are:

- 27m at 10.2% Mn from surface; including 7m at 14.0% Mn from surface; and
- 19m at 6.7% Mn from 31m (which ended in mineralisation)

An enlarged map of OURC001 is shown in Figure 4 and in cross section in Figure 5. It is noteworthy that **only 25m of the 380m width of the Mn-rich unit was tested**. This highlights the potential for very wide manganese mineralisation.

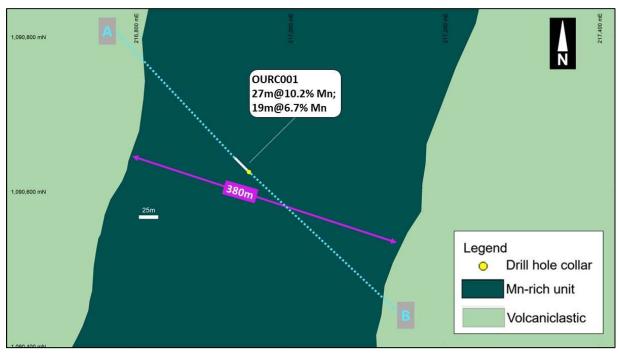


Figure 4 Drill hole OURC001 which intersected 46 metres of manganese - section line shown in blue



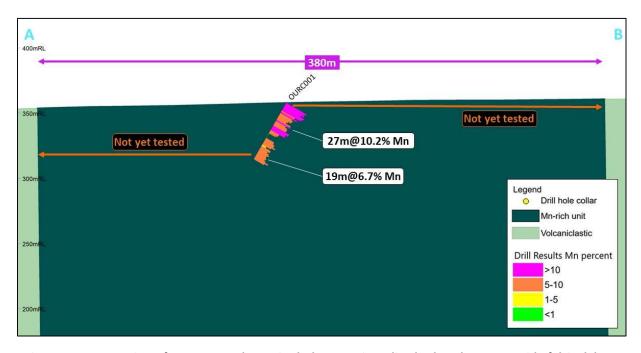


Figure 5: Cross section of OURC001 - The entire hole was mineralised other than a 4m wide felsic dyke Note the 380m width which is largely untested

An enlarged map of drill hole OURC003 is shown in Figure 6 and in cross section in Figure 7, again showing multiple wide manganese intersects. Portions of the hole remain to be analysed, pending results of testing of pulverised lab pulps with a portable XRF instrument by Mako. This hole also **ended in mineralisation at 50 metres, again proving the potential for depth extension of the mineralisation**.

Only 25m of the 260m width of the Mn enriched zone was tested, again showing the potential of significant widths of the deposit. Results for this hole are:

- 11m at 14.6% Mn from surface; and
- 10m at 10.8% Mn from 15m;
- 7m at 8.4% Mn from 36m;
- 3m at 10% Mn from 47m (which ended in mineralisation)



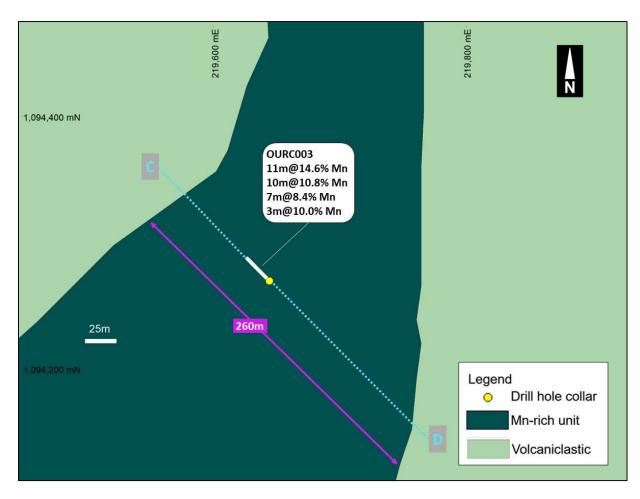


Figure 6: Drill hole OURC003 showing multiple manganese intercepts – section line shown in blue



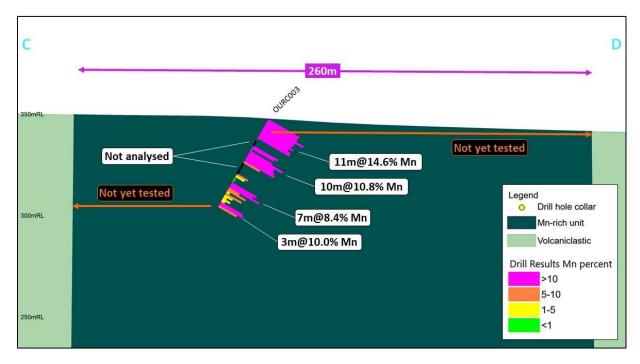


Figure 7: Cross section of OURC003 - 31m of the 50m hole intersected manganese with some intervals not yet analysed - Note the 260m width which is largely untested

The phosphorous content of the drill samples is low (Appendix 2). Phosphorus is a harmful element for most types of steel and the steelmaking process has strict requirements on the phosphorus content of raw materials. The low phosphorous content in the drill samples is encouraging for potential DSO for the steel market.

# Manganese Mining in Côte d'Ivoire

Côte d'Ivoire is a top 10 global producer of manganese with 36,000MT of Mn produced in 2022.1 Ore is shipped from the manganese mines by truck to the port(s) in the south of Côte d'Ivoire where it is then stockpiled before being loaded onto ships for export to China (Figure 8).

<sup>&</sup>lt;sup>1</sup>Refer to Investment News Network article dated 25 April 2023 - https://investingnews.com/daily/resource-investing/battery-metalsinvesting/manganese-investing/top-manganese-producing-countries/







Figure 8: Manganese ore stockpiles waiting to be loaded onto ships at the port of San Pedro, Côte d'Ivoire

– recent photo by Mako Director

There are four manganese mines in Côte d'Ivoire operated by private unlisted companies. The mine closest to Korhogo is the Lagnonkaha Mine situated 70km along strike to the southwest of Mako's manganese discovery in the same lithological unit (Figure 9). **The total strike extent of the Lagnonkaha Mine is 1.6 km.** 

The extent of the potential strike on Mako's permit is interpreted as more significant given Mako's two parallel manganese-rich units have a combined strike length of 14km, indicating the potential for a world class manganese resource.

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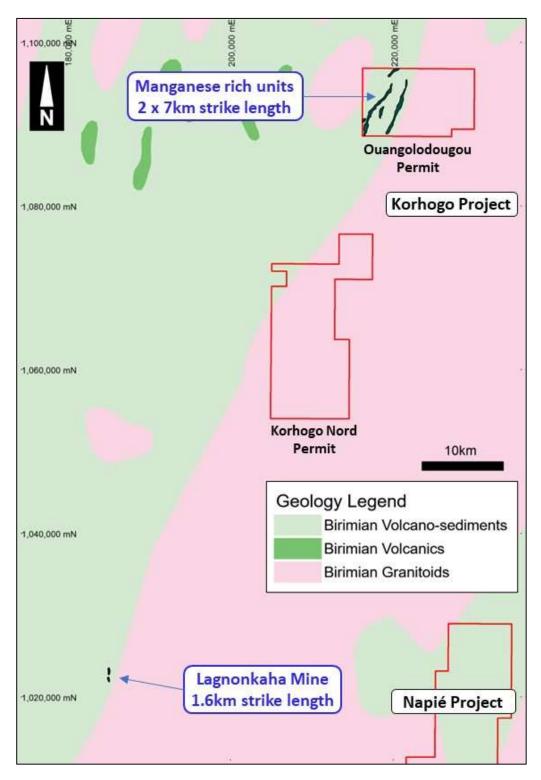


Figure 9: Size comparison of Mako's Mn-rich units compared to the footprint of the Lagnonkaha mine<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> Footprint of Lagnonkaha pits taken from Google Earth®-2003 image- Coordinates: 9.246058 latitude -5.86579 longitude



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# **Directors and Management Site Visit**

Mako directors and management recently completed a site visit of Mako's projects which included a field trip to the Ouangolodougou permit which hosts the manganese discovery. Board and management were extremely impressed with the widespread manganese outcrops on the permit.



Figure 10: Part of the Mako team on a manganese outcrop - L to R: Moctar Karambiri - Senior Geologist;

Michele Muscillo - Chairman; Ann Ledwidge - General Manager Exploration; Boukare Guigma - Chief

Geologist; Steve Zaninovich - Director; Peter Ledwidge - Managing Director

## **Next steps**

- Detailed geological mapping and rock-chip sampling A detailed mapping and rock-chip sampling program is planned shortly after the completion of the diamond drilling program at the Napié Project. The previous mapping/rock chip sampling program was preliminary in nature and completed in under 4 days with one crew. Several teams of Mako geologists will systematically map and sample the twin 7km Mn-rich zones over approximately three weeks. The result will be a detailed geology map which will highlight the higher-grade areas for follow-up work. Once results are received from the rock chip sampling, the highest priority areas will be selected for a ground geophysical survey.
- Ground geophysical survey An induced polarisation (IP) geophysical program will commence shortly after receipt of the rock chip sample results. The survey will be conducted over a 1km strike area identified





by the mapping/rock chip sampling program. The IP results should clearly outline the manganese deposit at depths up to 100m, highlight the higher-grade areas, and, importantly, identify the width and dip direction of the deposit for future drilling.

- Metallurgical testing A consultant has been chosen to complete preliminary metallurgical testing on a 160kg sample of manganese rock. It is anticipated that this will follow the results of mapping/rock chip sampling program and IP survey once the best area to sample is determined. A sequence of tests would prioritise economic recoveries of coarse manganese at saleable grade for steel production with relatively simple flowsheet options.
- Future drilling A wide-spaced diamond drilling and RC drilling program will be planned following the completion of the above work.

This announcement has been approved by the Board of Mako Gold.

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#### **Competent Person's Statement**

The information in this report that relates to Exploration Results is based on information compiled by Mrs Ann Ledwidge B.Sc.(Hon.) Geol., MBA, who is a Member of The Australian Institute of Geoscientists (AIG). Mrs Ledwidge is a full-time employee and a shareholder of the Company. Mrs Ledwidge has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mrs Ledwidge consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### **Compliance Information**

The information in this report that relates to Mineral Resources is extracted from the announcement "Mako Delivers 868koz Maiden Resource to Provide Strong Growth Platform at Napié" released to the Australian Securities Exchange on 14 June 2022 and available to view on <a href="www.makogold.com.au">www.makogold.com.au</a>. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

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#### **ABOUT MAKO GOLD**

Mako Gold Limited (**ASX:MKG**) is an Australian based exploration Company focused on advancing its flagship Napié Gold Project (224km²) in Côte d'Ivoire located in the West African Birimian Greenstone Belts which hosts more than 70 +1Moz gold deposits. Senior management has a proven track record of high-grade gold discoveries in West Africa and aim to deliver significant high-grade gold discoveries.

On 14 June 2022, a maiden Mineral Resource Estimate was reported in accordance with JORC (2012) at Tchaga and Gogbala.

Deposit	Category	Tonnes (Mt)	Grade (g/t Au)	Au (koz)
Tchaga	Inferred	14.6	1.16	545
Gogbala	Inferred	7.8	1.29	323
Global Resource	Total	22.5	1.20	868

Resources reported at a cut-off grade of 0.6g/t gold. Differences may occur in totals due to rounding.

Mako Gold entered into a farm-in and joint venture agreement on the Napié Permit with Occidental Gold SARL, a subsidiary of West African gold miner Perseus Mining Limited (ASX/TSX:PRU) in 2017<sup>1</sup>. Subsequently Mako renegotiated the agreement with Perseus and has now **consolidated its ownership in the Napié Project from 51% to 90%**<sup>2</sup>.

In addition, Mako Gold has 100% ownership of the Korhogo Project comprising of the Ouangolodougou and Korhogo Nord permits (296km²) covering 17km of faulted greenstone/ granite contact (high-grade gold targets) located within 30km of Barrick's operating Tongon Gold Mine (4.9Moz Au) in a highly prospective greenstone belt that also hosts Montage Gold's 4.5Moz Kone gold deposit, both located in Côte d'Ivoire, as well as Endeavour's 2.7Moz Wahgnion gold mine across the border in Burkina Faso (Figure 11). The Company recently announced a manganese discovery on the Ouangolodougou permit³.

<sup>&</sup>lt;sup>3</sup> Refer to ASX release dated 26 April 2023



<sup>&</sup>lt;sup>1</sup> For details of the agreement please refer to Section 9.1 of Mako Gold's Prospectus and section 4.6 of Mako Gold's Supplementary Prospectus, lodged on the ASX on 13 April 2018, and ASX release dated 29 June 2021

<sup>&</sup>lt;sup>2</sup> Refer to ASX releases dated 29 June 2021 and 21 October 2022



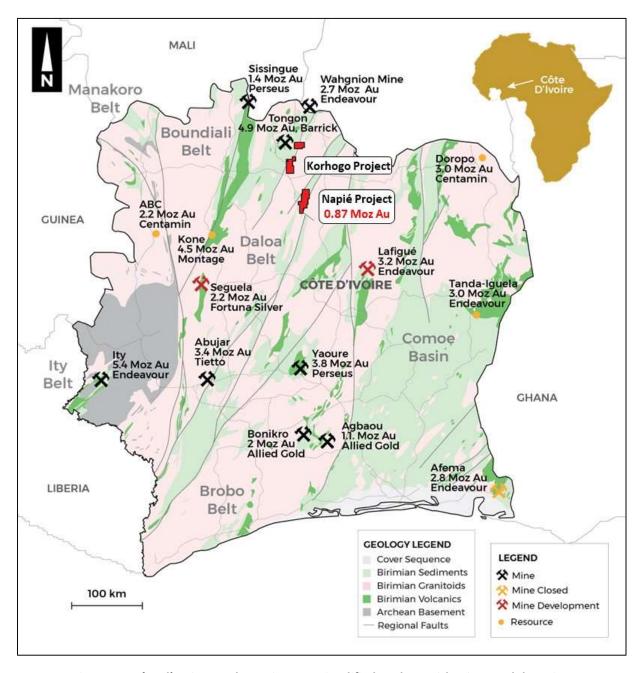


Figure 11: Côte d'Ivoire - Mako projects on simplified geology with mines and deposits



Appendix 1 - Summary of drilling results

Hole No.	East (WGS84)	North (WGS84)	RL (m)	Length (m)	Dip	Az (true)	From (m)	To (m)	Width (m)	<b>Mn</b> (%)
	(WG364)	(₩0364)	(111)	(111)		(true)	0	27	27	10.19
OURC001	216947	1090625	358	50	-60	315	Incl			
							0	7	7	13.96
							31	50	19	6.67
							3 Incl	11	8	9.67
OURC002	217485	1091773	351	50	-60	315	8	11	3	14.74
							12	50	Not	analysed
							0	11	11	14.64
							15	25	10	10.83
							31	32	1	5.22
OURC003	219644	1094270	347	50	-60	315	36	43	7	8.38
							47	50	3	9.99
							12	15	Not	analysed
							25	31	Not	analysed
							0	1	1	12.39
							6	7	1	16.63
							23	26	3	9.62
OURC004	221402	1094149	349	50	-60	270	2	6	Not	analysed
							9	15	Not	analysed
							16	23	Not	analysed
							45	50	Not	analysed
								No signifi	cant resul	ts
OLID COOF	224.64.4	4005300	265	F.0	60	00	0	2		analysed
OURC005	221614	1095309	365	50	-60	90	7	22	Not	analysed
							29	50	Not	analysed
							0	2	2	12.24
							20	21	1	5.58
OURC006	218388	1092683	363	50	-60	315	30	34	4	7.79
							12	18	Not	analysed
							21	30	Not	analysed
							15	17	2	11.86
							Incl			
OURC007	221180	1093102	349	50	-60	135	16	17	1	18.54
							0	11		analysed
							22	50	<b>+</b>	analysed
							4	9	5	7.42
OURC008	216766	1090167	376	50	-60	315	Incl 5	6	1	12.95
CONCOO	210700	1030107	3,0	30		313	18	22	4	11.13
							0	4		analysed



Hole No.	East (WGS84)	North (WGS84)	RL (m)	Length (m)	Dip	Az (true)	From (m)	<b>To</b> (m)	Width (m)	<b>M</b> n (%)
							23	50	Not	analysed
								No signifi	cant resul	ts
OLIDCOOO	219333	1089300	251	50	C0	125	0	4	Not	analysed
OURC009	219333	1009300	351	50	-60	135	10	15	Not	analysed
							30	50	Not	analysed
							0	1	1	6.61
OURC010	220304	1091324	351	50	-60	135	18	25	7	7.4
							28	50	Not	analysed

Results are reported with a 5% Mn cut-off grade with 1m internal waste

The samples were also analysed for gold on the off chance that gold was associated with manganese, however, no was gold returned in the assays. Make believes that a valid gold target is at the volcaniclastic/granite contact further west, and east of the Mn rich horizons shown on Figure 3, but the Company is focussing on the manganese potential at this time.





Appendix 2 – Major element analysis of drill samples

Hole No.	From	То	Sample No.	Mn %	MnO %	Al2O3 %	BaO %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	Na20 %	P2O5 %	SO3 %	SiO2 %	TiO2 %
OURC001	0	1	129401	14.96	19.31	17.66	0.44	0.79	0.1	12.1	0.13	0.18	0.005	0.25	0.03	34.66	0.92
OURC001	1	2	129402	13.72	17.72	20.48	0.39	0.67	0.13	12.78	0.09	0.14	0.005	0.29	0.03	32.53	1.06
OURC001	2	3	129403	14.13	18.24	20.99	0.34	0.92	0.18	12.3	0.1	0.16	0.005	0.26	0.03	32.41	1.19
OURC001	3	4	129404	12.13	15.66	20.64	0.46	0.32	0.01	13.62	0.11	0.11	0.005	0.27	0.01	33.01	1.3
OURC001	4	5	129405	14.98	19.34	17.11	0.48	1.18	0.13	11.68	0.11	0.16	0.17	0.34	0.03	36.63	0.96
OURC001	5	6	129406	14.51	18.73	13.78	0.44	4.35	0.01	9.28	0.06	1.13	1.53	0.29	0.04	44.19	0.79
OURC001	6	7	129407	13.3	17.17	14.96	0.35	2.74	0.11	8.89	0.32	0.48	2.15	0.29	0.03	46.55	0.74
OURC001	7	8	129408	9.6	12.4	15.83	0.24	2.79	0.02	6.68	0.45	0.5	2.8	0.2	0.03	54.25	0.58
OURC001	8	9	129409	11.71	15.12	19.35	0.39	1.22	0.03	9.08	0.44	0.26	2.08	0.36	0.03	41.5	1.02
OURC001	9	10	129410	8.64	11.16	14.28	0.27	3.59	0.01	7.57	0.17	0.98	5.08	0.21	0.04	54.2	0.7
OURC001	10	11	129411	9.59	12.38	14.03	0.27	5.12	0.08	7.75	0.42	1.5	4.08	0.26	0.04	51.44	0.73
OURC001	11	12	129412	9.02	11.64	10.54	0.2	8.54	0.005	6.08	0.09	2.36	3	0.28	0.07	54.71	0.47
OURC001	12	13	129413	7.15	9.23	13.12	0.14	5.52	0.09	7.38	0.75	2.93	4.45	0.26	0.04	52.62	0.69
OURC001	13	14	129414	6.41	8.27	12.66	0.14	7.18	0.04	7.9	1.35	3.96	3.34	0.32	0.07	52.37	0.77
OURC001	14	15	129415	9.84	12.7	12.2	0.13	6.89	0.12	6.86	0.19	2.08	3.46	0.26	0.04	53.41	0.65
OURC001	15	16	129416	10.26	13.25	11.25	0.18	7.34	0.03	6.65	0.12	2.15	2.6	0.19	0.03	54.42	0.59
OURC001	16	17	129417	7.24	9.35	12.81	0.19	7.41	0.05	5.48	0.16	2.25	4.98	0.16	0.06	56.17	0.59
OURC001	17	18	129418	8.77	11.32	11.52	0.18	8	0.005	6.07	0.1	2.42	3.84	0.17	0.05	54.81	0.57
OURC001	18	19	129419	9.26	11.96	10.44	0.13	8.79	0.04	6.14	0.09	2.66	3.24	0.18	0.05	54.07	0.57
OURC001	19	20	129420	8.8	11.36	14.04	0.23	3.6	0.01	6.94	0.26	1.01	5.04	0.22	0.03	54.7	0.67
OURC001	20	21	129421	11.87	15.32	12	0.26	6.31	0.09	8.02	0.17	1.62	2.94	0.28	0.04	51.33	0.66
OURC001	21	22	129422	11.51	14.86	9.87	0.14	8.86	0.06	7.66	0.09	2.6	1.83	0.25	0.05	51.74	0.71
OURC001	22	23	129423	10.13	13.08	9.36	0.14	10.03	0.05	7.29	0.13	2.98	2.04	0.21	0.06	53.23	0.66
OURC001	23	24	129424	10.13	13.08	12.64	0.25	5.32	0.07	7.8	0.35	1.47	2.94	0.22	0.02	53.47	0.69
OURC001	24	25	129425	6.23	8.05	12.87	0.23	6.38	0.06	6.5	0.73	1.78	4.23	0.17	0.03	55.5	0.7
OURC001	25	26	129426	6.19	7.99	12.74	0.22	7.84	0.05	6.57	0.51	2.31	4.89	0.21	0.08	54.7	0.8
OURC001	26	27	129427	5.12	6.61	12.82	0.15	6.71	0.04	4.97	0.8	1.96	5.1	0.15	0.05	57.36	0.51
OURC001	27	28	129428	0.3	0.39	16.02	0.22	2.28	0.02	1.92	2.86	0.69	7.41	0.08	0.03	68.23	0.22
OURC001	28	29	129429	0.15	0.19	15.88	0.28	2.25	0.05	1.99	3.1	0.65	6.86	0.08	0.03	68.25	0.22
OURC001	29	30	129430	0.15	0.19	15.82	0.32	2.24	0.08	2.02	3.13	0.6	6.76	0.08	0.01	68.76	0.22
OURC001	30	31	129431	0.19	0.25	15.75	0.2	2.23	0.01	2.07	2.88	0.68	7.22	0.08	0.07	67.84	0.22
OURC001	31	32	129432	5.86	7.57	12.28	0.17	7.91	0.05	5.52	0.5	2.25	4.8	0.19	0.06	56.46	0.53





Hole No.	From	То	Sample No.	Mn %	MnO %	Al2O3 %	BaO %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	Na20 %	P2O5 %	SO3 %	SiO2 %	TiO2 %
OURC001	32	33	129433	5.97	7.71	12.02	0.17	8.72	0.01	6	0.18	2.66	5.19	0.21	0.06	55.81	0.6
OURC001	33	34	129434	7.15	9.23	11.42	0.17	8.95	0.07	6.45	0.23	2.45	4.2	0.21	0.04	54.25	0.63
OURC001	34	35	129435	7.06	9.11	11.54	0.12	8.84	0.07	6.66	0.29	2.48	3.54	0.19	0.04	54.06	0.67
OURC001	35	36	129436	8.62	11.13	10.65	0.21	9.8	0.06	6.77	0.17	2.86	3	0.23	0.1	55.16	0.59
OURC001	36	37	129437	6.14	7.93	12.86	0.15	7.83	0.03	5.65	0.33	2.55	5.21	0.17	0.05	55.98	0.61
OURC001	37	38	129438	2.94	3.8	15.02	0.19	5.22	0.03	4.24	2.17	1.69	6.2	0.24	0.04	59.57	0.38
OURC001	38	39	129439	6.61	8.54	12.23	0.16	8.31	0.04	6.06	0.87	2.52	4.28	0.2	0.05	55.19	0.54
OURC001	39	40	129440	6.81	8.79	13.06	0.17	7.8	0.08	6.7	0.81	2.33	4.38	0.18	0.03	53.94	0.67
OURC001	40	41	129441	5.39	6.96	13.84	0.13	7.3	0.03	7.41	1.17	2.75	4.93	0.22	0.1	54.04	0.79
OURC001	41	42	129442	6.69	8.64	13.27	0.13	8.14	0.04	6.74	0.74	2.53	4.34	0.19	0.04	53.72	0.66
OURC001	42	43	129443	7.5	9.69	12.71	0.27	9.01	0.03	7.25	1.14	2.82	3.5	0.25	0.07	48.47	0.7
OURC001	43	44	129444	6.12	7.9	15.47	0.16	4.29	0.02	8.45	1.8	2.2	4.96	0.32	0.2	51.61	0.94
OURC001	44	45	129445	6.37	8.22	13.21	0.18	6.56	0.005	7.12	0.85	2.03	5.03	0.25	0.07	55.43	0.67
OURC001	45	46	129446	6.88	8.88	11.08	0.21	8.92	0.05	7.16	0.56	2.59	4.03	0.18	0.05	51.73	0.55
OURC001	46	47	129447	6.33	8.17	13.3	0.13	6.49	0.03	7.52	0.63	2.29	5.53	0.2	0.03	54.64	0.65
OURC001	47	48	129448	7.12	9.19	13.52	0.26	7.48	0.02	7.3	0.98	2.62	4.74	0.22	0.07	52.49	0.64
OURC001	48	49	129449	9.66	12.47	13.24	0.33	6.7	0.05	7.35	0.51	2.16	4.04	0.19	0.05	49.1	0.61
OURC001	49	50	129450	7.44	9.6	13.54	0.11	6.83	0.02	7.21	0.8	2.7	4.79	0.18	0.02	52.01	0.65
OURC002	0	1	129452	4.89	6.31	19.68	0.19	0.56	0.11	17.08	0.15	0.19	0.09	0.12	0.005	43.36	0.94
OURC002	1	2	129453	4.04	5.21	20.71	0.13	0.44	0.09	15.5	0.18	0.26	0.11	0.1	0.005	45.62	1.25
OURC002	2	3	129454	3.74	4.83	23.33	0.35	0.16	0.05	15.24	0.21	0.26	0.01	0.08	0.005	41.09	1.61
OURC002	3	4	129455	6.11	7.89	24.35	0.56	0.13	0.01	17.2	0.22	0.32	0.03	0.12	0.005	34.07	1.71
OURC002	4	5	129456	5.61	7.24	23.99	0.57	0.17	0.04	17.22	0.28	0.41	0.02	0.12	0.005	34.34	1.68
OURC002	5	6	129457	7.06	9.12	23.35	0.52	0.21	0.02	17.15	0.39	0.4	0.01	0.23	0.005	32.15	1.66
OURC002	6	7	129458	5.49	7.09	23.58	0.41	0.23	0.005	16.98	0.82	1.02	0.005	0.19	0.01	33.4	1.78
OURC002	7	8	129459	8.83	11.4	23.09	0.64	0.31	0.05	16.06	1.15	0.48	0.02	0.33	0.005	29.53	1.62
OURC002	8	9	129460	13.62	17.58	20.86	0.69	2.18	0.02	14.03	1.02	0.59	0.03	0.36	0.005	30.31	1.41
OURC002	9	10	129463	19.04	24.59	18.72	0.61	3.02	0.02	11.88	0.33	0.75	0.01	0.27	0.005	31.23	1.12
OURC002	10	11	129464	11.56	14.93	19.94	0.46	1.63	0.03	10.76	1.42	0.8	0.03	0.18	0.005	40.95	1.3
OURC002	11	12	129465	2.76	3.56	19.13	0.26	0.36	0.01	7.09	2.64	1.1	0.03	0.09	0.005	56.91	0.89
OURC002	12	50	Not analysed														
OURC003	0	1	129508	14.82	19.14	17.72	0.14	1.68	0.01	9.12	0.1	0.49	0.005	0.25	0.04	39.81	0.73
OURC003	1	2	129509	14.14	18.26	20.16	0.23	0.96	0.03	12.83	0.1	0.24	0.005	0.45	0.02	31.52	1.3
OURC003	2	3	129510	14.56	18.8	18.23	0.35	0.99	0.03	11.12	0.08	0.27	0.005	0.39	0.02	37.45	1.02
OURC003	3	4	129511	17.95	23.18	18.13	0.38	1.36	0.01	11.06	0.05	0.33	0.005	0.45	0.02	31.2	0.91
OURC003	4	5	129512	14.14	18.26	17.94	0.35	0.94	0.005	11.46	0.07	0.23	0.005	0.5	0.02	36.91	1.11





Hole No.	From	То	Sample No.	Mn %	MnO %	Al2O3 %	BaO %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	Na20 %	P2O5 %	SO3 %	SiO2 %	TiO2 %
OURC003	5	6	129513	14.29	18.45	17.38	0.21	3.14	0.05	11.77	0.11	0.95	0.005	0.33	0.01	40.07	1.16
OURC003	6	7	129514	13.65	17.62	15.62	0.13	5.24	0.05	10.84	0.06	2.12	0.005	0.23	0.02	42.38	0.94
OURC003	7	8	129515	15.01	19.38	18.26	0.22	2.67	0.07	12.24	0.12	0.7	0.005	0.25	0.02	37.92	1.08
OURC003	8	9	129516	13.1	16.92	18.14	0.34	1.66	0.02	11.7	0.13	0.42	0.005	0.34	0.02	38.52	1.07
OURC003	9	10	129517	14.6	18.85	18.08	0.18	2.56	0.04	12.08	0.15	0.59	0.005	0.27	0.02	38.5	1.14
OURC003	10	11	129518	14.8	19.11	15.88	0.14	2.67	0.03	7.63	0.4	0.43	0.005	0.18	0.02	46.02	0.72
OURC003	11	12	129519	0.26	0.34	19.08	0.05	0.08	0.06	1.02	2.44	0.005	0.005	0.01	0.02	70.28	0.06
OURC003	12	15	Not analysed														
OURC003	15	16	129523	11.76	15.18	14.56	0.27	1.89	0.06	7.88	0.33	0.42	0.005	0.16	0.005	50.91	0.65
OURC003	16	17	129524	10.4	13.43	19.19	0.16	1.84	0.06	11.84	0.58	0.55	0.005	0.22	0.02	42.16	1.16
OURC003	17	18	129525	0.44	0.57	18.28	0.27	1.18	0.04	9.55	2.86	1.73	0.19	0.2	0.01	57.05	1
OURC003	18	19	129526	10.43	13.47	18.28	0.13	3.55	0.08	12.28	0.95	1.61	0.07	0.36	0.02	41.89	1.09
OURC003	19	20	129527	15.93	20.57	17.28	0.07	3.77	0.07	11.21	0.31	1.1	0.02	0.26	0.02	40.18	1.01
OURC003	20	21	129528	12.25	15.82	17.34	0.18	3.31	0.08	12.02	1.14	1.09	0.02	0.28	0.02	42.88	1.27
OURC003	21	22	129529	12.59	16.25	17.9	0.11	3.87	0.04	13.37	0.74	0.99	0.005	0.3	0.02	38.86	1.41
OURC003	22	23	129530	13.2	17.04	16.22	0.09	4.95	0.07	10.92	0.25	1.28	0.005	0.23	0.01	45.39	0.93
OURC003	23	24	129531	13.8	17.82	15.7	0.1	5.6	0.04	10.09	0.14	1.55	0.02	0.22	0.005	47.06	0.9
OURC003	24	25	129532	7.5	9.68	17.62	0.45	3.71	0.04	11.88	2.51	1.31	0.23	0.21	0.01	45.17	1.34
OURC003	25	31	Not analysed														
OURC003	31	32	129539	5.22	6.74	13.72	0.08	6.69	0.07	8.2	1.45	4.21	1.32	0.36	0.02	54.3	0.89
OURC003	32	33	129540	4.14	5.35	13.87	0.04	2.65	0.04	2.74	3.63	0.97	2.52	0.11	0.02	66.56	0.25
OURC003	33	34	129541	0.45	0.58	14.88	0.06	1.16	0.02	1.26	4.62	0.14	4.35	0.02	0.03	72.62	0.08
OURC003	34	35	129542	0.74	0.95	14.92	0.07	1.34	0.03	1.22	4.4	0.26	4.19	0.03	0.02	72.75	0.1
OURC003	35	36	129543	0.39	0.5	13.63	0.12	1.61	0.06	2.26	4.76	0.81	3.47	0.09	0.07	71.16	0.2
OURC003	36	37	129547	11.74	15.16	13.79	0.06	6.54	0.06	7.87	0.84	3.38	0.38	0.4	0.07	48.78	0.75
OURC003	37	38	129548	10.49	13.55	14.92	0.15	6.33	0.06	8.2	1.86	3.22	0.37	0.29	0.05	49.76	0.85
OURC003	38	39	129549	13.94	18	14.26	0.03	6.39	0.06	8.26	0.41	2.79	0.13	0.27	0.04	47.83	0.73
OURC003	39	40	129550	5.03	6.5	14.29	0.16	5.49	0.04	7.02	1.75	3.1	1.65	0.3	0.35	55.38	0.74
OURC003	40	41	129551	8.42	10.87	13.44	0.06	6.78	0.02	6.48	1.15	3.72	0.78	0.22	0.05	55.08	0.7
OURC003	41	42	129552	1.52	1.96	14.16	0.11	2.17	0.03	1.75	2.75	0.68	4.5	0.06	0.05	70.91	0.15
OURC003	42	43	129553	7.51	9.7	13.48	0.1	7.77	0.03	8.06	1.3	4.46	1.41	0.35	0.21	50.78	0.86
OURC003	43	44	129554	3.79	4.89	14.93	0.09	6.18	0.02	7.16	1.97	3.9	2.17	0.3	0.15	56.28	0.81
OURC003	44	45	129555	1.54	1.99	14.94	0.06	5.11	0.04	5.39	1.68	3.15	2.38	0.21	0.19	62.17	0.69
OURC003	45	46	129556	3.59	4.64	15.13	0.09	5.52	0.01	5.68	1.59	3.1	2.17	0.23	0.08	59.54	0.7
OURC003	46	47	129557	1.65	2.13	15.7	0.18	5.03	0.07	5.2	1.9	2.56	2.7	0.2	0.51	62.94	0.6
OURC003	47	48	129558	10.21	13.18	14.04	0.11	7.14	0.09	7.3	0.78	3.16	0.77	0.23	0.48	51.24	0.73





Hole No.	From	To	Sample No.	Mn %	MnO %	Al2O3 %	BaO %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	Na2O %	P2O5 %	SO3 %	SiO2 %	TiO2 %
OURC003	48	49	129559	11.25	14.52	13.61	0.02	5.88	0.07	7.08	0.9	2.39	0.22	0.16	0.03	54.07	0.57
OURC003	49	50	129560	8.5	10.98	13.39	0.16	7.2	0.14	8.85	1.2	3.56	0.96	0.3	0.58	51.56	0.89
OURC004	0	1	129562	12.39	16	16.69	0.6	0.89	0.01	8.45	0.35	0.33	0.01	0.1	0.05	44.68	0.71
OURC004	1	2	129563	2.67	3.45	17.61	0.28	0.14	0.07	12.78	0.41	0.15	0.01	0.08	0.05	54	0.74
OURC004	2	6	Not analysed														
OURC004	6	7	129568	16.63	21.47	18.38	0.87	0.1	0.005	8.82	0.17	0.13	0.04	0.14	0.005	32.53	0.65
OURC004	7	8	129569	1.69	2.18	17.88	0.24	0.04	0.08	9.13	0.07	0.1	0.005	0.13	0.005	61.01	0.95
OURC004	8	9	129570	0.61	0.79	17.96	0.15	0.04	0.05	7.87	0.5	0.11	0.01	0.09	0.005	64.86	0.84
OURC004	9	15	Not analysed														
OURC004	15	16	129577	0.32	0.41	15.6	0.07	0.04	0.005	7.67	0.28	0.11	0.005	0.09	0.005	69.34	0.72
OURC004	16	23	Not analysed														
OURC004	23	24	129585	7.48	9.66	15.54	0.24	1.02	0.005	8.27	0.3	0.78	0.005	0.15	0.005	55.12	0.65
OURC004	24	25	129586	13.05	16.85	15.42	0.37	3.91	0.01	7.13	0.11	0.53	0.005	0.09	0.005	48.19	0.49
OURC004	25	26	129589	8.32	10.74	15.85	0.2	2.56	0.01	8.04	0.29	0.86	0.005	0.13	0.005	53.45	0.55
OURC004	26	27	129590	4.08	5.27	15.86	0.21	0.16	0.01	7.59	0.68	0.94	0.08	0.15	0.005	58.51	0.66
OURC004	27	28	129591	2.55	3.29	16.03	0.19	0.15	0.02	6.64	1.6	1.92	0.11	0.12	0.005	60.81	0.66
OURC004	28	29	129592	3.74	4.83	16.11	0.2	0.16	0.2	7.23	0.86	1.06	0.09	0.18	0.005	59.07	0.61
OURC004	29	30	129593	1.39	1.8	16.25	0.12	0.18	0.11	7.14	1.66	1.93	0.04	0.11	0.08	61.58	0.61
OURC004	30	31	129594	0.59	0.76	18.52	0.16	0.19	0.04	5.52	2.3	1.27	0.17	0.06	0.05	61.67	0.68
OURC004	31	32	129595	0.67	0.86	15.48	0.13	0.24	0.05	6.56	1.66	1.37	0.06	0.06	0.01	67.22	0.57
OURC004	32	33	129596	0.29	0.38	15.45	0.1	0.35	0.03	8.94	2.72	2.98	0.41	0.07	0.24	61.38	0.63
OURC004	33	34	129597	0.16	0.21	15.84	0.11	0.58	0.05	4.17	3.06	1.48	1.45	0.03	0.11	69.48	0.3
OURC004	34	35	129598	0.47	0.61	15.87	0.13	0.38	0.03	7.61	2.17	2.42	0.32	0.05	0.005	63.96	0.63
OURC004	35	36	129599	0.81	1.04	15.55	0.11	0.36	0.03	7.79	1.8	2.04	0.23	0.11	0.12	62.63	0.62
OURC004	36	37	129600	1.04	1.34	15.2	0.07	1.31	0.02	7.27	1.44	2.2	0.89	0.1	0.15	63.25	0.61
OURC004	37	38	129601	0.94	1.22	15.94	0.06	1.88	0.05	6.87	1.38	2.47	1.65	0.08	0.06	63.89	0.64
OURC004	38	39	129602	0.37	0.48	15.26	0.14	1.2	0.05	6.28	1.69	2.5	1.67	0.07	0.19	64.87	0.58
OURC004	39	40	129603	0.51	0.66	15.84	0.09	2.1	0.04	7.2	1.95	3.1	2.29	0.08	0.24	63.89	0.66
OURC004	40	41	129604	0.95	1.23	14.56	0.13	1.97	0.06	8.43	1.83	3.28	1.53	0.12	0.3	62.32	0.71
OURC004	41	42	129605	2.83	3.65	14.78	0.05	5.62	0.07	8.1	0.97	2.56	0.48	0.09	0.005	58.57	0.56
OURC004	42	43	129606	0.33	0.43	14.18	0.09	1.23	0.09	6.76	2.68	2.38	2.19	0.1	0.23	65.82	0.54
OURC004	43	44	129607	0.17	0.22	14.6	0.09	1.06	0.05	3.59	2.48	0.99	2.64	0.07	0.14	71.79	0.28
OURC004	44	45	129608	0.11	0.14	16.2	0.08	0.86	0.02	3.13	3.07	0.63	2.67	0.04	0.07	71.55	0.27
OURC004	45	50	Not analysed														
OURC005	0	2	Not analysed														
OURC005	2	3	129617	0.39	0.5	19.2	0.11	0.04	0.07	8.38	0.25	0.05	0.005	0.06	0.01	63.45	0.76





Hole No.	From	То	Sample No.	Mn %	MnO %	Al2O3 %	BaO %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	Na20 %	P2O5 %	SO3 %	SiO2 %	TiO2 %
OURC005	3	4	129618	0.45	0.58	17.98	0.07	0.04	0.01	7.96	0.45	0.17	0.005	0.05	0.005	64.59	0.67
OURC005	4	5	129619	0.48	0.62	18.3	0.1	0.04	0.06	9.72	0.95	0.19	0.005	0.06	0.005	62.48	0.75
OURC005	5	6	129620	0.16	0.21	17.49	0.08	0.03	0.03	7.16	2.03	0.23	0.07	0.06	0.005	65.93	0.69
OURC005	6	7	129621	0.89	1.15	20.23	0.09	0.03	0.06	11.22	0.37	0.18	0.005	0.1	0.005	56.33	1
OURC005	7	22	Not analysed														
OURC005	22	23	129637	0.24	0.31	17.36	0.03	0.97	0.14	16.78	0.35	3.73	0.3	0.07	0.02	50.39	1.5
OURC005	23	24	129638	0.43	0.56	17.9	0.03	1.42	0.02	15.02	0.6	4.38	0.98	0.07	0.005	49.4	1.27
OURC005	24	25	129639	0.39	0.5	18.1	0.03	1.67	0.02	15.6	0.36	4.38	1.14	0.11	0.005	49.06	1.44
OURC005	25	26	129640	0.36	0.47	18.81	0.04	0.85	0.01	13.74	0.56	3.36	0.42	0.07	0.005	50.71	1.22
OURC005	26	27	129641	0.28	0.36	18.48	0.09	1.5	0.05	16.09	0.19	4.43	1.05	0.04	0.01	48.89	1.4
OURC005	27	28	129642	0.39	0.51	18.21	0.04	1.51	0.09	15.07	1.51	5.43	1.02	0.12	0.005	48.21	1.32
OURC005	28	29	129643	0.34	0.44	16.93	0.03	2.36	0.04	13.67	1.52	6.22	1.71	0.13	0.005	49	1.26
OURC005	29	50	Not analysed														
OURC006	0	1	129668	12.89	16.64	20.05	0.22	0.56	0.005	11.58	0.24	0.29	0.12	0.19	0.005	36.38	1.09
OURC006	1	2	129669	11.58	14.95	20.4	0.17	0.71	0.03	10.75	0.15	0.22	0.005	0.17	0.02	39.09	1.08
OURC006	2	3	129670	3.81	4.92	23.82	0.22	0.06	0.005	9.03	0.19	0.12	0.005	0.12	0.02	49.56	1.24
OURC006	3	4	129671	3.43	4.43	23.16	0.16	0.05	0.01	8.89	0.19	0.14	0.005	0.13	0.02	50.12	1.28
OURC006	4	5	129672	4.26	5.5	23.48	0.15	0.08	0.01	9.71	0.19	0.16	0.005	0.25	0.02	46.86	1.31
OURC006	5	6	129673	3.86	4.99	24.54	0.22	0.03	0.02	9.82	0.21	0.21	0.005	0.29	0.01	46.13	1.39
OURC006	6	7	129674	2.37	3.06	23.2	0.14	0.12	0.01	12.26	0.3	0.34	0.005	0.26	0.02	47.02	1.31
OURC006	7	8	129675	2.32	2.99	22.26	0.17	0.04	0.01	9.94	0.49	0.53	0.005	0.23	0.02	50.98	1.24
OURC006	8	9	129676	1.6	2.06	19.36	0.09	0.05	0.01	6.81	0.63	0.79	0.005	0.11	0.02	59.32	0.89
OURC006	9	10	129677	3.94	5.09	20.11	0.15	0.61	0.01	8.65	1.23	0.85	0.005	0.17	0.02	52.45	1.09
OURC006	10	11	129678	3.12	4.03	21.26	0.22	0.65	0.04	9.63	2.69	1.25	0.005	0.2	0.02	49.88	1.3
OURC006	11	12	129679	3.84	4.96	19.78	0.18	1.89	0.02	8.6	2.49	1.76	0.18	0.17	0.02	51.13	1.17
OURC006	12	18	Not analysed														
OURC006	18	19	129686	2.08	2.68	17.92	0.13	3.7	0.03	8.19	2.23	2.85	1.16	0.18	0.04	56.19	1.14
OURC006	19	20	129687	4.62	5.97	16.3	0.09	4.57	0.03	7.13	1.54	2.27	1.34	0.18	0.02	57.02	0.89
OURC006	20	21	129688	5.58	7.2	15.48	0.07	5.34	0.04	6.86	1.29	2.45	1.61	0.2	0.02	57.36	0.78
OURC006	21	30	Not analysed														
OURC006	30	31	129698	6.37	8.22	14.78	0.09	6.39	0.01	6.34	1.52	2.86	1.99	0.21	0.33	55.51	0.79
OURC006	31	32	129699	8.36	10.8	13.7	0.05	7.21	0.04	7.12	1.32	3.52	1.58	0.32	0.37	52.91	0.84
OURC006	32	33	129700	6.52	8.42	13.22	0.09	7.6	0.04	7.56	1.56	4.34	1.96	0.36	0.39	52.48	0.8
OURC006	33	34	129701	9.91	12.79	13.11	0.06	7.06	0.03	7.65	0.9	3.4	1.16	0.27	0.33	52.25	0.72
OURC006	34	35	129702	4.62	5.96	14.14	0.12	5.09	0.14	5.05	2.37	2.25	3.1	0.25	0.48	60.63	0.57
OURC006	35	36	129706	4.24	5.48	14.44	0.11	5.46	0.12	7.24	1.76	2.94	3.14	0.31	1.46	57.19	0.81





Hole No.	From	То	Sample No.	Mn %	MnO %	Al2O3 %	BaO %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	Na20 %	P2O5 %	SO3 %	SiO2 %	TiO2 %
OURC006	36	37	129707	0.15	0.2	15.36	0.15	3.16	0.01	4.31	2.18	1.61	5.37	0.19	1.68	65.79	0.51
OURC006	37	38	129708	0.11	0.14	15.3	0.15	3.2	0.03	4.11	2.09	1.57	5.4	0.18	1.65	66.84	0.49
OURC006	38	39	129709	0.13	0.17	15.06	0.16	3.32	0.01	4.03	2.73	1.71	4.94	0.2	1.43	66.54	0.49
OURC006	39	40	129710	0.14	0.18	14.85	0.17	3.3	0.18	4.44	3.97	1.68	4.19	0.25	1.87	65.29	0.49
OURC006	40	41	129711	0.68	0.88	14.75	0.11	5.04	0.13	5.07	2.18	2.53	3.53	0.19	0.93	64.02	0.61
OURC006	41	42	129712	0.97	1.25	14.73	0.11	5.19	0.06	5.13	1.81	2.33	3.26	0.21	1.05	63.3	0.59
OURC006	42	43	129713	0.69	0.89	14.6	0.15	5.95	0.04	4.91	2.32	2.76	3.48	0.51	1.21	62.59	0.6
OURC006	43	44	129714	0.91	1.17	16.2	0.1	5.04	0.09	4.49	2.02	1.95	3.32	0.16	0.51	65.59	0.55
OURC006	44	45	129715	1.02	1.32	15.79	0.1	4.6	0.09	3.93	1.76	1.65	3.52	0.14	0.46	66.36	0.5
OURC006	45	46	129716	1.62	2.09	15.23	0.09	5.68	0.05	4.05	1.76	2.19	3.75	0.16	0.62	63.46	0.51
OURC006	46	47	129717	1.63	2.11	11.9	0.14	8.26	0.04	9.14	3.04	6.68	2.18	0.5	1.36	53.07	0.97
OURC006	47	48	129718	4.04	5.22	12.98	0.1	7.79	0.05	7.75	2.05	5.35	2.12	0.37	0.56	53.71	0.83
OURC006	48	49	129719	2.81	3.63	14.57	0.13	7.29	0.05	4.94	2.22	3.04	3.46	0.54	0.83	58.14	0.74
OURC006	49	50	129720	2.03	2.62	14.32	0.21	7.42	0.005	5.54	2.73	3.5	3.41	0.88	1.48	57.75	0.91
OURC007	0	11	Not analysed														
OURC007	11	12	129733	0.68	0.88	19.55	0.09	0.04	0.1	9.41	0.31	0.1	0.005	0.08	0.005	60.39	0.85
OURC007	12	13	129734	0.85	1.1	18.8	0.11	0.04	0.04	7.3	0.09	0.09	0.005	0.06	0.005	64.41	0.54
OURC007	13	14	129735	2.49	3.21	17.88	0.23	0.04	0.08	7.1	0.09	0.09	0.005	0.1	0.005	62.97	0.48
OURC007	14	15	129736	1.08	1.39	19.34	0.1	0.04	0.04	6.87	0.15	0.08	0.005	0.1	0.005	63.73	0.57
OURC007	15	16	129737	5.17	6.67	17.42	0.15	0.36	0.07	7.35	0.04	0.29	0.005	0.05	0.005	58.5	0.72
OURC007	16	17	129738	18.54	23.94	19.86	0.2	3.09	0.01	6.22	0.05	1.77	0.08	0.02	0.005	39.89	0.21
OURC007	17	18	129741	1.15	1.48	22.71	0.08	0.1	0.09	1.92	0.65	0.15	0.005	0.02	0.005	65.84	0.05
OURC007	18	19	129742	1.94	2.51	19.02	0.16	0.05	0.09	6.71	0.37	0.1	0.005	0.1	0.005	63.19	0.37
OURC007	19	20	129743	0.7	0.91	19.35	0.13	0.05	0.06	3.03	0.62	0.09	0.005	0.02	0.005	70.15	0.07
OURC007	20	21	129744	1.73	2.23	19.16	0.24	0.1	0.07	7.35	1.03	0.63	0.005	0.05	0.005	61.36	0.63
OURC007	21	22	129745	3.7	4.78	18.16	0.17	0.13	0.02	8.3	0.32	0.31	0.005	0.05	0.005	57.7	0.62
OURC007	22	50	Not analysed														
OURC008	0	4	Not analysed														
OURC008	4	5	129779	7.26	9.37	22.01	0.69	0.05	0.03	19.15	0.05	0.11	0.005	0.17	0.005	31.92	1.73
OURC008	5	6	129780	12.95	16.72	21.17	0.81	0.08	0.01	17.1	0.06	0.13	0.005	0.16	0.005	25.46	1.52
OURC008	6	7	129781	5.6	7.23	22.15	0.29	0.05	0.02	20.64	0.08	0.12	0.005	0.12	0.005	33.1	1.95
OURC008	7	8	129782	5.33	6.88	21.88	0.45	0.05	0.02	19.6	0.09	0.11	0.005	0.11	0.005	36.8	1.82
OURC008	8	9	129783	5.97	7.71	20.83	0.71	0.05	0.01	19.31	0.08	0.11	0.005	0.13	0.005	36.31	1.74
OURC008	9	10	129784	3.05	3.94	22.73	0.44	0.04	0.01	24.57	0.05	0.12	0.005	0.15	0.005	32.81	2.14
OURC008	10	11	129785	1.73	2.23	23.62	0.26	0.03	0.005	25.21	0.04	0.14	0.005	0.16	0.005	33.24	2.29
OURC008	11	12	129786	1.78	2.3	22.67	0.3	0.03	0.01	25.32	0.05	0.14	0.005	0.17	0.005	34.84	2.28





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Hole No.	From	То	Sample No.	Mn %	MnO %	Al2O3 %	BaO %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	Na20 %	P2O5 %	SO3 %	SiO2 %	TiO2 %
OURC008	12	13	129787	0.6	0.78	26.59	0.14	0.05	0.005	19.44	0.16	0.35	0.005	0.35	0.005	36.52	1.99
OURC008	13	14	129788	0.71	0.92	26.1	0.28	0.06	0.01	16.18	1.27	0.59	0.005	0.29	0.005	40.03	1.7
OURC008	14	15	129789	0.6	0.78	25.57	0.19	0.07	0.01	15.52	1.56	0.8	0.005	0.18	0.005	42.2	1.83
OURC008	15	16	129790	0.09	0.11	22.05	0.04	0.04	0.04	3.08	0.23	0.21	0.005	0.03	0.005	66.17	0.3
OURC008	16	17	129791	0.04	0.05	21.94	0.03	0.04	0.03	1.97	0.06	0.08	0.005	0.01	0.005	69.13	0.15
OURC008	17	18	129792	0.81	1.05	22.44	0.1	0.07	0.05	6.35	0.07	0.11	0.005	0.07	0.005	60.65	0.58
OURC008	18	19	129793	5.78	7.46	21.73	0.34	0.14	0.01	20.4	0.1	0.1	0.005	0.17	0.01	33.76	1.88
OURC008	19	20	129794	12.85	16.59	17.84	0.24	0.77	0.01	15.26	0.09	0.21	0.005	0.22	0.005	33.47	1.26
OURC008	20	21	129795	14.24	18.39	17.54	0.14	1.2	0.02	13.12	0.09	0.35	0.005	0.26	0.005	35.84	1.18
OURC008	21	22	129796	11.65	15.04	20.18	0.25	0.68	0.01	16.91	0.2	0.36	0.005	0.21	0.005	31.44	1.54
OURC008	22	23	129797	2.36	3.05	23.72	0.11	0.17	0.02	22.31	0.44	0.65	0.005	0.11	0.005	35.5	2.18
OURC008	23	50	Not analysed														
OURC009	0	4	Not analysed														
OURC009	4	5	129833	0.53	0.69	19.66	0.09	0.03	0.02	10.54	0.87	0.23	0.005	0.07	0.01	57.73	0.93
OURC009	5	6	129834	0.8	1.03	19.88	0.18	0.02	0.43	10.68	0.95	0.19	0.005	0.07	0.005	57.72	0.9
OURC009	6	7	129835	1.12	1.44	18.05	0.16	0.02	0.01	8.9	1.05	0.19	0.005	0.07	0.005	62.62	0.7
OURC009	7	8	129836	0.33	0.42	16.15	0.08	0.02	0.12	4.31	1.09	0.14	0.005	0.04	0.01	72.72	0.38
OURC009	8	9	129837	2.58	3.33	18.62	0.14	0.22	0.01	7.42	1.25	0.28	0.005	0.09	0.01	59.81	0.71
OURC009	9	10	129838	1.06	1.37	19.02	0.17	0.05	0.05	8.76	0.94	0.15	0.005	0.13	0.01	58.88	0.84
OURC009	10	15	Not analysed														
OURC009	15	16	129844	1.09	1.41	17.83	0.14	0.04	0.06	9.31	0.61	0.22	0.005	0.09	0.01	62.29	0.83
OURC009	16	17	129845	1.22	1.58	18.48	0.14	0.05	0.01	10.52	1.13	0.26	0.005	0.1	0.01	59.33	0.87
OURC009	17	18	129846	0.67	0.86	8.11	0.09	0.04	0.12	4.07	0.29	0.13	0.005	0.04	0.005	83.55	0.25
OURC009	18	19	129847	0.43	0.56	12.05	0.17	0.05	0.21	7.72	0.87	0.29	0.005	0.06	0.005	72.94	0.6
OURC009	19	20	129848	0.4	0.52	17.92	0.11	0.14	0.06	12.03	1.95	1.42	0.005	0.12	0.01	57.16	0.94
OURC009	20	21	129849	1.05	1.35	17.02	0.09	0.14	0.01	9.47	1.4	1.74	0.005	0.11	0.005	58.9	0.8
OURC009	21	22	129850	0.5	0.65	16.96	0.11	0.14	0.06	8.85	1.96	1.72	0.005	0.11	0.01	61.6	0.86
OURC009	22	23	129851	0.32	0.41	16.11	0.06	0.16	0.02	10.35	1.67	2.04	0.005	0.11	0.005	61.62	1.21
OURC009	23	24	129852	0.43	0.56	18.44	0.09	0.17	0.06	10.4	1.92	1.49	0.005	0.13	0.02	58.91	1.14
OURC009	24	25	129853	1.23	1.59	16.74	0.05	0.16	0.01	7.64	1.13	1.66	0.005	0.08	0.005	60.49	0.69
OURC009	25	26	129854	1.84	2.38	17.56	0.07	0.53	0.09	8.4	1.08	1.87	0.03	0.1	0.01	59.48	0.79
OURC009	26	27	129855	0.71	0.92	16.56	0.09	0.59	0.17	7.92	1.75	2.29	0.26	0.1	0.02	62.12	0.82
OURC009	27	28	129856	0.68	0.88	15.91	0.09	0.51	0.08	9.91	1.74	2.04	0.05	0.09	0.01	60.94	0.74
OURC009	28	29	129857	1.32	1.71	16.88	0.09	1.42	0.02	9.84	1.31	2.04	0.82	0.17	0.01	57.59	0.82
OURC009	29	30	129858	0.5	0.65	16.85	0.09	1.02	0.1	8.05	1.99	2.01	0.71	0.15	0.03	63.02	0.83
OURC009	30	50	Not analysed														





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Hole No.	From	То	Sample No.	Mn %	MnO %	Al2O3 %	BaO %	CaO %	Cr2O3 %	Fe2O3 %	K2O %	MgO %	Na2O %	P2O5 %	SO3 %	SiO2 %	TiO2 %
OURC010	0	1	129880	6.61	8.54	19.72	0.24	0.3	0.14	11.7	0.64	0.3	0.09	0.08	0.01	46.72	1.02
OURC010	1	2	129881	3.44	4.44	21.19	0.23	0.14	0.05	12.62	0.96	0.21	0.005	0.08	0.01	47.9	1.09
OURC010	2	3	129882	1.68	2.17	22.1	0.24	0.08	0.05	14.32	1.07	0.21	0.005	0.09	0.01	47.7	1.48
OURC010	3	4	129883	1.57	2.03	21.03	0.18	0.05	0.03	14.06	0.53	0.16	0.005	0.08	0.005	49.16	1.58
OURC010	4	5	129884	2.21	2.85	18.52	0.16	0.03	0.03	11.3	0.43	0.13	0.005	0.07	0.005	55.78	0.87
OURC010	5	6	129885	1.85	2.39	19.77	0.13	0.03	0.06	8.45	0.47	0.13	0.005	0.06	0.005	59.46	0.76
OURC010	6	7	129886	0.81	1.04	20.99	0.11	0.03	0.01	4.23	0.53	0.15	0.005	0.03	0.01	64.32	0.62
OURC010	7	8	129887	0.67	0.86	20.82	0.08	0.03	0.08	4.89	0.79	0.17	0.005	0.03	0.005	64.19	0.51
OURC010	8	9	129888	2.9	3.74	16.63	0.07	0.03	0.04	9.42	0.55	0.15	0.005	0.11	0.005	59.05	0.56
OURC010	9	10	129889	4.61	5.95	17.28	0.07	0.04	0.04	11	0.38	0.16	0.005	0.16	0.005	53.46	0.75
OURC010	10	11	129890	4.39	5.67	17.09	0.07	0.06	0.03	12.91	0.44	0.24	0.005	0.16	0.005	52.41	0.87
OURC010	11	12	129891	1.87	2.42	17.25	0.07	0.06	0.07	6.9	0.58	0.32	0.005	0.1	0.005	64.22	0.56
OURC010	12	13	129892	3.26	4.21	15.29	0.09	0.12	0.03	12.18	0.83	0.45	0.005	0.15	0.005	56.65	0.64
OURC010	13	14	129893	2.6	3.36	16.46	0.13	0.12	0.03	13.38	1.33	0.49	0.005	0.17	0.01	54.63	0.79
OURC010	14	15	129894	0.46	0.59	16.78	0.17	0.18	0.19	8.47	2.35	1.39	0.02	0.06	0.005	61.81	0.77
OURC010	15	16	129895	0.45	0.58	17.06	0.08	0.18	0.04	8.19	1.54	1.71	0.005	0.07	0.005	62.08	0.86
OURC010	16	17	129896	0.41	0.53	16.16	0.07	0.22	0.06	8.7	1.87	1.86	0.005	0.1	0.005	62.91	0.82
OURC010	17	18	129897	1.32	1.71	16.15	0.09	0.23	0.07	9.99	2.18	1.52	0.005	0.13	0.005	60.02	0.97
OURC010	18	19	129898	7.82	10.1	15.38	0.07	0.66	0.07	7.91	0.24	1.47	0.005	0.14	0.005	55.83	0.57
OURC010	19	20	129899	10.42	13.46	15.55	0.08	0.85	0.03	8.28	0.06	1.44	0.005	0.2	0.005	51.42	0.6
OURC010	20	21	129902	6.91	8.92	18.43	0.06	0.19	0.01	12.12	0.27	0.8	0.005	0.27	0.02	46.12	1.06
OURC010	21	22	129903	6.9	8.91	18.04	0.13	0.09	0.01	15.96	0.14	0.28	0.005	0.29	0.005	41.11	1.6
OURC010	22	23	129904	5.5	7.1	16.92	0.02	0.27	0.04	11.36	0.28	0.76	0.005	0.2	0.02	51.5	1.11
OURC010	23	24	129905	8.83	11.4	15.63	0.12	1.58	0.005	8.97	0.51	1.67	0.005	0.14	0.005	52.52	0.68
OURC010	24	25	129906	5.41	6.98	16.22	0.01	0.55	0.02	9.24	0.22	1.28	0.005	0.12	0.02	57.81	0.63
OURC010	25	26	129907	2.95	3.81	15.55	0.04	1.09	0.03	9.92	0.55	1.96	0.56	0.1	0.02	59.3	0.69
OURC010	26	27	129908	2.01	2.6	16.18	0.02	1.87	0.02	8.25	0.67	2.68	1.24	0.04	0.02	61.44	0.75
OURC010	27	28	129909	1.73	2.23	15.6	0.04	1.78	0.03	11.6	1.11	3.34	1.08	0.06	0.02	57.92	1
OURC010	28	50	Not analysed														



# Appendix 3 - JORC 2012 Table 1 Reporting

# Section 1 - Sampling techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.  Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.  Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	This report relates to results for Reverse Circulation (RC) drilling on the Ouangolodougou permit. Work on the permit is at an early stage.  Each 1m RC drill hole interval was collected in a plastic sample bag. A sub-sample was collected using a riffle splitter to obtain a 3-6kg sample for laboratory analysis.  Sampling was undertaken along the entire length of RC drill holes, however only select samples were submitted to the lab for analysis. Select samples were submitted for analysis based on elevated Mn in the pXRF of drill cuttings and visual logging identifying the Mn-rich chips.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	RC drilling was carried out using a 5 <sup>3</sup> / <sub>8</sub> -inch face sampling hammer using an Austex 900 multipurpose drill rig
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	RC recoveries were determined by weighing each drill metre bag relative to the expected weight for each 1m interval.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.  Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	The RC drill metre sample recoveries were monitored at the drill site by the rig geologist. No significant water was encountered in the holes, with most samples recovered dry and only some that were moist.  No relationship has been observed between sample recovery and grade.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	RC chips were geologically logged to an appropriate level for reconnaissance manganese exploration.  Logging is qualitative in nature.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	A sample of RC chips are washed and retained in chip trays marked with hole number and down hole interval. All RC chip trays are photographed and stored in Imago.
	The total length and percentage of the relevant intersections logged.	Chip trays will be used for more detailed logging.



Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.  If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	All RC samples are riffle split for each 1m interval to provide representative sub-samples. The splitting method uses a single tier or 3-tier riffle splitter based on the original sample weight to provide a notional 3-6kg sample for submission to the lab. The splitting method is recorded for each sample. All RC was split and sampled dry.
	For all sample types, the nature, quality, and appropriateness of the sample preparation technique.  Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.  Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.  Whether sample sizes are appropriate to the grain size of the material being sampled.	Samples were submitted to ALS lab in Cote d'Ivoire for sample preparation during which the field sample was dried, weighed, entire sample crushed to 70% passing -2mm, with split of 250g pulverized to better than 85% passing 75 microns. All samples were analysed for gold by 50g Fire Assay, however only selected samples were analysed for manganese which was the main element targeted by this drill program. These samples were chosen based on visual logging and preliminary pXRF values from drill fines. In total, 257 intervals (250g pulverised sample) were shipped by ALS to their lab in Johannesburg South Africa for XRF analysis. A 200g split was pulverised to be retained at Mako's field camp.
		The sample sizes are considered to be appropriate for the nature of mineralisation and this reconnaissance stage of work.
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.  For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	Mn samples were analysed at ALS labs in Johannesburg South Africa using method ME-XRF26s. A prepared sample (0.33g) is fused with a 12:22 lithium metaborate-lithium tetraborate flux which also includes an oxidising agent (lithium nitrate), and then poured into a platinum mould. The resultant disk in in turn analysed by XRF spectrometry. There is a lower detection limit of 0.01% MnO and an upper limit of 50% MnO. This is considered an appropriate method.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	A handheld pXRF was used for internal, indicative analysis. This work was used to guide geological interpretation. Results presented here are from laboratory analysis.
	been established.	QAQC sample insertions into the Mn analysis included 5 Mn standards and 4 field duplicates. A review of the QAQC did not highlight any accuracy (bias) or precision issues however the number of QAQC samples inserted for Mn analysis was limited due to the small drill program. The QAQC sample insertions into the Au analysis included 14 blanks, 5 standards and 10 field duplicates and no issues were found. The lab inserted QAQC blanks and standards and the results were reviewed by Mako and analytical results were deemed to be reliable for this reconnaissance stage of work.
Verification of sampling and	The verification of significant intersections by either independent or alternative Company personnel.	Mako's Chief Geologist and General Manager Exploration conducted field visits as part of the verification process.
assaying	The use of twinned holes.  Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.  Discuss any adjustment to assay data.	No twinning of drill holes has occurred as the program is at an early stage of exploration.  Primary data is collected on field sampling sheets and then compiled on standard Excel templates. for validation and data management. Seequent MXDeposit.is used for data validation
		and management.  All samples returning values below detection limit are assigned a value of half of the lower detection limit. The lab reports manganese as MnO%. To convert to Mn%, the conversion of 0.77445 was applied (%MnO x 0.77445=%Mn). Both results are recorded in the database and are reported in Appendix 1 along with full results analysed. No other adjustments have been applied to analytical data.





Criteria	JORC Code explanation	Commentary
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Rock chip sample locations are recorded using a hand-held GPS with a location error of +/- 5m.
	Specification of the grid system used.	The grid system used is WGS84, zone 30. A northern hemisphere zone is applied that is applicable to the location of individual project areas.
	Quality and adequacy of topographic control.	A detailed topographic survey of the project area has not been conducted but digital terrain model data is available as part of the airborne geophysical survey that was flown.
Data spacing and distribution	Data spacing for reporting of Exploration Results.  Whether the data spacing, and distribution is sufficient to	Reconnaissance drill holes are spaced representatively along the 7km western and eastern manganese-rich units resulting in spacings of approximately 1km between drill holes.
	establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	Exploration is at an early stage and work to date has not been used to estimate any Mineral Resource or Reserve. More work needs to be done to establish geological and grade continuity.
	Whether sample compositing has been applied.	No sample compositing was done.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Exploration is at an early stage and, as such, the extent of mineralisation and its relation to lithological and structural boundaries is not accurately known. Samples were collected from across the interpreted stratigraphic trend of the mineralised
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	horizons, however more studies, including diamond core drilling will be needed in future to confirm the orientation of the dip of mineralisation particularly on the eastern Mn-rich zone as dips seen in outcrop are steep but vary from easterly to westerly.
		No orientation-based sampling bias has been identified in the data to date.
Sample security	The measures taken to ensure sample security.	Samples are stored securely on the project site under supervision of security guards and/or Company personnel. Company personnel maintain chain of custody of the samples prior to delivery to laboratory personnel. Documentation records the handover of samples to laboratory personnel.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have been conducted.





# Section 2 - Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The Ouangolodougou permit was granted to Mako Côte d'Ivoire SARLU, a 100% owned Ivorian registered subsidiary of Mako Gold Ltd, by decree No. 2020-938 on 25 November 2020 and is valid for 4 years with two renewals of three years each. The size of the permit is 111km <sup>2</sup> .
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Korhogo Nord permit was granted to Mako Côte d'Ivoire SARLU, a 100% owned Ivorian registered subsidiary of Mako Gold Ltd, by decree No. 2020-578 on 29 July 2020 and is valid for 4 years with two renewals of three years each. The size of the permit is 185km <sup>2</sup> .
		The Napié Permit (PR281) was granted to Occidental Gold SARL, a 100% owned, Ivorian registered, subsidiary of Perseus Mining Ltd, by decree No. 2012-1164 on 19th December 2012 and was valid for three years. The first, three-year, renewal of the permit was granted to Occidental Gold by decree No: 181 /MIM/DGMG DU on 19 December 2016. The second, three-year renewal was granted to Occidental Gold by decree No: 00018/MIM/DGMG on 21 March 2019. The exceptional renewal of the Napié permit for a further two years was granted to Occidental Gold SARL on 7 March 2022 by decree No: 00083/MMPE/DGMG. Decree No: 259/MMPE/DGMG dated 8 September 2022 transferred Occidental Gold's ownership to Mako CI sarlu, a 100% owned, Ivoirian registered, subsidiary of Mako Gold Ltd. This transaction gives Mako 90% ownership of the Napié Permit. Refer to Mako's ASX announcement of 21 October 2022 regarding the history of Napié ownership and details of the underlying agreement. The size of the permit is 224km².
Exploration	Acknowledgment and appraisal of exploration by other parties.	exist.  Mako is not aware of any previous exploration on the permit and
done by other parties		in particular, no previous exploration targeting manganese.
Geology	Deposit type, geological setting and style of mineralisation.	The geology of the Ouangolodougou permit consists of intermediate volcaniclastics in contact with diorite and granitic intrusions of Birimian age.
		Multiple parallel manganese-rich units have been mapped within the volcaniclastic rocks and trend north-easterly, approximately parallel to the volcaniclastic/granite contact and major structural fabric. The units are structurally controlled and appear to be subvertically dipping.  The Mn-rich units are considered to be of hydrothermal origin
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:  o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth hole length.	based on geochemistry.  Drill collars are shown in the figures within the report. A summary of drill hole collar data is located within the appendices.



Criteria	JORC Code explanation	Commentary
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.	Reporting of exploration results uses a weighted average based on sample length and manganese percentage only. A nominal 5% Mn cutoff grade was applied for reporting of exploration results incorporating up to 1m of internal dilution below the reporting cut-off.
	Where aggregate intercepts incorporate short lengths of high- grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.	No high-grade cuts have been applied to the reporting of exploration results.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for reporting exploration results.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.  If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.  If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	Intersection lengths are reported as down hole lengths (the distance from the surface to the end of the hole, as measured along the drill trace). True widths are uncertain at this time, although an approximation has been provided on the section. The orientation of mineralisation is not understood in newly drilled areas at this early stage of exploration.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Figures contained within this report.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	The Mn% results for those areas sampled and the areas that have not been sampled are detailed in the appendices.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	No other exploration data that is considered meaningful and material has been omitted from this report
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).  Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Detailed outcrop mapping and rock chip sampling is planned to get a better understanding of the orientation, extent and Mn grade across the Mn-rich zones. Further work will include IP geophysics, trenching and metallurgical sighter test work to understand the potential to increase the Mn grade by mechanical sorting.

