



Application for Licence Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Licence Number	L8558/2011/1
Licence Holder	Sandfire Resources NL
ACN	105 154 185
File Number	2011/004602-1
Premises	DeGrussa Copper-Gold Project Mining Tenement M52/1046 MEEKATHARRA WA 6642 As defined by the Premises maps attached to the Revised Licence
Date of Report	01 November 2023
Decision	Revised licence granted

A/MANAGER, RESOURCE INDUSTRIES

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

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1. Decision summary

Licence L8558/2011/1 is held by Sandfire Resources NL (Licence Holder) for the DeGrussa Copper-Gold Project (the Premises), located at Mining Tenement M52/1046, MEEKATHARRA WA 6642.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L8558/2011/1 has been granted.

The Revised Licence issued as a result of this amendment supersedes the existing Licence previously granted in relation to the Premises. The Revised Licence has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary

On 17 February 2023, the Licence Holder submitted an application to the department to amend Licence L8558/2011/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). Originally the Licence Holder was proposing to process low grade copper oxide ore from stockpiles brought to the surface from the Degrussa Underground Mine. Copper oxide tailings slurry from this processing was proposed to be deposited into the voids of the inactive Degrussa Underground Mine. However, processing of the copper oxide ore resulted in low / unprofitable copper recoveries and higher than expected water demand. Therefore, the Licence Holder decided to discontinue oxide processing.

On 09 August 2023, the Licence Holder re-submitted their application to remove the copper oxide tailings deposition into the Degrussa Underground Mine. The following amendments are being sought as part of the revised application in preparation for mine site closure:

- Category 5 reduction in the throughput from 2,050,000 tonnes per annum to 250,000 tonnes per annum;
- Category 6 reduction in the throughput from 2,000,000 tonnes per annum to 50,000 tonnes per annum;
- Removal of Category 52; and
- Relocation of existing dewatering pipelines to transport tailings storage facility (TSF) underdrainage water to the DeGrussa Open Pit at closure.

Copper bearing ore is processed onsite to produce copper product. A small amount of ore was previously sent to the nearby Plutonic Gold Mine for processing to produce gold produce (no gold bearing ore is processed onsite at the Premises to produce gold product), however, this has not occurred for over five years.

The Premises is approaching closure status.

The Licence Holder has also requested the removal of category 52. Refer to Table 1.

This amendment is limited only to changes to Categories 5, 6 and 52 activities from the Existing Licence. No changes to the aspects of the existing Licence relating to Categories 54 and 64

have been requested by the Licence Holder.

Table 1 below outlines the proposed changes to the existing Licence

Table 1: Proposed design or throughput capacity changes

Category	Current design throughput capacity	Proposed design throughput capacity	Description of proposed amendment
5	2,050,000 tonnes per annual period	250,000 tonnes per annual period	Reduction in throughput from 2,050,000 tonnes per annum to 250,000 tonnes per annum. Modifications to infrastructure requirements: <ul style="list-style-type: none"> • TSF underdrainage via dewatering pipelines to DeGrussa Open Pit.
6	2,000,000 tonnes per annual period	50,000 tonnes per annual period	Note that dewatering discharge is no longer occurring. Reduction in throughput from 2,000,000 tonnes per annum to 50,000 tonnes per annum.
52	23 megawatts in aggregate	Removed under this amendment	Power contractor KPS has removed generators 6 – 14 from site, and currently only generators 1 – 5 remain. The current power generating capacity at the DeGrussa power station is 5MW in aggregate (i.e., 5 x 1 MW generators).
54	240 cubic metres per day	240 cubic metres per day	N/A
64	5,000 tonnes per annual period	5,000 tonnes per annual period	N/A

2.2.1 Category 5

Reduction in throughput from 2,050,000 tonnes per annum to 250,000 tonnes per annum as the Premises is not operational. The Licence Holder has requested to retain this category on the Licence.

The Licence Holder proposes to direct TSF underdrainage water, which is currently reused in processing, directly to the Degrussa Open Pit to align with the TSF closure strategy approved under the DeGrussa Mine Closure Plan. This will only occur at the completion of mining and processing.

The TSF underdrainage water is a separate stream from the tailings decant (collected from the surface decant pond), which is collected from the base of the TSF after it infiltrates through the TSF structure.

The geochemical characteristics of the TSF underdrainage is provided in Table 2.

The TSF underdrainage has elevated total dissolved solids (TDS), dissolved salts (calcium,

chloride, magnesium, sodium, sulphate), fluoride, arsenic, iron, manganese, molybdenum and strontium in comparison to the surrounding groundwater.

The TSF is now decommissioned, therefore it is anticipated that the volume of underdrainage that would potentially report to the open pit would reduce gradually over time from the volumes recorded during operation as tailings are no longer being deposited into the TSF and as the surface desiccates, any water still entrained in surface tailings would be lost through evaporation. By directing TSF underdrainage to the open pit, rather than recirculating it to the TSF surface, desiccation and consolidation of the TSF will accelerate allowing for the surface to become trafficable sooner, and the final TSF closure capping to be applied earlier.

Table 2: Geochemical characteristics of TSF Underdrainage Water

Parameter	Units	80% Freshwater Ecosystem DGV	Livestock Drinking Water Guideline DGV	Sample Date / Lab ID		Average TMB water quality (2023)
				22/08/2022 PDH1275-01	22/06/2023 PEF1574-02	
pH	pH units	N/G	6.5 - 8.5	6.3	6.5	7.5
Electrical Conductivity	µS/cm	N/G	N/G	8300	8600	1135
Total Dissolved Solids (TDS)	mg/L	N/G	4000	6300	6900	719
Total Suspended Solids	mg/L	N/G	N/G	<5.0*	160	330
Hardness (as CaCO ₃)	mg/L	N/G	N/G	2600	2900	
Acidity	mg/L	N/G	N/G	38	18	12
Calcium (Ca)	mg/L	N/G	1000	570	580	42
Chloride (Cl)	mg/L	N/G	N/G	1500	1600	189
Potassium (K)	mg/L	N/G	N/G	31	30	11
Magnesium (Mg)	mg/L	N/G	N/G	280	350	36
Sodium (Na)	mg/L	N/G	N/G	1000	1100	120
Sulphate (SO ₄ ²⁻)	mg/L	N/G	1000	2800	3500	139
Aluminium (Al) [^]	mg/L	0.15	5	0.068	<0.10*	0.013
Arsenic (As)	mg/L	0.14	5	0.026	0.14	0.0015
Boron (B)	mg/L	1.3	5	0.4	0.34	0.64
Cadmium (Cd)	mg/L	0.0008	0.01	<0.0005	<0.010*	0.00012
Chromium (Cr)	mg/L	0.04	1	<0.005	<0.0010*	0.0029

Parameter	Units	80% Freshwater Ecosystem DGV	Livestock Drinking Water Guideline DGV	Sample Date / Lab ID		Average TMB water quality (2023)
				22/08/2022 PDH1275-01	22/06/2023 PEF1574-02	
Cobalt (Co)	mg/L	N/G	N/G	<0.005	<0.010*	0.0018
Copper (Cu)	mg/L	0.0025	1	<0.005	<0.010*	0.009
Fluoride (F)	mg/L	N/G	2	1.2	2.1	0.42
Iron (Fe)	mg/L	N/G	N/G	7.7	5.1	0.019
Manganese (Mn)	mg/L	3.6	N/G	2.7	1.1	0.25
Mercury	mg/L	0.0054	0.002	<0.00005	<0.00005*	<0.00005
Molybdenum (Mo)	mg/L	N/G	0.15	0.056	0.082	0.003
Nickel (Ni)	mg/L	0.017	1	<0.005	<0.020*	0.002
Lead (Pb)	mg/L	0.0094	0.1	<0.005	<0.030*	<0.0010
Antimony (Sb)	mg/L	N/G	N/G	<0.005	<0.10*	<0.0010
Selenium (Se)	mg/L	0.034	0.02	<0.005	<0.10*	0.002
Strontium	mg/L	N/G	N/G	7	7.4*	0.33
Uranium (U)	mg/L	N/G	0.2	<0.005	<0.0010*	0.003
Vanadium (V)	mg/L	N/G	N/G	<0.005	<0.020*	0.007
Zinc (Zn)	mg/L	0.031	20	<0.005	0.025	0.04
Nitrate as N	mg/L	17	400	<0.050	<0.0050*	13
Nitrate as NO ₃	mg/L	N/G	N/G	<0.20*	<0.020*	43
Ionic Balance	%	N/G	N/G	-2.7	-4.3	-6.8

* = Practical Quantification Limit

^pH >6.5. For pH<6.5 N/G

Figure 1 shows the prescribed premises boundary and proposed infrastructure.

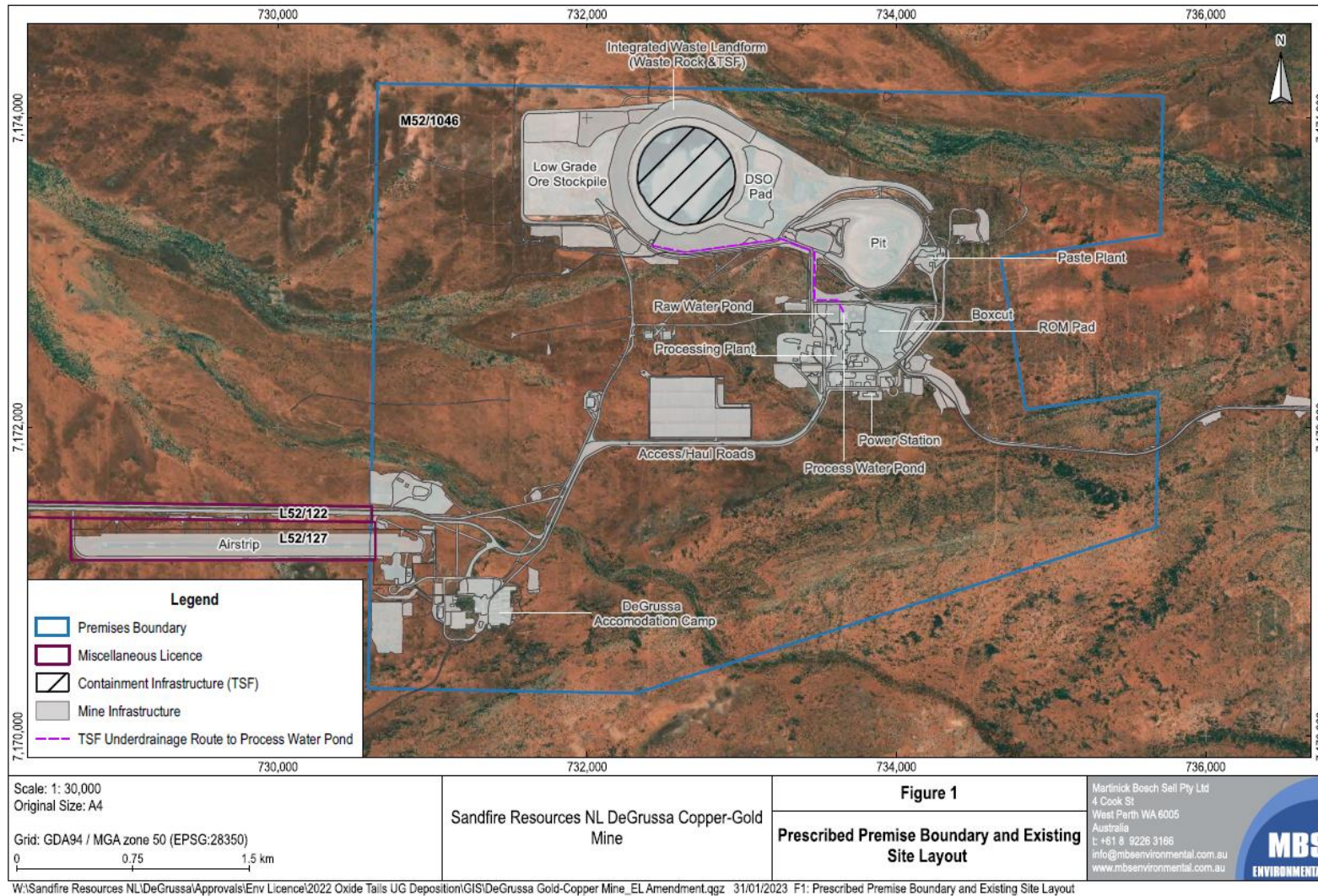


Figure 1: Prescribed Premises Boundary and Existing Site Layout

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IR-T15 Amendment report template v3.0 (May 2021)

2.2.2 Category 6

Reduction in throughput from 2,000,000 tonnes per annum to 50,000 tonnes per annum as the Premises is not operational. The Licence Holder has requested to retain this category on the Licence.

All underground mine dewatering at DeGrussa ceased in October 2022, with all the pumps and equipment removed from the underground at that time. The dewatering discharge infrastructure has also been decommissioned, and in some cases removed completely from the discharge point. There has been no discharge to these points since September 2022.

As the mine dewatering pipelines are to be used to transfer the tailings underdrainage to the DeGrussa Open Pit the Licence Holder has requested that the Category 6 not be removed from the Licence. The department has placed a construction condition on the Licence to allow the reinstallation of the mine dewatering and discharge points, following the provision of required information as part of notification and compliance documentation.

2.3 Principal Hydrogeologist Technical Advice

Technical advice was sought from the department's Principal Hydrogeologist and has recommended that a post-closure water quality and biological sampling program be undertaken to determine whether there is a significant risk that selenium is being transferred from the pit-lake to the surrounding environment.

Selenium monitoring would be required after mine closure and would not be administered by Part V licence conditions, therefore, the technical advice was forwarded to the Department of Mines, Industry Regulation and Safety (DMIRS) as it is likely that they would be responsible for post-closure monitoring at the Premises.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 3 below. Table 3 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 3: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Category 5 TSF underdrainage water to the DeGrussa Open Pit at closure			
Tailings water enriched in arsenic, silver, bismuth, copper, lead, antimony, cadmium and zinc	Pipeline leaks / spills	Direct discharges to soils	<ul style="list-style-type: none"> Pipelines are bunded; Inspected visually twice daily (dayshift and nightshift); Fitted with pressure sensors to detect leaks, have isolation valves at regular intervals to allow for isolation of lakes and facilitate repairs and maintenance; Telemetry allows pipelines to be monitored 24 hours per day by the Process Control Room Operator; and Monitoring of pit lake water quality post closure for metals and metalloids including selenium to gather information on actual concentrations versus predicted concentrations to inform long term risk assessments.
	Overtopping	Direct discharges to soils	<ul style="list-style-type: none"> Freeboard of approximately 40 m.
	Tailings underdrainage to DeGrussa Open Pit	Seepage to soils and groundwater	<i>See Section 2.2.2 that recommends that post-closure water quality and biological sampling program be undertaken as part of the DMIRS Mine Closure Plan.</i>
Fauna ingress	Fauna in surrounding areas	Access into DeGrussa Open Pit	<ul style="list-style-type: none"> Due to pit geometry, the pit lake will feature steep sided walls and minimal shallow embankments which will limit access by terrestrial fauna (and

Emission	Sources	Potential pathways	Proposed controls
			<p>humans); and</p> <ul style="list-style-type: none"> Committed to fencing DeGrussa Open Pit on outside of abandonment bund at closure. <p>Licence Holder working with the Department of Biodiversity, Conservation and Attractions (DBCA) to provide a clear standard of the type of fencing required.</p>
Category 6 Mine dewatering reinstatement			
Mine dewatering discharge	Erosion	Direct discharges	Licence Holder has requested that Category 6 be retained on the Licence, though the infrastructure has been decommissioned, so reinstatement would require confirmation that it is in place with adequate controls. Controls to be required as part of the Licence. Refer to Table 5.
	Inundation of vegetation	Direct discharges	
	Contamination of creek lines, riparian vegetation	Direct discharges	

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 4 below provides a summary of potential environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020)).

Table 4: Environmental receptors and distance from prescribed activity

Environmental receptors	Distance from prescribed activity
Threatened and/or priority flora <i>Euphoria sarcostemmoides</i> (P1)	6 km south east of premises
Aboriginal and other heritage sites Noonyereena Pool	7 km south west of the premises
Rivers, lakes, oceans, and other bodies of surface water, etc. Gregory Lake Non perennial stream	56 km east southeast of the premises 1.3 km north east of the premises
Acid sulfate soils Small area of sulfidic material	6.4 km west southwest of the premises
Ecological communities of future pit lake	Within base of DeGrussa Open Pit
Groundwater (suitable for stock drinking	10 – 17 mbgl

Environmental receptors	Distance from prescribed activity
water)	
DBCA managed lands and waters	Overlaps the majority of the Prescribed Premises. Unallocated crown land proposed for addition to the WA conservation estate

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 5.

The Revised Licence L8558/2011/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 5. Risk assessment of potential emissions and discharges from the Premises during operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Operation								
Category 5 TSF underdrainage via dewatering pipelines to the Degruusa Open Pit	Tailings water enriched in arsenic, silver, bismuth, copper, lead, antimony, cadmium and zinc	Pipeline leaks / spills Direct discharges to soils	Soils, vegetation, groundwater	Refer to Section 3.1	C = Minor L = Possible Medium Risk	Y	Condition 2 requires telemetry systems, pressure sensors, automatic cut-outs or secondary containment for pipelines containing environmentally hazardous substances Condition 5, Table 3 Inspection of infrastructure Requires daily visual integrity inspections of tailings pipelines and return water lines Condition 19, Table 12 Monitoring of the Tailings Underdrainage Requires monitoring of the tailings underdrainage Condition 25, Table 14 Annual Environmental Report Requires reporting of tailings underdrainage results	N/A
		Overtopping Direct discharges to soils	Soils, vegetation, groundwater	Refer to Section 3.1	C = Minor L = Possible Medium Risk	Y	Condition 19, Table 12 Monitoring of the Tailings Underdrainage Requires monitoring of the tailings underdrainage Condition 25, Table 14 Annual Environmental Report Requires reporting of tailings underdrainage results	N/A
		Tailings water to DeGrussa	Seepage to soils and groundwater	Refer to Section 3.1	C = Minor	Y	Condition 19, Table 12 Monitoring of the Tailings Underdrainage Requires monitoring of the tailings	<i>See Section 2.3 that recommends that post-closure water</i>

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Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
		Open Pit			L = Possible Medium Risk		underdrainage Condition 20, Table 13 Monitoring of ambient groundwater quality Requires monitoring of ambient groundwater quality in the vicinity of the TSF. TMB04B is nearby the DeGrussa Open Pit Condition 25, Table 14 Annual Environmental Report Requires reporting of tailings underdrainage results and ambient groundwater monitoring	<i>quality and biological sampling program be undertaken as part of the DMIRS Mine Closure Plan</i>
	Fauna ingress	Access into DeGrussa Open Pit	Fauna in surrounding areas	Refer to Section 3.1	C = Minor L = Possible Medium Risk	Y	N/A	N/A
Category 6 Mine dewatering decommissioning, possible reinstatement	Mine dewatering discharge	Erosion	Riparian vegetation	Refer to Section 3.1	C = Minor L = Possible Medium Risk	N	Condition 9, Table 6 Construction Requirements Requires information to be provided on the mine dewatering with notification and compliance requirements	Licence Holder has requested that Category 6 be retained on the Licence, though the infrastructure has been decommissioned, so reinstatement would require confirmation that it is in place with adequate controls
		Inundation of vegetation	Riparian vegetation	Refer to Section 3.1	C = Minor L = Possible Medium Risk	N		
		Contamination of creek lines, riparian vegetation	Riparian vegetation	Refer to Section 3.1	C = Minor L = Possible Medium Risk	N		

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

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4. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

Table 6: Consultation

Consultation method	Comments received	Department response
Local Government Authority advised of proposal (06/06/2023)	No comments received.	N/A.
DMIRS advised of proposal (06/06/2023)	DMIRS replied on date stating/advising that <i>"The proposed TSF underdrainage water discharged to the open pit appear to align with MCP Reg ID 110627. As such, DMIRS has no further comment to provide."</i> Refer to Section 2.3 for technical advice forwarded to DMIRS for Mine Closure Plan.	Noted.
DBCA advised of proposal (06/06/2023)	<i>DBCA replied on 30/06/2023 stating/advising that "Noting the capacity for the Department of Water and Environmental Regulation to assess and apply appropriate regulatory measures to prescribed premises under Part V of the EP Act, DBCA has no comments on the application."</i>	Noted.
Department of Planning, Lands and Heritage (DPLH) advised of proposal (06/06/2023)	<i>DPLH replied on 26/07/2023 stating/advising that "reviewing the subject areas proposed for further development against the Aboriginal Cultural Heritage Directory, I can confirm the areas do not intersect with any known Aboriginal Cultural Heritage."</i>	Noted.
Marputu Aboriginal Corporation advised of proposal (06/06/2023)	No comments received.	N/A.
Licence Holder was provided with draft amendment (13/09/2023)	Comments received on 15/09/2023 and 30/10/2023 Refer to Appendix 1	Comments received on 15/09/2023 and 30/10/2023 Refer to Appendix 1

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 7 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 7: Summary of licence amendments

Existing condition	Condition summary	Revised condition	licence	Conversion notes
N/A	N/A	N/A		Updated condition numbers and modifications to the licence formatting to match the new licence template.
N/A	Definitions	Definitions		Moved to the back of the Licence, now Table 16.
1.1.9, Table 1.1.6	Production or design capacity limits	1, Table 1		Reduction in capacities of Category 5 and Category 6. Removal of Category 52 as Licence Holder advised that power contractor KPS has removed generators 6 – 14 from site, and currently only generators 1 – 5 remain. Current power generating capacity at the DeGrussa power station is 5MW in aggregate (i.e., 5 x 1 MW generators).
1.1.7	Pipelines	2		Condition number changed only.
1.1.4, Table 1.1.3	Containment infrastructure	3, Table 2		Addition of DeGrussa Open Pit as containment for tailings underdrainage.
1.1.5	Dam management	4		Condition number changed only.
1.1.6, Table 1.1.4	Inspection of infrastructure	5, Table 3		Inclusion of DeGrussa Open Pit tailings underdrainage discharge pipelines and points to the inspection regime.
1.1.1, Table 1.1.1	Waste acceptance	6, Table 4		Condition and table numbers changed only.
1.1.2, Table 1.1.2	Cover requirements	7, Table 5		Condition and table numbers changed only.
1.1.3	Dewatering effluent	8		Condition number changed only.
1.1.8, Table 1.1.5	Construction Requirements	9, Table 6		Removed infrastructure that has been constructed with environmental compliance reports received. The TSF lift Stage 5 has a note that following construction of Stage 5, tailings underdrainage is required to be reused in the Processing Plant and not discharged to the DeGrussa Open Pit.

Existing condition	Condition summary	Revised condition	licence	Conversion notes
				Addition of mine dewatering conditions in the event that Category 6 operations are to recommence.
2.2.1, Table 2.2.1	Emission points to air	N/A		Removal of Category 52.
2.3.1, Table 2.3.1	Emission points to surface water	10, Table 7		Inclusion of the requirement that the Discharge Points 'not to be used until the requirements of Condition 9, Table 6 have been fulfilled'.
2.3.2, Table 2.3.2	Point source emission limits to surface water	11, Table 8		Inclusion of the requirement that the Discharge Points 'not to be used until the requirements of Condition 9, Table 6 have been fulfilled'.
2.3.3	Mine dewatering effluent	12		Condition number changed only.
2.4.1, Table 2.4.1	Emission points to land	13, Table 9		Condition and table numbers changed only.
3.1.1	Sampling	14		Condition number changed only.
3.1.2	Monitoring frequency	15		Updated as per current licensing format.
3.1.3	Calibration	16		Updated as per current licensing format.
3.1.4				
3.2.1, Table 3.2.1	Monitoring of point source emissions to air	N/A		Removal of Category 52.
3.2.2	CEMS Code	N/A		Removal of Category 52.
3.2.3	NATA accreditation	N/A		Removal of Category 52.
3.3.1, Table 3.3.1	Monitoring of point source emissions to surface water	17, Table 10		Note added for monitoring to occur when points are in use.
3.4.1, Table 3.4.1	Monitoring of point source emissions to land	18, Table 11		Condition and table numbers changed only.
N/A	Process monitoring	19, Table 12		Addition of monitoring of the tailings underdrainage.
3.5.1, Table 3.5.1	Monitoring of ambient groundwater quality	20, Table 13		Condition and table numbers changed only.
4.1.1	Information and records	21 22		Updated as per current licensing format.
4.1.2	Conditions of licence			Updated as per current licensing format.
4.1.3	Annual Audit Compliance Report	23		Updated as per current licensing format.

Existing condition	Condition summary	Revised condition	licence	Conversion notes
4.1.4	Complaints management	24		Updated as per current licensing format.
4.2.1, Table 4.2.1	Annual Environmental Report	25, Table 14		Updated as per current licensing format. Removal of Category 52.
4.2.2		26		Condition and table numbers changed only.
4.2.3	Compliance Document	27		Condition number changed only.
4.3.1, Table 4.3.1	Notification requirements	28, Table 15		Condition and table numbers changed only.
Schedule 1	Maps	N/A		Included figure labels.
N/A	N1 form	Schedule 2: Reporting & notification forms		Added in Schedule 2: Reporting & notification forms, N1 form.

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. MBS Environmental, Sandfire Resources NL, Sandfire DeGrussa Copper-Gold Mine - Application for an Amendment to Licence L8558/2011/1 17/02/2023, West Perth, Western Australia.
5. Sandfire Resources NL, FW: NOTIFICATION : APPLICATION FOR AN AMENDMENT TO LICENCE (L8558/2011/1) - REQUEST FOR FURTHER INFORMATION - Attn: Terryn Attwood 27/04/2023, West Perth, Western Australia.
6. Sandfire Resources NL, RE: NOTIFICATION: APPLICATION FOR AN AMENDMENT TO LICENCE (L8558/2011/1) - REQUEST FOR FURTHER INFORMATION 09/08/2023, West Perth, Western Australia.
7. Sandfire Resources NL, RE: NOTIFICATION: APPLICATION FOR AN AMENDMENT TO LICENCE (L8558/2011/1) - REQUEST FOR FURTHER INFORMATION 24/08/2023, West Perth, Western Australia.
8. Principal Hydrogeologist, DeGrussa pit lake, geochemical modelling 31/08/2023, Joondalup, Western Australia.
9. Sandfire Resources NL, RE: NOTIFICATION: PROPOSED AMENDMENT TO LICENCE L8558/2011/1 15/09/2023, West Perth, Western Australia.
10. Sandfire Resources NL, RE: NOTIFICATION: PROPOSED AMENDMENT TO LICENCE L8558/2011/1 30/10/2023, West Perth, Western Australia.

Appendix 1: Summary of Licence Holder's comments on risk assessment and draft conditions

Condition	Summary of Licence Holder's comment	Department's response
Amendment Report		
Section 2.2, Paragraph 3	Gold bearing ore recovered from the DeGrussa open pit has previously been sent to Plutonic for processing, however this has not occurred for over 5+ years.	Updated as requested.
Licence		
Production / design capacity table 1, Table 1	<p>Confirm that the reduction in the production/design capacity limit applies to the volume of material processed through the processing plant / volume of tailings deposited, and does not apply to the volume of TSF underdrainage water that can be deposited into the open pit?</p> <p>Increase premise production or design capacity limit for Category 5 from proposed change of 50,000 to 250,000 tonnes per annual period.</p> <p>Remove Category 52. Power contractor KPS has removed generators 6 – 14 from site, and currently only generators 1 – 5 remain. Our current power generating capacity at the DeGrussa power station is 5MW in aggregate (i.e., 5 x 1MW generators)</p>	<p>This applies to the material processed and the tailings deposited, however, the volume of underdrainage should be in line with that (it should not be more).</p> <p>Updated as requested.</p> <p>Updated as requested.</p>
5, Table 3	Given the current status of the open pit as a discharge point (i.e. devoid of natural vegetation, steep sided walls, terminal sink), is there still a requirement to inspect the discharge point visually for parameters that are generally associated with discharge to natural areas?	Updated to visual integrity monitoring of the discharge point monthly.
9, Table 6	Sandfire wishes to retain the current approval for construction of the Stage 5 embankment lift and associated infrastructure and not remove this item from the licence. In the event that Sandfire decide to restart processing the ability to progress earthworks while concurrently applying for other required approvals.	Stage 5 retained on licence, however, with provision that the tailings underdrainage cannot continue to be discharged to the DeGrussa Open Pit.
21, Table 12	Monitoring requirements are included for dewatering discharge points at North Creek and Central Drainage. As the licence notes that these points would not be in use, would a condition to monitor these points also be	Updated with a note for when in use.

Condition	Summary of Licence Holder's comment	Department's response
	accompanied by acknowledgement that monitoring only is required when they are in use?	
23, Table 14	Can DWER confirm where the SWL is to be taken? i.e., this parameter relates to the water level in the pit lake in mbgl?	Parameter was supposed to be Volume. Updated.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY				
Application type				
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L8558/2011/1	
		Relevant works approval number:	N/A	<input type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:	None	<input type="checkbox"/>
Date application received	17 February 2023 and 09 August 2023			
Applicant and Premises details				
Applicant name/s (full legal name/s)	Sandfire Resources Limited			
Premises name	DeGrussa Copper Mine			
Premises location	Mining Tenement M52/1046 MEEKATHARRA WA 6642			
Local Government Authority	Shire of Meekatharra			
Application documents				
HPCM file reference number:	DWERDT734640			
Key application documents (additional to application form):	Application Form Supporting Documentation Spatial Data			
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.	Licence amendment The following amendments are being sought: <ul style="list-style-type: none"> • Relocation of existing dewatering pipelines to transport TSF underdrainage water to the DeGrussa Open Pit at closure; and • Addition of the DeGrussa Open Pit as a dewatering discharge point. 			

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 5: Processing or beneficiation of metallic or non-metallic ore	2,050,000 tonnes per annual period	No change to the design throughput capacity. Modifications to infrastructure requirements: <ul style="list-style-type: none"> • TSF underdrainage via dewatering pipelines to DeGrussa Open Pit.
Category 6: Mine dewatering	2,000,000 tonnes per annual period	N/A
Category 52: Electric power generation	23 megawatts in aggregate	Removed
Category 54: Sewage facility	240 cubic metres per day	N/A
Category 64: Class II or III putrescible landfill site	5,000 tonnes per annual period	N/A

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: N/A Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: N/A EPA Report No: N/A
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No: N/A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: If N/A explain why?
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A No clearing is proposed.

Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Type: N/A Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office: North West
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<i>Dangerous Goods Safety Act 2004</i> <i>Environmental Protection (Controlled Waste) Regulations 2004</i> <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Classification: N/A Date of classification: N/A