



Licence Number	L8612/2011/1
Licence Holder	Central Norseman Gold Corporation Pty Ltd
ACN	005 482 860
File Number:	2011/010196
Premises	Central Norseman Gold Corporation Main Store Phoenix Road NORSEMAN WA 6443
Date of Amendment	25/06/2019

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act) as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

Tim Gentle

Manager Resource Industries

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Definitions and interpretation

Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
Amendment Notice	refers to this document
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 JOONDALUP DC 6919 info@dwer.wa.gov.au
CS Act	<i>Contaminated Sites Act 2003 (WA)</i>
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Existing Licence	Licence L8612/2011/1 issued under Part V, Division 3 of the EP Act

Licensee	means the same as Licence Holder
Licence Holder	Central Norseman Gold Corporation Pty Ltd
m ³	cubic metres
Minister	the Minister responsible for the EP Act and associated regulations
mtpa	million tonnes per annum
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Amendment Notice applies, as specified at the front of this Amendment Notice.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>
UDR	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i>
TSF	Tailings Storage Facility

Amendment Notice

This amendment is made pursuant to section 59 of the *Environmental Protection Act 1986* (EP Act) to amend the Licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

This notice is limited only to an amendment for Category 5.

The following guidance statements have informed the decision made on this amendment:

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Decision Making (February 2017)*
- *Guidance Statement: Risk Assessment (February 2017)*

Amendment description

Central Norseman Gold Corporation submitted an application on 9 November 2018 to amend the frequency of monitoring in relation to dewatering discharges released to Lake Cowan, so that monitoring is only required when there has been a dewater discharge within the previous 12 months. Central Norseman Gold Corporation is currently in a period of care and maintenance, and discharges to Lake Cowan have not occurred since 2015.

As of 14 May 2019, Pantoro South Pty Ltd has entered into a 50/50 unincorporated Joint Venture agreement with Central Norseman Gold Corporation Pty Ltd, in which Pantoro South has been appointed the operator (Pantoro 2019). A further shareholders' meeting and approval remain to formalise the new arrangement, at which time the Licence Holder details for L8612/2011/1 will be updated.

Consequently Pantoro South have indicated that they wish to maintain the monitoring program frequencies as per the current Licence so these aspects of the Central Norseman's application have been not been actioned in the amendment (Pantoro 2019)

The Phoenix Processing Plant is currently not permitted to be operated in accord with a Prohibition Notice issued in 2016 under the *Mines Safety and Inspection Act 1994* by the Department of Mines, Industry Regulation and Safety. Given the safety concerns are related to the structural integrity of the processing plant, this amendment will require Central Norseman Gold to complete an inspection of the integrity of the plant to ensure that adequate containment for process materials (spills) and contaminated stormwater is available prior to any recommencement of operations of the Phoenix Plant. It is noted that a previous improvement condition (IR4 of condition 4.1.1) on the Licence to address contaminated stormwater containment (improvements to Lake Bower) within the Phoenix Process Plant had not been actioned, in part due to being non-operational due to the Prohibition Notice.

A number of administrative errors within the existing Licence are also corrected at this time.

Licence amendment history

Table 4 provides L8612/2011/1 history for Central Norseman Gold Corporation's Premises.

Table 2: Licence amendments

Instrument	Issued	Amendment
L8612/2011/1	17/11/2011	Issue of new Licence as Licence L6043/1967/13 ceased due to non-payment of fees
L8612/2011/1	26/09/2013	Licence amendment to prohibit reprocessing of tailings, add fugitive dust management conditions, require improvements to stormwater management within the Phoenix processing plant, audit groundwater

		monitoring data, improve tailings pipeline management.
L8612/2011/1	22/10/2015	Licence amendment for conversion of licence to new template and increase in landfill capacity
L8612/2011/1	25/06/2019	Amendment Notice 1 Amend the frequency of dewatering discharge monitoring, remove monitoring requirements associated with inactive TSFs, require an inspection of the integrity of the Phoenix Processing Plant prior to recommencing operations, correct administrative errors and update the improvement condition. Parameters for groundwater and surface water have been amended to include the full suite of major ions and metal(loid)s expected to be associated with gold deposits.

Location and receptors

Table 5 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 3: Receptors and distance from activity boundary

Residential and sensitive premises	Distance from Prescribed Premises
Town of Norseman	Within the Premises boundary; the Phoenix Processing Plant and Phoenix TSF is immediately to the east of the town.

Table 6 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 4: Environmental receptors and distance from activity boundary

Environmental receptors	Distance from Prescribed Premises
Lake Cowan	Within the Premises boundary to the west and north of the Premises boundary

Decision

The Delegated Officer has determined that the requested change to modify the monitoring frequency associated with the dewatering discharge to Lake Cowan is granted as during the care and maintenance period no discharges are occurring. An additional consideration is that there is at least 12 years of previous data associated with assessing impacts from the discharge: discharge water quality, receiving environment impacts such as sediment quality, riparian vegetation impacts, aquatic biota abundance and diversity and salt crust measurements are available. The frequency of monitoring required for vegetation health and sediment quality at Lake Cowan have also been modified to be required during dewater discharge (Tables 1.3.3 and 3.4.3).

Condition 1.3.13 has been added to the Licence to state that prior to operating the existing Phoenix Processing Plant an inspection of the integrity of processing liquors and contaminated stormwater containment by a qualified civil engineer or equivalent is required to be completed and submitted to DWER. Any remedial works required to be completed as a result of the integrity inspection to operate the processing plant will require a Works Approval to authorise those works.

The parameters requiring analysis for both dewatering discharges and groundwater have been revised to ensure the all major ions are being analysed and that the contaminants likely to be associated with the gold ore are sampled.

Ambiguities in the vegetation monitoring requirements for condition 1.3.7 have been rectified.

Improvement condition Table 4.1.1 has been amended to reflect that the submission of a dust management plan 'IR5' was previously completed. IR4 has been removed as the surface water management will be addressed in a separate application for any reconstruction of the processing plant or remedial works (if required) from the containment integrity report at a future date. IR2 and IR3 (a) and (b) are still incomplete and subject to an Environmental Field Report notice (EFR 107). This notice was issued following the DWER Compliance Inspection of 2 October 2018. The updated due dates in the amended table are as per the Licensee response to the EFR 107 notice. The Licensee has committed to replacing bore MB9 with new bore MB13.

Following Pantoro South's advice that they are now the managing operator of Central Norseman Gold, the timeframes for completion of IR2 and IR3 have been extended to 30 September 2019, to allow Pantoro South time to schedule and complete the outstanding drilling works (Pantoro 2019).

Requirements from IR1 has been added to condition 1.3.1. Secondary containment of above ground pipelines handling tailings and tailings return water is still required by condition 1.3.1, with the addition that other pipelines handling environmentally hazardous materials are also provided with secondary containment.

Cross referencing errors in Table 5.2.1 have been corrected and a definition not referred to in the conditions has been deleted.

Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 20 November 2018. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 2. A revised draft was issued to the Licence Holder on 9 April 2019. Following a change in ownership structure, a third draft was issued on 17 June 2019. The Licence Holder requested that the draft be issued on 25 June 2019.

Amendment

1. Definitions of the Licence are amended by the deletion of the text shown in strikethrough below and the insertion of the red text shown in underline below:

'care and maintenance' means the period during which active operations are suspended;

~~'quarantined storage area or container' means a hardstand storage area or sealed bottom container that is separate and isolated from authorised waste disposal areas and is capable of containing all non-conforming waste and its constituents, these areas must be clearly marked and their access restricted to authorised personnel;~~

2. Condition 1.3.1 of the Licence is amended by the insertion of red text in underline below:

- 1.3.1 The Licensee shall ensure all above ground pipelines containing saline water, acidic or alkaline liquors or tailings and tailings return water are:

- (a) provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections; and
- (b) when in operation are equipped with telemetry systems and pressure sensors along pipelines to allow for the detection of leaks and failures; or/and
- (c) equipped with automatic cut-outs in the event of a pipe failure.

3. Condition 1.3.7 of the Licence is amended by the deletion of text shown in

strikethrough and the insertion of red text in underline as shown below:

- 1.3.7 The Licensee shall undertake the assessment of vegetation health as detailed in Table 1.3.4. The assessments shall:
- (a) photograph ~~and record the presence and condition of vegetation~~ at the photographic monitoring locations defined in Table 1.3.4;
 - (b) record the qualitative tree condition and quantitative foliage cover of ~~selected~~ sample trees at locations defined in Table 1.3.4;
 - (c) compare the results of the assessment against previous years assessments and identify whether any deterioration in the presence and/or quality of vegetation has taken place;
 - (d) be undertaken by a person suitably qualified in vegetation identification and sampling.

Table 1.3.4: TSF tree health monitoring	
Monitoring point reference and location	Frequency
TSF Cells 1-3: Photographic Monitoring Points: PH1, PH2, PH3, PH4, PH5, PH6, PH7 Venture TSF: Photographic Monitoring Points: VVH1, VVH2, VVH3, VVH4, VVH5 TSF4: Sample trees that are flagged and numbered Control Site: Sample trees that are flagged and numbered. Photographic Monitoring Points: CPP1, CPP 2, CPP 3	Six-monthly between the months of April to June and October to December
TSF4: Photographic Monitoring Points: 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B, 5A, 5B	Quarterly

4. The Licence is amended by the addition of Condition 1.3.13 as shown below:

- 1.3.13 Prior to recommencement of operation of the Phoenix Processing Plant, the Licensee shall submit to the CEO a report assessing the integrity of processing liquor and contaminated stormwater containment facilities (for example bunding and tank compounds). The report shall be completed by a qualified civil engineer or equivalent. Where any deficiencies are identified, the Licensee shall conduct works to establish adequate containment systems prior to operation.

5. Table 3.2.1 of the Licence is amended by the insertion of red text shown in underline below:

Table 3.2.1: Monitoring of point source emissions to surface water					
Emission point reference	Parameter²	Limit	Units	Averaging Period	Frequency
W1	Volumetric flow	N/A	kL	Monthly	Continuous <u>during dewater discharge</u>
	pH ¹	5 to 8	N/A	Spot sample	Six-monthly <u>during dewater discharge</u>
	Electrical Conductivity	N/A	µS/cm		
	Total Dissolved Solids		mg/L		
	Nitrite + Nitrate				
	Total Nitrogen				
Total Phosphorous					

	Sulphate				
	<u>Arsenic</u>				
	Cadmium				
	Chromium				
	<u>Cobalt</u>				
	Copper				
	<u>Lead</u>				
	<u>Manganese</u>				
	<u>Mercury</u>				
	Nickel				
	<u>Selenium</u>				
	Zinc				

Note 1: In-field non-NATA accredited analysis permitted.

Note 2: All metals to be analysed as dissolved metals

6. Condition 3.4.1 of the Licence is amended by the deletion of text in strikethrough and the insertion of red text shown in underline below:

3.4.1 The Licensee shall undertake the monitoring in Tables 3.4.1, ~~and 3.4.2~~ and 3.4.3 according to the specifications in those tables and record and investigate results that do not meet any limit specified.

7. Table 3.4.1 of the Licence is amended by the deletion of the text shown strikethrough and the insertion of the red text shown in underline below:

Table 3.4.1: Monitoring of ambient groundwater quality					
Monitoring point reference and location	Parameter ^{1,3}	Limit	Units	Averaging period	Frequency
Venture TSF: V1, V2, V3, V7, V8, V9 and V10 TSF Cells 1-3: P1, P2, P3, P4, P5, P7, P8 and P9 TSF4: MB1, MB2, MB3, MB4, MB5, MB6, MB7, MB8, MB10, MB12 and MB13 ³	Standing water level	4	mbgl	Spot sample	Monthly
	pH ²	N/A	N/A		Quarterly
	Electrical Conductivity		µS/cm		
	Total Dissolved Solids		mg/L		
	Weak Acid Dissociable Cyanide	0.8			
	Total Cyanide	N/A			
	Free Cyanide				
	<u>Bicarbonate</u>				
	<u>Carbonate</u>				
	<u>Calcium</u>				
	<u>Magnesium</u>				
	<u>Potassium</u>				
	<u>Sodium</u>				
	<u>Chloride</u>				
	<u>Sulfate</u>				
	<u>Cadmium</u>				
	<u>Cobalt</u>				
	Copper				
	<u>Lead</u>				
	Manganese				
	<u>Mercury</u>				
<u>Nickel</u>					
Aluminium					
Arsenic					
Antimony					
Iron					

	Selenium				
	<u>Zinc</u>				

Note 1: Metals shall be analysed as dissolved metals.

Note 2: In-field non-NATA accredited analysis permitted.

~~Note 3: MB13 is only to be sampled from once monitoring bore is reinstated.~~

Note 3: All metals to be analysed as dissolved metals

8. Table 3.4.2 of the Licence is amended by the insertion of the red text shown in underline below:

Table 3.4.2: Monitoring of ambient surface water quality				
Monitoring point reference and location	Parameter²	Units	Averaging period	Frequency
CM1, CM2, CM3, CM4, CM5, CM6, CM7	pH ¹	N/A	Spot sample	Annually
	Electrical Conductivity	µS/cm		
	Total Dissolved Solids	mg/L		
	Nitrite and Nitrate			
	Total Nitrogen			
	Total Phosphorous			
	Sulphate			
	<u>Bicarbonate</u>			
	<u>Carbonate</u>			
	<u>Calcium</u>			
	<u>Magnesium</u>			
	<u>Sodium</u>			
	<u>Chloride</u>			
	<u>Arsenic</u>			
	<u>Antimony</u>			
	Cadmium			
	Chromium			
	<u>Cobalt</u>			
	Copper			
	<u>Manganese</u>			
<u>Mercury</u>				
Nickel				
<u>Selenium</u>				
Zinc				

Note 1: In-field non-NATA accredited analysis permitted.

Note 2: All metals to be analysed as dissolved metals

9. Table 3.4.3 of the Licence is amended by the insertion of the red text shown in underline below:

Table 3.4.3: Monitoring of ambient sediment quality				
Monitoring point reference and location	Parameter²	Units	Averaging Period	Frequency
CM1, CM2, CM3, CM4, CM5, CM6 and CM7	pH ¹	N/A	Spot sample	Annually in between October and December in the same year
	Salt crust thickness	cm		
	Moisture Content	%		
	Electrical Conductivity	µS/cm		
	Total Dissolved Solids	mg/kg		
	Nitrite and Nitrate			
	Total Nitrogen			
	Total Phosphorus			
	<u>Bicarbonate</u>			
	<u>Carbonate</u>			

	<u>Calcium</u>			
	<u>Magnesium</u>			
	<u>Sodium</u>			
	Sulfate			
	Chloride			
	Arsenic			
	Cadmium			
	Chromium			
	<u>Cobalt</u>			
	Copper			
	<u>Mercury</u>			
	Nickel			
	Lead			
	<u>Selenium</u>			
	Zinc			

Note 1: In-field non-NATA accredited analysis permitted.

Note 2: All metals to be analysed as dissolved metals

10. Table 4.1.1 of the Licence is amended by the deletion of the text shown in strikethrough and the insertion of the red text shown in underline below:

Table 4.1.1: Improvement program		
Improvement reference	Improvement	Date of completion
IR4	<p>The Licensee shall ensure that all pipelines containing environmentally hazardous materials, including saline dewater, are either:</p> <p>(a) equipped with telemetry systems and pressure sensors along pipelines to allow for the detection of leaks and failures; or</p> <p>(b) equipped with automatic cut-outs in the event of a pipe failure; or</p> <p>(c) provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections.</p>	No later than 1-year from signing.
IR2	The Licensee shall replace monitoring bore MB9 with MB13.	15 March 2016 <u>30 September 2019</u>
IR3	<p>The Licensee shall manage TSF4 such that:</p> <p>(a) <u>an additional monitoring bore is installed in the location of the proposed seepage recovery bores; and</u></p> <p>(b) <u>pending monitoring results, the monitoring bore will be converted to a seepage recovery bore</u> collection and recovery system is installed and operated to capture seepage from the TSF;</p> <p>(c) seepage is returned to the TSF or re-used in process;</p> <p>(d) the location of tailings deposition spigots and return water pumps are managed to minimise seepage at the southeast corner of the TSF;</p> <p>(e) the supernatant pond on the TSF is minimised as far as practicable.</p>	15 March 2016 <u>30 September 2019</u>
IR4	<p>The Licensee shall submit a report that defines the capacity of the Lake Bower Stormwater Management System. This report shall take into consideration:</p> <p>(a) the size catchment area based on survey information;</p> <p>(b) annual recurrence interval data to determine the frequency of significant rainfall events; and</p> <p>(c) the volume of stormwater captured during a significant rainfall event.</p>	28 February 2016

IR5	The Licensee shall submit a Dust Management Plan for the premises that includes, but is not limited to: (a) potential sources of dust from the premises; (b) dust management and mitigation measures to be used onsite; (c) discussion of what triggers are to be used to initiate dust management and mitigation measures; and (d) discussion of the provision to cease operations to prevent excessive dust.	3 months from signing
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11. Table 5.2.1 of the Licence is amended by the deletion of the text shown in strikethrough and the insertion of the red text shown in underline below:

Table 5.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or form¹
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
5.1.3	Compliance	Annual Audit Compliance Report (AACR)
5.1.4	Complaints summary	None specified
-	Volumes of ore processed	
1.3.6 <u>1.3.7</u>	Annual <u>TSF4</u> vegetation monitoring around TSF4	
1.3.7 <u>1.3.8</u>	Annual water balance for TSF4	
2.6.1	Measures taken to suppress dust	
Table 3.2.1	Monitoring of point source discharges to surface water	
Table 3.3.1	Monitoring of inputs and outputs	
Table 3.4.1	Monitoring of ambient groundwater quality	
Table 3.4.2	Monitoring of ambient surface water quality	
3.8.2 <u>3.4.1</u>	Implementation of the Groundwater, Seepage and Dewatering Management Plan	
Table 4.1.1	Performance against improvement conditions	

Note 1: Forms are in Schedule 2

12. Condition 5.2.2 of the Licence is amended by the insertion of the red text shown in underline below :

- 5.2.2 The Licensee shall ensure that the Annual Environmental Report also contains:
- an assessment of the information contained within the report against previous monitoring results and Licence limits;
 - a summary of issues raised from inspections or incident responses during the reporting period and details of how these have been, or are scheduled to be, addressed and/ or rectified; and
 - if a dewatering discharge to the environment has occurred in the reporting period, a Dewatering Discharge Report.

Appendix 1: Key documents

	Document title	In text ref	Availability
1	Licence L8612/2011/1 – Central Norseman Gold Corporation	L8612/2011/1	accessed at www.dwer.wa.gov.au
2	L8612/2011/1 Compliance Inspection Report 2018	N/A	DWER record (EA172188)
3	DER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth.	DER 2015a	accessed at www.dwer.wa.gov.au
4	DER, November 2016. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	DER 2016b	
5	DER, November 2016. <i>Guidance Statement: Decision Making</i> . Department of Environment Regulation, Perth.	DER 2016c	
6	Pantoro South (2019) <i>Revised draft L8612 Amendment Notice</i> email sent to DWER 12/6/2019 09:32 AM	Pantoro 2019	DWER record (A1797615)

Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 20 November 2018 for review and comment. The Licence Holder (Central Norseman Gold Pty Ltd) responded on 13 December. The following comments were received on the first draft Amendment Notice.

Given the change in ownership from 14 May 2019, DWER referred the proposed amendment to Pantoro South for comment. Pantoro South made general comments on 12 June 2019 to retain the monitoring frequencies as per the existing Licence and to only amend the due dates for IR2 and IR3 of condition 4.1.1 to 30 September 2019, to allow them time to complete the works as required (Pantoro 2019). These changes have been accepted by DWER.

Condition	Summary of Licence Holder (CNG) comment	DWER response
1.3.1	Add a qualifier that the pipelines are required to have the containment or telemetry management only when in use.	Accepted in part; secondary containment is required to be maintained irrespective of whether the pipelines are in operation or not given the potential that inactive pipelines may still hold saline water.
Table 1.3.1	Retain TSF123 Return Water Dam (pond) in this table	Accepted
Table 1.3.3	Frequency to be amended to “annually during dewater discharge”	Accepted
Table 1.3.4	Frequency for monitoring of sample trees that are flagged and numbered to be amended to “annually when the TSF is active” as per the photographic monitoring	Accepted
1.3.13	Remove this proposed condition stating that Phoenix Processing Plant shall not be operated.	Condition 1.3.13 has been modified to require an assessment of the integrity of processing liquor and contaminated stormwater containment systems to be completed prior to operation of the Phoenix Processing Plant. Where any deficiencies are identified, these shall be remediated prior to processing plant operation.
Table 3.4.3	Frequency to be amended to “annually during dewater discharge”	Accepted
Definitions	Operations are in a “pause and review” phase and not in “care and maintenance”	Noted, however “care and maintenance” is a recognised industry term for referring to operations which although not active, are planned to be active in the future. DWER recommends retaining the term “are and maintenance” to

Condition	Summary of Licence Holder (CNG) comment	DWER response
		describe the current period of operations at CNGC.