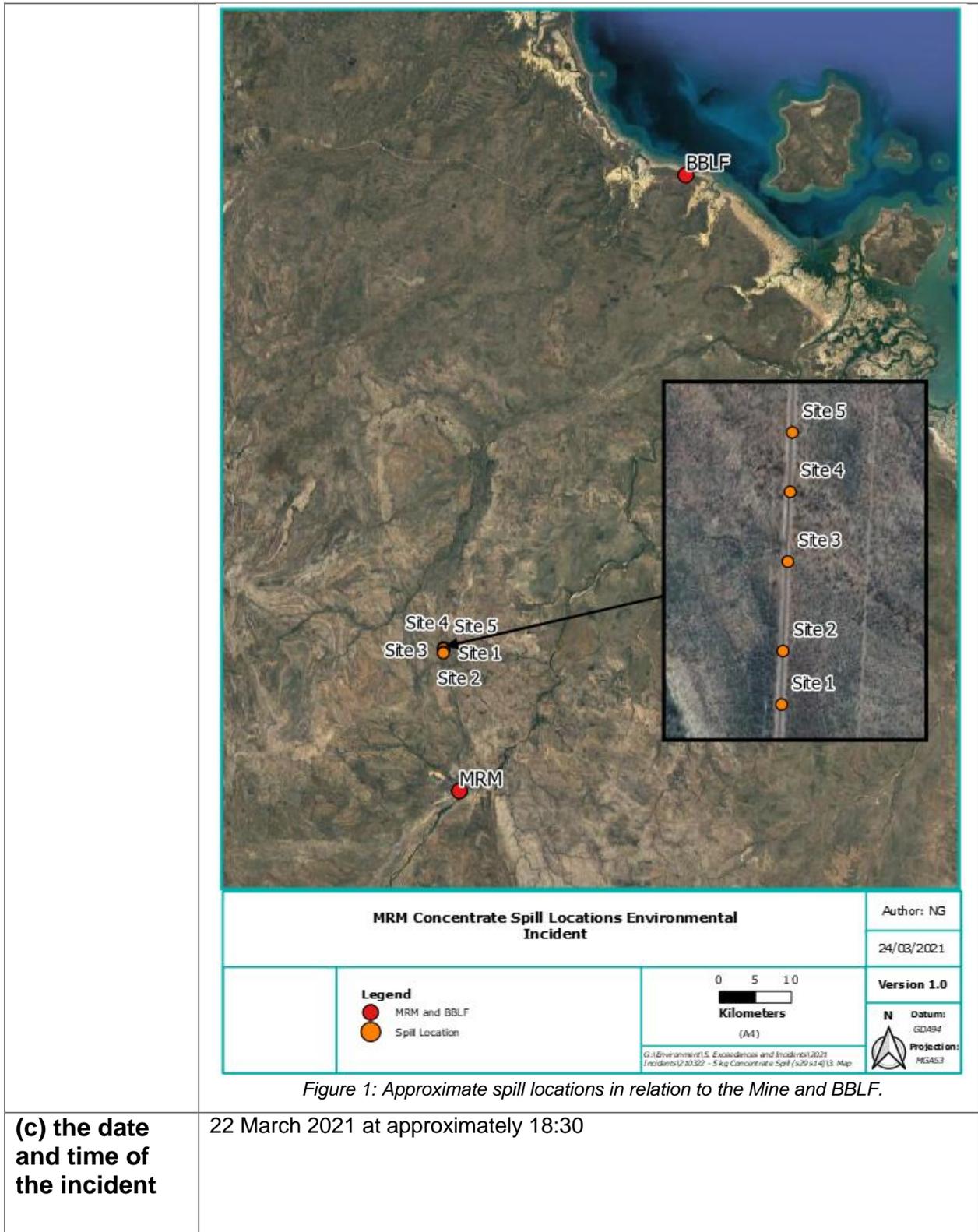


SECTION 14 INCIDENT REPORT (*Waste Management and Pollution Control Act*)

Date and Time of Notification:	Initial notification (email) – 23 March 12:50																		
Person / Company:	McArthur River Mining Pty Ltd (MRM)																		
Incident:	Spillage of five kilograms (kg) of zinc concentrate on the Carpentaria Highway road surface. The source of the spill originated from a road train travelling from McArthur River Mine (the Mine) to the Bing Bong Loading Facility (BBLF).																		
(a) the incident causing or threatening to cause pollution	A total of approximately 5 kg of zinc concentrate was released at five locations on the Carpentaria Highway, between the Mine and the BBLF. All concentrate was confined to the sealed bitumen, and the five small spills occurred within an approximate 800 metre (m) length of road.																		
(b) the place where the incident occurred	<p>The Global Positioning System (GPS) points for the five spill locations are listed in Table 1 below and shown in Figure 1.</p> <p style="text-align: center;"><i>Table 1 – GPS Coordinates of all spill locations.</i></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Spill location</th> <th>Easting*</th> <th>Northing*</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>614 663</td> <td>8 202 524</td> </tr> <tr> <td>2</td> <td>614 668</td> <td>8 202 677</td> </tr> <tr> <td>3</td> <td>614 683</td> <td>8 202 933</td> </tr> <tr> <td>4</td> <td>614 691</td> <td>8 203 133</td> </tr> <tr> <td>5</td> <td>614 698</td> <td>8 203 303</td> </tr> </tbody> </table> <p><i>*All coordinates were taken using the MGA Zone 53 (GDA94) coordinate reference system.</i></p>	Spill location	Easting*	Northing*	1	614 663	8 202 524	2	614 668	8 202 677	3	614 683	8 202 933	4	614 691	8 203 133	5	614 698	8 203 303
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(c) the date and time of the incident

22 March 2021 at approximately 18:30

d) how the pollution has occurred, is occurring or may occur

On 22 March 2021 at approximately 18:30, a road train operator carrying zinc concentrate was travelling from the Mine to the BBLF, when the operator observed concentrate escaping the rear trailer of the road train. The operator immediately notified the Transport Contractor Supervisor of the incident. Based on the immediate inspection by the Transport Contractor Supervisor and MRM personnel, grey material (indicative of zinc concentrate) was observed at five locations within an approximately 800m length of the Carpentaria Highway.

The concentrate was confined to the sealed bitumen for (Figure 2) presenting a low risk of pollution or environmental harm. Based on the inspections, approximately 5 kg of concentrate is estimated to have been spilt in total.

Investigation into specific incident found the contributing factors included the trailer being loaded whilst the trailer was wet causing some of the zinc concentrate to become a slurry, and the uneven road surface causing some of the slurry to be ejected from the trailer.



Figure 2: Concentrate observed on road at Site 4 prior to clean-up efforts.

(e) the attempts made to prevent, reduce, control, rectify or clean up the pollution or resultant environmental harm caused or threatening to be caused by the incident

Clean-up Works

At approximately 12:30 on 23 March 2021, a vacuum truck was deployed to clean-up all of the material on the sealed bitumen (Figure 3 and 4). This involved pressure washing the concentrate and simultaneously using a vacuum truck to collect the residue, which was transported to the BBLF containment ponds.

On 24 March 2021, following completion of clean-up works, MRM personnel inspected the road and could not identify any visible signs of zinc concentrate along the transport route.



Figure 3: Spill clean-up efforts via pressure cleaner and vacuum truck.



Figure 4: Spill clean-up efforts via pressure cleaner and vacuum truck.

Potential for Environmental Harm

Before the spill was inspected and prior to clean-up works, approximately 18.6 mm of rainfall was recorded at the McArthur River Mine Bureau of Meteorology Station between late evening on 22 March 2021 and early morning on 23 March 2021. However, there was no visible evidence of runoff of zinc concentrate at these locations during the inspection in the afternoon of 23 March 2021.

Soil samples were collected at all spill locations to determine whether the soil surrounding the spill site is suitable for the intended land use. Additionally, water samples were collected at a potentially sensitive receptor at Site 3 (i.e. small creek culvert) (Figure 5). Details of the samples are provided below.

Based on the visual inspections, the potential for material environmental harm is considered to be low due to the small volume of concentrate observed across all locations being contained to the bitumen and the timely remedial response.



Figure 5: Site 3 – small creek culvert.

Validation of Clean-up

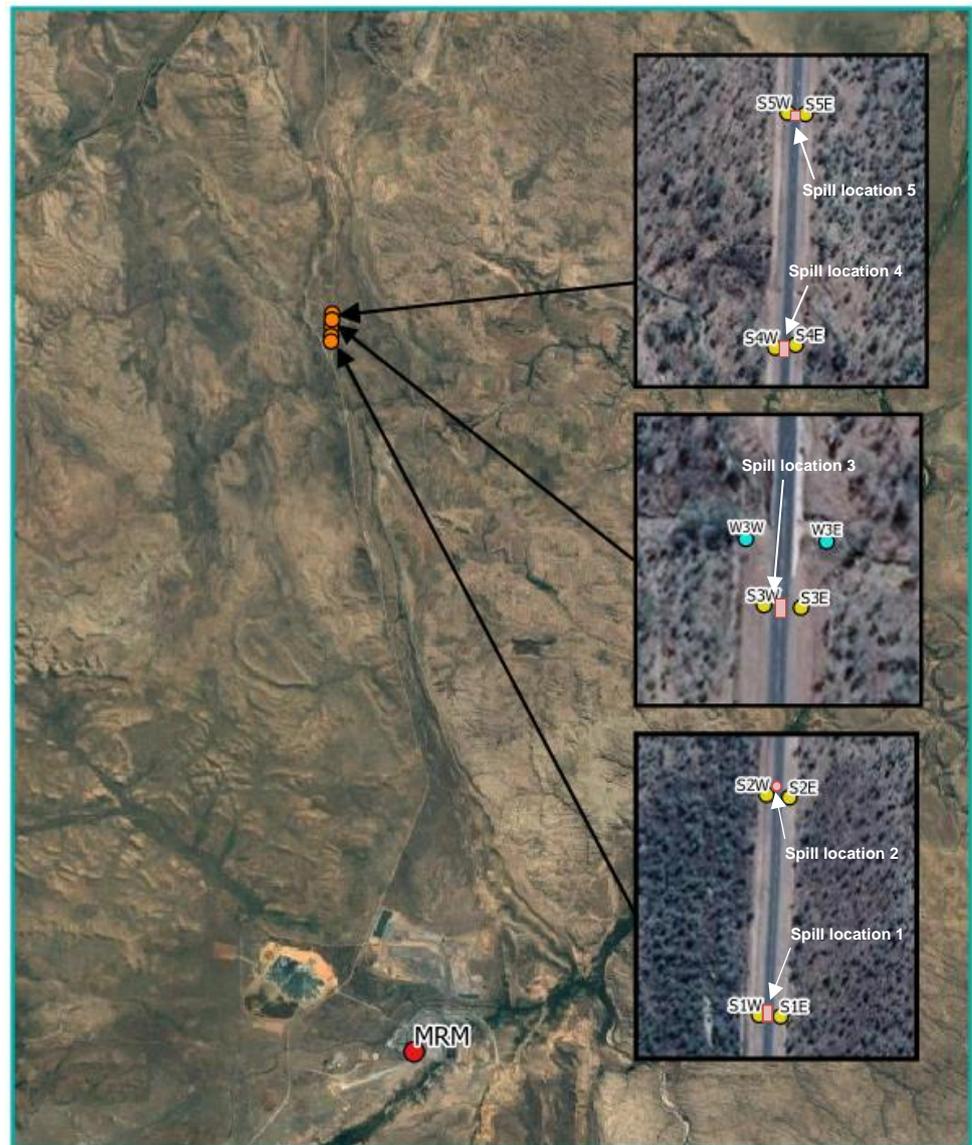
On 24 March 2021, soil samples were collected at the five spill locations (Figure 6) in accordance with *Australian Standard 4482.1-2005: Guide to the investigation and sampling of sites with potentially contaminated soil*.

All soil samples are being analysed for relevant contaminants of concern (i.e. zinc and lead) and results will be compared against the relevant *National Environment Protection (Assessment of Site Contamination) Measure 1999* (NEPM, 1999) Guidelines to determine whether the soil is suitable for the current land-use.

On 24 March 2021, two water samples were collected at Site 3 (Figure 6) in accordance with *Australian Standard 5667.1-1998: Water quality - Sampling Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples*.

The water samples will be analysed for filtered and total lead and zinc concentration, and will be compared to appropriate guideline values.

The potential for material environmental harm will be confirmed following the receipt of sample results. Follow-up correspondence confirming the final soil and water results will be provided to the Department.



MRM Concentrate Spill Sample Locations Environmental Incident		Author: NG
		24/03/2021
Legend ● Soil Samples ● Water Samples ● Spill Locations ● MRM and BB Sites	0 2.5 5 km Kilometers (M)	Version 1.0
	<small>G:\Environment\5. Expeditions and Incidents\2021 Incidents\230327 - 5 kg Concentrate Spill (2021-4)13_Map</small>	

Figure 6: Sampling locations at the spill locations.

Prevention

The investigation for this specific incident concluded that contributing factors included the trailer being loaded whilst the trailer was wet causing the zinc concentrate to slurry, and the uneven road surface. It is a critical requirement for road train operators to follow the loading procedure to prevent similar spills from occurring. The work crew undertook training via a toolbox talk, reiterating the requirement to check load levels and remove any water from the trays prior

	<p>to departing the Mine.</p> <p>In addition, MRM have recently implemented set trailer load fill limits to the top ridge of the trailers, approximately 200 mm below the lid of the trailers.</p> <p>Further, MRM will now conduct visual trailer inspections at the Mine Security Gatehouse prior to exiting the Mine. The inspections are conducted to confirm the trailer lids are in working order, and there is no concentrate sitting on the external body of the trailers. If the truck fails the inspection, arrangements are to be made to ensure the trailer is rectified to a suitable condition before approval to leave site is given.</p>
(f) the identity of the person notifying the NT EPA	Simon Longhurst Acting Superintendent - Environment