



Truck Breaches Tip Head Due to Dump Failure

2nd December 2025

Hail Creek Open Cut

Incident Description

Summary - Truck Breaches Tip Head Due to Dump Failure

Date and time of incident	02/12/2025, 08:14am
Location	Hail Creek Open Cut
Persons injured	No
Actual consequence (Cat 1 to Cat 5)	Category 1
Potential consequence (Cat 1 to Cat 5)	Category 4
Fatal hazard (if applicable)	FHP 01 Strata Failure
Safe Coal Rule Breach:	No
Repeat incident?	No



TR784 a Komatsu 960E haul truck was discharging a load of waste at the corner of the RL180 dump. As the truck tray was raised and weight transferred to the rear wheels, a localised circular bench scale failure of the dump face occurred. As the material gave way underneath the rear of the truck, it began to slide backwards and downwards in a slow but uncontrolled manner. The truck came to rest at an approximate angle of 45°.

At the failure location, the RL180 dump was 19m high, comprising a ~15m lift of CAT 3 rock spoil being placed over a ~4m thick layer of CAT 1 CDA2 Ultrafine Clay. The CDA2 Ultrafine Clay was dumped at the location without approval and the hazard that this created was not identified during the dump design process nor during any inspections leading up to the incident. In the week prior to the incident, the site received 143mm of rainfall.

The weight that was applied by directly tipping at the dump corner crest, which was overlying the saturated, weak CDA2 Ultrafine Clay layer is what caused the dump to fail.

Material Categories

The below photos identifies the dump material categories seen at Hail Creek Mine.



Spoil Material Type	Description	Maximum Dump Lift Height	Operational Tolerance
Category 1	Coal or extremely weathered material	20m	+/- 5m
Category 2	Matrix supported (high fines) waste	30m	+/- 5m
Category 3	Framework supported (blocky) waste	40m	+/- 5m

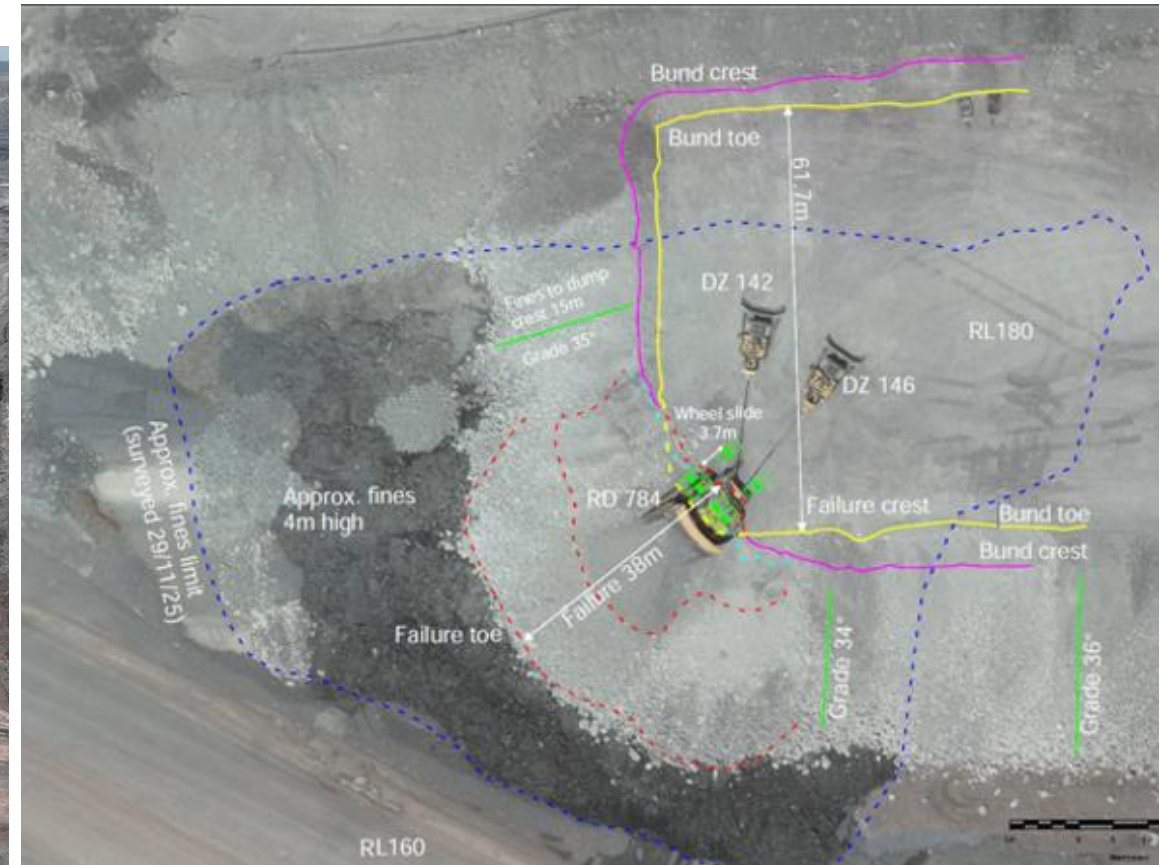
Incident Area Overview

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Incident Overview – Drone



Drone Photo Captured on 01/12/25 (1 Day Before the Incident)



Post Incident Survey Plan

Incident Images

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TR784 Post Incident Photos



CDA2 (Co-Disposal Area 2)

- CDA2 was an out of pit co-disposal facility that was used from **2007 to 2011**. During this period Hail Creek only produced coking coal. The material was pumped from the CHPP to the CDA2 facility and deposited via a series of cannons.
- The co-disposal material comprised a mixture of coarse rejects (thermal product) and Ultrafine Clay which is not 100% clay, it includes clay, sand, coal fines and some coarser coal and waste rock materials
- From **2014** the CDA2 material commenced being used as a feed source for thermal coal production. The Ultrafine Clay material is mined separately and sent to waste dumps around the operation which the volume has increased significantly as the coarse feed source has become depleted.
- From a Geotechnical perspective, the clay material can result in dump instability if not disposed of appropriately.



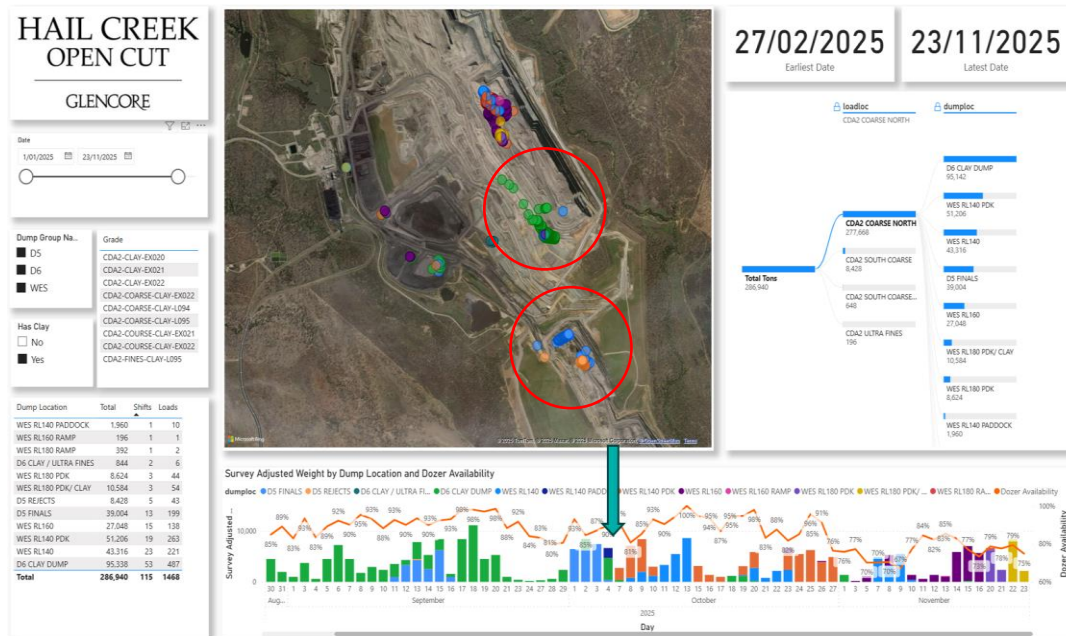
2011 - CDA2 facility exhausted



2025 - Course and clay material from current stockpile

CDA2 Ultrafine Clay Disposal – Material Placement Locations Overtime

- CDA2 Ultrafine Clay ‘ALL’ dumping locations (*note that the background photo is old*)
- The ‘Red Circles’ represent the dedicated storage cells



- CDA2 Ultrafine Clay material dump locations 27/02/25 to 23/11/25 (702 loads in Dump 5&6, 706 loads in WES)
- All material went to Dump 5 & 6 storage cells up until early October, from 7th October majority (apart from 21 loads), went in-pit

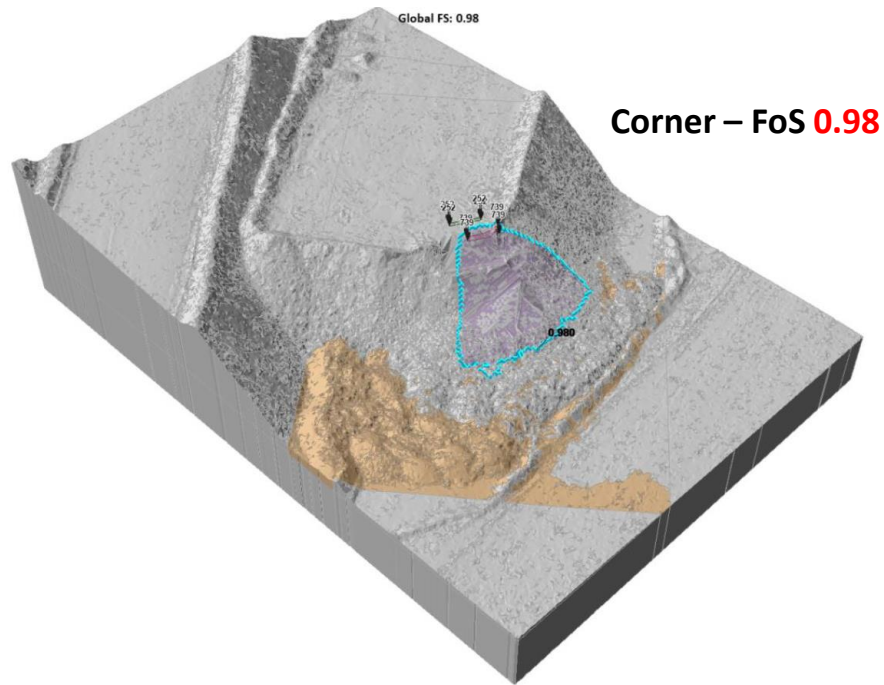
- CDA2 Ultrafine Clay ‘WES Pit’ dumping locations (*note that the background photo is old*)
- The ‘X’ represents the incident location



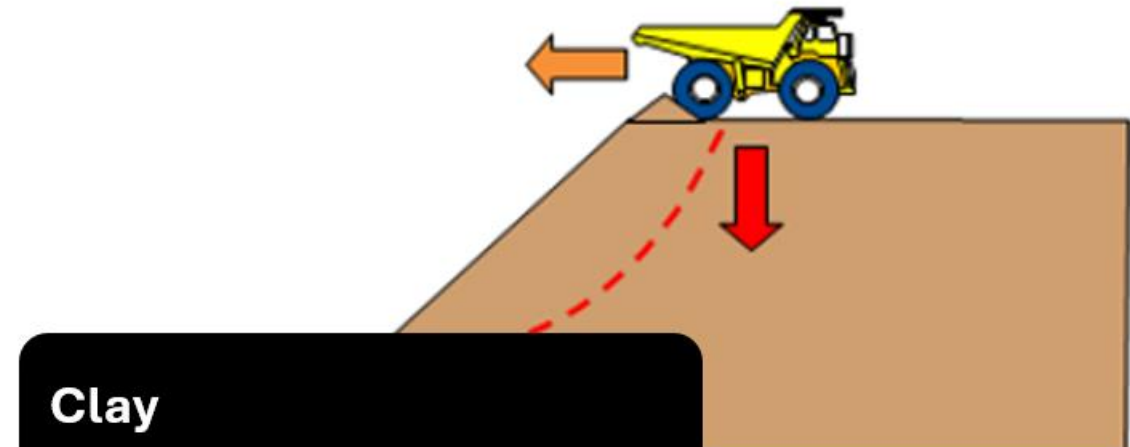
- Loads dumped in WES Pit = 706
 - 17 loads counted out of WES and subtracted from the data set
- Data from 7th Oct

Geotechnical Report Summary

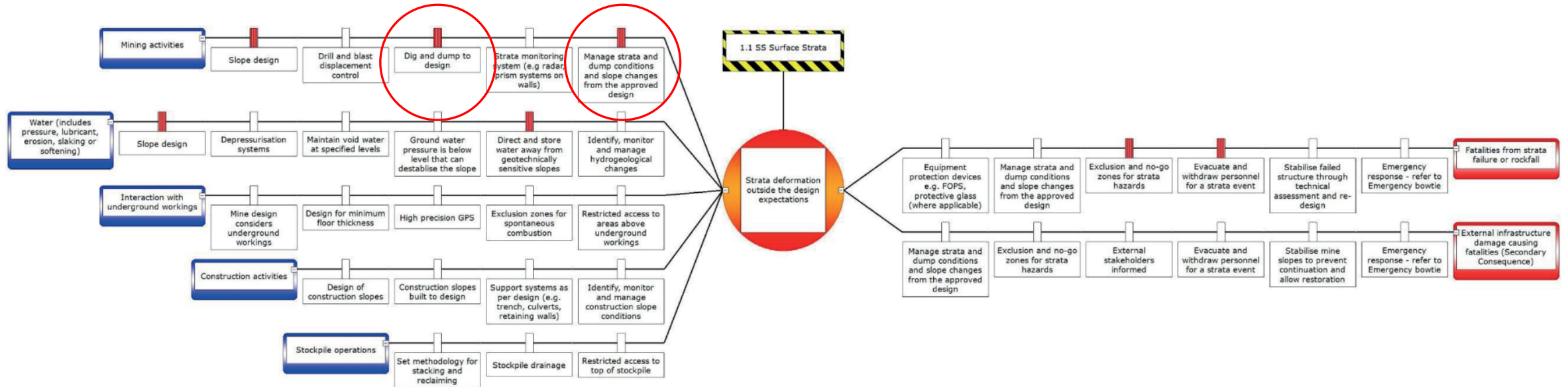
- The material strength parameters for the CDA2 Ultrafine Clay material has reduced the FoS and significantly weakened the dump structure
- **143mm** of rain was recorded in the days leading up to the event
- **What is a circular base failure?** The slip surface passes below the toe, often when the **foundation material is weaker than the slope material.**



3D geometry modelling of the dump corner



Circular failure – weak dump base



F1-8 Dig and Dump to Design; applicable requirements following:

- Inspections of dumps during construction are undertaken to verify inappropriate materials are not at the base of the dumps
- Dump designs that include specific material placement requirements have evidence of dump construction inspections and material placement in accordance with the approved design



TR784 Guardvant Screen Shot – View of Dumping Location During Approach / Spotting



Incident Video

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DZ142 Guardvant Video Footage



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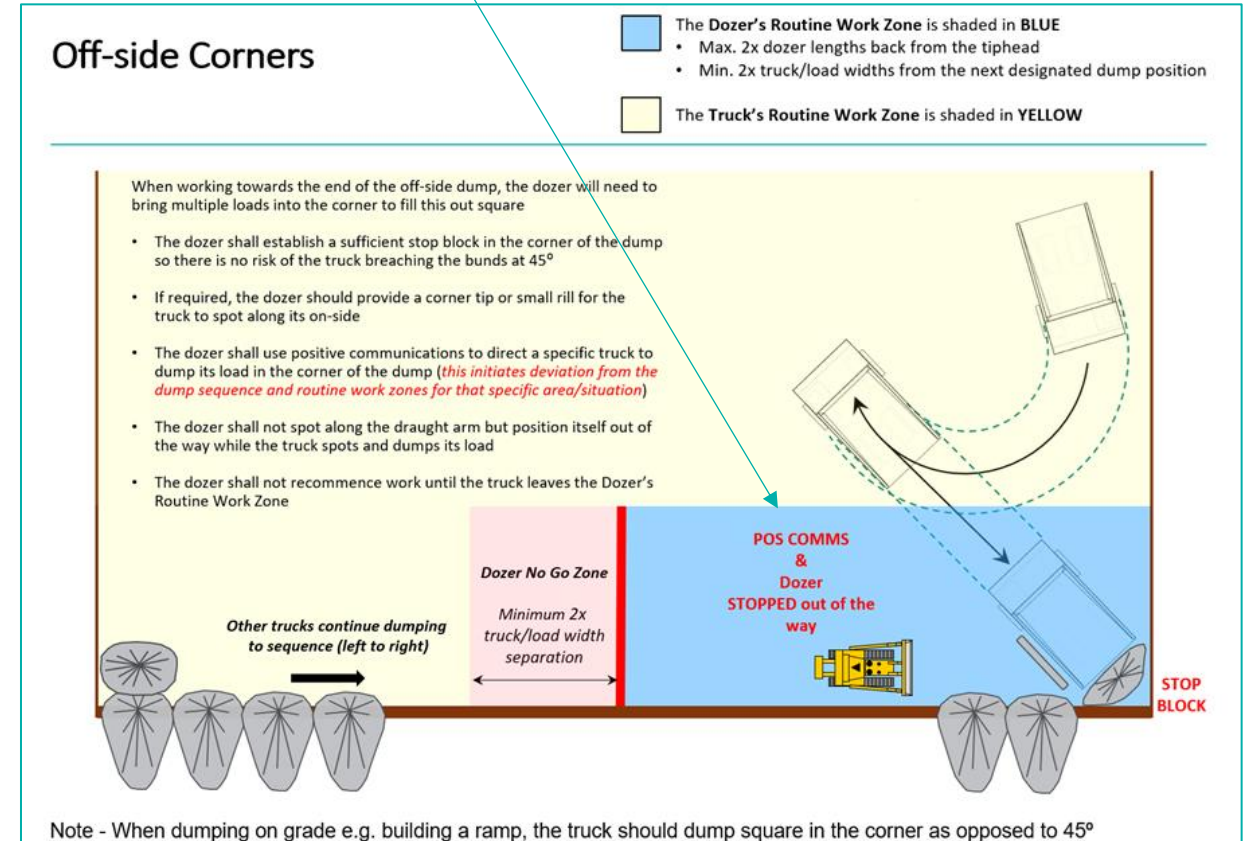
GLENCORE

Dumping Procedures

Relevant Extracts from SOP117 – Spoil Dumps and Excavated Faces and SOP133 – Discharging Loads

Tipping on the 45 on an established tip head will require the dozer to spot the truck operator:

The dozer shall establish a sufficient stop block in the corner of the dump so there is no risk of the truck breaching the bunds at 45°	✗
If required, the dozer should provide a corner tip or small rill for the truck to spot along its on-side	✓
The dozer shall reverse away from the truck before the tray raises. Park the dozer in a position well clear of haul truck until the load is tipped	✗
Dozer operators must regularly monitor the dump area for hazards such as cracking, slumping and sub-standard material. If a hazard is identified, it must be rectified and/or demarcated and communicated to the OCE, supervisor and all other operators in the immediate work area	✗



NO PLAN. NO WORK.

NO	STEP	COMPLY	NON-COMPLIANCE / GAPS
1	Scope		
2	Consult		<ul style="list-style-type: none"> Assumed approval to dump CDA2 Ultrafine Clay into WES pit (was no formal approval in place and other locations available at the time)
3	Work Method		<ul style="list-style-type: none"> Dumping procedures in place but not followed There is no documented method on how to manage tipping over Ultrafine Clay
4	Hazards & Controls		<ul style="list-style-type: none"> Slumping in corner of dump not controlled or reported to supervisor or OCE The presence of CDA2 Ultrafine Clay beneath the dump was not identified as a hazard Low dump bunding in corner
5	Scheduled Inspections		<ul style="list-style-type: none"> Minimum evidence to suggest supervisors across multiple shifts were inspecting the dump and its conditions
6	Do the Work		<ul style="list-style-type: none"> Wheel marks evident within the dump's safety bunds No stop block in place to prevent the truck from reversing to the bund
7	Monitor and Review		<ul style="list-style-type: none"> Ongoing Work area inspections of the RL180 dump failed to identify the CAT 1 material hazard at the base of the dump

Similar (*Repeat*) Incidents

Note – Different Causal Mechanism

Incident		Direct Cause	HLC Review
Clermont, August 2021 Rear dump truck breached bund on RL126 tip head		The combination of bunds being low and not square was insufficient in preventing a haul truck from penetrating it	Different Causal Mechanism
Rolleston, February 2023 Rear dump truck breached tip head bund		Haul truck breached the tip face bund due to the operator reversing at full throttle after contacting the bund	Different Causal Mechanism
Bulga, October 2023 Dump truck breached tip head windrow on EEA RL150 dump		Haul truck breached the dump tip face windrow due to an inadequate windrow	Different Causal Mechanism
Mangoola, April 2024 Haul truck breached dump windrow		Inadequate dump windrow and dump shape to prevent position 5 and 6 wheels breaching the bund	Different Causal Mechanism Zero Touch controls implemented <ul style="list-style-type: none"> SOP 117 and 133 updated GCOM communication of requirements Dump area inspection checklist created Inspections initially conducted 3x per dump per shift, note that this was reduced over time Audit of reverse cameras installed completed Audit of mirrors completed Windrow and reverse lighting fitted to fleet Investigations into proximity radars and possible upgrade to existing reversing cameras (proximity alarms) – Not progressed
Rolleston, April 2024 Rear dump truck backed through bund		Truck contacted the dump safety bund at an angle, and applying maximum throttle resulted position 5 and 6 tyres pushing through the dump safety bund	
Clermont, May 2024 Breach of dump bund by articulated truck		Operator reversed blind towards the bund with intention of using the bund as a brake	

Root Cause	Contributing Factors														
CDA2 Ultrafine Clay (CAT 1 material) was paddock dumped within the RL180 dump footprint without approval	<table><tr><th>Ref</th><th>Finding</th></tr><tr><td>1</td><td>There was not a documented nor adequate operating methodology for the CDA2 Ultrafine Clay dedicated storage cell areas</td></tr><tr><td>2</td><td>There was no formal approval to dump the CDA2 Ultrafine Clay material into WES pit. The hazard of placing this material into WES Pit, specifically in large quantities was not recognised and formally rectified</td></tr><tr><td>3</td><td>The design process of the RL180 dump failed to identify the placement of CAT 1 material at the base of the dump</td></tr><tr><td>4</td><td>The design assumptions utilised in the approved RL180 dump design were not validated before and during construction of the RL180 dump</td></tr><tr><td>5</td><td>Work area inspections of the RL180 dump failed to identify the CAT 1 material hazard at the base of the dump</td></tr><tr><td>6</td><td>Dumping at the corner of the RL180 dump was not controlled in accordance with site procedures and Glencore Best Practice Guideline</td></tr></table>	Ref	Finding	1	There was not a documented nor adequate operating methodology for the CDA2 Ultrafine Clay dedicated storage cell areas	2	There was no formal approval to dump the CDA2 Ultrafine Clay material into WES pit. The hazard of placing this material into WES Pit, specifically in large quantities was not recognised and formally rectified	3	The design process of the RL180 dump failed to identify the placement of CAT 1 material at the base of the dump	4	The design assumptions utilised in the approved RL180 dump design were not validated before and during construction of the RL180 dump	5	Work area inspections of the RL180 dump failed to identify the CAT 1 material hazard at the base of the dump	6	Dumping at the corner of the RL180 dump was not controlled in accordance with site procedures and Glencore Best Practice Guideline
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Positive Observations															
<p>The operator of TR784 with only 9 months experience instinctively lowered the tray as he felt the truck begin to move backwards and downwards. This action shifted the centre of mass of the truck and load forward and potentially mitigated further, worse consequences</p> <p>Engineering calculations were undertaken to ensure adequate truck security in the event of further movement; including the number and working load of slings, along with confirming two D11s provided sufficient anchor points. Tell tales were installed to monitor movement</p> <p>The recovery of RD784 was conducted in a well-planned and controlled manner, with adequate time taken to safely level and tow out the truck</p>															

Corrective Actions

Rec Ref	Action
1	Develop an operating plan / methodology for dedicated storage cell(s)/ area(s) that includes appropriate geotechnical recommendations for material discharge requirements, safe encapsulation and bearing requirements for lifts above, etc.
2	Assign responsibility and accountability for these dedicated storage cells / areas (assigned roles must cover off on both mining /execution and design conformance)
3	Deviation to Plan process needs to be updated to ensure correct trigger mechanisms / criteria are in place including the appropriate responsibilities and accountabilities
4	Update dump design checklist to include requirements to physically verify that inappropriate materials are not at the base of the dumps and if identified, the process triggers a geotechnical review of the dump design
5	Update engineering design process to include the requirement for a physical inspection of an area subject to a design prior to construction commencing to ensure design assumptions are still valid
6	Update geotechnical / geology weekly inspection checklist to include requirements to verify that inappropriate materials are not at the base of the dumps
7	Review F1-8 Critical Control Verification process to ensure that the verification activity / criteria and the evidence capture process includes verifying that inappropriate material is not at the base of dumps

Rec Ref	Action
8	Rationalise mining area inspection forms to ensure appropriate content for the inspection forms intended purpose. (Review content against GCAA QLD Operations Minimum Requirements Dump Inspection Checklist as distributed during Zero Touch process)
9	Document and re-set expectations with respect to who and when specific inspections are to be undertaken along with requirement that these must be recorded as electronic forms (ensure that people specified to conduct inspections are appropriately trained to do so)
10	Review the site procedures (SOP117 and SOP133) against the relevant sections for dumping at a corner in the Glencore Best Practice Guideline and update procedures as required
11	Update training packages and develop a Hail Creek Best Practice video that includes the updated requirements for managing the corner of dumps

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