



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:	L8435/2010/3	Licence file number:	2011/000299
Licence holder name:	GSM Mining Company Pty Ltd		
Trading as:	GSM Mining Company Pty Ltd		
ACN:	165 235 030		
Registered business address:	Level 5, 50 Colin Street, West Perth, Western Australia, 6005		
Reporting period:	01/01/2019 to 31/12/2019		

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)
<input type="checkbox"/> Yes – please complete: <ul style="list-style-type: none">• section C;• section D (if required); and• sign the declaration in Section F.
<input checked="" type="checkbox"/> No – please complete: <ul style="list-style-type: none">• 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
5	1,753,233 tonnes/year

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
6	6,659,129 kL/year
54	123 m ³ /day
64	3,561 tonnes/year

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:	2.5.2 Emission Limits to Land	Date(s) of non-compliance:	25/01/2019
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Details of non-compliance:

	E.Coli CFU/ 100mL	Biochemical Oxygen Demand	pH Lab	Total Suspended Solids	Total Nitrogen as N	Total Phosphorus as P	Total Dissolved Solids (Inorganic)	Total Chlorine by DPD Colourimetric	
		mg/L	SU	mg/L	mg/L	mg/L	mg/L	mg/L	
DWER Licence Limit	1000	20	6.5-8.5	30	50	12	-	-	
Sample Location									
Sample Date									
WWTP SF	17/01/2019	<1	<2	6.98	105	10.1	0.05	412	1.33

N1 notification was submitted to DWER on the date above with regard to the limit breaches shown in pink in the summary table above.

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.

Nil Environmental Impact.

GSM conducted an internal investigation as to the impact to the human health and the environment as a result of water being discharged to the spray field area at levels in excess of licence limits of Total Dissolved Solids. It was concluded that the impact was low as access to the area is limited to authorized and trained personnel, groundwater separation is greater than 2 metres and, the rotation of the sprayers in the spray field allows the material to break down.

Cause (or suspected cause) of non-compliance:	
The non-compliance appears to be a function of the WWTP's sensitivity to inputs of grease from the wastewater stream.	
Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:	
<p>The actions taken to improve the performance:</p> <ol style="list-style-type: none"> 1. Stringent monitoring of the chlorine dosage lines to be increased as required. 2. Increased scheduling of the grease traps 3. Maintenance to assess the dosage lines on chlorine for blockages 4. Treat foam present with doses of chlorine in the aeration tank. 	
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: 25/1/2019

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:	1.1.5	Date(s) of non-compliance:	6/08/2019
Details of non-compliance:			
Section 72 notification was submitted to DWER on the date above with regard to the treated sewage effluent spill. Incident number ICMS No. 54584			
A secondary treatment tank hose detached off the return pump due to an attachment failure. Detachment of the hose connection resulted in the discharge of treated sewage effluent from the tank.			
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.			
Nil Environmental Impact.			
<p>However, pollution is considered to be minimal as between 60 to 70% the of treated sewage effluent contained around the facility dropping out a large component of the dissolved solids that were present. Approximately 6,000 to 8,000 litres of treated sewage effluent exited the fenced facility area and flowed across an adjacent Granny Smith mine road. After crossing the road the spill flowed into the native vegetation located adjacent to the existing/approved treated sewage effluent spray farm. The spill within the native vegetation covered an area of 120 metres by 30 metres. The native vegetation is described as low mulga woodland with no threatened species or ecological communities within a five kilometre radius. The nearest sensitive receptor is the mine village located 430 metres south west of the Waste Water Treatment Plant as surface water flows in a north east direction no sensitive receptors have been impacted by the discharge. The local saline groundwater table is within the Archaean bedrock between 8 to 20 metres below surface. The potential impact to groundwater is minimal as the spill ponded on a limited basis with water evaporating quickly.</p> <p>An assessment by a Pollution Control Officer, DWER of the incident deemed "I am satisfied that the actions taken will mitigate future impacts and I have assessed the environmental risk as low."</p>			
Cause (or suspected cause) of non-compliance:			
<p>The site evidence gathering involved Granny Smith personnel in conjugation with Water Management Services that are contracted to provide technical support for the WWTP. The investigation of the facility installed by a contractor covered the area where the hose detached, the associated pump, tanks and surrounding pipe infrastructure/connections. In addition, Water Management Services conducted an audit across the remaining uninspected pipework to assess the integrity and identify any other areas of concern. The findings of the site investigation can be summarised as follows:</p> <ol style="list-style-type: none"> 1. The PVC pipe fitting blew off the pump. 2. The fitting that detached had only 1/3 of its surface glued 3. Once the pipe exited the return pump the pipe was downsized from 2 inch to 1.5 inch pipe. 4. Upon pipe detachment the existing containment was limited in containing the released volumes. 5. An audit of all the pipelines and fitting identified a developing crack and other fittings that required attention. 			
The 5 Whys involved Granny Smith personnel including environmental staff using the evidence generated from the site investigation (i.e. Bullet points 1 through to 5 above). The 5 Whys was			

Section E – Details of non-compliance with licence condition

an iterative process to identify why the incident occurred and develop measures to prevent a recurrence of the event. The outcome of the 5 Whys can be summarised as follows:

- A. Insufficient and potentially inappropriate glue was used on the fitting. Representing poor installation and QA during contractor installation.
- B. Pipe downsizing created undue pressure at the hose connection.
- C. The downsizing of the pipe away from fitting potentially was an installation error whereby the pipe was fixed the wrong way around as going from 1.5 inch to 2 inch pipe would result in less pressure along the pipe.
- D. A miscalculation had occurred with the containment at the facility.

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

The spill response was documented in the Section 72 lodged on the 6 August 2019. A site investigation and 5 Whys have determined the following course of action that can be defined as "immediate" (now) and "short term" (within 30 days) to put measures in place to prevent a recurrence of the spill based on the matters identified.

Immediate

- Repaired the hose fitting back to the required standard (Image 1 attached).
- Remove the downsizing of the pipeline to remove potential pressure build up.
- Replacement of pipe with a developing crack and the fittings that required attention.

Short term

- Once the area has dried out clean up spill around the WWTP and place material in the existing lagoons/evaporation ponds.
- Fabrication of custom made steel pipe fittings to replace current fitting configurations thus removing the reliance of glue and/or clamps.
- Recontour the eastern side of the WWTP area to lift the surface profile. This will allow for the construction of a drain that captures spills from the WWTP and diverts water to the northern Lagoon/ Evaporation Pond. Each large tank can contain 30,000 litres with a total storage capacity of 90,000 litres. In the unlikely event that all three tanks were damaged the capacity of the northern Lagoon/Evaporation pond is 3,200,000 litres.

Was this non-compliance previously reported to DWER?

Yes, and

Reported to DWER verbally

Date: / /

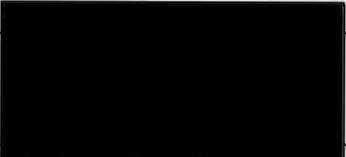
Reported to DWER in writing

Date: 6/8/2019

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)	Jeff Yates	Name: (printed)	Andrew Bywater
Position:	Coordinator: Sustainable Development	Position:	General Manager
Date:	25/02/2020.	Date:	25/2/2020.
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.