



Annual Audit Compliance Report Form

Environmental Protection Act 1986, Part V Division 3

Once completed, please submit this form either via email to info@dwer.wa.gov.au, or to the below postal address:

Department of Water and Environmental Regulation
Locked Bag 10
Joondalup DC WA 6919

Section A – Licence details

Licence number:	L6498/1995/11	Licence file number:	2012/006868-1
Licence holder name:	Northern Star Resources Ltd		
Trading as:	Northern Star Resources Ltd		
ACN:	092832892		
Registered business address:	Level 4, 500 Hay Street Subiaco		
Reporting period:	01 / 01 / 2023 to 31 / 12 / 2023		

Section B – Statement of compliance with licence conditions

Did you comply with all of your licence conditions during the reporting period?
(please tick the appropriate box)

- Yes – please complete:
- section C;
 - section D (if required); and
 - sign the declaration in Section F.
- No – please complete:
- section C;
 - section D (if required);
 - section E; and
 - sign the declaration in Section F.

Section C – Statement of actual production

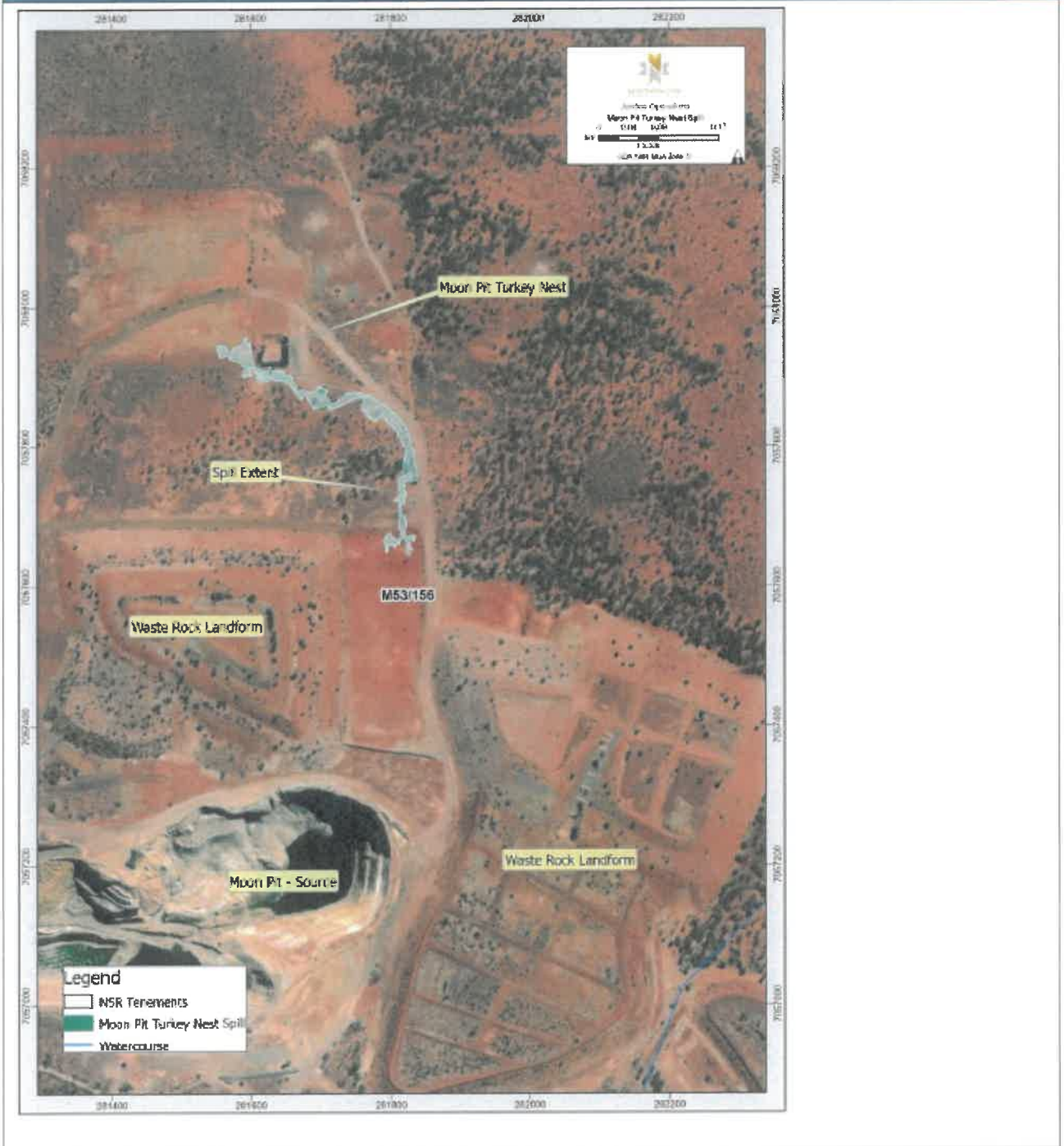
Provide the actual production quantity for this reporting period. Supporting documentation is to be attached.

Prescribed premises category	Actual production quantity
05 – Processing or Beneficiation of Metallic or Non-Metallic Ore	2,941,377 (dry) tonnes
06 – Mine Dewatering	2,223,633m ³
52 – Electrical Power Generation	42.34MW
54 – Sewerage facility	51,298m ³
64 – Class II or III putrescible landfill site	Estimated at 800 tonnes
73 – Bulk storage of chemicals	3,994m ³

Section D – Statement of actual Part 2 waste discharge quantity	
Provide the actual Part 2 waste discharge quantity for this reporting period. Supporting documentation is to be attached.	
Prescribed premises category	Actual Part 2 waste discharge quantity
Tailings	2,945,378 (dry) tonnes
Water to Allow Mining of Ore	3,130,946m ³

Section E – Details of non-compliance with licence condition			
Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.			
Condition no:	1.2.4 Maintaining freeboard	Date(s) of non-compliance:	2 January 2023
Details of non-compliance:			
<p>Moon Pit Turkeys Nest Dam Overflow</p> <p>On 2 January 2023, approximately 40kL of saline water from the Moon Pit Turkey Nest (on tenement M53/156) was released into the surrounding disturbed and rehabilitated areas and native vegetation. The affected area covered a footprint of 0.65ha of which 60% was previously disturbed.</p>			
<p>What was the actual (or suspected) environmental impact of the non-compliance?</p> <p>NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.</p>			
<p>The event was expected to have negligible environmental impact with no impact to vegetation has been observed.</p>			

Section E – Details of non-compliance with licence condition



Section E – Details of non-compliance with licence condition



Cause (or suspected cause) of non-compliance:

The Turkey Nest was in the process of commissioning. The Turkey Nest was being filled for the first time. The float level switch, used to shut the pump off, was not set correctly, allowing water to continue to flow into the turkey nest.

Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:

Section E – Details of non-compliance with licence condition

Upon being aware of the event, operation of Moon Pit Pump and Turkey Nest ceased. The float level switch was adjusted accordingly.

Was this non-compliance previously reported to DWER?

Yes, and

Reported to DWER verbally

Date: 2 January 2023

Reported to DWER in writing

Date: 3 January 2023

Section E – Details of non-compliance with licence condition

Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.

Condition no:	1.2.2 waste material within specified vessels	Date(s) of non-compliance:	3 April 2023
---------------	---	----------------------------	--------------

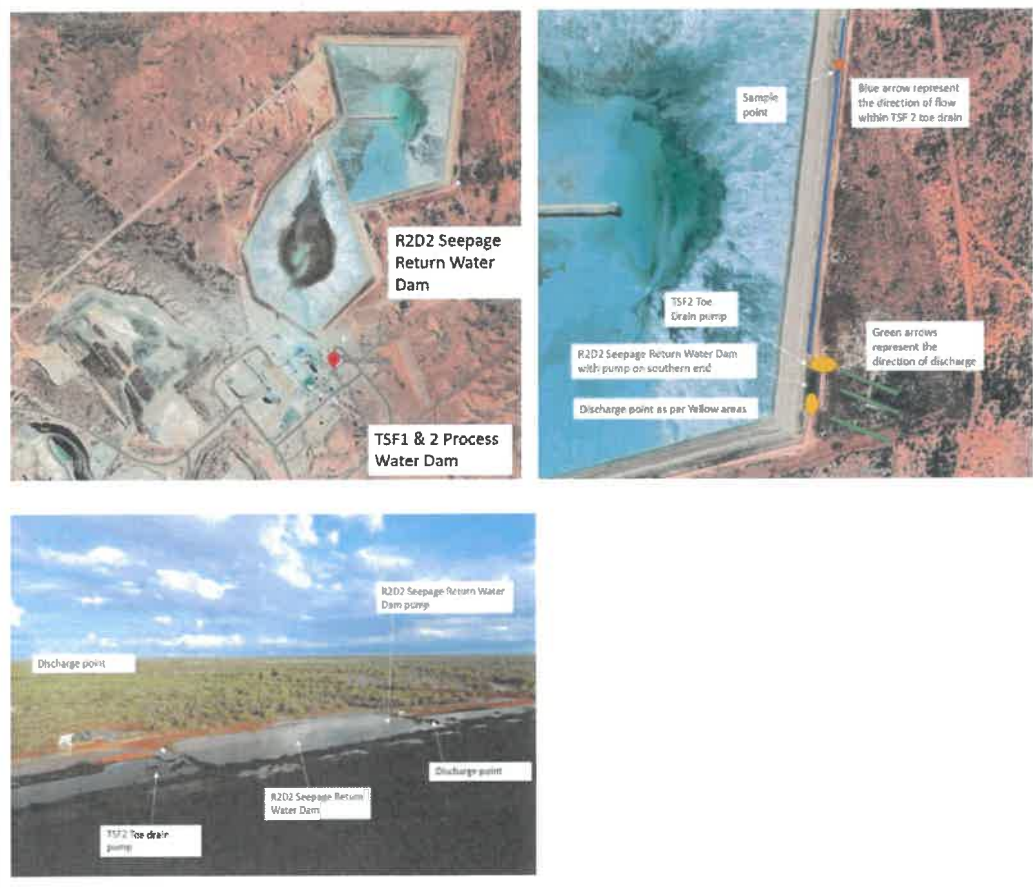
Details of non-compliance:

High rainfall between 26 March and 2 April 2023 resulted in significant site water runoff, with the TSF2 North/East Seepage interception trench becoming full of water. Due to the ongoing inclement weather, ground conditions and lightning, additional pumps could not be deployed to reduce water levels in the trench. Subsequently, the trench overflowed into the R2D2 seepage return water dam, and significantly diluted water from the R2D2 dam overflowed into the surrounding area. During to the incident, NSR continued to run pumps to stop the emission and ensure water levels returned to normal in the toe drains and at the R2D2 Seepage Return Water Dam.

What was the actual (or suspected) environmental impact of the non-compliance?

NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.

The event was expected to have negligible environmental impact – due to the volume of rain entering the toe drain and dam, the water was heavily diluted and essentially fresh rainfall.



Cause (or suspected cause) of non-compliance:

Flow in toe drain exceeded pumping capacity.

Section E – Details of non-compliance with licence condition	
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:	
<ul style="list-style-type: none"> • Continued to run existing pumps to stop emissions. • Repair of damaged sections of the TSF toe-drain embankment. • Vegetation monitoring was undertaken for a three-month period and determined no visible impact from the event. Soil sampling was also undertaken, with samples compared against analogue soil samples. The results indicate an increase in conductivity with negligible change with other parameters. • The Jundee Tailings Operational Manual, Jundee Tailings Management Plan and Jundee Extreme Weather Management Plan were reviewed, and revised. 	
Was this non-compliance previously reported to DWER?	
<input type="checkbox"/> Yes, and	
<input type="checkbox"/> Reported to DWER verbally	Date: / /
<input checked="" type="checkbox"/> Reported to DWER in writing	Date: 3 April 2023

Section E – Details of non-compliance with licence condition

Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.

Condition no:	1.2.5(a) undertake inspections	Date(s) of non-compliance:	18 July 2023
---------------	--------------------------------	----------------------------	--------------

Details of non-compliance:

On 18 July 2023, a second visual integrity check of the tailings pipeline was not completed during the dayshift, as specified in Table 1.2.3 of the Licence (i.e., twice every 12 hours). This coincided with a failure of the pipeline and resulted in that failure not being detected. The cause of the spillage was a burst disc rupture, causing tailings to overflow into the secondary containment area as designed. Discharge was identified during the first night shift inspection, 15 hours after the initial burst disc rupture. The scour pit was designed to capture 6 hours of spill and as a result the spill overflowed to adjacent, previously disturbed areas.

What was the actual (or suspected) environmental impact of the non-compliance?

NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.

The event was expected to have negligible environmental impact – most of the area covered by the tailings was previously cleared areas. The small amount of sparse vegetation in the area has not been visibly impacted.

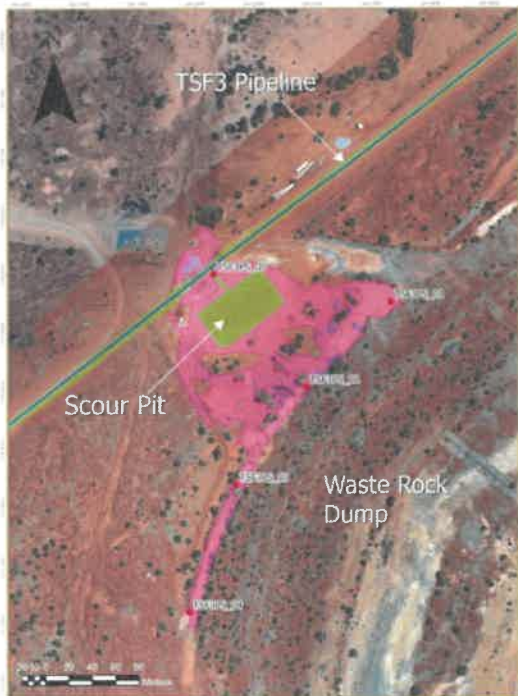


Figure 3: Photo of TSF3 Pipeline Staff looking west along pipeline 2022 scour pit

Section E – Details of non-compliance with licence condition



Figure 4. Photo of TSF2 pipeline spill showing waste overflowing scour pit



Figure 5. TSF3 pipeline spill showing car across the spill at night containment and scour pit in the background

Cause (or suspected cause) of non-compliance:

Licence conditions require inspections be performed twice every 12 hours. This equates to 4 inspections per day, two by day shift and another two by night shift. An inspection was not performed allowing the spill to go unnoticed for a full 15 hours.

Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:

Following identification of the failure, the tailings pipeline to TSF3 was isolated and tailings were temporarily diverted to TSF2. Several vacuum trucks were used to remove tailings slurry from the scour pit and surrounding areas, with the material discharged to Fisher In-pit TSF.

Numerous actions were taken to prevent a reoccurrence of the non-compliance. The main actions are summarised as follows:

- Changing the leak detection alarm in the control room from ‘warning’ to ‘critical’ for the burst disc rupture.
- Reviewed the logic on the leak detection within the control room to ensure it provides leak detection alarms that are required to be acted on immediately.
- Installed cameras on the switch room to monitor the booster station area from the mill control room. Cameras are monitored continuously throughout each shift.
- Reviewed the TSF3 checklist and updated appropriately, including a travel map of the pipeline inspection points to ensure the pipeline is completely checked.
- Ensured the TSF inspections are conducted on a frequency of two inspections per shift, with inspection forms now recorded in a book and checked each shift by the supervisor.

Was this non-compliance previously reported to DWER?

Yes, and

<input checked="" type="checkbox"/> Reported to DWER verbally	Date: 19 July 2023
<input checked="" type="checkbox"/> Reported to DWER in writing	Date: 20 July 2023

Section E – Details of non-compliance with licence condition			
Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.			
Condition no:	3.3.1 monitoring of ambient groundwater quality	Date(s) of non-compliance:	Quarter 1, 2 and 3 monitoring program
Details of non-compliance:			
JMB28 recorded water levels below the compliance limit of 1mbgl, with water levels of 0.95mbgl, 0.79mbgl and 0.79mbgl, in March, June and September respectively during the quarterly monitoring program.			
What was the actual (or suspected) environmental impact of the non-compliance?			
NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.			
Negligible environmental impact – no visible impact to surrounding vegetation.			
Cause (or suspected cause) of non-compliance:			
JRB09, a recovery bore closest to JMB28, is a solar powered bore, does not seem to be able to abstract sufficient volume compared to the area recharged. JRB09 was all down for maintenance for 3 months from June to August 2024. Significant rainfall and subsequent flooding have also further slowed down the extraction process and increased recharge.			
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:			
Generator powered, higher capacity pumps were ordered and have arrived onsite. These pumps are scheduled to be installed by 30 April 2024.			
Monthly flora photo monitoring was also conducted and will continue until June 2024. This monitoring has not shown any evidence of impacts to vegetation to date.			
Was this non-compliance previously reported to DWER?			
<input checked="" type="checkbox"/> Yes, and			
<input type="checkbox"/> Reported to DWER verbally	Date: / /		
<input checked="" type="checkbox"/> Reported to DWER in writing	Date: 17 November 2023		

Section E – Details of non-compliance with licence condition			
Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.			
Condition no:	3.3.1 monitoring of ambient groundwater quality	Date(s) of non-compliance:	Quarter 4 - 2023 monitoring program
Details of non-compliance:			
JMB28 recorded water levels below the compliance limit of 1mbgl, with water levels of 0.89mbgl in December, during the quarterly monitoring program.			
What was the actual (or suspected) environmental impact of the non-compliance?			
NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.			
The event was expected to have negligible environmental impact – no visible impact to surrounding vegetation.			
Cause (or suspected cause) of non-compliance:			
JRB09, a recovery bore closest to JMB28, is a solar powered bore, does not seem to be able to abstract sufficient volume compared to the area recharge. JRB09 was all down for maintenance for 3 months from June to August 2024. Significant rainfall and subsequent flooding have also further slowed down the extraction process and increased recharge.			
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:			
Generator powered, higher capacity pumps were ordered and have arrived onsite. These pumps are scheduled to be installed by 30 April 2024.			
Monthly flora photo monitoring was also conducted and will continue until June 2024. This monitoring has not shown any evidence of impacts to vegetation to date			
Was this non-compliance previously reported to DWER?			
<input checked="" type="checkbox"/> Yes, and			
<input type="checkbox"/> Reported to DWER verbally		Date: / /	
<input checked="" type="checkbox"/> Reported to DWER in writing		Date: 24 January 2024	

Section E – Details of non-compliance with licence condition

Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.

Condition no:	3.3.1 monitoring of ambient groundwater quality	Date(s) of non-compliance:	Quarterly sampling for quarters 1, 2 and 3
---------------	---	----------------------------	--

Details of non-compliance:

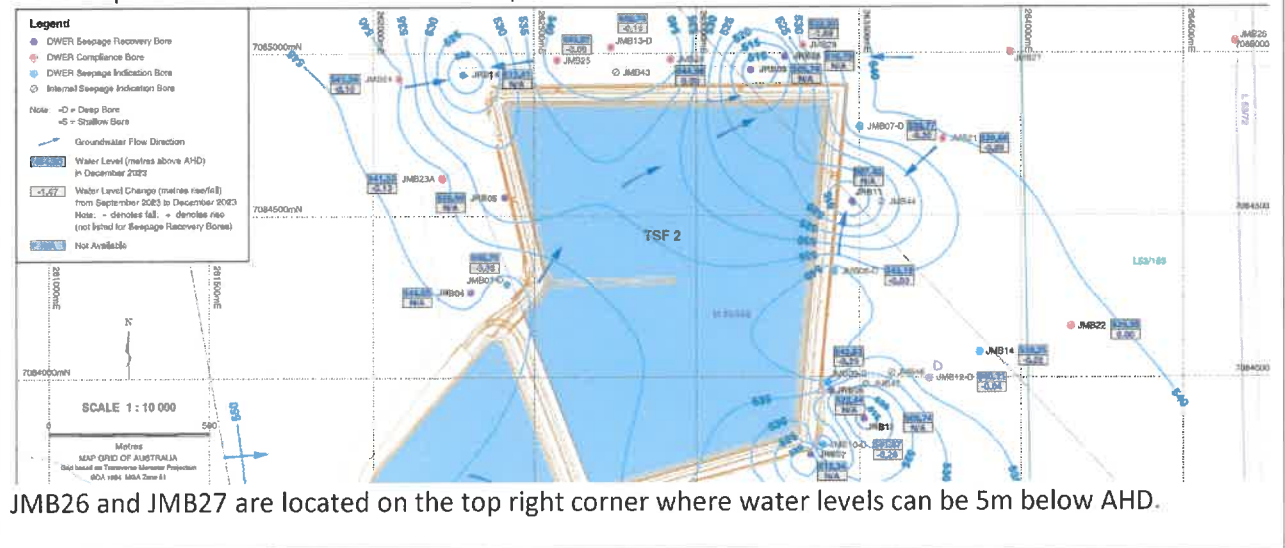
The Licence specifies a minimum 90% of all bores to be sampled during any quarterly period. Between 83.2%, 83.2% and 84.9% of measurements were undertaken in quarters 1, 2 and 3 respectively.

This non-compliance was identified during the Annual 2023 DWER AER data review.

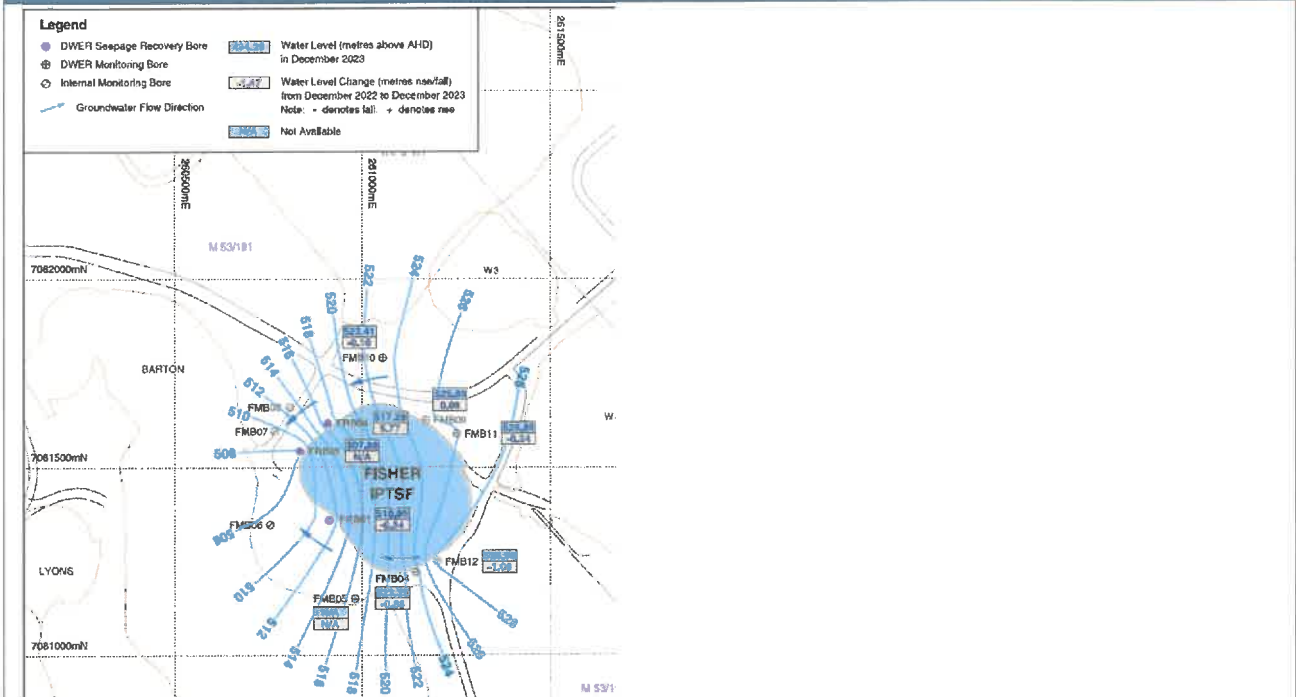
What was the actual (or suspected) environmental impact of the non-compliance?

NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.

It was expected that no environmental impact has occurred as a result of this non-compliance.



Section E – Details of non-compliance with licence condition



FMB05 is located in the southern side of Fisher Pit. Multiple bore collapses have been reported and detailed in Annual Tailings Audit Report.

Cause (or suspected cause) of non-compliance:

Monitoring bores JMB26, JMB27 and FMB05 have been expected to be dry for an extended period, and these locations account for approximately 13% of all required measurements

Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:

Northern Star is in the process of engaging a specialist consultant to assess the bores to determine if they are blocked or dry. Results from this assessment will be used to determine a way forward to ensure we are adequately monitoring ambient groundwater and achieving compliance requirements.

Was this non-compliance previously reported to DWER?

No, this non-compliance was identified during the Annual 2023 DWER AER data review.

Yes, and

<input type="checkbox"/> Reported to DWER verbally	Date: / /
<input type="checkbox"/> Reported to DWER in writing	Date: / /

Section E – Details of non-compliance with licence condition			
Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.			
Condition no:	3.3.1 monitoring of ambient groundwater quality	Date(s) of non-compliance:	Annual - 2023 monitoring program
Details of non-compliance:			
TRH analyte for Bioremediation landfarm monitoring was not analyzed during the reporting period.			
This non-compliance identified during Annual 2023 DWER AER data review.			
What was the actual (or suspected) environmental impact of the non-compliance?			
NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.			
Negligible environmental impact expected as a result of this non-compliance.			
Cause (or suspected cause) of non-compliance:			
Although sampling and laboratory analysis was completed at these bores, the incorrect parameters were selected on the laboratory Chain of Custody (CoC) form and as such no results for TRH are available.			
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:			
Repeated sampling in March 2024 to cover for 2023 annual sample. Laboratory results are still pending.			
Was this non-compliance previously reported to DWER?			
No, this non-compliance was identified during the Annual 2023 DWER AER data review.			
<input type="checkbox"/> Yes, and			
<input type="checkbox"/> Reported to DWER verbally		Date: / /	
<input type="checkbox"/> Reported to DWER in writing		Date: / /	

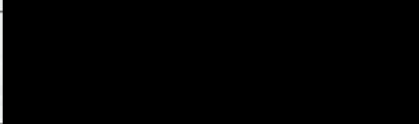
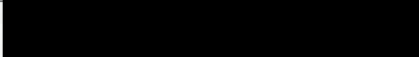
Section E – Details of non-compliance with licence condition			
Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.			
Condition no:	3.3.1 monitoring of ambient groundwater quality	Date(s) of non-compliance:	Quarterly sampling for quarter 4
Details of non-compliance:			
<p>Mine Dewater Receiving Pits: Comprehensive quarterly water quality monitoring was undertaken at Cook Pit, Keating Pit and Coulthard Pit; however, hydrocarbon analytes were omitted from the Coulthard Pit laboratory analysis.</p> <p>The non-compliance was identified during the Annual 2023 DWER AER data review.</p>			
What was the actual (or suspected) environmental impact of the non-compliance?			
NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.			
Negligible environmental impact			
Cause (or suspected cause) of non-compliance:			
<p>The incorrect parameters were selected on the laboratory Chain of Custody (CoC) form.</p> <p>The CoC form was still based on the previous Operational Licence and was not revised when the licence amendment was issued in October 2023.</p>			
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:			
Reviewed Chain of Custody forms and updated according to current licence. The correct parameters are now being analysed.			
Was this non-compliance previously reported to DWER?			
No, this non-compliance was identified during the Annual 2023 DWER AER data review.			
<input type="checkbox"/> Yes, and			
<input type="checkbox"/> Reported to DWER verbally		Date: / /	
<input type="checkbox"/> Reported to DWER in writing		Date: / /	

Section E – Details of non-compliance with licence condition			
Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.			
Condition no:	3.2.1 Monitoring of inputs and outputs	Date(s) of non-compliance:	2023
Details of non-compliance:			
Northern Star has identified that monthly dewatering discharge volumes between each dam and pit have not been recorded in accordance with Condition 3.2.1.			
What was the actual (or suspected) environmental impact of the non-compliance?			
NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.			
No material environmental harm is expected to have been caused by the breach of the licence condition. Total dewatering values have been recorded throughout the reporting period.			
Cause (or suspected cause) of non-compliance:			
The nature of the water infrastructure consists of a complex network of sumps, pits, and turkeys nest dams in a circular circuit, which makes it challenging to accurately quantify mine water discharge. Extraction volumes are recorded however volumes discharged are not. Extracted water may be discharged in one or more locations depending on operational requirements.			
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:			
Northern Star has undertaken a review of the pipeline infrastructure and currently in the process of procuring flow meters.			
Was this non-compliance previously reported to DWER?			
No, this non-compliance was identified during the Annual 2023 DWER AER data review.			
<input type="checkbox"/> Yes, and			
<input type="checkbox"/> Reported to DWER verbally		Date: / /	
<input type="checkbox"/> Reported to DWER in writing		Date: / /	

Section F – Declaration

I / We declare that the information in this Annual Audit Compliance Report is true and correct and is not false or misleading in a material particular¹.

I / We consent to the Annual Audit Compliance Report being published on the Department of Water and Environmental Regulation's (DWER) website.

Signature ² :		Signature:	
Name: (printed)		Name: (printed)	
Position:	General Manager	Position:	
Date:	28/3/24	Date:	
Seal (if signing under seal):			

¹ It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular.

² AACRs can only be signed by the licence holder or an authorised person with the legal authority to sign on behalf of the licence holder.