

Mining Proposal for Small Mining Operations

1. COVER PAGE	
Project Title: Telfer Gold Mine: Stage 7 West Dome Pit Expansion	Tenement(s): M45/7
Operator(s): Newmont Mining Limited (Newmont)	
Contact Name: Mitchell McGrath	
Address: Level 5, 500 Hay St, Subiaco WA 6008	
Phone: 08 9270 7085	Email: Mitchell.McGrath@newmont.com
Date: 2/04/2024	

2. TENEMENT HOLDER AUTHORISATION		
Are you the registered tenement holder?	Yes	No
If No, attach written authorisation from the tenement holder.	<input checked="" type="radio"/>	<input type="radio"/>

3. SCOPE OF WORKS
<p>3.1 Describe the activities proposed:</p> <p>Newmont Mining Limited (Newmont) is the world's leading gold company and a producer of copper, zinc, lead, and silver. Newmont acquired Newcrest Mining Limited (Newcrest) to create the world's leading gold company with robust copper production. As part of this acquisition, Newmont, operate the Telfer Gold Mine which is located approximately 1,300 kilometres (km) NNE of Perth and 400 km SSE of Port Hedland (refer to Figure 1 in Attachment 1). The mine comprises two open pits (Main Dome and West Dome) and one underground (UG) mining operation from which gold ore is mined and processed through the operation's processing facility, producing gold doré and a gold-copper concentrate. The site also comprises several waste rock dumps (WRDs) and tailings storage facilities (TSFs), as well as various supporting infrastructure. Mining is conducted under the <i>Mining Act 1978</i> (Mining Act) in accordance with Mining Proposals and a site-wide Mine Closure Plan (MCP). This Small Mining Proposal relates to extending the approved West Dome pit crest to accommodate the Stage 7 cutback. The West Dome pit would be extended by approximately 3.99 ha to source additional resource. No clearing of vegetation is required.</p> <p>This proposal is very similar to a previously approved cutback for the West Dome pit (Stage 8) (Reg ID 112379).</p>

Stage 7 Cutback

The Stage 7 cutback is proposed to be undertaken on the western section of the West Dome Pit as illustrated by **Figure 2** and **Figure 3** in **Attachment 1**.

Stage 7 is proposed to extend outside of the current approved Mining Proposal area. Therefore, Newmont requires approval of a Small Mining Proposal to mine this area (**Figure 3** in **Attachment 1**).

Currently approved Waste Rock Dumps (WRDs) (WRD 4, WRD 9, WRD 10, WRD 11, WRD 12, WRD 14 and Nullagine Dump) will be utilised for the storage of additional waste rock material, as well as in-pit dumping as much as possible within the constraints of the current sterilisation approvals. Designs of these WRDs will not change from existing approved parameters.

The Stage 7 cutback will not result in any new disturbance as West Dome Pit will move into the footprint of the adjacent WRD and other cleared land stretching across tenement M45/7.

A Geotechnical Review and Stability Assessment has been undertaken by Newmont to ensure the cutback can be safely mined. The geotechnical assessment report is attached as **Attachment 2** and includes:

- Kinematic Analysis with Rocscience Dips, LeapFrog and Maptek Vulcan 12;
- 2D limit equilibrium analysis with Rocscience Slide2; and
- Rock fall Trajectory paths with BasRock Trajec3D and Maptek Vulcan 12.

The western wall of the West Dome pit consists of individual batters to the heights between 24 m and 32 m extending to a total vertical height of approximately 145 m, with batter face angles ranging from 55° to 65°. The overall slope angle is 50°, with inter-ramp angles (IRA) ranging from 42° to 50°. Field mapping indicates that the overall stability of the wall has performed well, with no major fall-of-ground events or instabilities observed (Newmont, 2023) (**Attachment 2**). The eastern wall of the West Dome pit consists of individual batters of heights between 24- and 32-metres with batter face angles ranging from 55° to 60°. The overall slope angle is 52° and the IRA is 50°. The eastern wall aligns with the recent West Dome stage 5 cutback, which comprised 65° batters from the surface (Newmont, 2023) (**Attachment 2**).

Newmont will ensure that as per the PAF Management Mining Proposal a setback of 25m between the pit crest and post rehabilitation toe of the WRD (known as the standoff) is included to allow for the Zone of Instability and instalment of an abandonment bund during closure works.

Potentially Acid Forming (PAF) waste is expected within the cutback. When encountered, actions will be implemented to ensure that the waste material is managed in accordance with the PAF Management Mining Proposal (Newcrest, 2019) and PAF Management Plan (Newcrest, 2018).

3.2 Estimated commencement date:	Between January and March 2025		
3.3 Estimated completion date:	Between April 2026 and November 2026 depending on start dates		
3.4 Mineral(s) to be mined:	Gold-copper		
3.5 Maximum number of excavations and length, width and depth of excavations (in metres):	Mining of the cutback will be undertaken using traditional mining methods of drilling and blasting, and then mining the benches to the desired depth. Individual batters range from 24 m to 32 m reaching a total vertical height of 145 m.		
3.6 Maximum tonnes of material mined and processed:	A total of 23 Mt of material will be mined from this cutback. Of which, 9 Mt will be sent to the processing plant or dump leach facilities, the remainder will be waste. The site licence (L6079/1988/13) processing throughout of 26,000,000 tpa will not change.		
3.7 Will ore be processed on-site or off-site?	On-site <input checked="" type="radio"/>	Off-site <input type="radio"/>	N/A <input type="radio"/>
If off-site, where will processing occur?	N/A		

<p>If on-site, please describe: the type of processing (e.g. dry or wet gold plant, CIP plant, heap or vat leach, crushing and screening¹); and</p>	<p>An existing metallurgical process plant, incorporating crushing, grinding and leach-adsorption and flotation circuits, dump leach operations and a gold recovery circuit to produce gold and copper concentrate.</p>
<p>maximum total throughput or processing volume (in tonnes) for the life of the operation:</p>	<p>The maximum tonnes of material to be processed from this cut back will be 9 Mt, and the site licence (L6079/1988/13) will not require any change and will remain 26,000,000 tpa.</p>
<p>3.8 Will you be utilising chemicals, explosives, cyanide or other dangerous goods? If yes, please describe:²</p>	<p>Between 10,500 t and 24,000 t of Differential Energy (Delta E) explosive would be utilised per annum for the open pit mining operation.</p>
<p>3.9 Description of other support facilities (e.g. camp).</p>	<p>Not Applicable. All support infrastructure has already been approved under other Mining Proposals.</p>

4. SITE LAYOUT PLAN

<p>A site plan(s) is attached that includes:</p> <ul style="list-style-type: none"> • The location of the operation. • All proposed and existing site activities. • Tenement boundaries and labels. • A north indication. • A key or labelling of all infrastructure and activities. 	<p>Yes</p> <p><input checked="" type="radio"/></p>
---	---

5. EXISTING ENVIRONMENT

5.1 Identify the environment in which the operation is located:

<input type="checkbox"/> Open Scrub	<input type="checkbox"/> Dense Scrub
<input type="checkbox"/> Low Scrub	<input type="checkbox"/> Tall Scrub
<input type="checkbox"/> Salt Bush/Blue Bush	<input type="checkbox"/> Spinifex Country
<input type="checkbox"/> Salt Lake/Marsh	<input type="checkbox"/> Sand Dunes
<input type="checkbox"/> Woodland	<input type="checkbox"/> Hilly Country
<input type="checkbox"/> Flat Country	<input type="checkbox"/> Creek-Lines
<input type="checkbox"/> Breakaway Country	

Other (specify):

Disturbed mine pit with adjacent WRDs. No remnant vegetation or creek-lines

5.2 Any previous workings (historical mines, shafts, open stopes, tailings dams, dumps, old equipment etc.)?	<p>Yes</p> <p><input checked="" type="radio"/></p>	<p>No</p> <p><input type="radio"/></p>
--	---	---

If yes above, describe the previous workings:

The previous workings applicable to this Small Mining Proposal includes the Telfer Gold Mine as illustrated by Figure 2 and Figure 3 in Attachment 1.

¹ The Department of Water and Environmental Regulation (DWER) regulates emissions and discharges to the environment through a works approval and licensing process, under Part V

- of the *Environmental Protection Act 1986*. You will be required to obtain relevant approvals for a processing plant from DWER if you meet the relevant threshold.
- 2 If you will be using dangerous goods, you will need to comply with Dangerous Goods Safety and Storage legislation. Contact DMIRS Mine Safety for further information (www.dmp.wa.gov.au/Utilities/Safety-contacts-8366.aspx).

5.3 Will the activities occur in Reserved Lands?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
If yes to 5.3, identify the Reserve (e.g. Timber Reserve, Nature Reserve): N/A		
If yes to 5.3, have you received consent to mine within the Reserve?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
5.4 Will the activities occur in a Public Drinking Water Source Area? ³	Yes <input type="radio"/>	No <input checked="" type="radio"/>
If yes to 5.4, confirm that you have consulted with the Department of Water and Environmental Regulation and attach relevant information.	Yes <input type="radio"/>	No <input checked="" type="radio"/>
If yes to 5.4, describe any specific management actions you will undertake to protect the Public Drinking Water Source Area N/A		
5.5 Will the activities occur in an Environmentally Sensitive Area? ⁴	Yes <input type="radio"/>	No <input checked="" type="radio"/>
5.6 Have you identified any flora or fauna of conservation significance that will be impacted by the proposed activities?	Yes <input type="radio"/>	No <input checked="" type="radio"/>
If yes to 5.6, describe the distribution, locations and/or habitat and attach any relevant surveys as appendices. N/A		
If yes to 5.6, how will the impacts to conservation significant flora or fauna be managed? N/A		

³ Public Drinking Water Source Area as proclaimed under the *Metropolitan Water Supply, Sewerage and Drainage Act 1909* or the *Country Areas Water Supply Act 1947*

⁴ Environmentally Sensitive Area as declared by the Minister for Environment under section 51B of the *Environmental Protection Act 1986*. These can be identified through the Department of Water and Environmental Regulation's Clearing Permit System – Map.

⁵ A flora and fauna desktop enquiry/search of the project tenements can be undertaken on the Department of Biodiversity, Conservation and Attractions (DBCA) NatureMap website (link: <https://naturemap.dpaw.wa.gov.au/>). If the search identifies flora or fauna of conservation significance, then further work, including on-ground surveys, may be required. This should be discussed with the relevant DMIRS Environmental Officer.

List the maximum area of disturbance (ha)		Approved Areas		
Activity/Disturbance Type (e.g. Dryblowing, Scraping/Detecting, Pit, Plant, Waste Dump, Camp, Road, etc.)	Mine activity reference	M45/7 Currently Approved (ha)	M45/7 Proposed (ha)	Total Approved (ha)
Mining void (with a depth of at least 5 metres) - below ground water level	West Dome Stage 7 Cutback	-	3.99	3.99
TOTAL (ha)				3.99

7. WASTE ROCK/TAILINGS/MINE WASTE MANAGEMENT

	Yes	No
7.1 Will any waste rock or tailings be generated as part of this proposal?	<input checked="" type="radio"/>	<input type="radio"/>
7.2 Are you proposing to stockpile waste rock as a permanent landform?	<input checked="" type="radio"/>	<input type="radio"/>
7.3 Will waste rock/overburden be backfilled into excavation/s?	<input checked="" type="radio"/>	<input type="radio"/>
If no to all of the above please continue at Section 8.	<input checked="" type="radio"/>	<input type="radio"/>
If yes to any of the above, provide the following information and include any supporting documentation as attachments.		
<p>7.4 Provide a description of any problematic materials present in the waste rock, tailings and/or material to be leached (e.g. presence of potentially acid forming material, sodicity, salinity, dispersive potential). Presence of potentially acid forming (PAF) material. Any PAF material encountered will be managed in accordance with the PAF Management Mining Proposal (Newcrest, 2019) and PAF Management Plan (Newcrest, 2018). Waste rock will be backfilled into the mining pit void wherever possible.</p>		
<p>7.5 If a heap or vat leach is proposed, provide a description of the heap/vat leach facility (e.g. max. height, liner type, process chemicals used, output).</p> <p>Not applicable as the existing processing plant and heap leach facilities will be used to process ore.</p>		
<p>7.6 Describe and provide a diagram of the dimensions and/or design of the waste rock landform(s), tailings storage facilities, heap leach, vat leach and/or any other landform(s) to be constructed, including maximum height, and attach any relevant design reports.</p> <p>Waste rock material from Stage 7 will be sent to the current approved West Dome waste dumps (WRD), WRD4, WRD9, WRD 11, WRD 12 and WRD14, with sufficient capacity available in the current approved waste dumps.</p>		

8. DUST/NOISE

Is dust/noise likely to affect any sensitive receptors nearby (e.g. flora or fauna, places of residence, public road, towns/communities, etc.)?⁶

Yes

☐

No

☒

If **Yes to above**, detail dust/noise management measures:

9. WATER

9.1 Is water extraction required to support the mining operation? If No continue at question 9.2.

Yes

☒

No

☐

If yes to 9.1, for what purpose is water extraction required (e.g. processing, dust suppression)?

Dewatering water will be used for processing and dust suppression. Current licenced (GWL150758(17)) volume of 29,700,000 kL per annual period.

If yes to 9.1, where will water be extracted from (e.g. surface dams, groundwater bores, artesian wells, watercourses, old shafts)?⁷

9.2 Is dewatering required?⁸

Yes

☒

No

☐

If yes to 9.2, describe the:

Volume to be extracted:

GWL150758(17) allows for a volume of 29,700,000 kL per annual period.

An average of 15,072,000kL has been extracted over the previous three years. No change to the current licence is required.

Water quality:

As indicated by recent groundwater monitoring results, dewatering water is brackish with a total dissolved solid (TDS) concentration ranging from 2,169 mg/L to 3,167 mg/L.

How the water will be managed (e.g. stored, discharged):

Utilised on site for processing & dust suppression, with excess water discharged in accordance with licence number L6079/1988/13.

9.3 Does the proposed activity involve disturbing the beds and/or banks of a watercourse?

Yes

☐

No

☒

9.4 Describe the quality of the water (e.g. "fresh"/"brackish"/"saline"/"hypersaline") and quantity of water extracted (kilolitres/year):

Refer to Section 9.2 above

9.5 Describe how the water will be stored and utilised on site. Provide the height and/or depth of any dams/turkeys nests:

Water will be utilised on site as per Section 9.1 above.

Existing turkey nest dams will be used to store the water.

⁶ The operation will be required to comply with the requirements of the Environmental Protection (Noise) Regulations 1997.

⁷ The construction of bores/wells and the extraction of groundwater or surface waters may require approval and licensing from the Department of Water and Environmental Regulation (DWER).

⁸ If dewatering is required, this may also require approval and licensing from the Department of Water and Environmental Regulation (DWER).

10. LAND USE AND STAKEHOLDER ENGAGEMENT⁹

10.1 Describe the underlying and/or pre-existing land uses of the area:

The proposed activity is situated in the Great Sandy Desert bioregion. The site comprises Unallocated Crown Land (UCL) and mine lease (M 45/7). The closest pastoral station, Warrawagine Station, is situated more than 160 km to the west. There are no conservation parks or forestry reserves located within the vicinity of the Project. The nearest is the Karlamilyi National Park (formerly Rudall River National Park), situated more than 50 km SE.

Telfer is located within the Native Title determination area of the Martu people (Tribunal file no. WAD6110/1998, WAD6110/1998) granted under the Native Title Act 1993 (Native Title Act). The Martu People are represented by the Jamukurnu Yapalikunu Aboriginal Corporation (JYAC).

10.2 If the activities are on a pastoral lease, confirm that the pastoralist has been notified.

Yes

☐

10.3 For stakeholders that will be affected by the proposed operation, list those stakeholders and any engagement undertaken to date including any issues raised.

Not applicable – No stakeholders will be affected by the proposed activity. The proposed activity is part of the larger project of Telfer Gold Mine and has previously been previously through stakeholder engagement. JYAC have been consulted.

10.4 Confirm that you have completed an enquiry/search of the Department of Planning, Lands and Heritage (DPLH) Aboriginal Cultural Heritage Inquiry System for the area subject to this proposal.

Yes

☒

10.5 Does your proposal partly or wholly intersect the boundary of an Aboriginal Heritage site?

Where the activities will impact an Aboriginal Heritage site, approvals are required under the Aboriginal Heritage Act 1972.

Yes

☐

No

☒

11. ENVIRONMENTAL MANAGEMENT COMMITMENTS

Please note, the following tenement conditions (where relevant) will be imposed under the *Mining Act 1978* if this mining proposal is approved. If you have any objections to any of these, please detail in section 11.1.

- Topsoil and vegetation to be removed ahead of mining operations and appropriately stockpiled for later resspreading or immediately resspread as rehabilitation progresses.
- All reasonable and practicable measures will be taken to prevent the spread of dieback and weeds.
- Lined storage dams will be fitted with appropriate fauna egress points to ensure that any fauna does not become entrapped.
- All rubbish and waste will be appropriately managed and disposed.
- All reasonable measures will be taken to ensure all hydrocarbons, environmentally hazardous chemicals, process water and other environmentally hazardous substances or waste are stored and managed in a manner to prevent discharges to the environment.
- All hydrocarbon spills or chemical spills will be contained and cleaned up within a timely manner.
- Clearing of large, mature trees will be avoided, where practicable.
- All activities to be undertaken so as to avoid or minimise damage, disturbance or contamination of waterways, including their beds and banks, and riparian and other water dependent vegetation.
- The development and operation of the project being carried out in such a manner so as to create the minimum practicable disturbance to the existing native vegetation and natural landform.
- The lessee taking all reasonable and practicable measures to prevent or minimise the generation of dust from mining operations.

For tailings storage, heap leach and/or vat leach facilities:

- The lessee directing stormwater runoff away from areas adjacent to tailings storage, vat leach or heap leach facilities to minimise the potential for pollution or contamination of stormwater, or erosion of the facility.
- All vat leach or heap leach facilities being constructed with an appropriate liner to prevent the pollution or contamination of the natural ground, surface water or underground waters.
- All reasonable measures will be taken to construct tailings storage, vat leach or heap leach facilities in a manner to prevent discharges from the facility to the environment.
-

⁹ Please note that under section 20(5) of the *Mining Act 1978* you must obtain written consent from the occupier of any Crown Land (e.g. pastoral lease holder) for any activities within 100 metres of a yard, garden, cultivated field, orchard, vineyard, plantation, airstrip, burial ground, land under crop, house, substantial occupied building; or within 400 metres of a water works, race, dam, bore.

11.1 Describe any modified or additional management commitments and/or methods of minimising disturbance that you will be implementing; or any objections you have to the above conditions:

Newmont will comply with existing tenement conditions and with commitments made in existing approved mining proposals.



MINE CLOSURE PLAN FOR SMALL MINING OPERATIONS

This is the pro forma for the submission of a mine closure plan under Part 2 of the *Statutory Guidelines for Mining Proposals*. To be considered small mining operations for the purposes of these guidelines:

To be considered small mining operations for the purposes of these guidelines:

1. The activities **must not** be for the mining of uranium, mineral sands or rare earth elements; and
2. The activities **must** be limited to the following activities:
 - a. Scraping and detecting.
 - b. Dryblowing.
 - c. The following activities for a total footprint in the mining proposal of 10 hectares (ha) or less:
 - i. Mining excavations (pits, costeans, quarries, shafts, winzes, harvesting, dredging), leaching operations and tailing treatment operations.
 - ii. Any construction activities incidental or conducive to the activities including plant, tailings storage facilities and overburden dumps.



Mine Closure Plan for Small Mining Operations

1. COVER PAGE

If this mine closure plan is submitted as part of a mining proposal, confirm whether the below details are as per Section 1 of the mining proposal. If there are any differences please complete the below.

Yes



Project Title:

Tenement(s):

Operator(s):

Contact Name:

Address:

Phone:

Email:

Date: 23/01/2024

2. PROJECT SUMMARY

If this mine closure plan is submitted as part of a mining proposal, confirm whether section 2.1 and 2.2 are the same as Section 3 and 4 of the mining proposal and proceed to question 3 below. If there are any differences or this is a reviewed mine closure plan complete 2.1 and 2.2 below.

Yes



2.1 Describe the operation including major mine activities, land disturbances, tenements and other land tenure.

2.2 A site plan(s) is attached that includes:

- The location of the operation.
- All proposed and existing site activities.
- Tenement boundaries and labels.
- A north indication.
- A key or labelling of all infrastructure and activities.

Yes





3. POST-MINING LAND USE AND STAKEHOLDER ENGAGEMENT

If this mine closure plan is submitted as part of a mining proposal, confirm whether the below details are the same as Section 10 of the mining proposal and proceed to question 3.3.

Yes

☒

If there any differences or this is a reviewed mine closure plan, complete 3.1 and 3.2 below.

3.1 What are the underlying and/or pre-existing land uses of the area?

Per Section 10 of the Small Mining Proposal.

3.2 List those stakeholders affected by rehabilitation and mine closure and any consultation undertaken to date.

The Jamukurnu-Yapalikurnu Aboriginal Corporation (JYAC) are a primary stakeholder. Newmont undertakes ongoing consultation with this group in regards to closure related matters. JYAC will play a key role in closure and Newcrest looks forward to partnering with JYAC to ensure that closure and rehabilitation occurs in a manner that meets both regulatory and Martu requirements and expectations. Future discussions with JYAC on closure-related matters will occur via Relationship Committee meetings, the Mine Closure JYAC sub-committee and Special site visits and tours.

3.3 Is the underlying/pre-existing land use expected to change after the completion of mining?

Yes

☐

No

☒

3.4 If **yes at 3.3**, describe the changed end land use. Note: if the underlying/pre-existing land use is expected to change after completion of mining then consultation is expected to be conducted with the relevant stakeholders.

3.5 Has engagement been undertaken with stakeholders affected by a change in land use?

Yes

☒

No

☐

3.6 Describe the strategy for ongoing stakeholder engagement:

Ongoing consultation with stakeholders and the JYAC regarding post-mining land use expectations as per the approved Telfer Mine Closure Plan (MCP) (Reg ID 103474) (Mine Earth, 2022).



4. CLOSURE OUTCOMES, COMMITMENTS AND IMPLEMENTATION

4.1 Describe the rehabilitation commitments for any landform(s) (e.g. waste rock landform, tailings storage facility, heap leach):

Rehabilitation of the West Dome Pit will be undertaken in accordance with Telfer MCP (Mine Earth, 2022). The West Dome Pit will form a pit lake at closure.

4.2 Please note, the tenement conditions will be imposed under the *Mining Act 1978* if this mine closure plan is approved. If you have any objections to these, please detail in section 4.3.

- All mining related landforms and disturbances must be rehabilitated, in a progressive manner where practicable, to ensure they are safe, stable, non-polluting, integrated with the surrounding landscape and support self-sustaining, functional ecosystems or alternative agreed outcome to the satisfaction of the Executive Director, Resource and Environmental Compliance, Department of Mines, Industry Regulation and Safety.
- All excavations will be backfilled and/or closed to ensure they are stable and safe, to the satisfaction of the Executive Director, Resource and Environmental Compliance Division, DMIRS.
- Placement of waste material must be such that the final footprint after rehabilitation will not be impacted upon by pit wall subsidence or be within the zone of pit instability to the satisfaction of the Executive Director, Resource and Environmental Compliance, Department of Mines, Industry Regulation and Safety.
- All waste materials, rubbish, plastic sample bags, abandoned equipment and temporary buildings to be removed from the mining prior to or at the termination of the operation.
- Any watercourses that are disturbed by mining operations will be restored, as far as practicable, to the pre-disturbance conditions.
- Any shafts will be covered, fenced or otherwise made safe to the satisfaction of the Executive Director, Resource and Environmental Compliance Division, DMIRS.
- All chemicals and hydrocarbons will be removed from site prior to or at the termination of the operation.

For heap leach and/or vat leach facilities:

- Upon discontinuation of use of heap leach or vat leach facilities, the lessee to appropriately flush each facility to ensure the absence of free cyanide within the facility.

4.3 Describe any modified or additional rehabilitation and closure commitments; or any objections you have to the above conditions:

Not applicable – All above commitments will be undertaken.



4. CLOSURE OUTCOMES, COMMITMENTS AND IMPLEMENTATION

4.4 Confirm that you will keep records, documents or other evidence to demonstrate that the above commitments have been met.

Yes



4.5 Confirm that you will provide evidence to DMIRS to demonstrate the completion of these commitments at the end of operations.

Yes



5. CLOSURE MONITORING AND MANAGEMENT

5.1 Describe the rehabilitation monitoring that will be undertaken to demonstrate you have met the closure commitments in section 4.

Rehabilitation monitoring will be undertaken in accordance with the approved Telfer Mine MCP.

5.2 How often will this monitoring be conducted (e.g. annually)?

Annual rehabilitation monitoring will be conducted at the site and will be reported in the DMIRS Annual Environmental Report (AER).



References

- DMIRSa, D. o. (2020). *Statutory Guidelines for Mining Proposals (Version 3.0)*.
- DMIRSB. (2020). *Mine Closure Plan Guidance -How to prepare in accordance with Part 1 of the Statutory Guidelines for Mine Closure Plans (Version 3.0)*.
- Mine Earth. (2022). *Telfer Mine Closure Plan. Report for Newcrest Mining Limited by Mine Earth (Reg. ID 103474)*.
- Newcrest. (2018). *PAF Management Plan 700-675-EN-PLA-2006. Telfer Operations. Report by Newcrest Mining Limited*.
- Newcrest. (2019). *PAF Management Mining Proposal. M45/6, M45/7, M45/8, M45/9, M45/33, M45/206, M45/207, M45/208 and G45/2 Reg ID 76440 Version 2. Telfer Operations. Report by Newcrest Mining Limited*.
- Newmont. (2023). *Geotechnical review and stability assessment. Telfer Mine - West Dome Stage 7. Proposed design W7PD01_V7. By NewMont Mining Limited – Telfer Mine*.

¹ Monitoring is required to demonstrate the advancement towards, and achievement of, the closure outcomes and commitments for the site through the implementation of rehabilitation activities and closure commitments. An appropriate monitoring program would also include records of mining areas before disturbance, or appropriate analogue sites, that may be used as reference points in monitoring the progress of rehabilitated areas towards achieving closure outcomes. It is expected that the Annual Environmental Report will include an update on the progress towards meeting those outcomes and that the monitoring results provided will serve to demonstrate these outcomes.



Attachment 1: Figures



Data source: Roads, Railways - Landgate, 2024. Major Resource Projects - DEMIRS, 2024. Pipeline, Lakes - GA, 2024. National Parks - DBCA, 2024. Towns - OSM, 2024. Imagery: ESRI, 2024.

LEGEND

- Major Resource Project
- Telfer Pipeline
- National Park
- Lake
- Western Australian Roads
 - Freeway / Highway
 - Main Road
- Railway Lines
 - Railway Lines

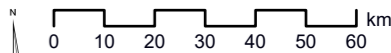
© Talis Consultants Pty Ltd ("Talis") Copyright in the drawings, information and data recorded in this document ("the information") is the property of Talis. This document and the information are solely for the use of the authorised recipient and this document may not be used, transferred or reproduced in whole or part for any purpose other than that which it is supplied by Talis without written consent. Talis makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or the information.

LOCALITY



SITE LOCATION

Stage 7 West Dome Pit Expansion
Mining Proposal
Newmont Corporation

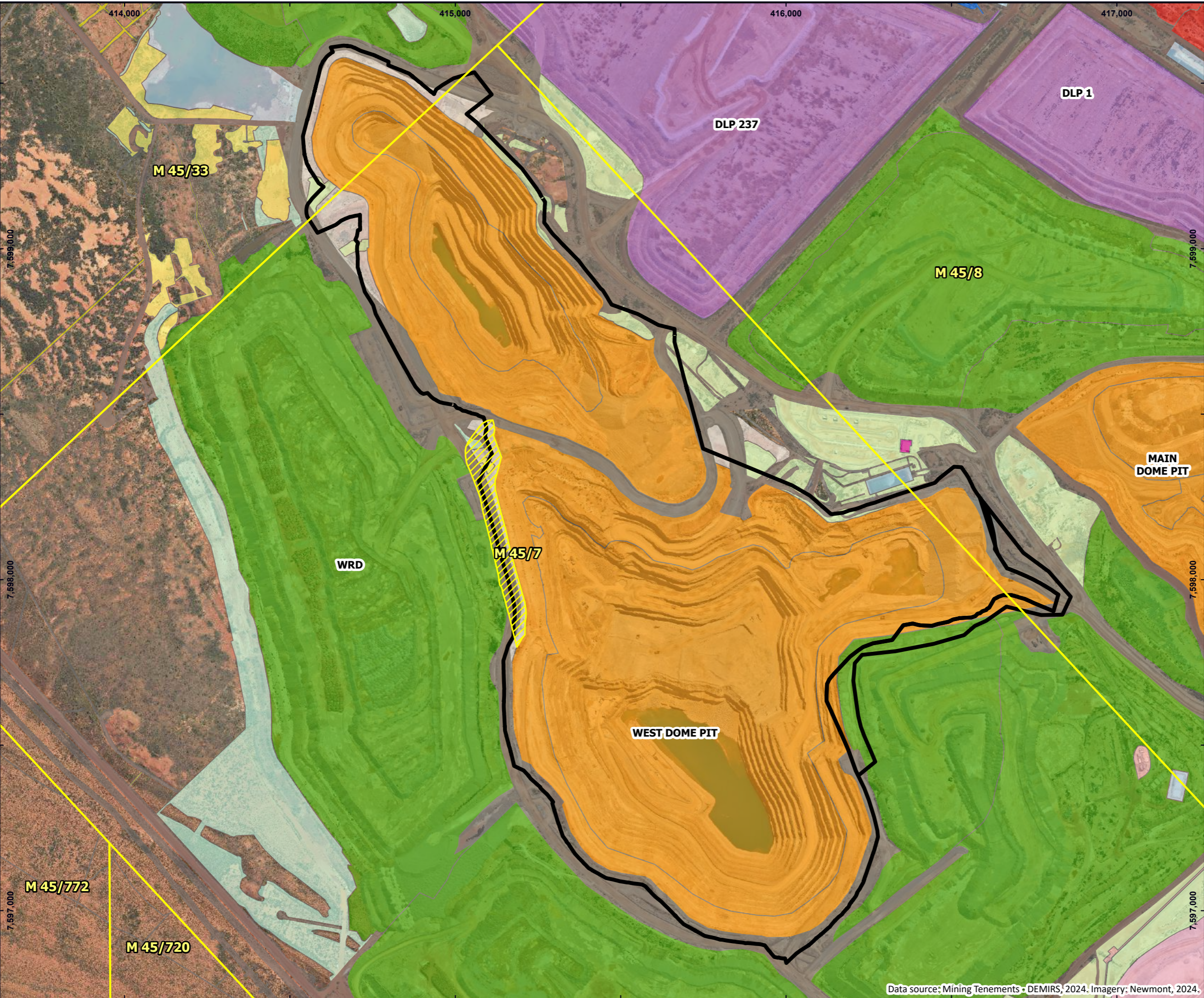


Coordinate System: GDA2020
Scale @ A3: 1:1,500,000

Prepared: T Daymond	Date: 19/01/2024
Reviewed: I Tucakovic	Revision: A
Project: TE22102	



Figure 01



LEGEND

- Mining Tenements
- Proposed West Dome Stage 7 Cutback Extent
- Approved Pit Crests

Mine Activity

- Borrow Pit or shallow surface excavation (with a depth of less than 5 metres)
- Building (other than workshop) or camp-site
- Dam
- Diversion channel or drain
- Exploration/Prospecting Operations
- Heap or vat leach facility
- Laydown or hardstand area
- Mining Void
- Other Cleared Land
- Plant site
- Run-of-mine pad
- Tailings or residue storage facility (class 1)
- Topsoil stockpile
- Transport or service infrastructure corridor
- Waste Dump or overburden stockpile

© Talis Consultants Pty Ltd ("Talis") Copyright in the drawings, information and data recorded in this document ("the information") is the property of Talis. This document and the information are solely for the use of the authorised recipient and this document may not be used, transferred or reproduced in whole or part for any purpose other than that which it is supplied by Talis without written consent. Talis makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or the information.

LOCALITY

A small map of Western Australia with a red square indicating the project location. Labels include 'Karratha', 'Port Hedland', and 'Broome'. Below the map is a scale bar from 0 to 2,000 km.

SITE LAYOUT

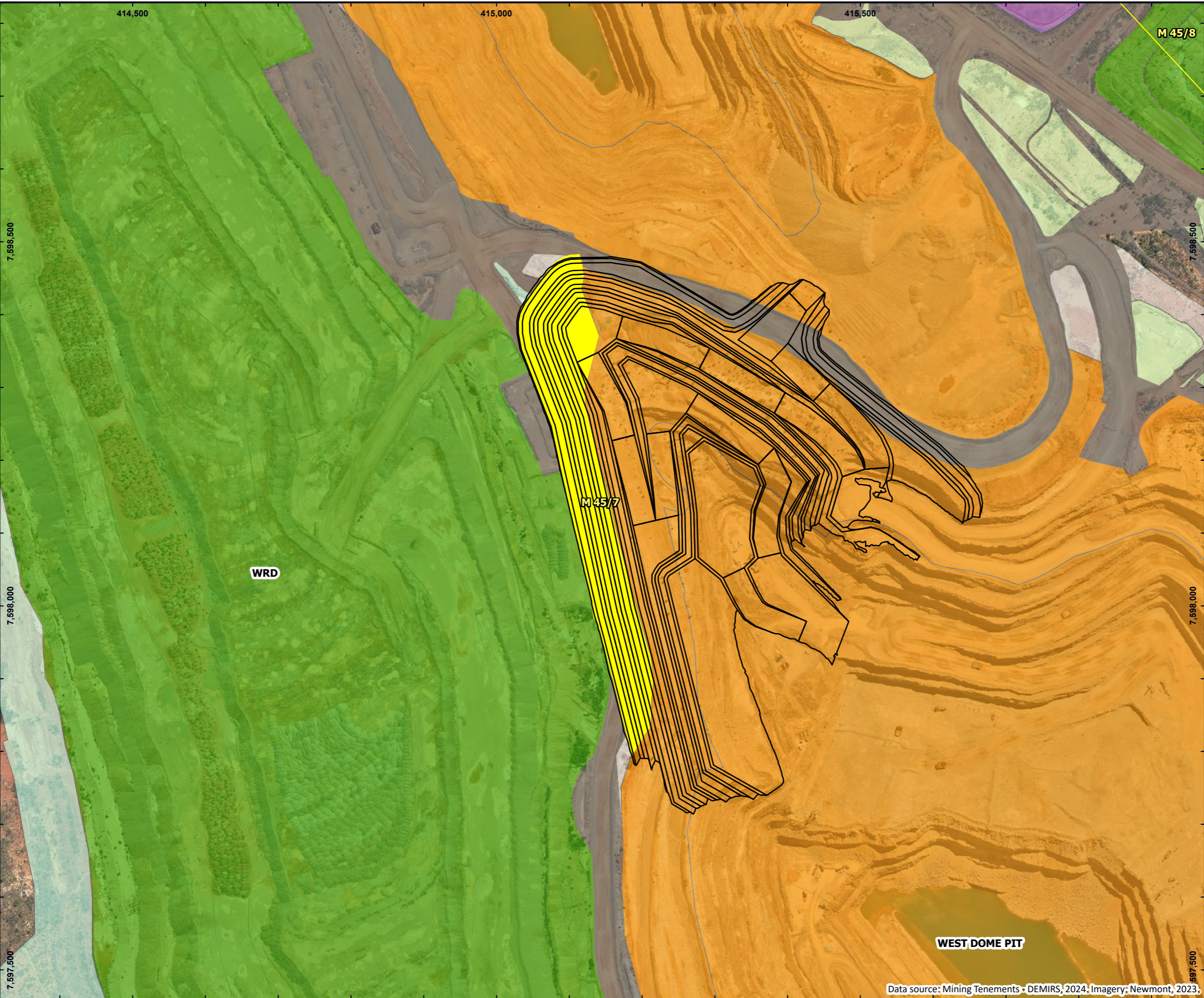
Stage 7 West Dome Pit Expansion
Mining Proposal
Newmont Corporation

0 100 200 300 400 500 m
Coordinate System: GDA2020 MGA Zone 51
Scale @ A3: 1:11,000

Prepared: E Jackson	Date: 27/03/2024
Reviewed: L Stewart	Revision: F
Project: TE22102	

Figure 02

Data source: Mining Tenements - DEMIRS, 2024. Imagery: Newmont, 2024.



LEGEND

Mining Tenements

Proposed West Dome Stage 7 Cutback Extent

Proposed West Dome Stage 7

Mine Activity

Borrow Pit or shallow surface excavation (with a depth of less than 5 metres)

Building (other than workshop) or camp-site

Heap or vat leach facility

Laydown or hardstand area

Mining Void

Other Cleared Land

Topsoil stockpile

Transport or service infrastructure corridor

Waste Dump or overburden stockpile

© Talis Consultants Pty Ltd ("Talis") Copyright in the drawings, information and data recorded in this document ("the information") is the property of Talis. This document and the information are solely for the use of the authorised recipient and this document may not be used, transferred or reproduced in whole or part for any purpose other than that which it is supplied by Talis without written consent. Talis makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or the information.



**PROPOSED SITE LAYOUT
WEST DOME**

Stage 7 West Dome Pit Expansion

Mining Proposal

Newmont Corporation

N

050100150200

m

Coordinate System: GDA2020 MGA Zone 51
Scale @ A3: 1:5,000

Prepared: E Jackson

Date: 27/03/2024

Reviewed: I Tucakovic

Revision: C

Project: TE22102

Figure 03



Attachment 2: Stage 7 Geotechnical review and stability assessment

Geotechnical review and stability assessment

Telfer Mine - West Dome Stage 7

Proposed design W7PD01_V7

**Prepared by:**

Max Lepper
Geotechnical Engineer
NewMont Mining Limited – Telfer Mine

Alastair Price
Geotechnical Engineer
NewMont Mining Limited – Telfer Mine

Assisted By:

Vrindha Suresh
Graduate Geotechnical Engineer
NewMont Mining Limited – Telfer Mine

Reviewed by:

Peter du Plessis
Superintendent Geotechnical Engineer
NewMont Mining Limited – Telfer Mine

Frank Pothitos
Principal Geotechnical Engineer
NewMont Mining Limited – Telfer Mine

Report completion date: 21/12/2023

Table of contents

1. Introduction	3
2. Site Geological setting.....	3
2.1. Telfer Formation	3
2.2. Malu Formation	3
2.3. Major Structure Model	3
2.4. Hydrogeology	4
3. Open Pit design and location.....	4
4. Current Slope Performance	5
5. Rockmass classification and parameters.....	7
5.1. Kinematic analysis parameters	7
5.2. Limit equilibrium, finite element analyses and rockfall trajectory parameters	7
6. Slope stability analysis	8
6.1. Design acceptance criteria	9
6.2. Kinematic analysis.....	9
6.2.1. Geotechnical domains.....	10
6.2.2. Analysis method	12
6.2.3. Analysis results	12
6.3. Limit equilibrium analysis.....	15
6.3.1. Analysis method	15
6.3.2. Model scenarios	16
6.3.3. Analysis results for the original design.....	16
6.3.4. Analysis conclusion	18
Finite Element analysis	18
6.3.5. Analysis results	19
6.4. Large Structure review	21
6.5. Rock fall trajectory interaction.....	23
7. Slope design recommendation	25
Dewatering Infrastructure	25
8. Risk Management	26
8.1. Material Risk management.....	26
8.2. Hazard management.....	26
8.3. Slope monitoring	27
8.4. Geotechnical slope reconciliation	27
10. References.....	29
11. Appendix A – Kinematic Analysis	30
Domain 1	30
Domain 3	42

1. Introduction

The following geotechnical review and stability assessment is focused on the feasibility of West Dome Stage 7 proposed design W7PD01_V7. The geotechnical stability assessment focuses on kinematic analysis, limit equilibrium analysis, finite element analysis and rockfall interaction assessment to assess the current design suitability.

2. Site Geological setting

The stratigraphy of West Dome is comprised of the Telfer Formation and the Malu Formation as described in section 2.1 and 2.2 (Newcrest, 2020).

2.1. Telfer Formation

- Camp Sandstone Member (CSM) – the upper most member of the Telfer Formation comprised of 100m of thickly bedded fine to medium sandstone. CSM is not exposed in the Main Dome or West Dome pits.
- Outer Silt Member (OSM) – OSM consists of well stratified, thinly bedded to laminated siltstone and inter-bedded sandstones. OSM is exposed in both the Main Dome and West Dome pits and ranges from a very weak, highly weathered silt to slightly weathered/fresh, hard sandstone and siltstone. The lower 45m to 50 m of OSM contains the E-Reefs.
- Rim Sandstone (RSM) – thickly bedded, coarse grained, quartzose sandstone with interbedded siltstone layers.
- Upper Vale Siltstone (UVS) – up to 5 m thick unit of thinly bedded sideritic siltstone and minor fine-grained sandstone.
- Median Sandstone (MSM) – 25m to 30 m thick unit comprised of thickly bedded, fine grained sandstone with frequent siltstone beds.
- Middle Vale Siltstone (MVS) – up to 12m thick unit of thinly bedded, fine grained argillaceous siltstone and claystone with minor carbonaceous limestone and calcareous sandstone.
- Middle Vale Reef (MVR) – laterally extensive thin sheet of massive pyrite mineralisation.
- Footwall Sandstone (FSM) – 30 m to 35 m of fine to medium grained, thickly bedded, siliclastic sandstone.

2.2. Malu Formation

- Malu Quartzite Member (MQM) – comfortably overlain by the Telfer formation and subdivided locally into three main stratigraphic units: the Upper Malu Member (UMM), the Upper Limey Unit (ULU) and the Lower Malu Member (LMM):
 - The UMM is conformably overlain by the Telfer Formation (TFM). The UMM sediments are similar in lithology to the LMM. The UMM hosts the M10, M12, M20, M28, M30, M35 and M38 Reefs. The 'Tiger Beds', a 40 cm package of sheared and laminated sandstone and siltstone between the M10 and M12, provide a useful stratigraphic marker for distinguishing between the M10 and M12 Reefs.

Post marine deposition of the stratigraphic sequence, extensive folding and faulting has resulted in the domal nature of both Main Dome and West Dome. Both domes contain a North/South striking (mine grid) fold hinge through the centre of the current mining areas. Stratigraphy dips at shallow angles to the west and more steeply to the east.

2.3. Major Structure Model

West Dome is the western-most of two doubly-plunging anticline systems dominating the structural framework of the Telfer Gold-Copper deposit (Batt, 2012b). Adversely oriented major faults not available in the 2012 structural model were identified as potential residual risks for slope instability in the 2017 Telfer West Dome Feasibility Study (Bar, 2017a; 2017d). The Major fault model for Telfer Gold mine West dome

report (Bar & Saroglou, 2018) further investigated the major fault system of West Dome that expanded on the existing structure models by adding a further 34 faults and 16 pervasive joints to the West Dome group. The development of the West Dome structure models has been predominantly from the Geoff Batt 2012 and Neil Bar & Harry Saroglou 2018 work that expanded on the knowledge of legacy work from Hill (1989), Windh (1991), Hewson (1996) as well as Newcrest Mining Limited's mine geologists, Kabilo & Smart (2018). These models are validated as mining continues to progress in West Dome through field mapping and the reconciliation process as discussed in section 8.4.

2.4. Hydrogeology

The primary groundwater influence in the Stage 7 location is made up of fractured aquifers that follow the anticline axis faults and associated syncline fault axis. The dewatering planning model for West Dome Stage 2 and Stage 8 indicate that the stage 7 cut back will experience dry groundwater conditions through construction as it is understood that groundwater dewatering levels in Stage 2 and 8 will aim to achieve dewatering depths up to 5192mRL with Stage 7s final elevation being at 5372mRL. For the purpose of analysis, limit equilibrium parameters still factor in saturated conditions in the slope to present conservative results in the event that groundwater is present in the constructed slope.

3. Open Pit design and location

Figure 1 and Figure 2 show the location of the proposed West Dome Stage 7 design in relation to the surrounding West Dome area and the interaction with the West Dome Stage 2 and Stage 5 final designs.

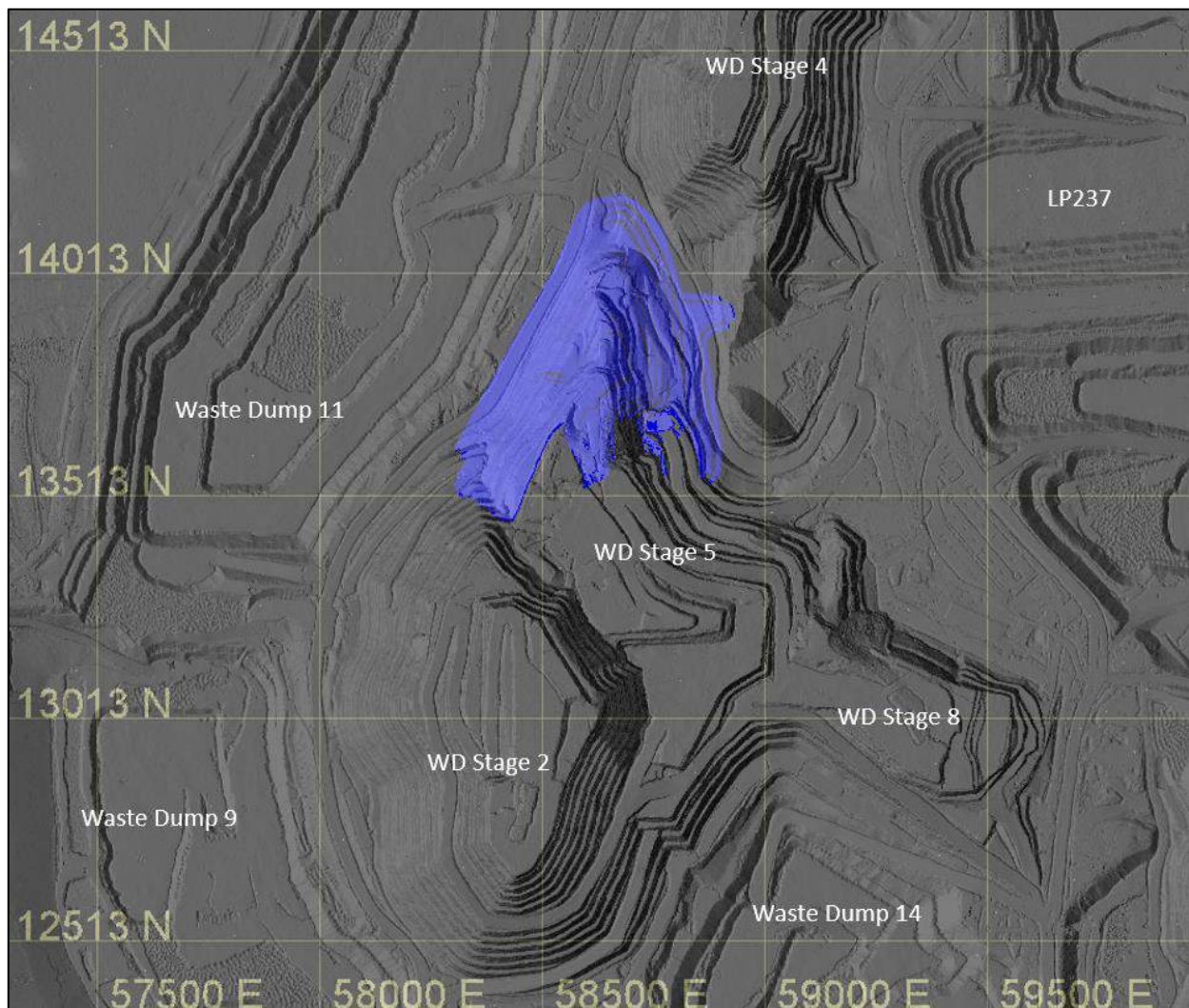


Figure 1: Location of Stage 7 design in West Dome

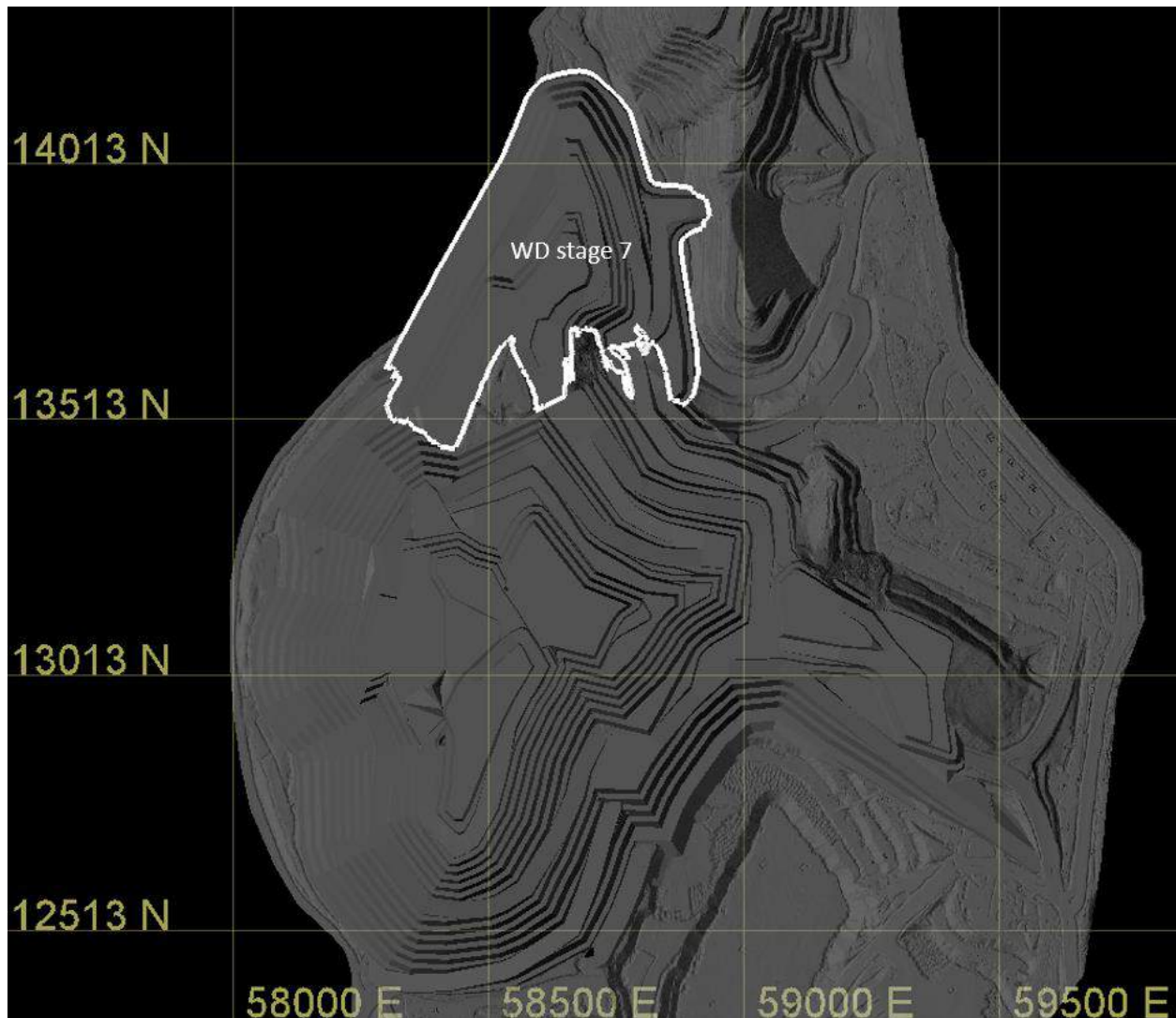


Figure 2: Stage 8 design Interaction with Stage 2 and Stage 5 designs

4. Current Slope Performance

The proposed Stage 7 cutback expands upon a previous mining area known as Pit 9, which historical records indicate was first mined in the 1990's and completed in the early 2000's. Although design files and information for the original pit was not recoverable, its performance is evident in the field and has been interpreted below by wall orientation.

Western Wall:

The western wall, displayed below in Figure 3, consists of 24m and 32m batters extending to a vertical height of approximately 145m, with batter face angles ranging from 55° to 65°. The overall slope angle is 50°, with inter-ramp angles (IRA) ranging from 42° to 50°. Field mapping indicates that the overall stability of the wall has performed well, with no major fall-of-ground events or instabilities observed. There are a number of faults and structures obvious in the wall that intercept the bedding; however, none of these have created noticeable wedge failures or hindered the integrity of the wall. Noticeable erosion is evident from the surface down to the 5476mRL, particularly around the crest of the batters, where evidence of water flow is visible. These erosional scours helped to identify the change in rock mass strengths as this entire wall has been exposed to the elements for over 20 years. Allowing a more accurate contact between the Highly Weathered and Moderately Weathered OSM material to be mapped, as displayed below in Figure 3. This updated contact has been utilised in the stability modelling of this report to improve the accuracy of the models, aligning them to what is seen in the field when constructing OSM walls in the West Dome mining areas.

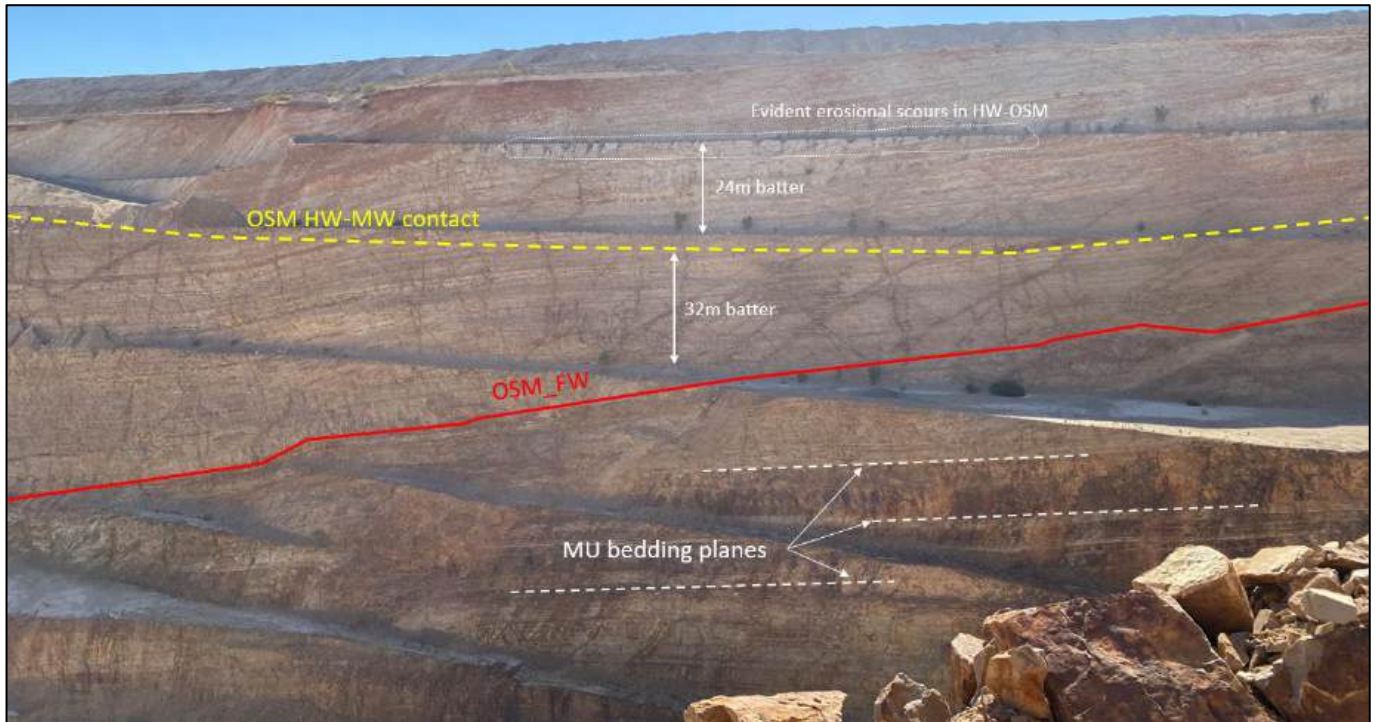


Figure 3: Current performance of the western wall of proposed cutback area

Eastern Wall:

The eastern wall, shown in Figure 4, also consists of 24- and 32-meter batters with batter face angles ranging from 55° to 60° . The overall slope angle is 52° and the IRA is 50° . The eastern wall aligns with the recent West Dome stage 5 cutback, which comprised 65° batters from the surface. Field mapping revealed that the dip and dip direction of the bedding contact is unfavourable, with evidence of planar failures from this contact, as shown in Figure 4. Additionally, the orientation of the joints creates very blocky conditions in the wall, similar to those encountered during the construction of West Dome stage 5, which resulted in the need for multiple catchment bunds on the ramps. Stage 5 cutback utilised free-faced trim shots and presplitting for enhanced wall control. The effectiveness of the presplitting was unclear, but the trim shots appeared to be successful around the ramp locations. While field mapping indicates the proposed stage 7 design parameters are within achievable limits, challenges associated with the blocky wall conditions and unfavourable bedding orientation remain. These factors could necessitate the construction of catchment bunds along the ramps and potentially require single lanes.



Figure 4: Current performance of the eastern wall of proposed cutback area

5. Rockmass classification and parameters

This section presents the rockmass classification and design parameters used in the kinematic, limit equilibrium and finite element analyses for the West Dome Stage 7 proposed design.

5.1. Kinematic analysis parameters

Shear strengths of persistent defects within the rockmass are used to analyse structurally controlled failure mode(s) of open pit slopes. Both the joint and bedding shear strengths have been estimated using the Barton-Bandis non-linear failure criterion based on data from the 2016 geotechnical drilling programme (Bar, N., 2017). Mohr-Coulomb equivalent (derived from the Bardon-Bandis failure criterion by Bar 2017) bedding and joint shear strength parameters outlined in Table 1 were used in the kinematic analysis of the proposed West Dome Stage 8 Design. These values are outlined in Table 1 below.

Table 1: Mohr-Coulomb equivalent Joint Shear Strength Parameters (Barr, N., 2017)

	Mohr-Coulomb equivalent Bedding Shear Strength Parameters				Mohr-Coulomb equivalent Joint Shear Strength Parameters	
Geotechnical Domain	Cohesion (kPa)	Friction Angle (degrees)	Cohesion (kPa)	Friction Angle (degrees)	Cohesion (kPa)	Friction Angle (degrees)
Normal Stress	200 – 1200 kPa		0 – 200kPa		0 – 200kPa	
OSM HW	8	27	0	29	0	29
OSM MW	8	29	0	31	0	31
OSM SW-FR	9	30	0	32	0	32
Middle Units	14	33	0	35	0	36
MQM	15	34	0	37	0	37

5.2. Limit equilibrium, finite element analyses and rockfall trajectory parameters

The material properties used in limit equilibrium, finite and rockfall trajectory analyses are outlined in Table 3. The parameters were derived by a broad range of methods and sources, and given a confidence ranking accordingly, refer to Table 2 for measurement criteria for confidence ranking.

Table 2: Confidence ranking definition

Confidence	Source Type	Examples
Low	Non-site source or assumption	Industry wide practice, textbook, empirical value, projected fault zone
Medium	Site observational site data	Site field mapping and characterisation, UAV and photogrammetry mapping, borehole logging data
High	Site laboratory and field testing	Direct shear tests, triaxial compressive strength tests, hoek triaxial compressive strength tests

Table 3: Material properties used for limit Equilibrium and finite element analysis.

Material Property	Unit Weightk N/m³	UCS (Mpa)	GSI	mi	D	Cohesion	Phi	Young's Modulus E (GPa)	Poisson Ratio	Strength Function	Source	Confidence
Rock Fill OSM HW	18	15	-	-	-	-	-	-	-	Shear-Normal Function	Brton-Kjarnsli Shear Strength OSM-HW Rock Fill (Bar,2016)	High
OSM HW	20	15	35	7	0	207	35	3	0.3	Generalised Hoek-Brown	2016 West Dome drilling programme	High
OSM HW D=0.4	20	15	35	7	.4	207	35	3	0.3	Generalised Hoek-Brown	2016 West Dome drilling programme; disturbance factor determined from site specific analysis.	Medium
OSM MW	23	35	45	7	0	375	46	7	0.3	Generalised Hoek-Brown	2016 West Dome drilling programme	High

OSM MW D=0.4	23	35	45	7	.4	375	46	7	0.3	Generalised Hoek-Brown	2016 West Dome drilling programme; disturbance factor determined from site specific analysis.	Medium
OSM SW-FR	25	50	55	7	0	714	51	15	0.3	Generalised Hoek-Brown	2016 West Dome drilling programme	High
OSM SW-FR D=0.7	25	50	55	7	.7	714	51	15	0.3	Generalised Hoek-Brown	2016 West Dome drilling programme; disturbance factor determined from site specific analysis.	Medium
MIDDLE UNITS	25	75	55	10	0	988	53	17	0.24	Generalised Hoek-Brown	2016 West Dome drilling programme	High
HW MIDDLE UNITS	25	50	47	7	0	714	51	15	0.3	Generalised Hoek-Brown	Field mapping	Medium
MIDDLE UNITS D=0.7	25	75	55	10	.7	988	53	17	0.24	Generalised Hoek-Brown	2016 West Dome drilling programme; disturbance factor determined from site specific analysis.	Medium
MQM	26	150	60	15	0	1836	64	25	0.3	Generalised Hoek-Brown	2016 West Dome drilling programme	High
MQM D=0.7	26	150	60	15	.7	1836	64	25	0.3	Generalised Hoek-Brown	2016 West Dome drilling programme; disturbance factor determined from site specific analysis.	Medium

6. Slope stability analysis

Figure 5 and **Error! Reference source not found.** show the section lines for the purpose of 2D slope analysis. The following analysis will be carried out:

- Kinematic Analysis with Rocscience Dips, LeapFrog and Maptek Vulcan 12.
- 2D limit equilibrium analysis with Rocscience Slide2.
- Rock fall Trajectory paths with BasRock Trajec3D and Maptek Vulcan 12.

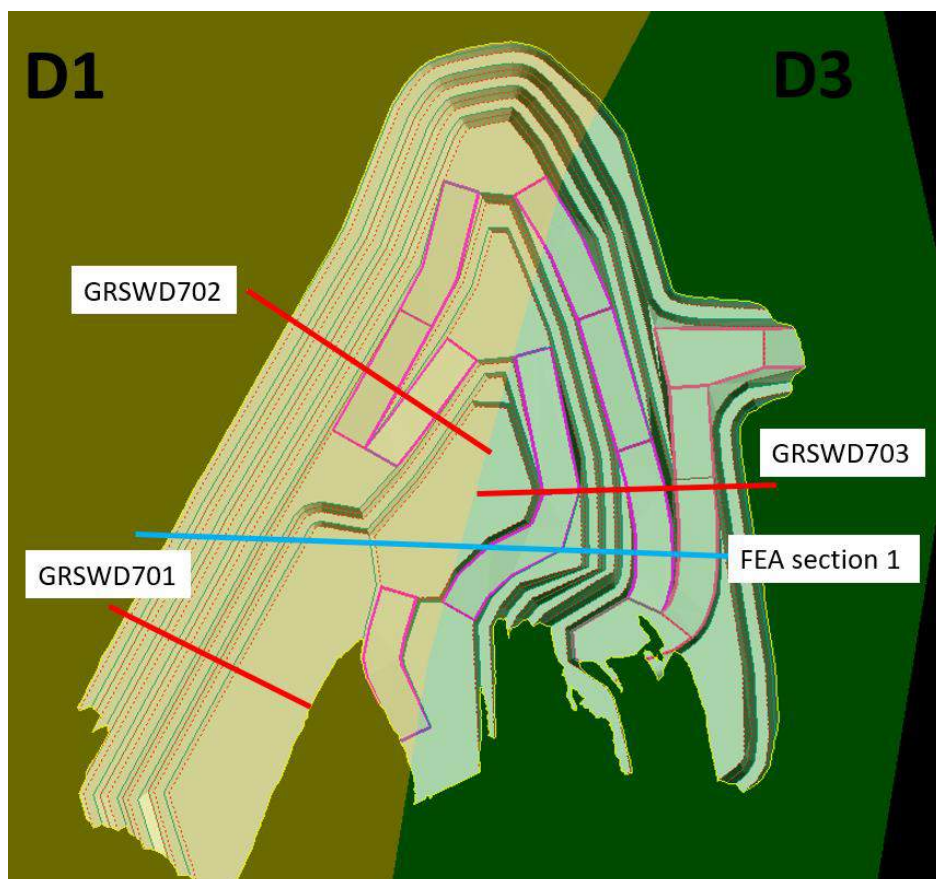


Figure 5: Analysis cross sections with geotechnical domains for West Dome Stage 7 proposed design (W7PD01_V7)

6.1. Design acceptance criteria

Newcrest Mining Limited's Telfer surface operations have a standardised slope design acceptance criteria as outlined in Table 4 (Newcrest Mining Ltd. 2020). Figure 6 describes the slope design elements.

Table 4: Slope Design Acceptance Criteria – Newcrest Mining Limited Telfer Open Pit Operations

Slope design element	Static FoS (Factor of Safety)*	Static PoF % (Probability of Failure)*
Single bench / lift	>1.10	<30
Inter-ramp slope	>1.20	<10
Overall slope	>1.30	<5

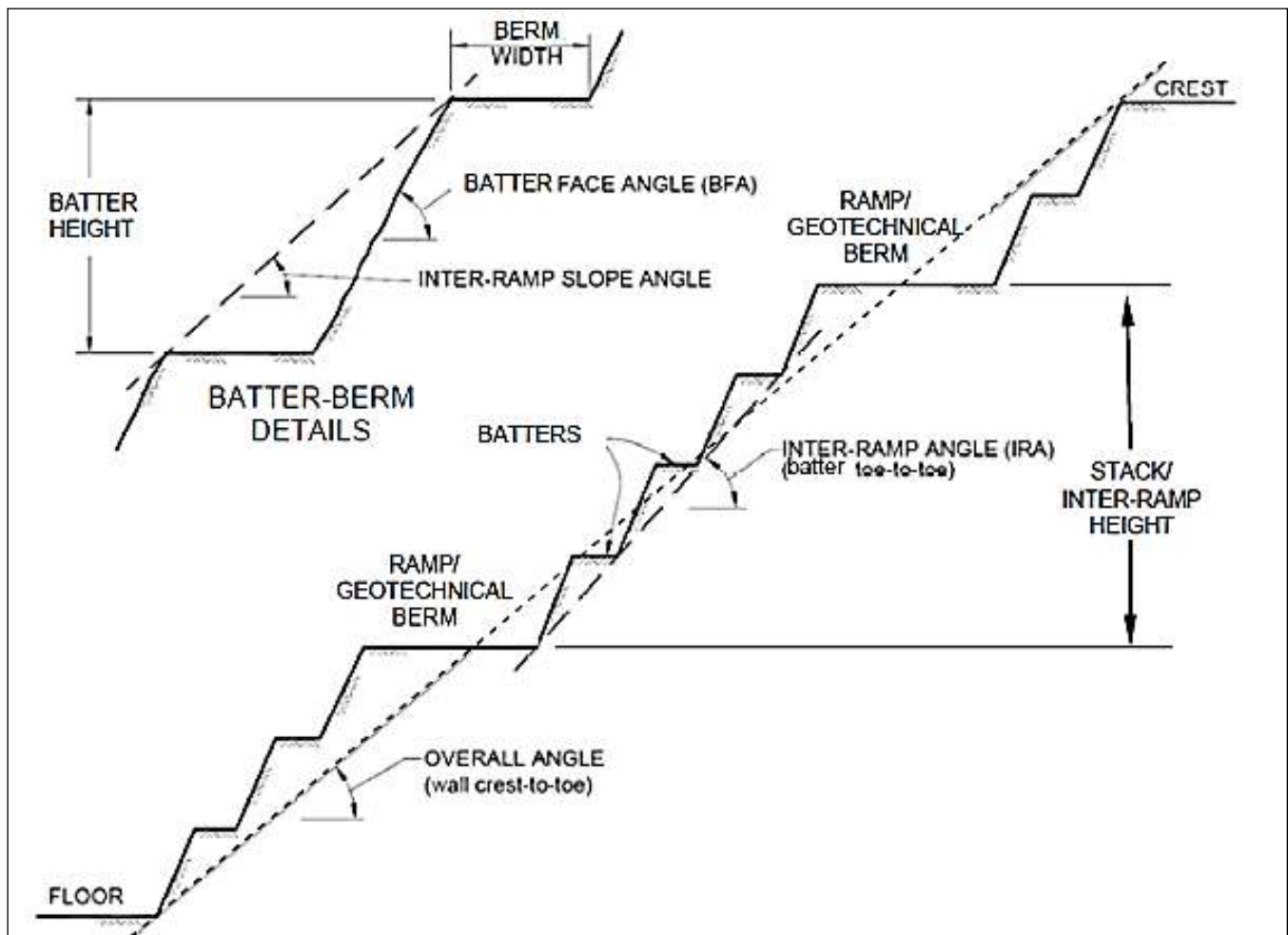


Figure 6: Slope design elements

6.2. Kinematic analysis

Kinematic analyses involve the prediction of structurally controlled failures that can affect bench, inter-ramp and overall scales of a slope (Read & Stacey, 2009). The process of the analyses involves firstly dividing the proposed pit area into geotechnical domains with similar geological, structural and material property characteristics. The potential failure mode(s) for each geotechnical domain are evaluated against the proposed slope design to assess the likelihood of the failure mode.

For the kinematic analysis of West Dome Stage 8 proposed design W9PD01_V7, the current West Dome Geotechnical Domains defined by Snowden in 2014 and updated by Bar in 2016 is displayed in Figure 5 and Figure 7. Figure 5, were reviewed and revised based on a sub-set of the Telfer Geotechnical Database and used for this analysis. This sub-set includes defect orientations obtained during drill hole campaigns and structural mapping of West Dome. To date the slope reconciliation process has not identified any

significant variations in this area that validate the necessity to update the Geotechnical domains as defined by Bar in 2016.

6.2.1. Geotechnical domains

The geotechnical and structural spatial models of West Dome Stage 7 are defined as follows:

- Structural spatial sectors are based on the overall configuration of the mine-scale structure. The sector boundaries are aligned with key changes in bedding orientation and/or dip magnitude such as fold axial planes (Snowden, 2014).
- Geotechnical domains are based on a combination of lithological units and weathering grade (Snowden, 2014):
 - Lithological units:
 - OSM;
 - Middle Units.
 - MQM
 - Weathering grades:
 - Highly Weathered (HW);
 - Moderately Weathered (MW);
 - Slightly Weathered (SW);
 - Fresh (FR).

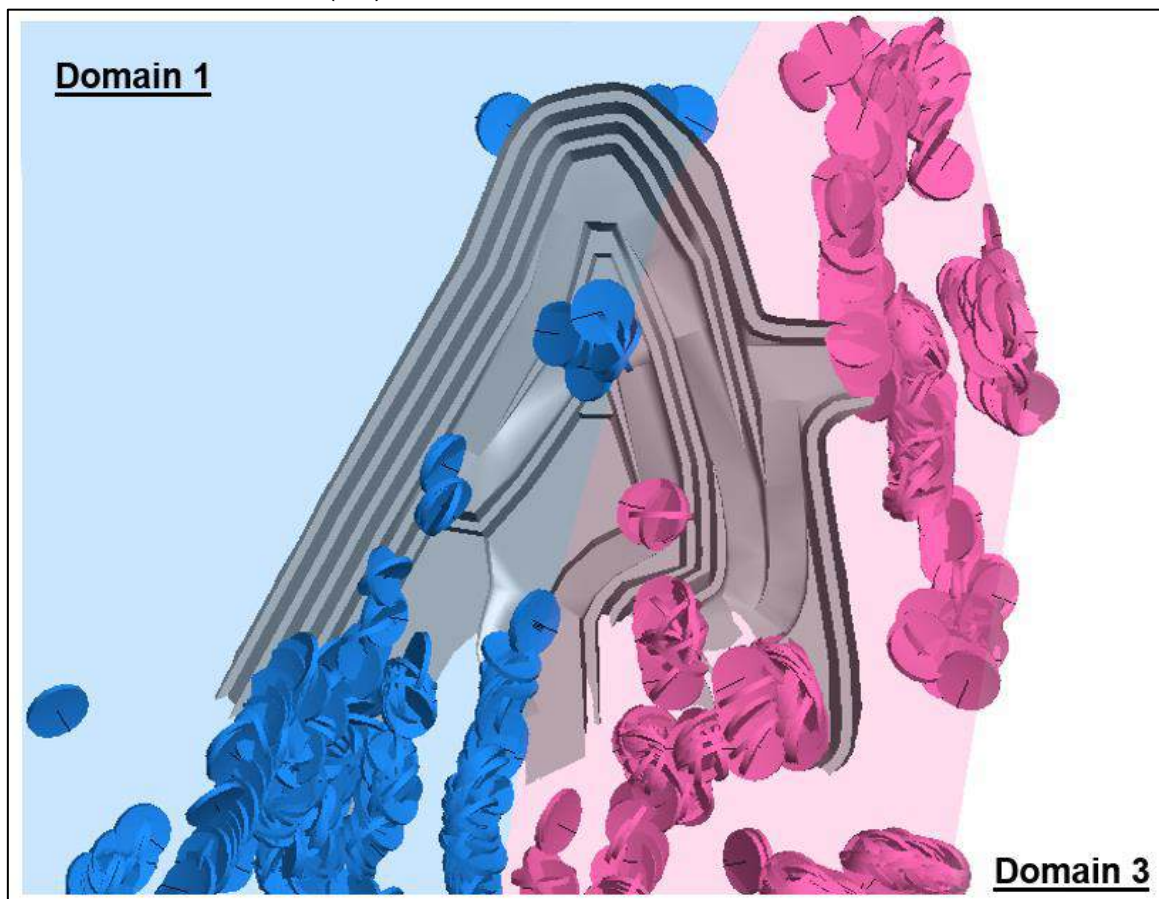


Figure 7: Structural Domain sectors of WD STG 7 with mapped structural data.

Figure 8 and Figure 9 **Error! Reference source not found.** show the stereonet associated to each structural domain in West Dome Stage 7. Each stereonet consists of primary joint sets and bedding structure that is most dominant on the stereonet contour. Random joint sets are still contoured on the stereonet, however the small data set associated with random structure does not clearly define them with the structural domaining process that indicate high density pole points.

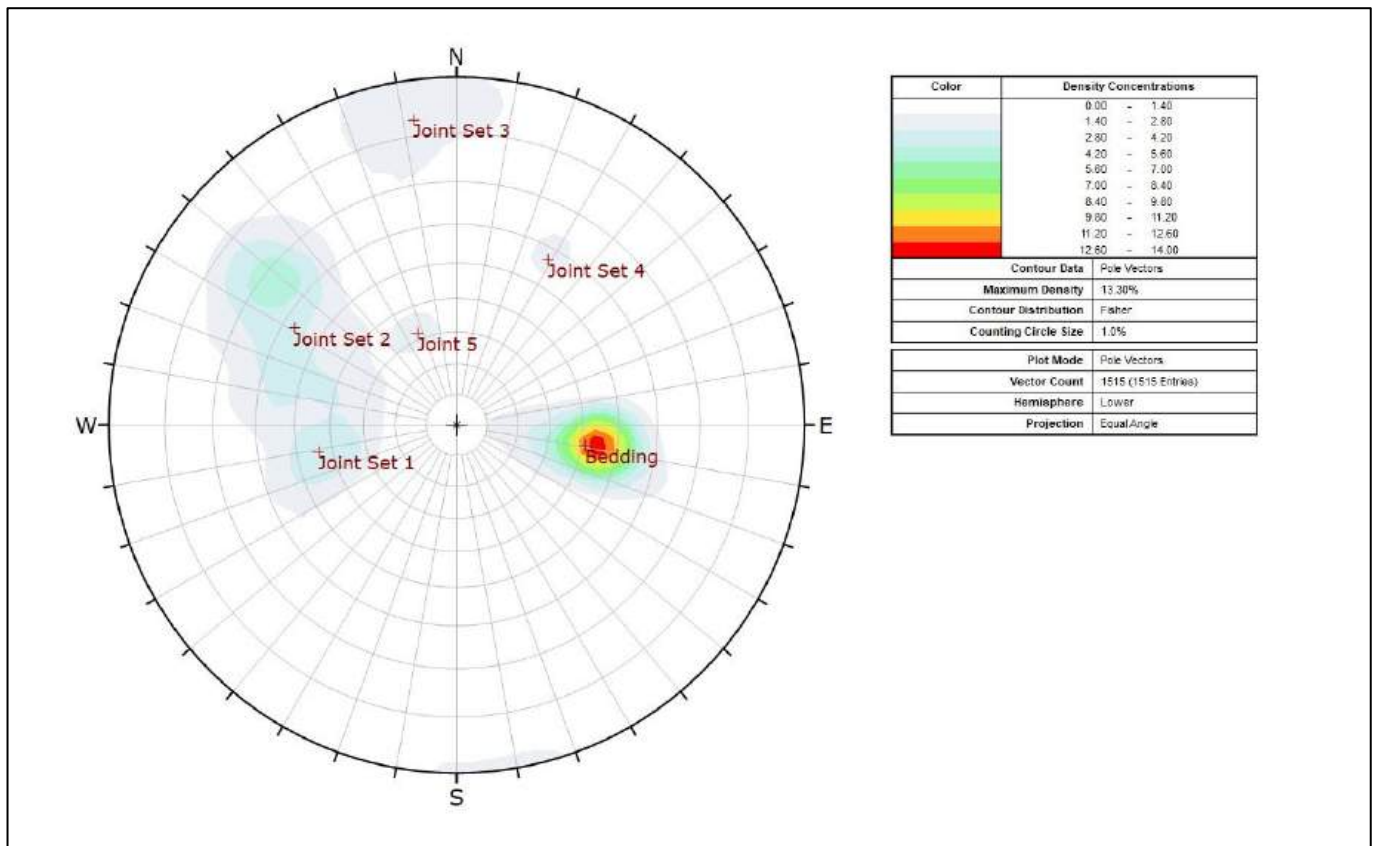


Figure 8: Structural Domain 1 stereonet of bedding and joint set orientation

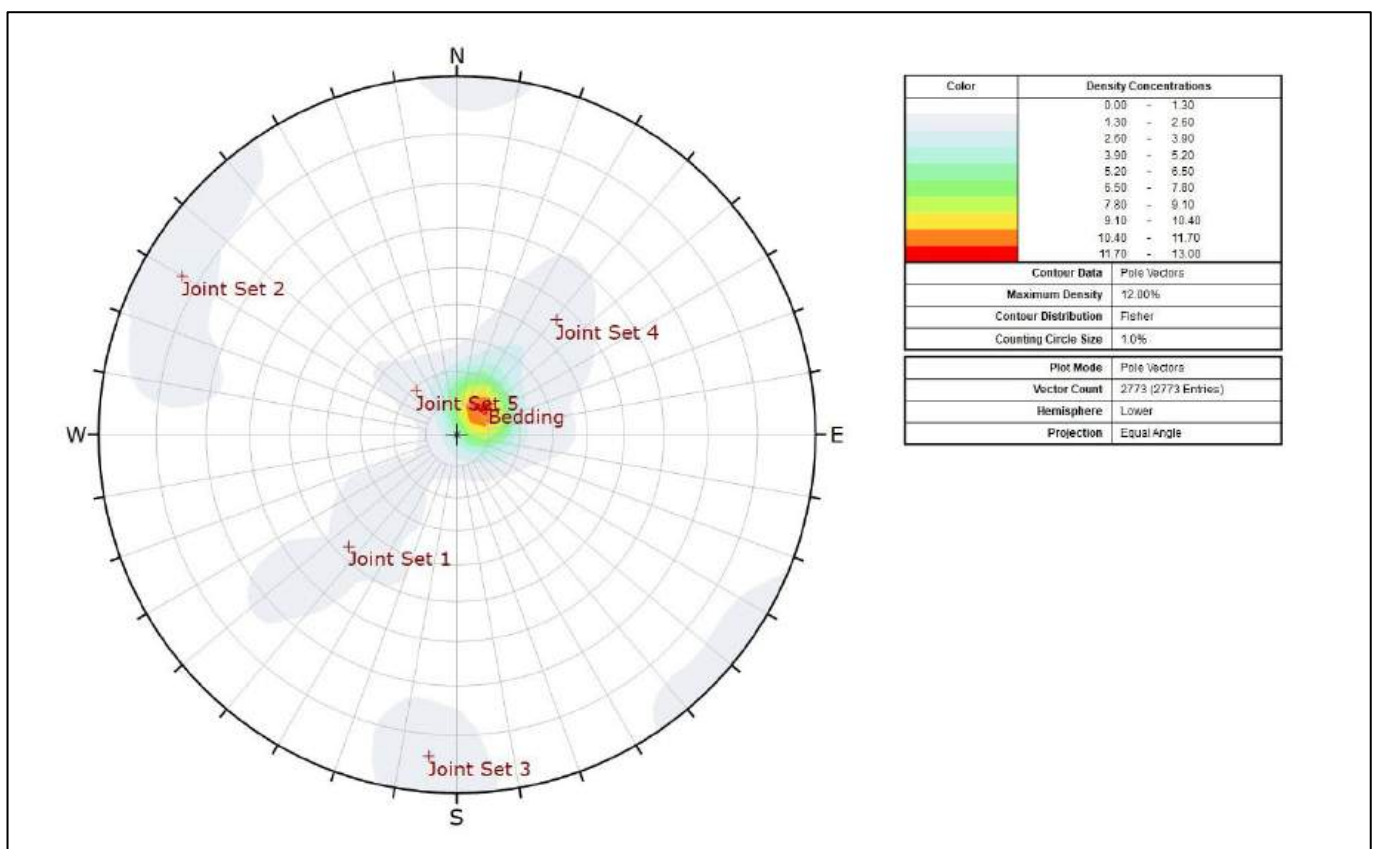


Figure 9: Structural Domain 3 stereonet of bedding and joint set orientation

6.2.2. Analysis method

The kinematic analysis was undertaken using RocScience “DIPS 8” software to determine the estimated Probability of Failure (PoF%) for planar sliding, wedge, direct toppling and flexural toppling failure modes for each structural domain. The following considerations and assumptions were used in the analysis:

- Pit designs and slope orientations for the West Dome Stage 8 proposed design W7PD01_V7, with the steepest slope parameters used in the analysis, refer to Table 5;
- Structure domains 1 and 3 as outlined in Section 6.2.1;
- Defect orientations obtained during drilling, photogrammetry and mapping campaigns, refer to Appendix A – Kinematic Analysis;
- Cohesive strength of defects has been assumed to be zero due to the effects of blasting on the bench scale (Bar 2017).
- The effective friction angle used for bedding and joints is based on the critical failure plane and the lowest friction angle value of the material type in the domain of interest, for analysis of the worst-case scenario, refer to Table 1;
- Local dry conditions on the bench scale assuming surface water is adequately managed (Bar, 2017);
- Kinematic lateral limits are 20 degrees oblique to the slope face;
- Slope design acceptance criteria presented in Section 6.1;
- The estimation of probability of failure for planar and flexural toppling was calculated by the percentage of defects within the critical zone with respect to all defects;
- The estimation of probability of failure for wedge and direct toppling was calculated by the percentage of defect intersections within the critical zone with respect to all defect intersections.

6.2.3. Analysis results

The likelihood of potential failure mechanisms occurring in the West Dome Stage 7 proposed design W7PD01_V7 are summarised in Figure 10 to Figure 13. The kinematic analysis results are separated by failure mode, slope design orientation and structural domain. Table 5 outlines the percent of design within each domain, steepest bench slope, inter-ramp and overall slope angle, weathering, lithology and friction angle range per structural domain for the proposed design.

Table 5: Kinematic Analysis Input Parameters

Domain	Domain 1			Domain 3	
Weathering	HW-MW			HW-MW	
Lithology	OSM			OSM - MU	
Friction Angle	29			29	
Slope Orientation	120	235	170	265	340
Bench Slope Angle	65 - 70			65-75	
Inter-Ramp Slope	47.5° – 55°			52° - 57°	
Overall Slope	52°			39°	
Design Surface Area	59.1%			40.9%	

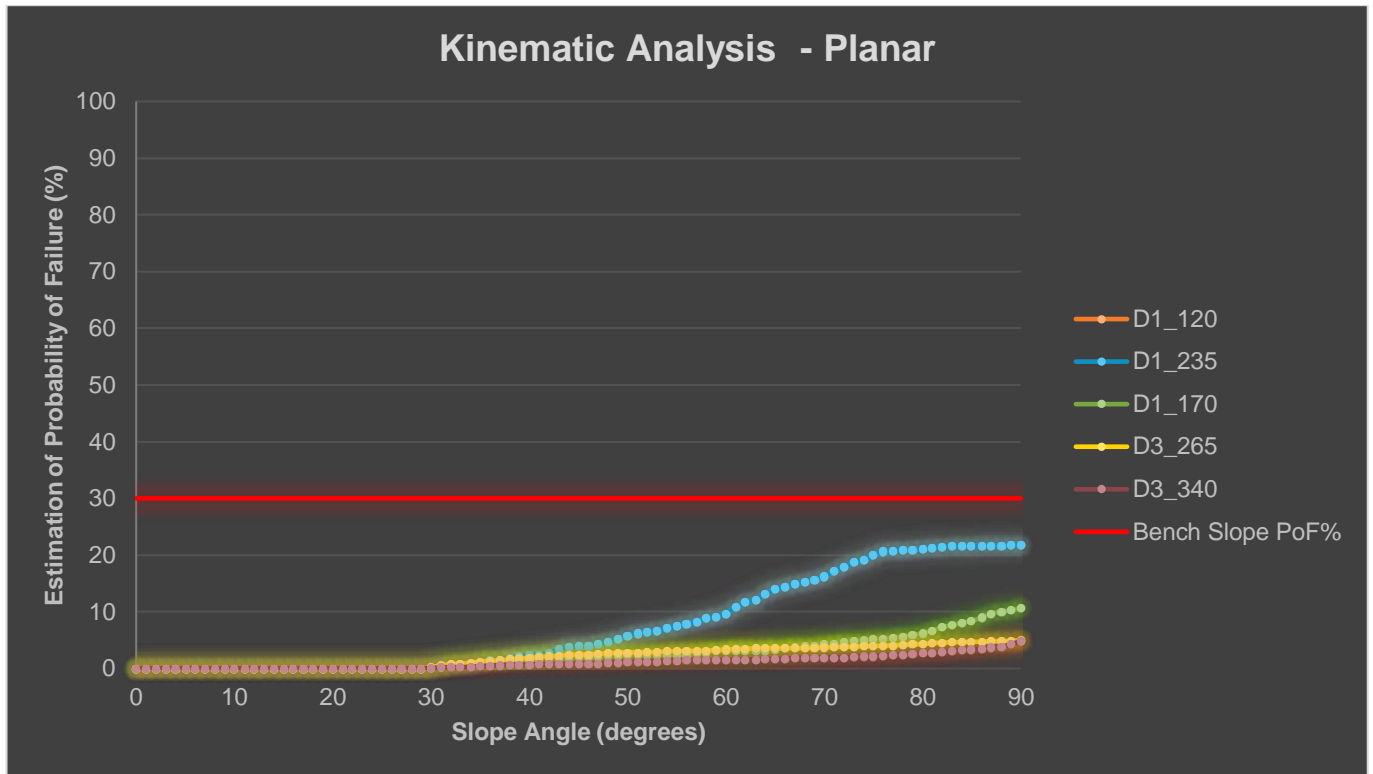


Figure 10: Probability of planar sliding failure for WD STG 7 proposed design structural domains & pit slope orientations

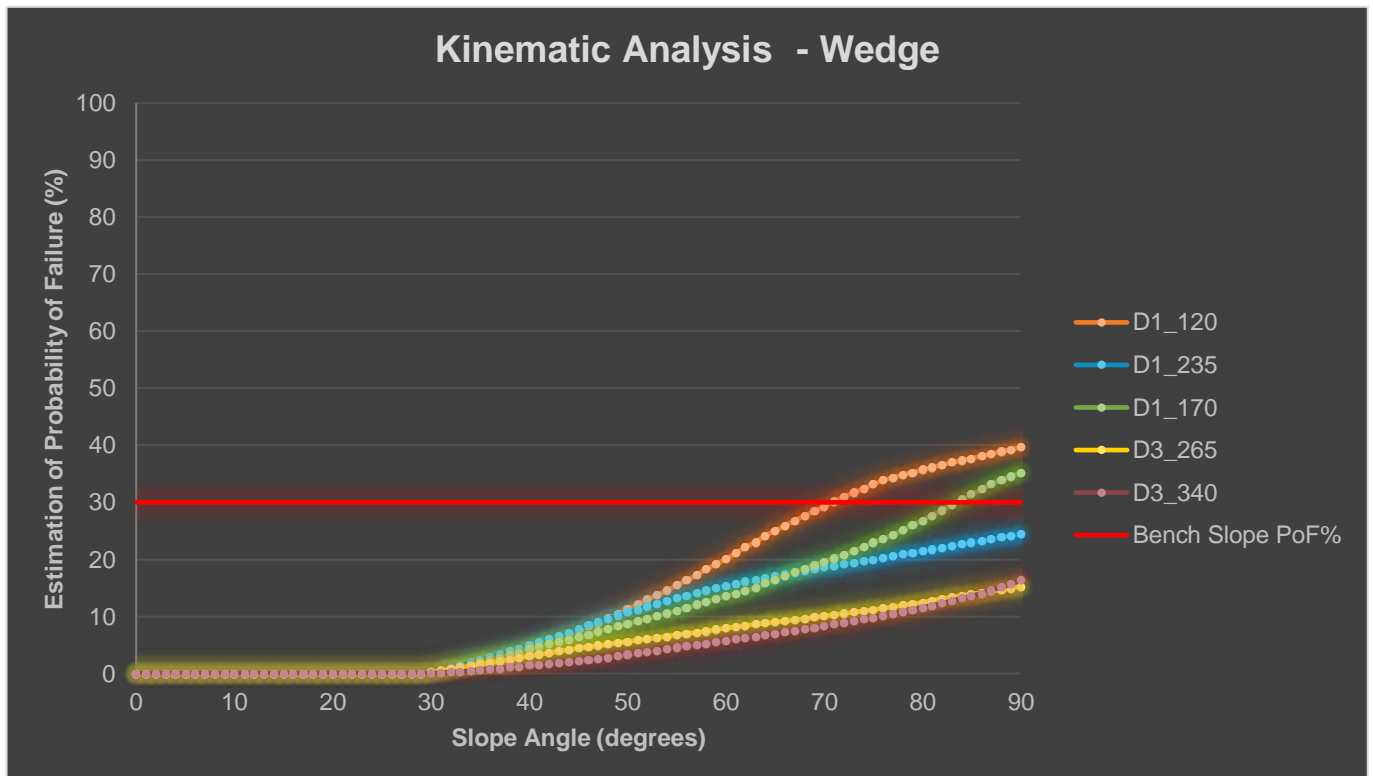


Figure 11: Probability of wedge sliding for WD STG 7 proposed design structural domains & pit slope orientations.

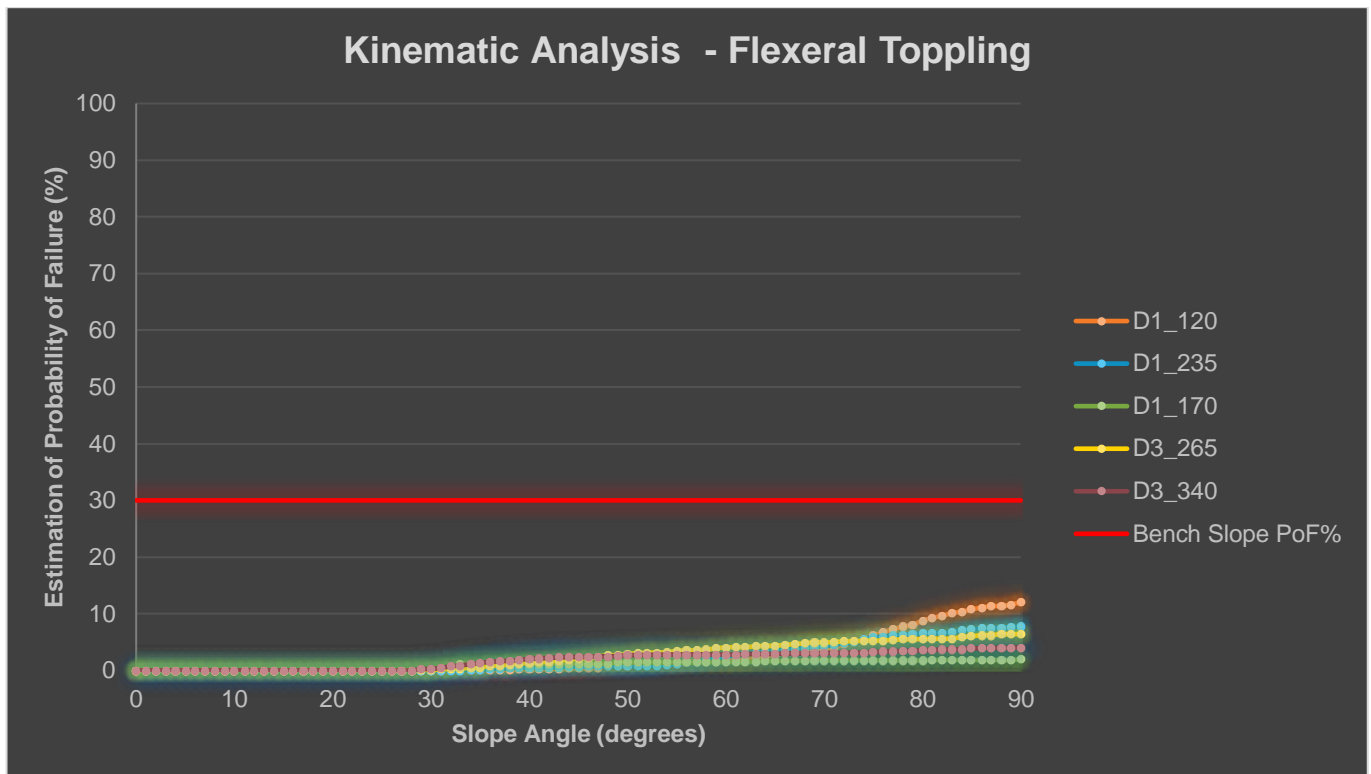


Figure 12: Probability of flexural toppling for WD STG 7 proposed design structural domains & pit slope orientations

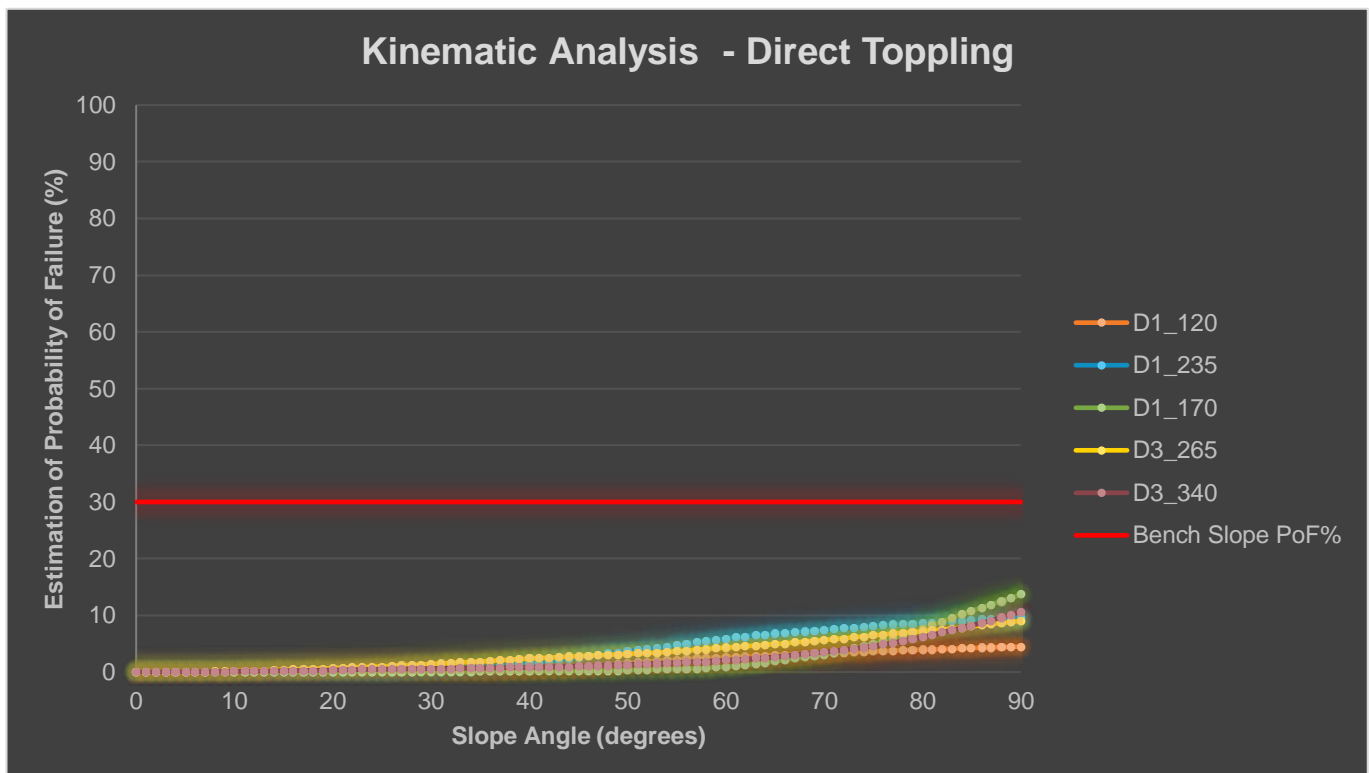


Figure 13: Probability of direct toppling for WD STG 7 proposed design structural domains & pit slope orientations

Table 6 below summarises the kinematic analysis conclusions per structural domain. Overall slope kinematics was excluded in this analysis for structure less than 20m in length.

Table 6: Summary of kinematic analysis results

Structural Domain	Summary of Kinematic Analysis -	
	Bench Scale	Inter-Ramp
SD01	Planar sliding PoF% within the design acceptance criteria.	Planar sliding PoF% within the design acceptance criteria.
	Wedge Sliding: the PoF% for a slope orientation of 120° is 29.3% which is just inside the design acceptance criteria of <30%.	Wedge Sliding: The PoF% for a slope orientation of 120° and 235° is 13.7% and 10.18%, exceeding the design acceptance criteria of <10%.
	Flexural and direct toppling PoF% are within the acceptable design criteria.	Flexural and direct toppling PoF% are within the acceptable design criteria.
SD03	Planar sliding, wedge failure, flexural and direct toppling PoF% are within the design acceptance criteria.	Planar sliding, wedge failure, flexural and direct toppling PoF% are within the design acceptance criteria.

Table 6, identifies a moderate risk of wedge sliding in structural domain 1 at slope orientations of 120° and 235°. These areas form 55.6% of the total Stage 7 cutback design. The comprehensive understanding of Telfers sedimentary rock mass characteristic and defects, provides confidence that mining practices and scaling techniques can effectively mitigate this risk. Historically, the short length and close spacing of structures in Telfers rock mass has reduced the occurrence of large-scale wedge failures across all mining areas, notably in structural domain 1. This observation is further supported by the kinematics of Structural Domain 1, where the bedding dips shallowly into the wall, and tightly spaced joint sets are likely to result in small wedge failures if they occur. Kinematic analysis for 65° and 70° walls indicated possible wedge failures of 25% and 29%, respectively, at an orientation of 120° (see Appendix A – Kinematic Analysis). All other failure types by domain comply with the design acceptance criteria.

6.3. Limit equilibrium analysis

6.3.1. *Analysis method*

Limit equilibrium analysis involves the use of representative geometry, material properties, joint shear strength, material unit weights, ground water and external loading conditions to determine slope factor of safety. RocScience software “SLIDE2” was used to carry out two-dimensional (2D) limit equilibrium analysis to assess the slope stability using the following considerations and assumptions:

- Wet slope conditions, assuming the water table is at the base of the design pit.
- Rockmass and fault shear strengths adopted from Section 4. Isotropic rock mass conditions have been assumed to assess the slope stability of the rockmass and interactions with major structures.
- Bishop simplified, Janbu Corrected, Spencer and Sarma analysis methods were analysed (displayed in Figure 14, Figure 15& Figure 16) using a non-circular Cuckoo Search Method with the following settings:
 - 8 initial surface vertices.
 - 500 iterations.
 - 50 Nests.
 - Monte Carlo Optimisation with 4000 iterations.
- Probability of failure (PoF) was calculated for the minimum FoS with 5,000 Monte-Carlo simulations using the material properties outlined in Table 3;
- 0.09g horizontal seismic acceleration coefficient applied to slope – vertical component not considered.
- The cross-sections selected for the analysis are outlined in Figure 5;

6.3.2. Model scenarios

A model scenario was developed to analyse the FoS and PoF% for each cross-section displayed in Figure 5 . The cross sections used in this report limit equilibrium analysis comprise of information and properties derived from models used in other West Dome models as well as updated information from the ongoing performance and analysis of WD STG 2, STG 4 and STG 8 as outlined in Table 7 below.

Table 7: Limit Equilibrium Slope Design Analysis Sections

Section	Blast damage boundary	Lowest FoS Shown	Ground water conditions	Seismic loading
GRSWDS701	6m Disturbance factor 0.4 in soft rock 10m Disturbance factor of 0.7 in hard rock	Janbu Corrected	Wet	0.09 – Horizontal
GRSWDS702	6m Disturbance factor 0.4 in soft rock 10m Disturbance factor of 0.7 in hard rock	Janbu Corrected	Wet	0.09 – Horizontal
GRSWDS703	6m Disturbance factor 0.4 in soft rock 10m Disturbance factor of 0.7 in hard rock	Sarma	Wet	0.09 – Horizontal

6.3.3. Analysis results for the original design

Table 8 outlines the summarised results of each Slide2 model for 2D limit equilibrium.

Table 8: Limit Equilibrium Slope Design Analysis Results for the Original Design

Section Name	FoS		PoF%	Comment	Reference
	Det.^	Mean			
GRSWDS701	1.32	1.14	21.75	Single bench failure in Disturbed HW-OSM material	Figure 14
GRSWDS702	1.32	1.14	21.72	Single bench failure in Disturbed HW-OSM material	Figure 15
GRSWDS703	3.01	2.221	0.676	Complies with design acceptance criteria	Figure 16

^ Deterministic Factor of Safety based on mean input value.

6.3.3.1. Cross Section GRSWDS701

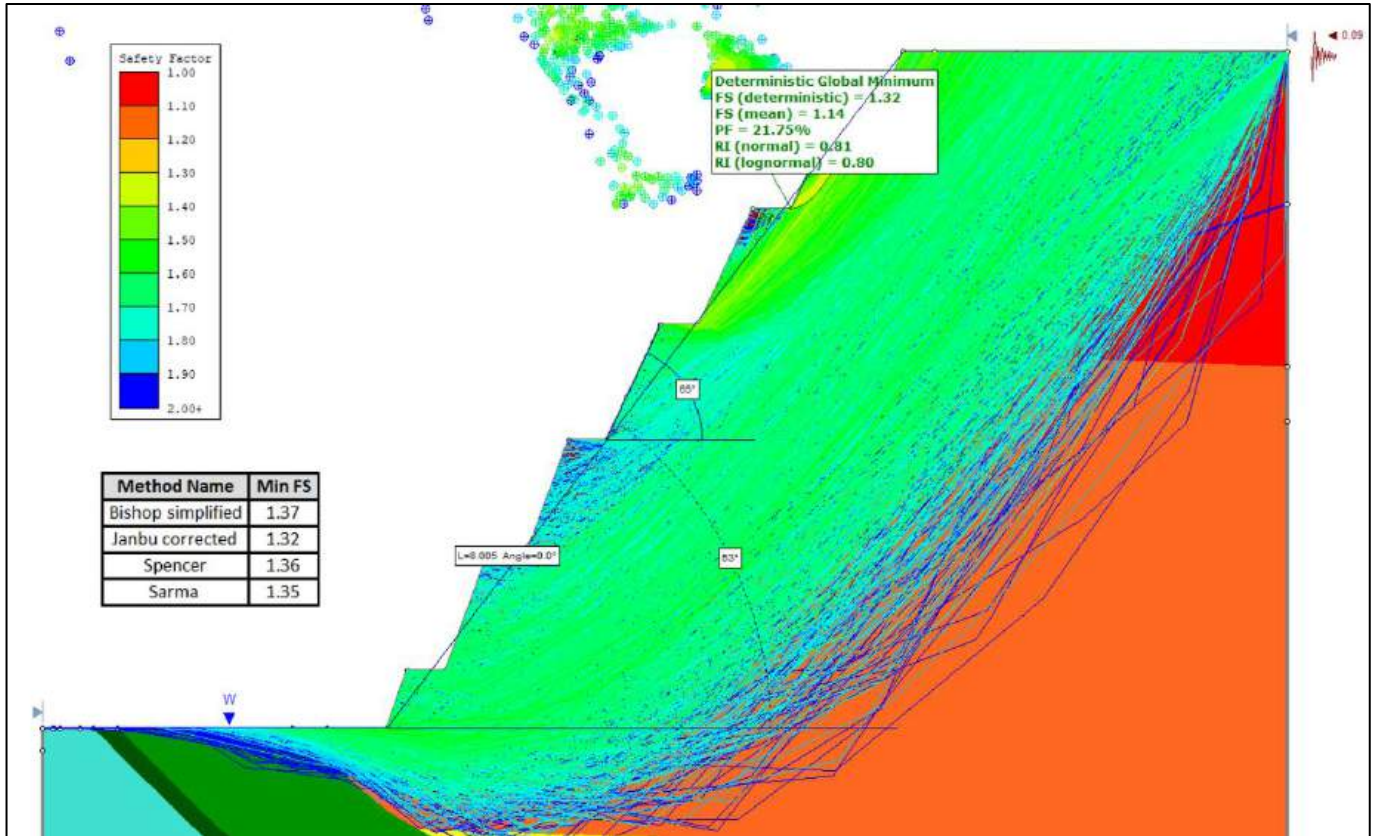


Figure 14: Section GRSWDS701 - Slide analysis results with seismic acceleration coefficient of 0.09g and wet conditions

The limit equilibrium slope design analysis results for GRSWD701 in Stage 7 meet the design acceptance criteria for factors of safety (FoS) and probability of failure (PoF) indicating stable slope conditions.

6.3.3.2. Cross Section GRSWDS702

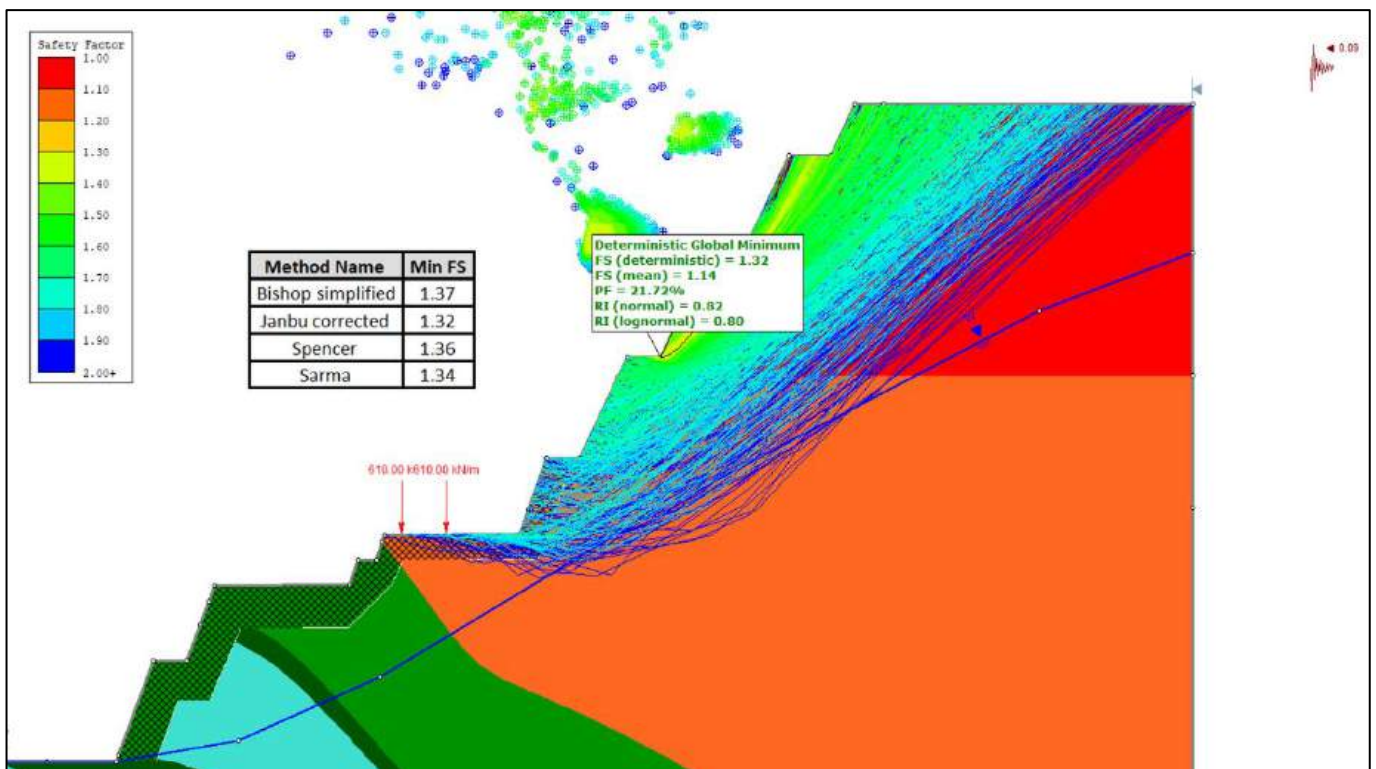


Figure 15: Section GRSWDS702 - Slide analysis results with seismic acceleration coefficient of 0.09g and wet conditions.

The limit equilibrium slope design analysis results for GRSWD702 in Stage 7 meet the design acceptance criteria for factors of safety (FoS) and probability of failure (PoF) indicating stable slope conditions.

6.3.3.3. Cross Section GRSWDS703

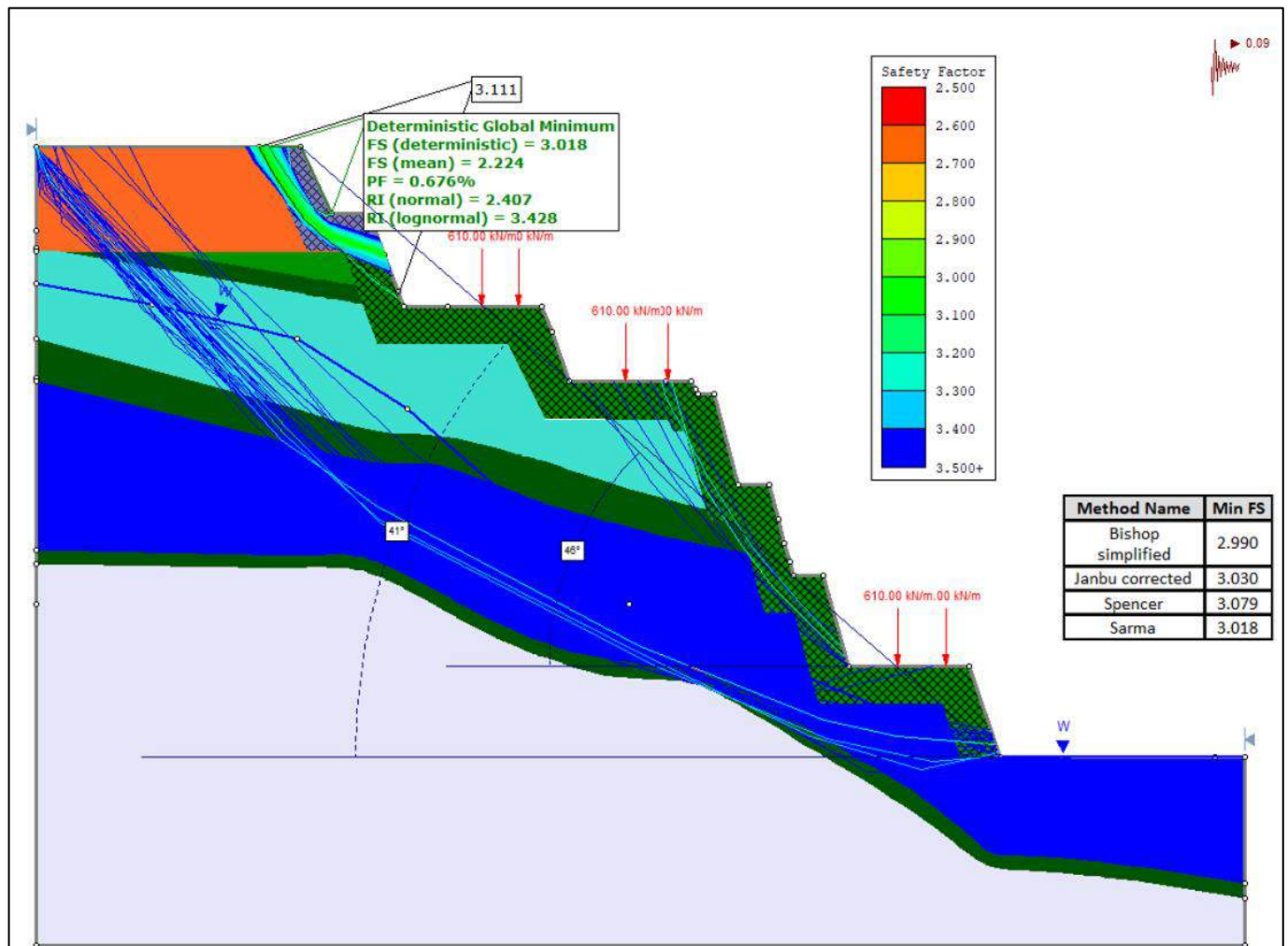


Figure 16: Section GRSWDS703 - Slide analysis results with seismic acceleration coefficient of 0.09g and wet conditions.

The limit equilibrium slope design analysis results for GRSWD803 in Stage 8 meet the design acceptance criteria for factors of safety (FoS) and probability of failure (PoF) indicating stable slope conditions.










6.3.4. Analysis conclusion

W7PD01_V7 achieved stable limit equilibrium stability results. GRSWDS701 and GRSWDS702 indicated the lowest factors of safety results located in distributed HW-OSM material however all results were considered stable with factors of safety and probabilities of failure above the acceptance criteria.

Finite Element analysis

The finite element models use SSR (Shear Strength Reduction) methodology by reducing the strength parameters of the slope by a certain factor and is repeated for different values until the model becomes unstable. These factors are referred to as Strength reduction factor (SRF) and the critical SRF determine the safety factor for the model or slope. Table 10 summarise the critical SRF results for FEA section 1, with all critical SRF meeting design criteria detailed in Design acceptance criteria. Table 9 presents the general material properties and detailed input properties used in the RS2 model.

Table 9: Detailed material properties for RS2 input parameters – finite element analysis

Material Name	Material Color	Initial Element Loading	Unit Weight (kN/m³)	Elastic Type	Poisson's Ratio	Young's Modulus (MPa)	Use Residual Young's Modulus	Failure Criterion	Material Type	Compressive Strength (MPa)	n Parameter	s Parameter	a Parameter	Residual n Parameter	Residual s Parameter	Residual a Parameter	Dilation Parameter	Apply SRF (Shear Strength Reduction)	Tensile Cutoff Type	Material Behaviour	Porosity Value	Static Water Mode	Ra Value	Peak Tensile Strength (MPa)	Peak Friction Angle (degrees)	Peak Cohesion (MPa)	Residual Tensile Strength (MPa)	Residual Friction Angle (degrees)	Residual Cohesion (MPa)	Dilation Angle (degrees)
OSM HW		Field Stress and Body Force	0.02	Isotropic	0.3	3000	No	Generalized Hoek-Brown	Plastic	15	0.886933	0.000730178	0.51295	0.19683	8.10625e-05	0.51395	0	Yes	0	Drained	0.5	Ru	0							
OSM MW		Field Stress and Body Force	0.023	Isotropic	0.3	7000	No	Generalized Hoek-Brown	Plastic	35	0.981792	0.00221808	0.58886	0.340593	0.000345	0.588886	0	Yes	0	Drained	0.5	Ru	0							
OSM SW-FR		Field Stress and Body Force	0.025	Isotropic	0.3	15000	No	Generalized Hoek-Brown	Plastic	50	1.40322	0.00673795	0.504048	0.585599	0.001471	0.504048	0	Yes	0	Drained	0.5	Ru	0							
OSM		Field Stress and Body Force	0.025	Isotropic	0.24	17000	No	Generalized Hoek-Brown	Plastic	75	2.0046	0.00673795	0.504048	0.843713	0.001471	0.504048	0	Yes	0	Drained	0.5	Ru	0							
UW5 HW		Field Stress and Body Force	0.025	Isotropic	0.24	17000	No	Generalized Hoek-Brown	Plastic	75	2.0046	0.00673795	0.504048	0.843713	0.001471	0.504048	0	Yes	0	Drained	0.5	Ru	0							
UW5		Field Stress and Body Force	0.025	Isotropic	0.24	17000	No	Generalized Hoek-Brown	Plastic	75	2.0046	0.00673795	0.504048	0.843713	0.001471	0.504048	0	Yes	0	Drained	0.5	Ru	0							
PSM		Field Stress and Body Force	0.025	Isotropic	0.4	50000	No	Generalized Hoek-Brown	Plastic	75	2.0046	0.00673795	0.504048	2.0046	0.00673795	0.504048	0	Yes	0	Drained	0.5	Dry								
MSM		Field Stress and Body Force	0.026	Isotropic	0.4	50000	No	Generalized Hoek-Brown	Plastic	350	3.59477	0.0117436	0.502843	5.59477	0.0117436	0.502843	0	Yes	0	Drained	0.5	Dry								
Fault 20 psi		Field Stress and Body Force	0.02	Isotropic	0.4	50000	No	Mohr-Coulomb	Plastic									Yes		Drained	0.5	Dry		0	20	0	0	20	0	0

6.3.5. Analysis results

Table 10, Figure 17, Figure 18 and Figure 19 summarise the critical SRF results for FEA section 1. The critical SRF meet the design criteria detailed in Design acceptance criteria and provided results very similar to what was seen in the limit equilibrium analysis. Highlighting the West wall in HW-OSM material to have the lowest FoS and critical SRF.

Table 10: Summary of section critical SRRF results for section FEA 1

Section Name	Critical SRF	Comment	Reference
FEA1	1.39	Multi- bench failure surface in highly weathered OSM – SRF compliant with design criteria	Figure 17

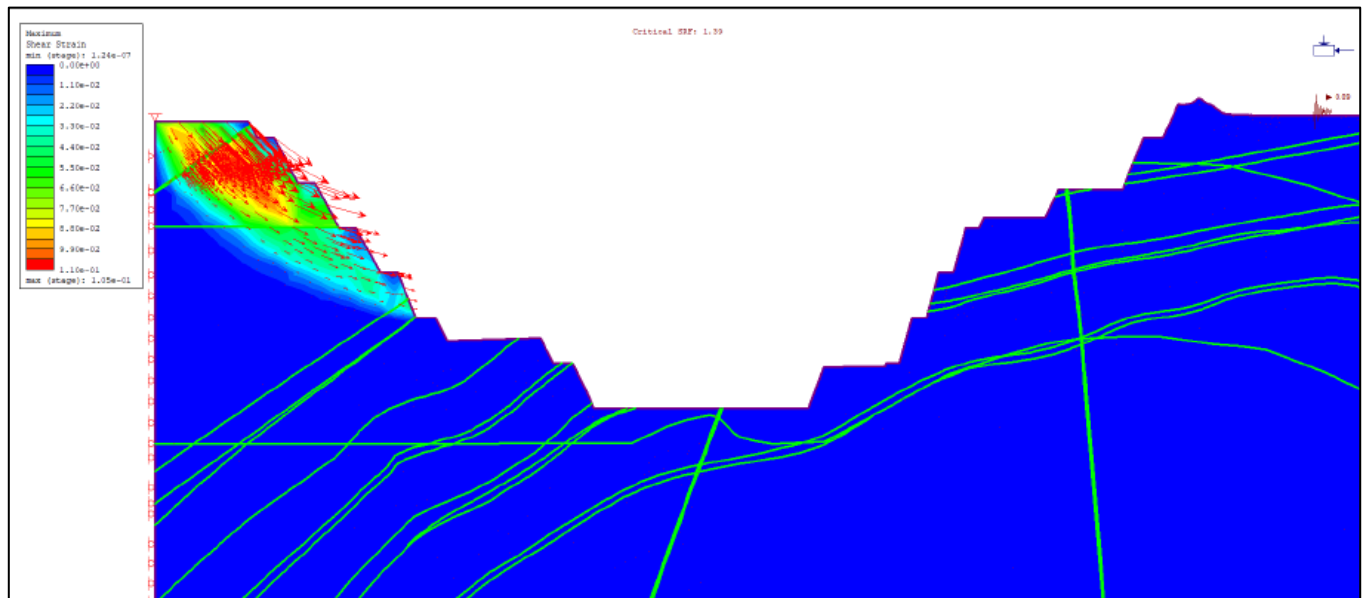


Figure 17: Cross-section FEA 1 finite element analysis RS2 model showing maximum shear strain.

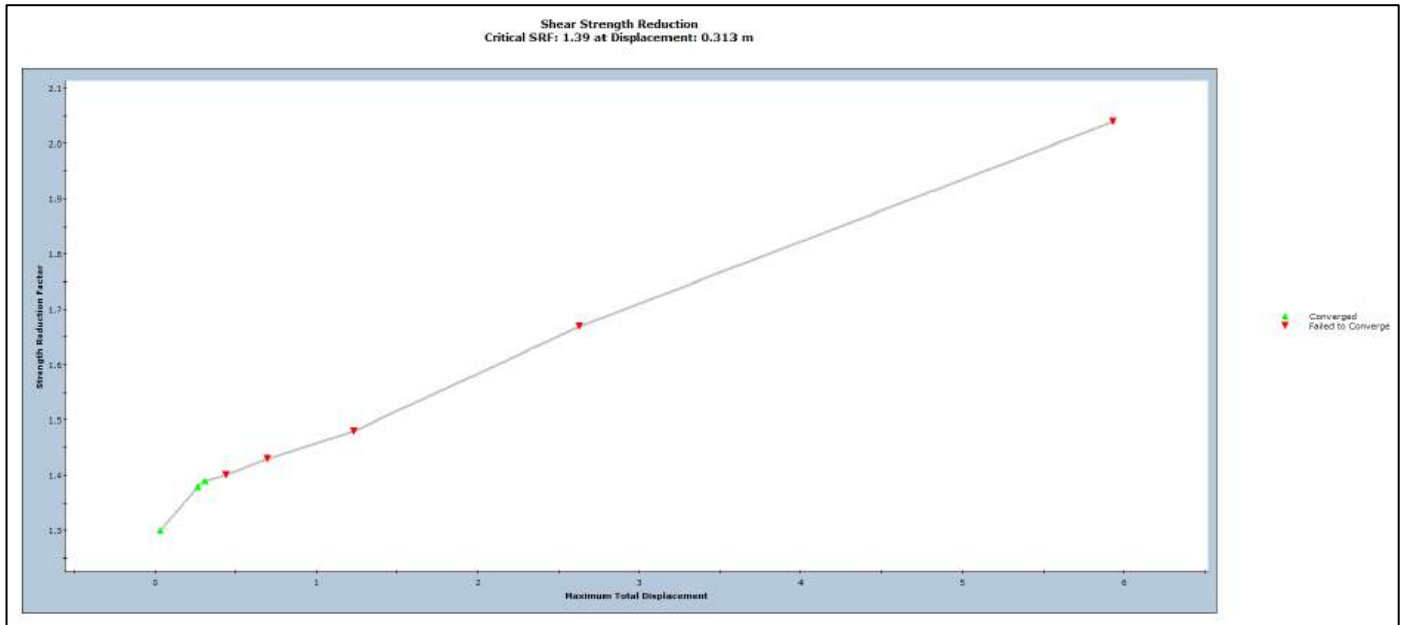


Figure 18: FEA 1 finite element analysis RS2 model result for shear strength reduction factor over displacement

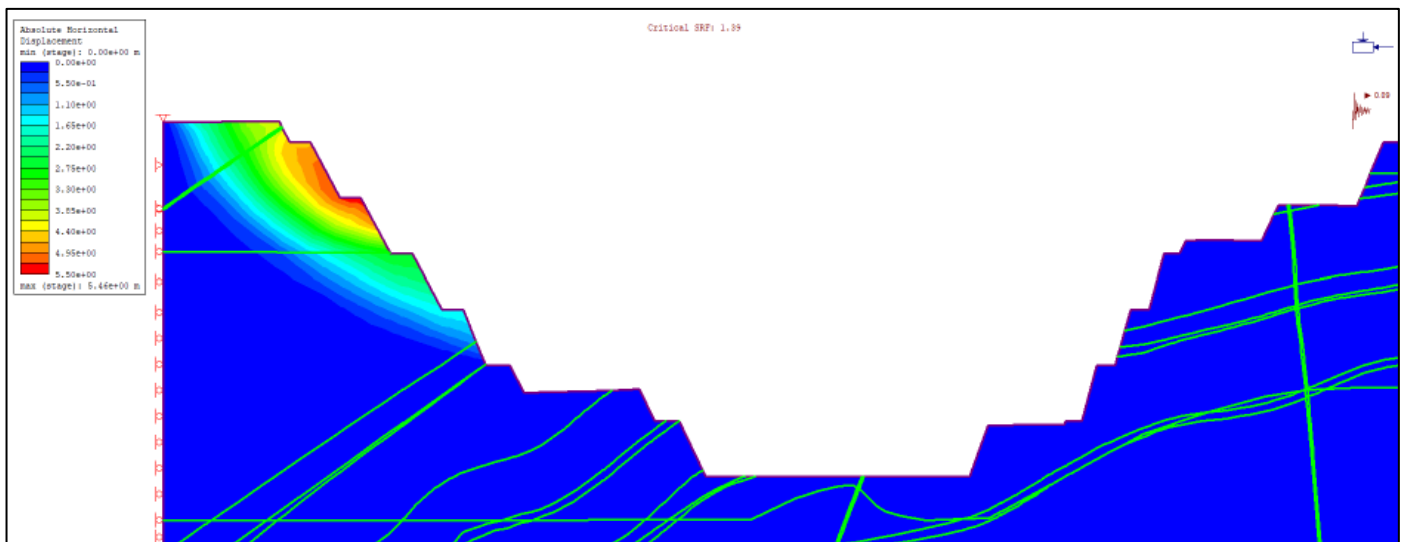


Figure 19: Cross-section FEA 1 finite element analysis RS2 model showing absolute horizontal displacement.

6.4. Large Structure review

The large structure review of the proposed West Dome Stage 7 design is visualised in Figure 20 & Figure 21 below.

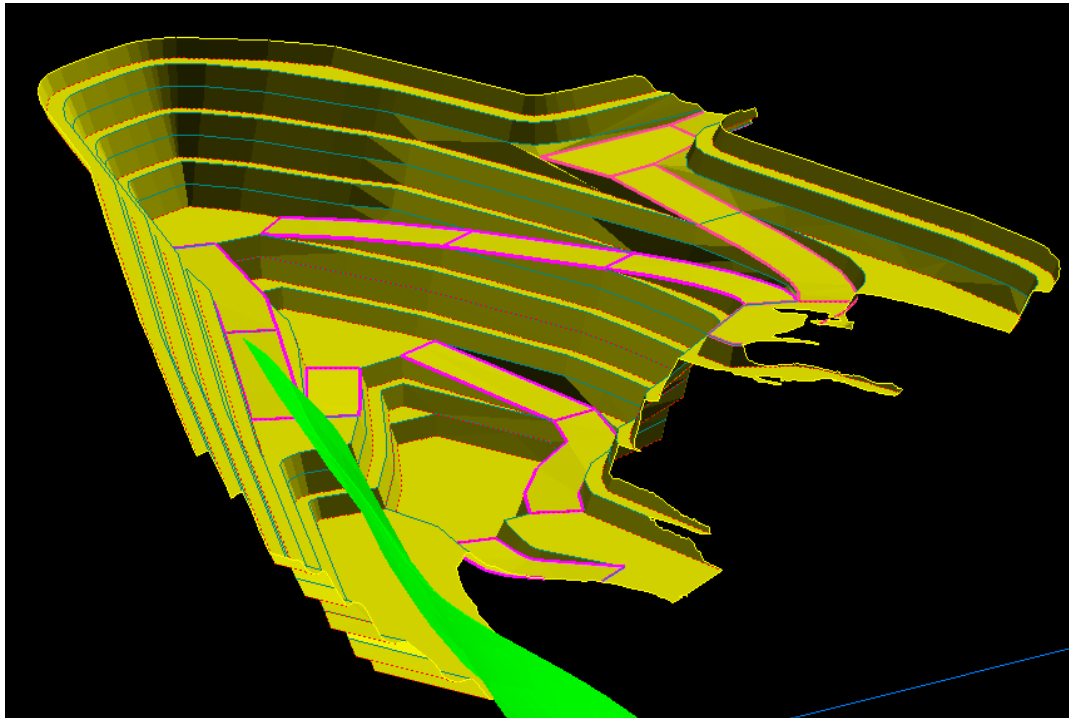


Figure 20: Proposed West Dome Stage 7 design for Large Structure Review with FL4-WD001 structure.

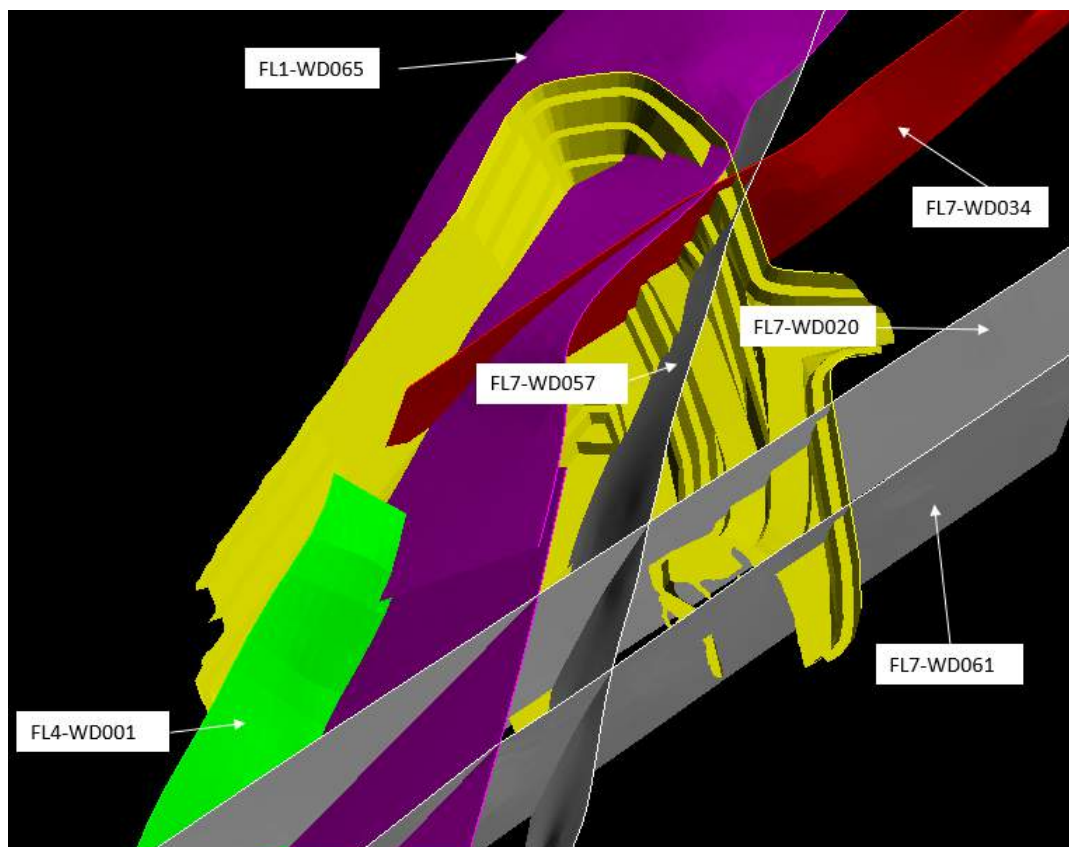


Figure 21: Large structures intersecting West Dome Stage 7 proposed design.

Figure 21 displays the faults and large structures intercepting of the proposed West Dome Stage 7 design. The following outlines the findings and recommendations from the review:

- FL4-WD001 has been identified as a potential daylighting fault. The Current fault mapping / triangulation of this fault does ends before the fault intersection the West Dome Stage 7 design (Figure 20).
 - Extrapolation of the current fault data indicates there is a potential for this fault to daylight out of the western wall of stage 7.
 - Further structural mapping is required to validate position of potential daylighting faults and ascertain degree of risk for large structural kinematic failures.
- Fault structure FL7-WD020 has intersects the design haul ramp up from the 5480mRL switchback – presenting risk of ramp loss due to no berm directly below.
- Fault structure FL7-WD057 intersects the haul ramp above the switchback on 5444mRL. As a berm is directly below, the risk of ramp loss due to blasting is low.
- Major Graben faults FL7-WD020, FL7-WD034, FL7-WD061 intersecting proposed design through benches between 5530mRL – 5372mRL.
 - Good blasting practices required around these intersections to minimise fault influenced blast damage.
- Intercepting faults were analysed in SWedge to assess any potential wedge failures:
 - The intersection between faults FL7-WD057 & FL7-WD034 formed a potential wedge formation with the proposed design. This is of low concern as the computed Factor of Safety (FOS) was an acceptable 1.64.
 - The intersection between faults FL7-WD020 & FL7-WD057 formed a potential wedge formation with the proposed design. This is of low concern as the computed Factor of Safety (FOS) was an acceptable 1.61.
- All other large structures intercepting the proposed design did not form wedges, therefore there is no additional risk of wedge failure.

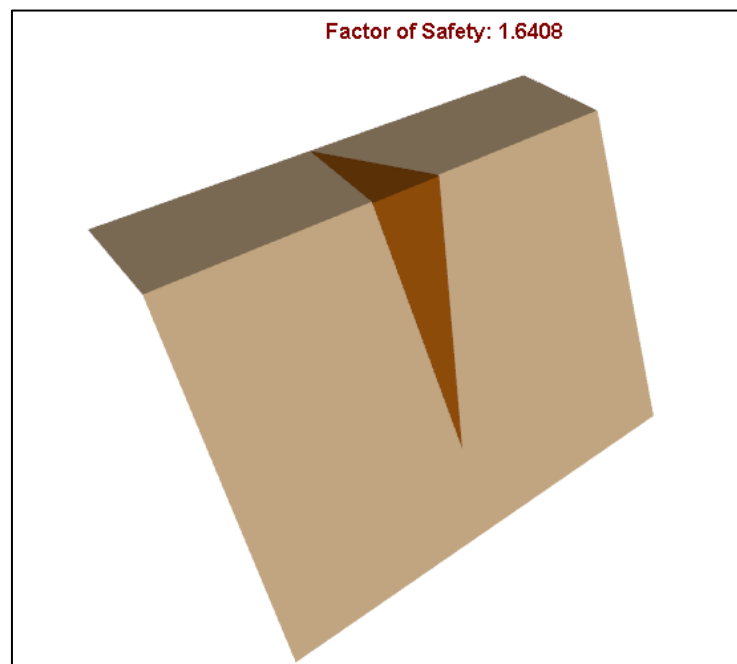


Figure 24: Potential Wedge formed by intersection of structures FL7-WD057 & FL7-WD034.

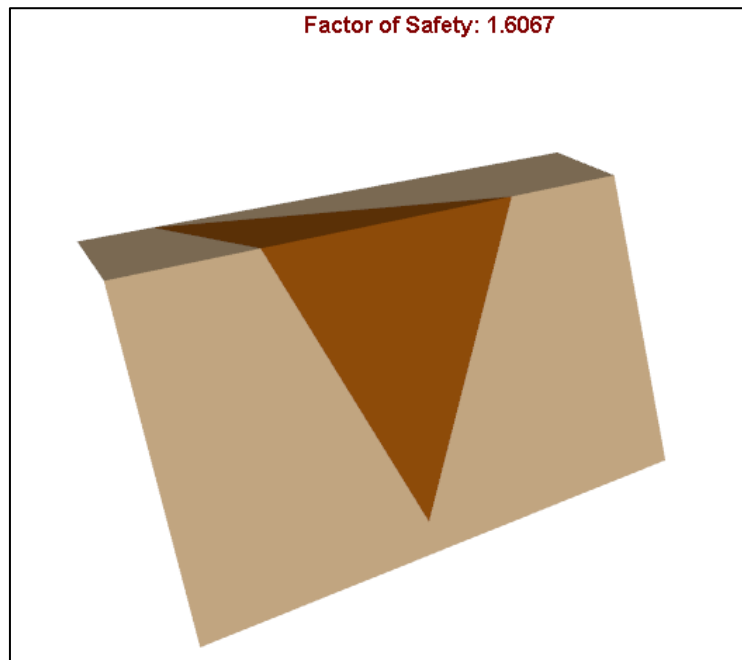


Figure 24: Potential Wedge formed by intersection of structures FL7-WD020 & FL7-WD057.

6.5. Rock fall trajectory interaction

The program Trajec3D was used to perform a 3D rigid body impact model simulation to evaluate the trajectories of potential rock fall interaction with West Dome Pit 9 for the slope geometry profile of the proposed design location. It is common to compare results obtained from 3D rigid body impact models with 2D lumped-mass impact models (Bar, Nicoll & Pothitos 2016), however for the purpose of this simulation it was decided that a comparison to the 2D model was not necessary.

The following parameters were used to simulate rockfall interaction from West Dome Stage 7 with Pit 9 dewatering infrastructure:

- Rockfall coefficient of restitution: 0.166 – Telfer sandstone. Ref: GG0013-006R rock fall trajectory: field testing, model simulation and considerations for steep slope design.
- Fall object weight (kg/m³): 2500.
- Single object size: 1 tonne
- Varied object shapes.
- Rockfall trajectory does not consider rill material build up.

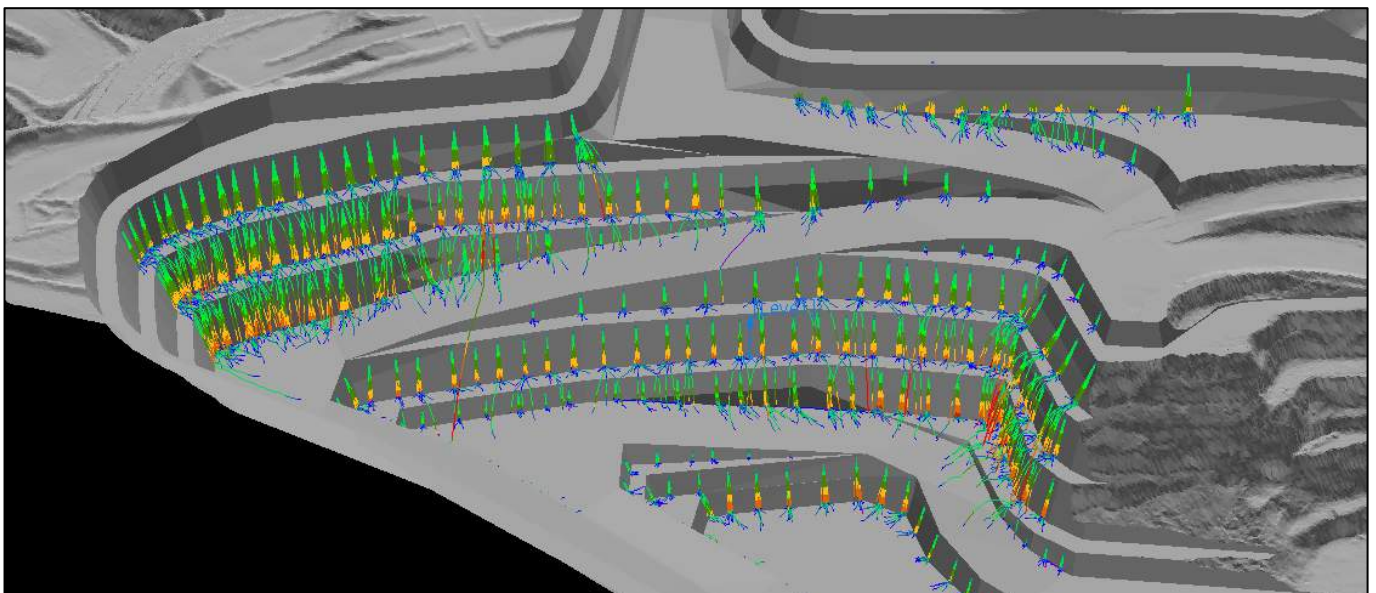


Figure 22: WD stage 7 rockfall interaction.

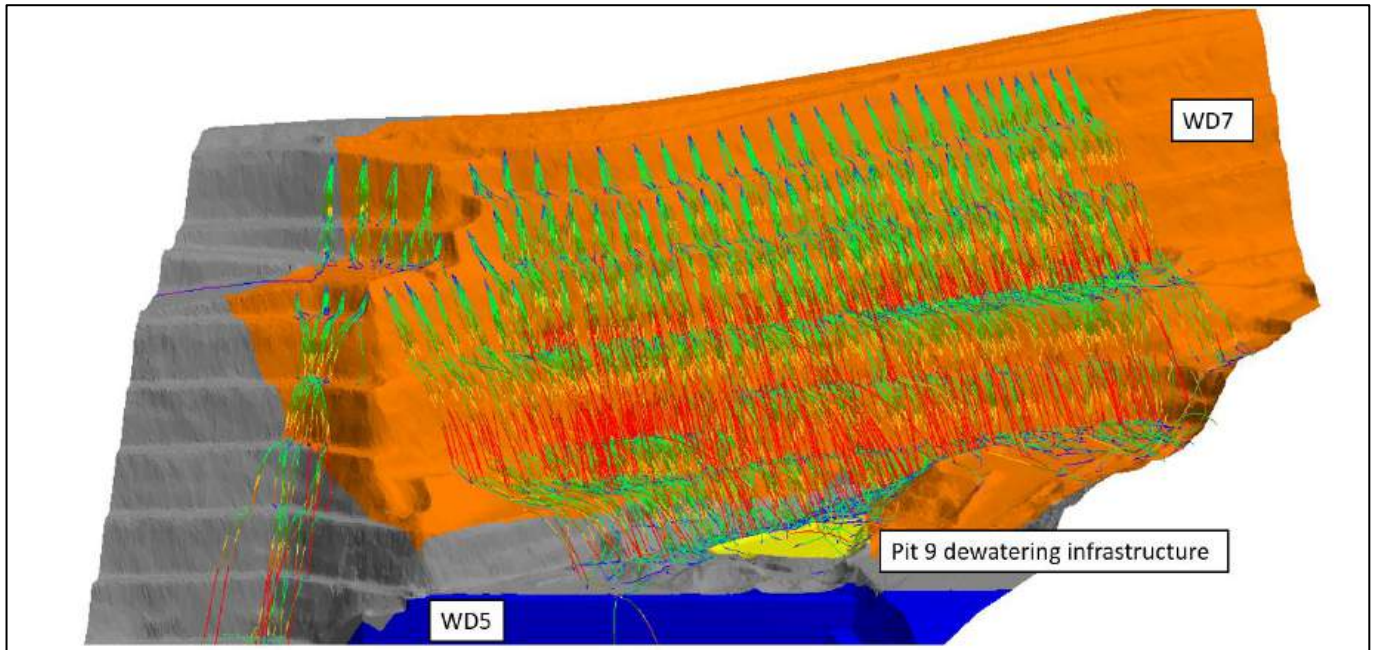


Figure 23: WD stage 7 rockfall interaction with Pit 9 Dewatering infrastructure 5520RL- 5444RL

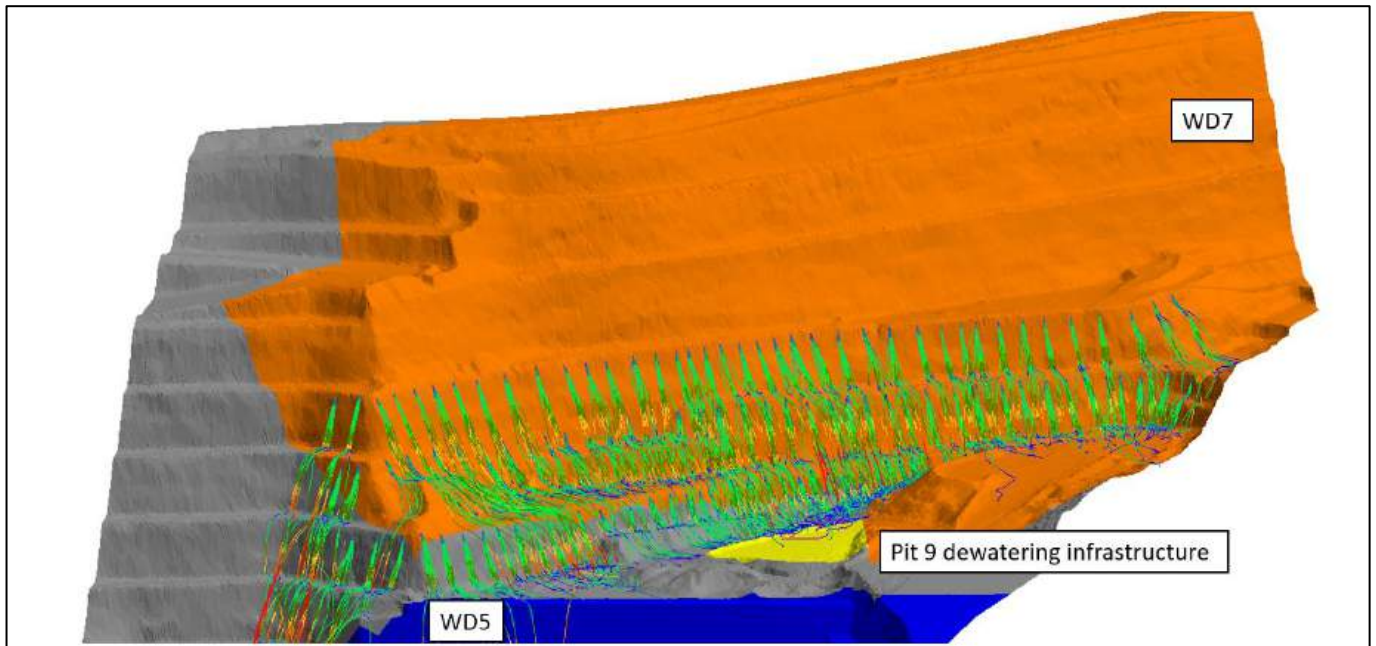


Figure 24: WD stage 7 rockfall interaction with Pit 9 Dewatering infrastructure 5444RL – 5372RL

6.5.1. Rock fall trajectory analysis summary

The following interactions were identified and summarised during rockfall trajectory analysis:

- The shape of the falling object had an influence on the maximum run out distance.
- The size of the falling object had a major influence on trajectory. On average the larger the falling object was, the further the object travelled.
- Mining interaction pit 9 dewatering infrastructure will occur during the execution of the full design.
 - Rockfall analysis shows that it is possible for material to impact the pad containing the pit 9 dewatering infrastructure, therefore it is recommended that an independent risk assessment is completed to implement suitable controls to manage this interaction.

6.5.2. Rockfall Rill Management

Rill build-up is not considered in the model by the rockfall trajectory analysis in section **Error! Reference source not found.** however, in field analysis and previous data from interaction between stages 5 and 8 with stage 2 have shown that rill can greatly increase the runout distances of rockfalls.

Therefore, to reduce the risk of damage to Pit 9 dewatering infrastructure it is recommended that rill build-up must be excavated and removed or at a minimum flat topped frequently to contain rockfall runout at the direction of the geotechnical engineer.

7. Slope design recommendation

Design W7PD01_V7 is considered stable and meets acceptance criteria for inter-ramp and overall slope stability. The deterministic kinematic analyses indicated potential wedge failure mechanism for IRA in domain 1 of the design. However, the tightly spaced joint sets are likely to result in small wedge failures if they occur and utilising good scaling techniques and general mining practices this risk can be effectively mitigated. FL4-WD001 was also highlighted as having the potential to daylight through the West Wall and cause stability issues. The slope reconciliation process will be crucial to indicate whether additional controls are necessary during the construction of the West Wall along with regular geotechnical inspections. The highly weathered OSM areas produced the highest risks of instabilities and will require risk management as described in section 8.1. Continues prism monitoring for life of construction as detailed in section 8.3 and routine geotechnical inspections as per the Ground Control Management Plan are required. Field mapping of the Eastern wall highlighted the expected challenges associated with the blocky wall conditions and unfavourable bedding orientation. Highlighting that these factors could necessitate the construction of catchment bunds along the ramps and potentially require single lanes.

Dewatering Infrastructure

Critical dewatering infrastructure for West Domes mining operations is located in proximity to rock fall risk from the stage 7 cutback as outlined in section 6.5 and shown below in Figure 25. To prevent damage to infrastructure during cutback mining, the following controls must be incorporated in a risk assessment and adapted as mining progresses.

- Dewatering pipes should be positioned outside the direct rock fall zones, if practical.
- Dewatering pipes should be covered in SCATS for protection from rockfalls.
- A 2-meter-high catchment bund should be constructed in front of the infrastructure for protection from direct rock falls and rockfall runout.
- The catchment capacity of the bund should be reinstated when it is safe to do so, under the direction of the Geotechnical Engineer.
- During blasting and mining of benches directly above the infrastructure, standoffs may be implemented to restrict access to the infrastructure. Pumps and equipment must be refuelled before blasting and whenever these situations are expected.

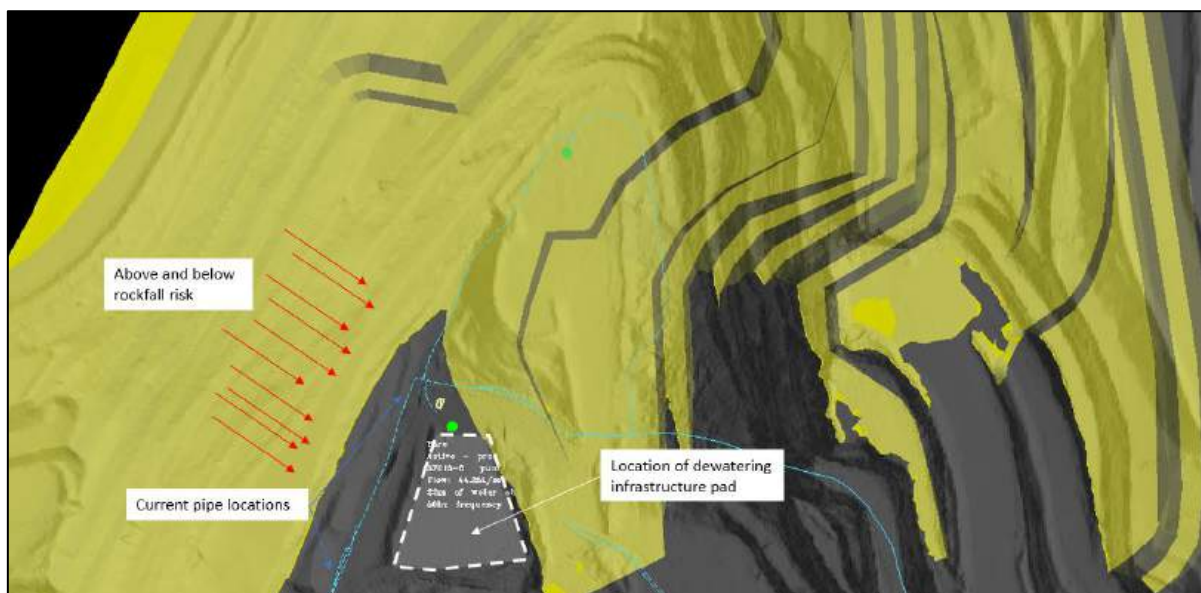


Figure 25: Above and below interaction with dewatering infrastructure

8. Risk Management

8.1. Material Risk management

All material risk controls and performance standards for RSK-0000084 Pit Wall Failure must be incorporated into the design and construction of the proposed design.

Table 11 – RSK-0000084 Pit Wall Failure Management Plan controls and performance standard

Implement ation Number	Control Type	Control	Description	Performance Standard Design	Performance Standard Operation
IMP- 0000783	Preventative	Operational Control - Blasting	Limit Blasting (Blast management) (C3)	<ul style="list-style-type: none"> Ground Control Management Plan 700-100-GE-PLA-0001 s6.2 Limit Blasting; s6.3 Geotechnical Review of Blast Master Designs and Blast Pattern Approval. Geotechnical Reporting 700-100-GE-SOP-0003 s4 Post Blast Inspection. 	<ul style="list-style-type: none"> Blast Master design and blast hole pattern reviewed and signed prior to approval. Final wall blasts inspected by the Geotechnical Department and adverse conditions recorded.
IMP- 0000784	Preventative	Operational Control - Water Management	Water monitoring including Wet Season Water Management Plan (C4)	<ul style="list-style-type: none"> Void Management Plan 700-100-MN-PLA-0002 s14 Surface Water Management. Ground Control Management Plan 700-100-GE-PLA-0001 s7.8 Surface Water Management. Working in Proximity to Slopes 700-141-SA-SWP-0108 s6.3 Rainfall. 	<ul style="list-style-type: none"> Annual Wet Season Management Plan produced each October. Control of surface water on ramps and the pit floor. Controlling surface water collected outside the pit catchment and directing it away from the active mining areas. Management of the Stage 3 pumping system. Management of the Stage 3, 6 & 7 water storage sumps. Ensuring a TARP for high water levels is follow.
IMP- 0000785	Mitigation	Operational Control - Geotechnical	Slope Standoff (I1)	<ul style="list-style-type: none"> Working in Proximity to Slopes 700-141-SA-SWP-0108 s6.1 Summary of Standoffs and s6.3 Rainfall. Pit Crest Standoff Distances 20131217, Newcrest Internal Technical Report. Standoff distances derived from recorded rockfall run out in the rockfall database (Nicoll S., 2015. Rockfall Database Review Dec 2015). 	<ul style="list-style-type: none"> Standoff distances for slope instability triggers - rockfalls, rainfall, blasting, seismic event - are defined and initiated. Work performed within 10m of the slope conducted with a Geotechnical Spotter.
IMP- 0000781	Preventative	Monitoring - Operational Geotechnical	Slope stability analysis (C1, C2)	<ul style="list-style-type: none"> Ground Control Management Plan 700-100-GE-PLA-0001 4.3.1 Slope Back Analysis; s6.7 Slope Reconciliation. Geotechnical Slope Reconciliation 700-100-GE-TEF-0018 s6.3 Reconciliation Elements. 	<ul style="list-style-type: none"> As-built mine slopes are reconciled against the planned mine design. Remedial actions taken where the wall has not achieved design. Slope failures are back analysed to determine cause.
IMP- 0000782	Preventative	Inspection Geotechnical - Operational Control	Geotechnical Pit Inspections and Slope Monitoring (C2,C3)	<ul style="list-style-type: none"> Ground Control Management Plan 700-100-GE-PLA-0001 s5.1 Automated Slope monitoring; s5.1 Table 10 - Monitoring Instrument Survey. Geotechnical Slope Reconciliation Guideline 700-100-GE-TEF-0018 s6.4.3 Slope Monitoring. Geotechnical Monitoring Prism Installation 700-100-GE-SWP-0003. Geotechnical Monitoring Data 700-100-GE-SOP-1004. Ground Control Management Plan 700-100-GE-PLA-001 5.2 Geotechnical Pit Inspections. Geotechnical Reporting 700-100-GE-SOP-0003 s3 Pit and Dump Inspections. Geotechnical Inspection 700-100-GE-SWP-0006 s6 Inspection Reporting. 	<ul style="list-style-type: none"> Slope monitoring conducted to the frequencies prescribed in Table 10 - Monitoring Instrument Summary. Primary monitoring equipment serviced as per minimum OEM recommendations. Comparison of Design against Actual slope performance for preceding 1-6 months conducted. Inspections of Mining areas and Dumps conducted by Geotechnical personnel. Inspections recorded in Geotechnical Acquire database.

8.2. Hazard management

Geotechnical hazard management should continue in accordance with the site Ground Control Management Plan (Newcrest, 2019).

8.3. Slope monitoring

Slope deformation monitoring systems are utilised to ensure open pit operations can be performed safely and productively. The following slope monitoring systems will be employed:

- Automated prism monitoring system:
 - Comprised of Trimble S8 and Trimble S9 instruments, total stations, a control T4D server and a T4D web server interface;
 - Deformation alarms are set up and linked to email communication;
 - New prisms will be installed spaced 50m apart and behind the proposed cutback slope crest before mining commences.
- Roving slope stability radars:
 - XT series 2 ground probe radars with critical 24-hour remote monitoring system;
 - Monitoring general slope movement to identify potential areas of concern;
 - Deformation alarms are set up and linked to geotechnical on-call phone and email communication;
 - Radar monitoring is currently being conducted in West Dome Stage 2, West Dome stage 5 and West Dome stage 8. There will be the option to monitor the proposed West Dome stage 7 if design if required.
- West Dome Stage 7 will be included in the Slope monitoring TARP post approval of cutback for construction.
- Routine daily pit inspections:
 - In accordance with the site Ground Control Management Plan (Newcrest, 2020).
- Wall Signoff process:
 - High density laser point clouds to measure construction compliance and inspections conducted by the Geotechnical engineer that will officially signoff each constructed highwall alongside the Quarry manager signoff and production supervisor.

A monitoring check list will be completed daily to ensure all slope deformation equipment is working to appropriate standards.

8.4. Geotechnical slope reconciliation

The geotechnical slope reconciliation process form part of geotechnical risk assessment by providing a comparison between design assumptions and the achieved in-situ result of slope performance and observed rockmass parameters. In order to implement regular and ongoing slope reconciliations, several section lines are created parallel to the slope aspect to provide a focal point for specific data capture. Each section line is selected to be representative of the overall slope design area, along the same line as existing design sections used in the slope stability analysis to compare design parameters with constructed parameters to ensure deviation is within manageable tolerance. Figure 26 illustrates the location of geotechnical slope reconciliation sections for West Dome Stage 7.

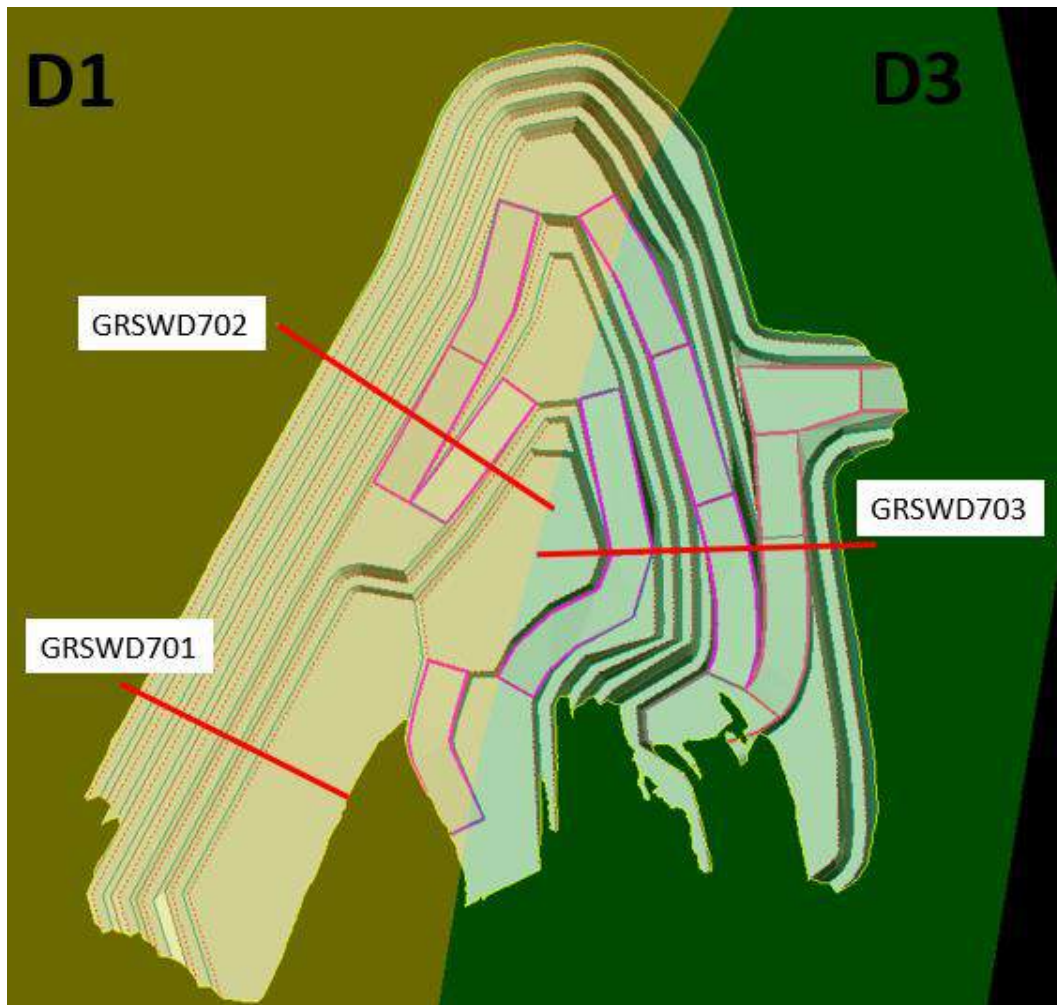


Figure 26 – Slope reconciliation sections for West Dome Stage 7

Slope reconciliations are an ongoing process and will be carried out routinely after completion of each bench as mining progresses. The following elements are reviewed and assessed as part of the reconciliation process:

- Geotechnical Model (lithology & weathering, rock mass properties, minor structures, major structures, structure surface conditions, etc.);
- Hydrogeological Model (groundwater model);
- Slope Geometry (as-built versus design excavation compliance);
- Slope Performance (slope monitoring);
- Slope Stability (if required).

Following this process any discrepancies between observed and designed parameters can be detected early and slopes may be redesigned if necessary, improving safety and productivity by preventing instability from occurring in the first place. Going forward, geotechnical slope reconciliations will continue to be completed in accordance with the above process following the site Geotechnical Slope Reconciliation Guideline (Newcrest, 2017).

10. References

- Bar, N., Nicoll, S. & Pothitos, F. 2016, *Rock fall trajectory field testing, model simulations and considerations for steep slope designs in hard rock*, In PM Dight (ed), Proceedings of the First Asian Pacific Slope Stability in Mining Conference 6-8 September 2016, Brisbane, Australia, pp 457-566, ACG.
- Bar, N. 2017, Feasibility Study & Slope Optimization for Telfer West Dome Stage 2, Gecko Geotechnics Pty Ltd Report GG0028-003R, Cairns, Australia, 8 March 2017.
- Bar, N. 2017, 2D and 3D Slope Stability Analysis for Telfer West Dome Stage 2 & 4, Gecko Geotechnics Pty Ltd Report GG0039-002R, Cairns, Australia, 6 September 2017.
- Bar, N., Saroglou, H. 2018, *MAJOR FAULT MODEL FOR TELFER GOLD MINE WEST DOME* Gecko Geotechnics Pty Ltd Report GG0043-003R, Cairns, Australia.
- Christensen, C., du Plessis, P., 2021, Geotechnical review and stability assessment – Telfer Mine – West Dome Stage 5, Newcrest Mining Limited, Telfer Mine Site, Australia.
- Christensen, C., Lepper, M., 2022, Geotechnical review and stability assessment – Telfer Mine – West Dome Stage 2, Newcrest Mining Limited, Telfer Mine Site, Australia.
- Newcrest Mining Ltd. 2019, Ground Control Management Plan Telfer Open Pit Mine, Newcrest Mining Limited internal Management Plan 700-100-GE-PLA-0001, Telfer, Australia.
- Newcrest Mining Ltd. 2017, Geotechnical Slope Reconciliation Guideline, Newcrest Mining Limited internal document, Telfer, Australia.
- Read, J., Stacey, P., 2009, Guidelines for Open Pit Slope Design, CSIRO Publishing, Collingwood, Australia.
- Hill, A.P. 1989, *Structure of West Dome, Telfer, Western Australia and its significance to mineralisation and regional tectonics*. BSc(Hons.) Thesis, University of Western Australia.
- Dames & Moore 1991, *West Dome Geotechnical Investigation*, Dames & Moore Ltd Telfer Geotechnical Department, Telfer, Australia, December 1991.
- Hewson, S.A.J. 1996, *A structural examination of the Telfer gold-copper Deposit and surrounding region, northwest Western Australia: the role of polyphase orogenic deformation on ore-deposit development and implications for exploration*. PhD Thesis, James Cook University.
- Windh, J. *Report on structural study, Telfer Gold Mine*, Newcrest Australia Limited, 21p.
- Kabilo, P. & Smart, A. 2018, *West Dome Stage 3: Pane Fault*, Personal Communication.
- Lepper, M., Suresh V, Du Plessis, P. Geotechnical review and stability assessment Telfer Mine - West Dome Stage 4, Proposed design W4PD05_ Stage 4 Goodbye Cut.
- Lepper, M., Monkman, M., du Plessis, P. & Pothitos, F. 2022, Geotechnical review and stability assessment, Proposed design W9PD01_V7, Newcrest Mining Limited, Telfer Mine West Dome Stage 8.
- Lepper, M., 20023, Estimating Disturbance Factor, Newcrest Minin Limited.

11. Appendix A – Kinematic Analysis

Domain 1

Planar:

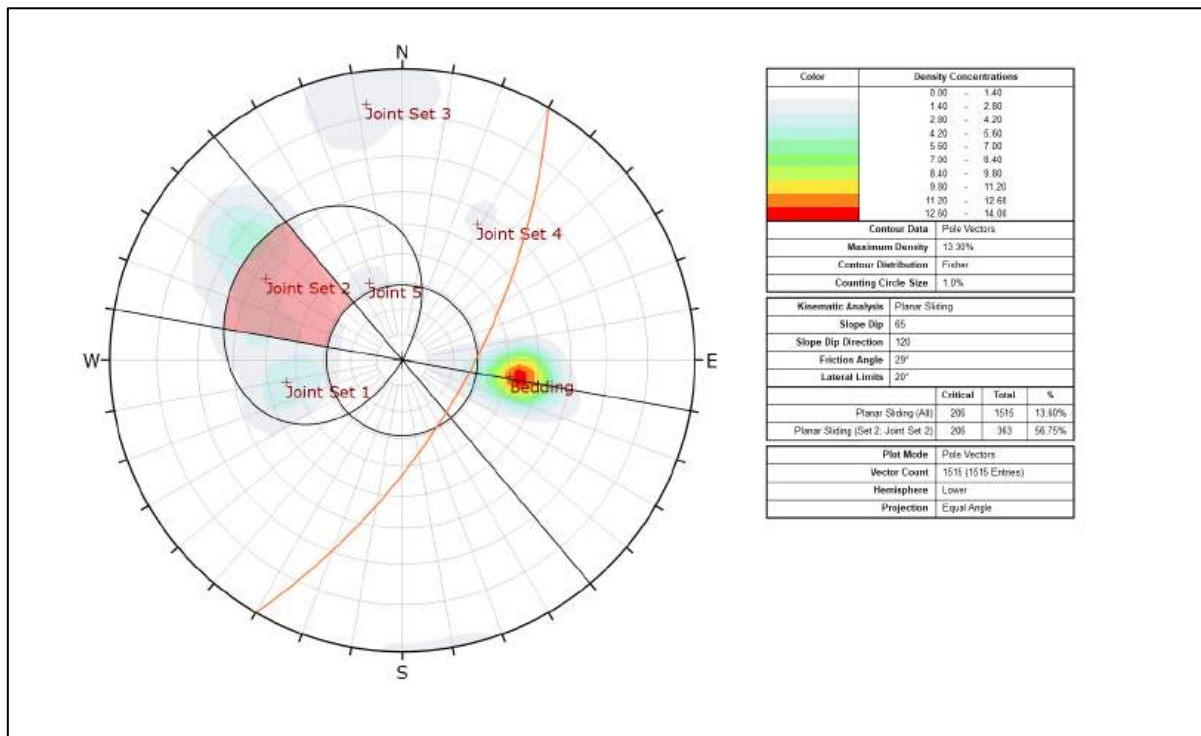


Figure 27: D 65 DD 120

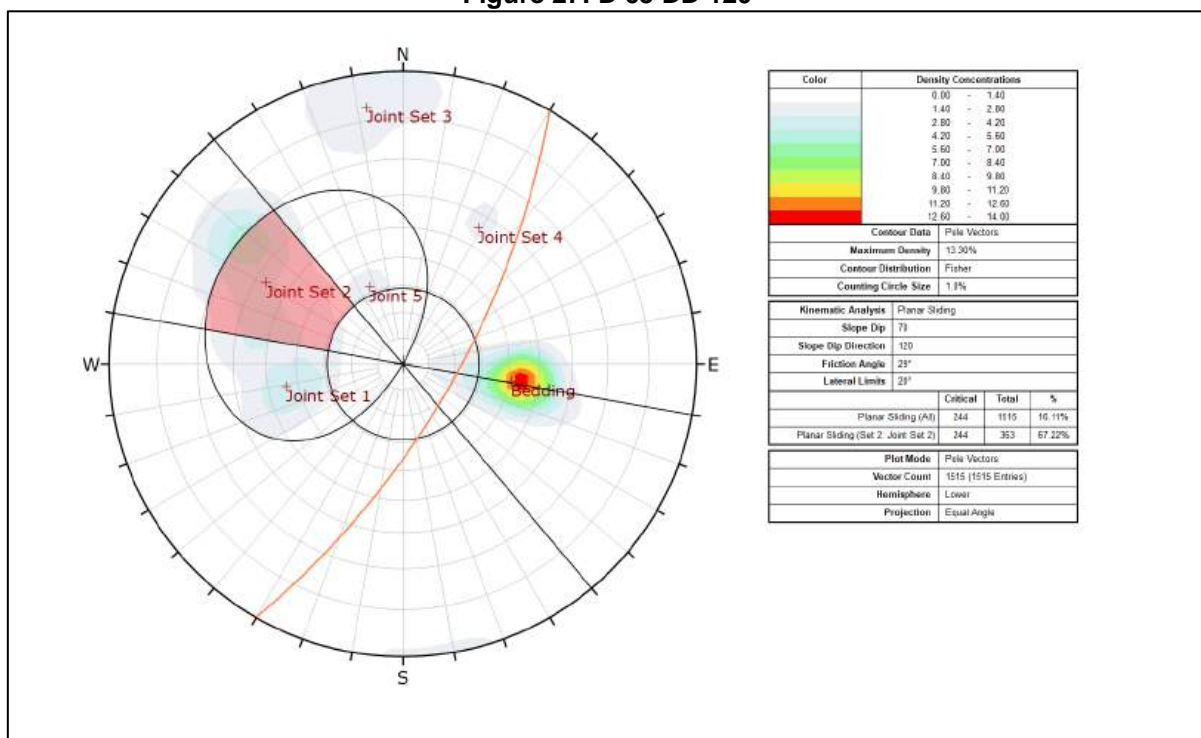


Figure 28: D 70 DD 120

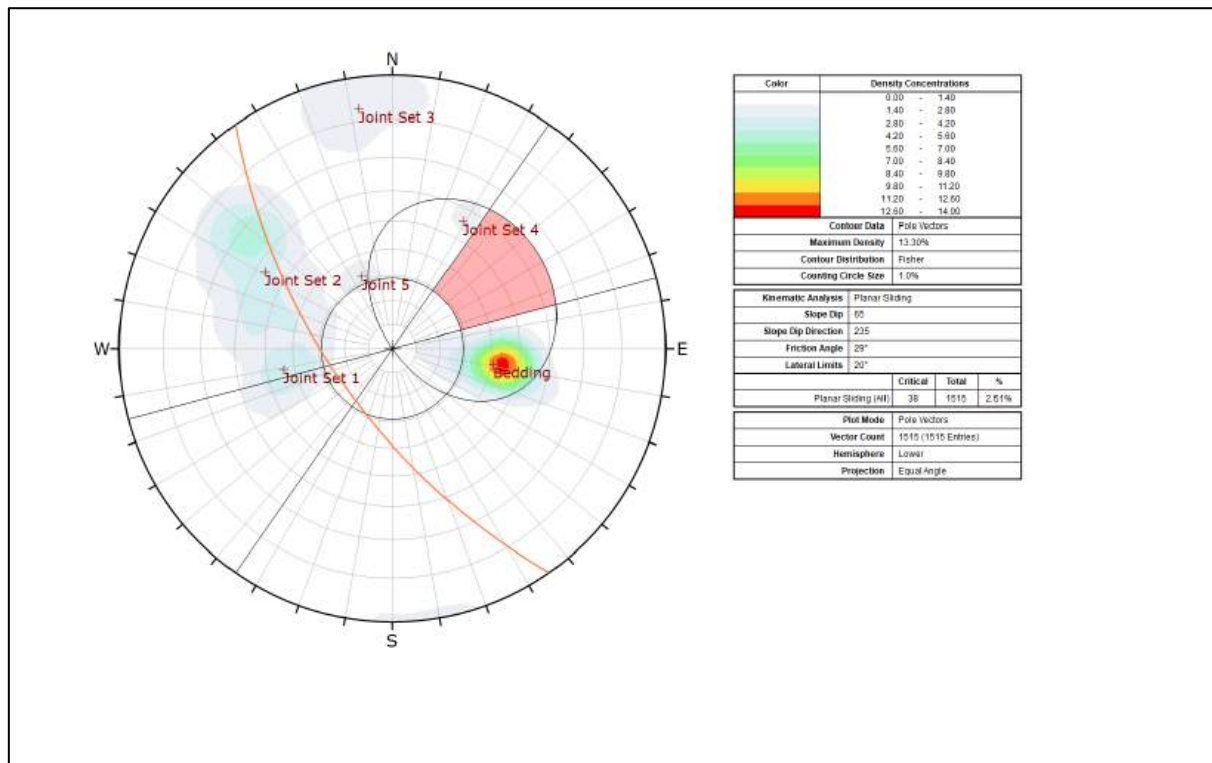


Figure 29 D 65 DD 235

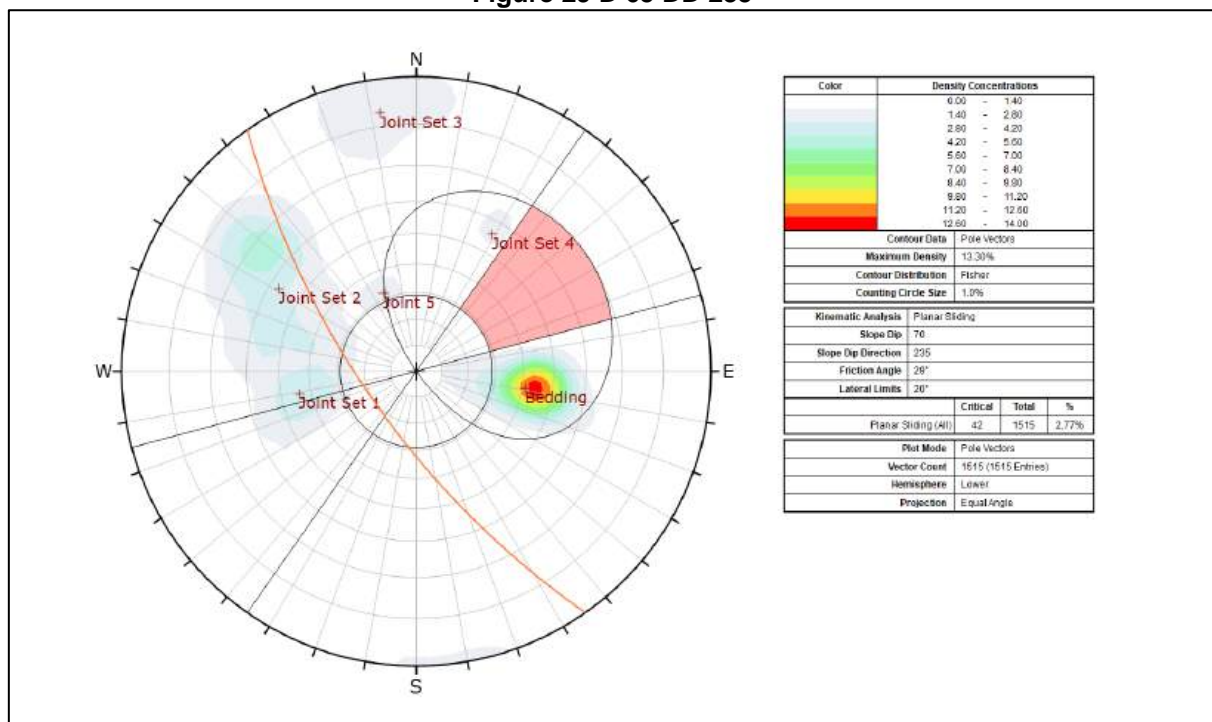


Figure 30 D 70 DD 235

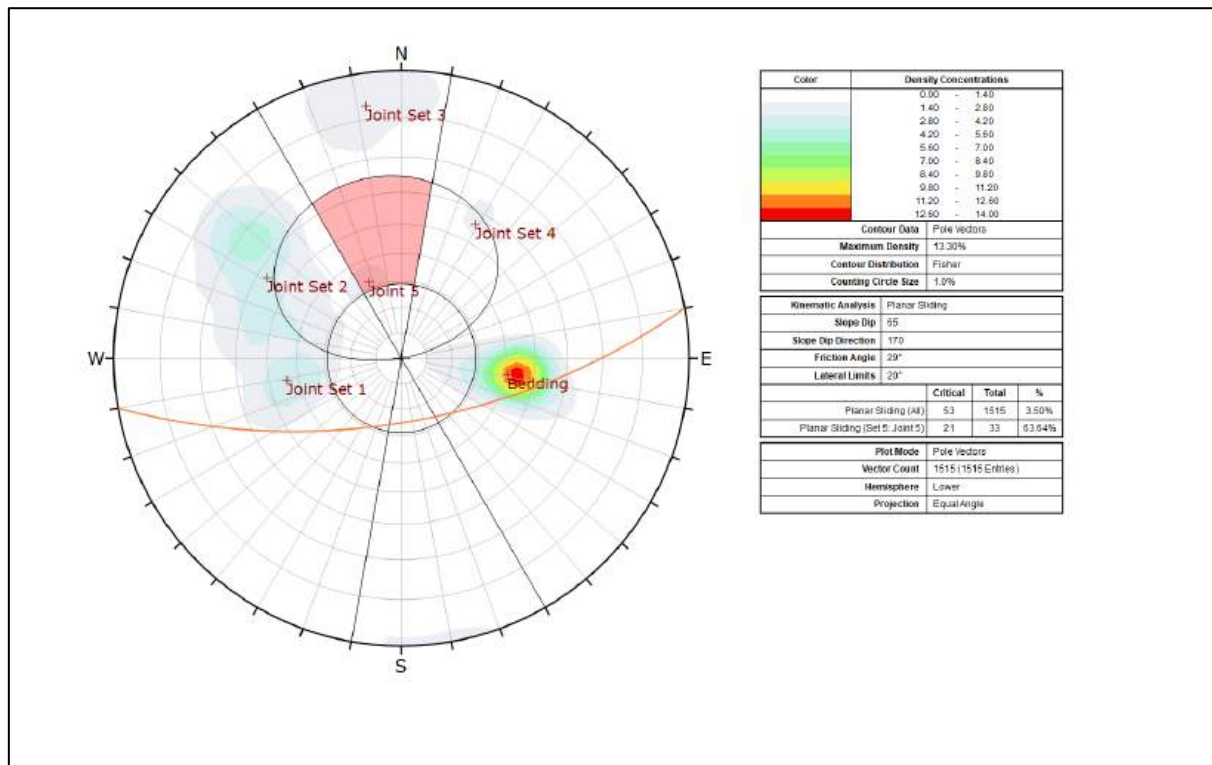


Figure 31: D 65 DD 170

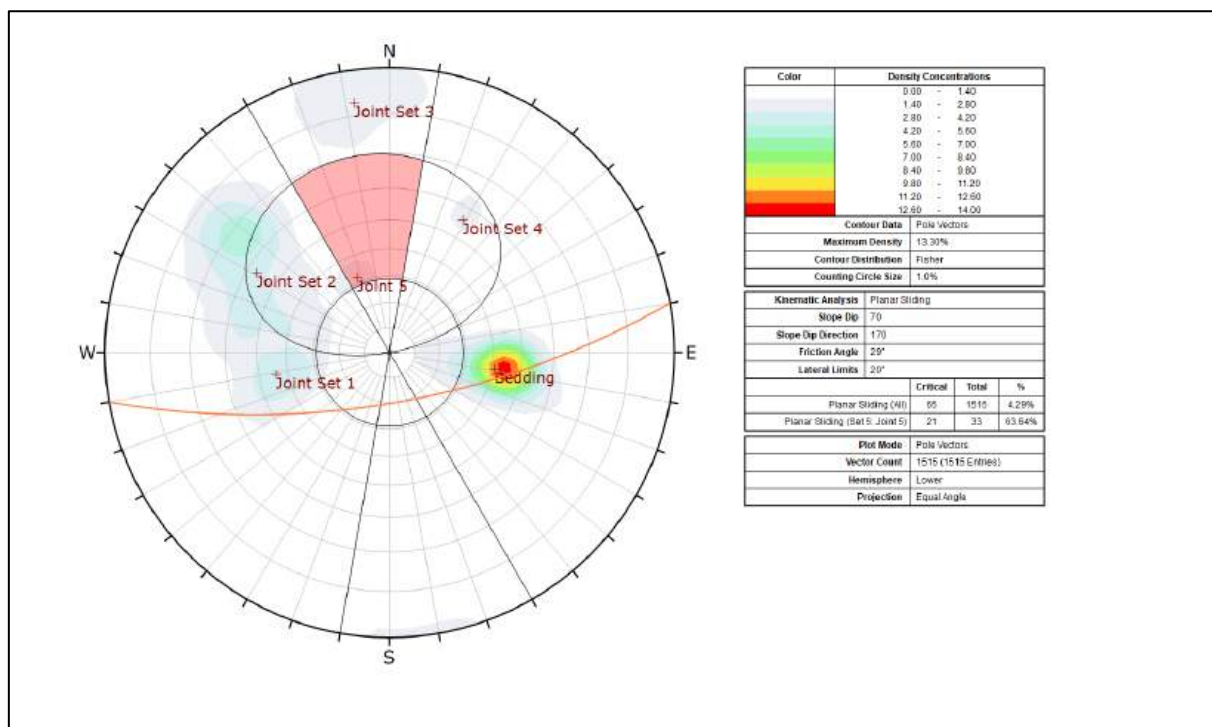


Figure 32: D 70 DD 170

Wedge:

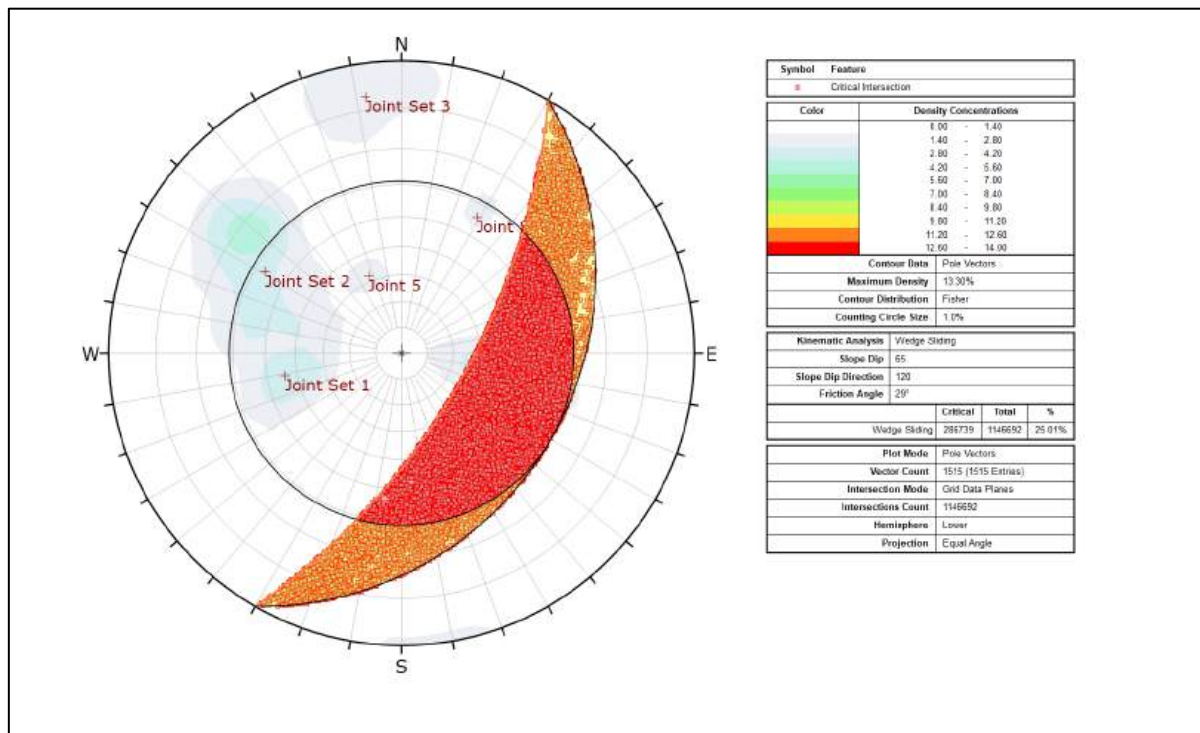


Figure 33: D 65 DD 120

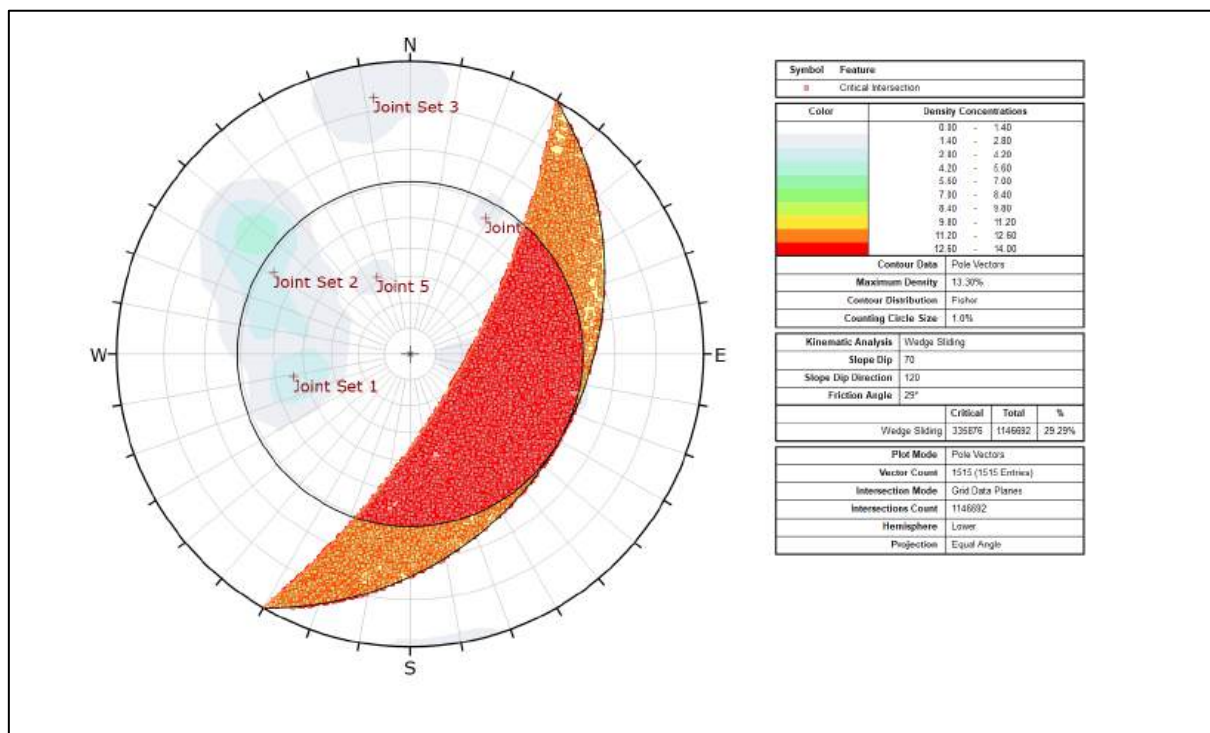


Figure 34: D 70 DD 120

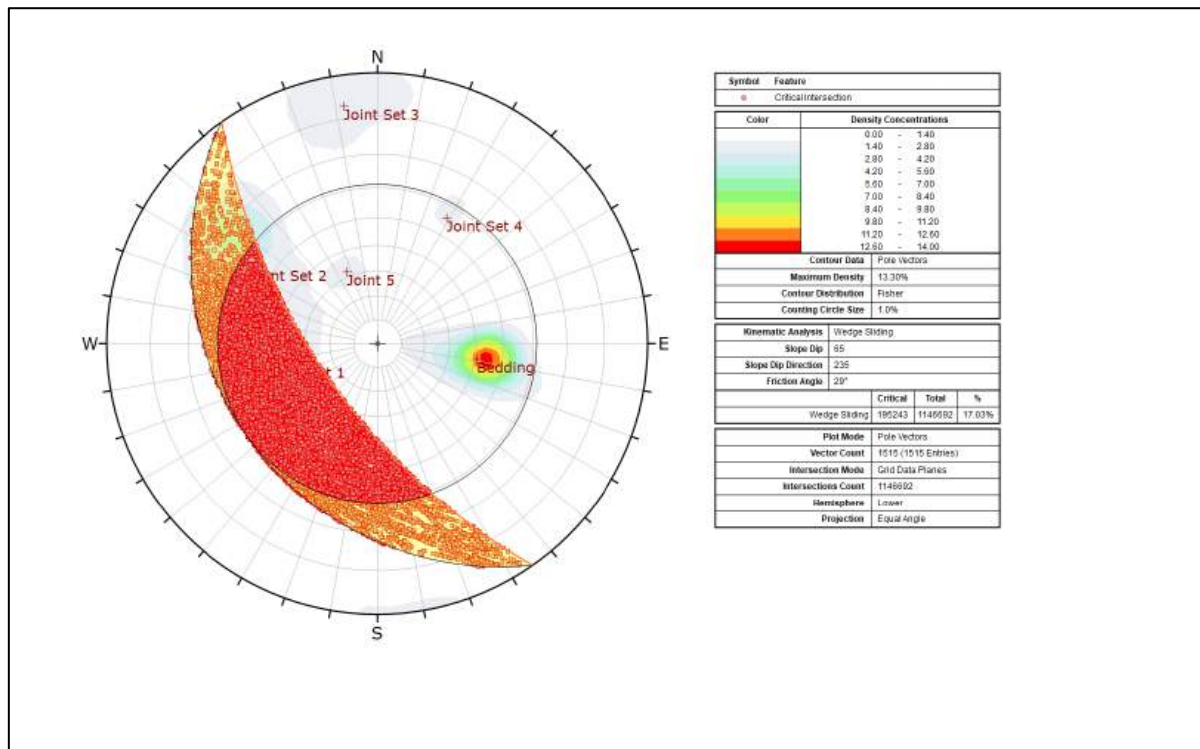


Figure 35: D 65 DD 235

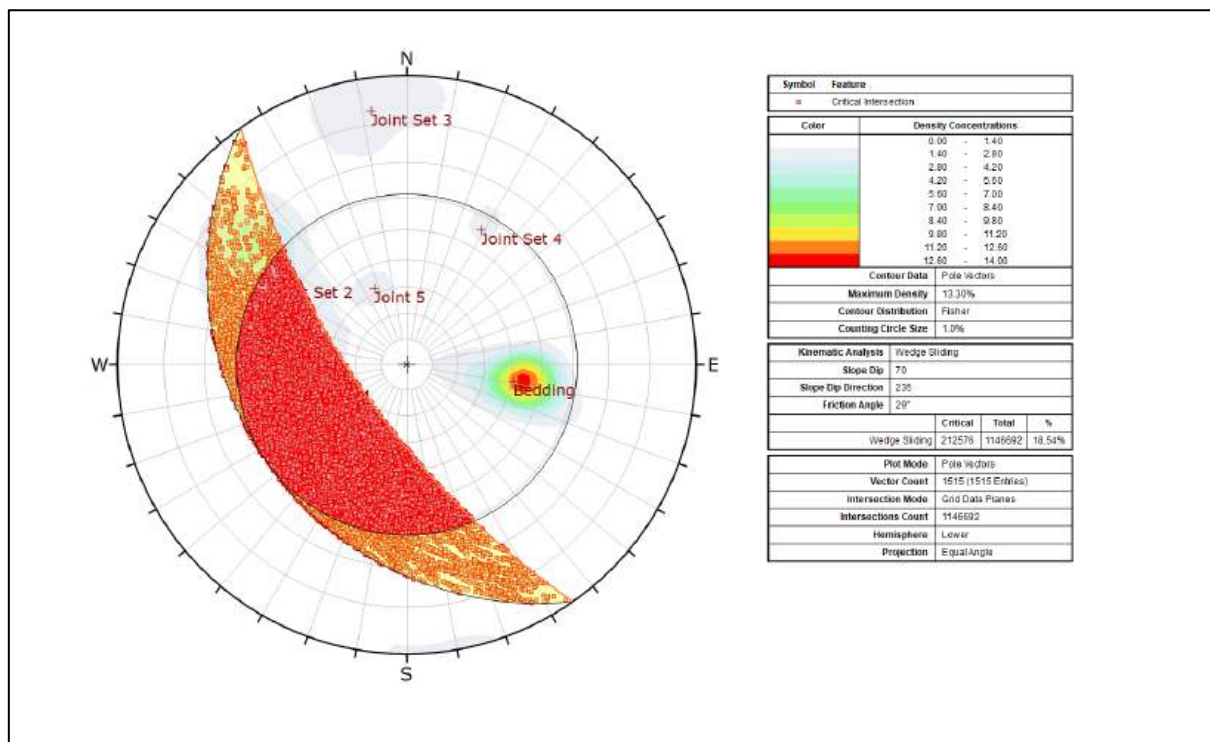


Figure 36: D 70 DD 235

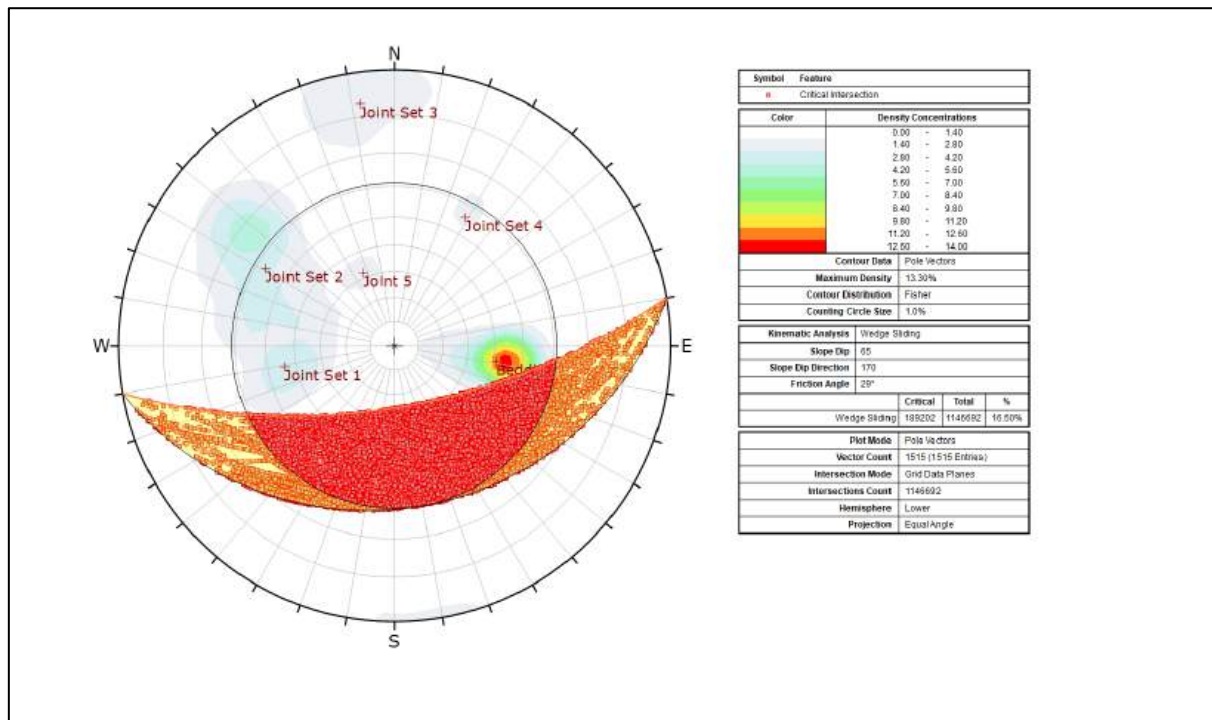


Figure 37: D 65 DD 170

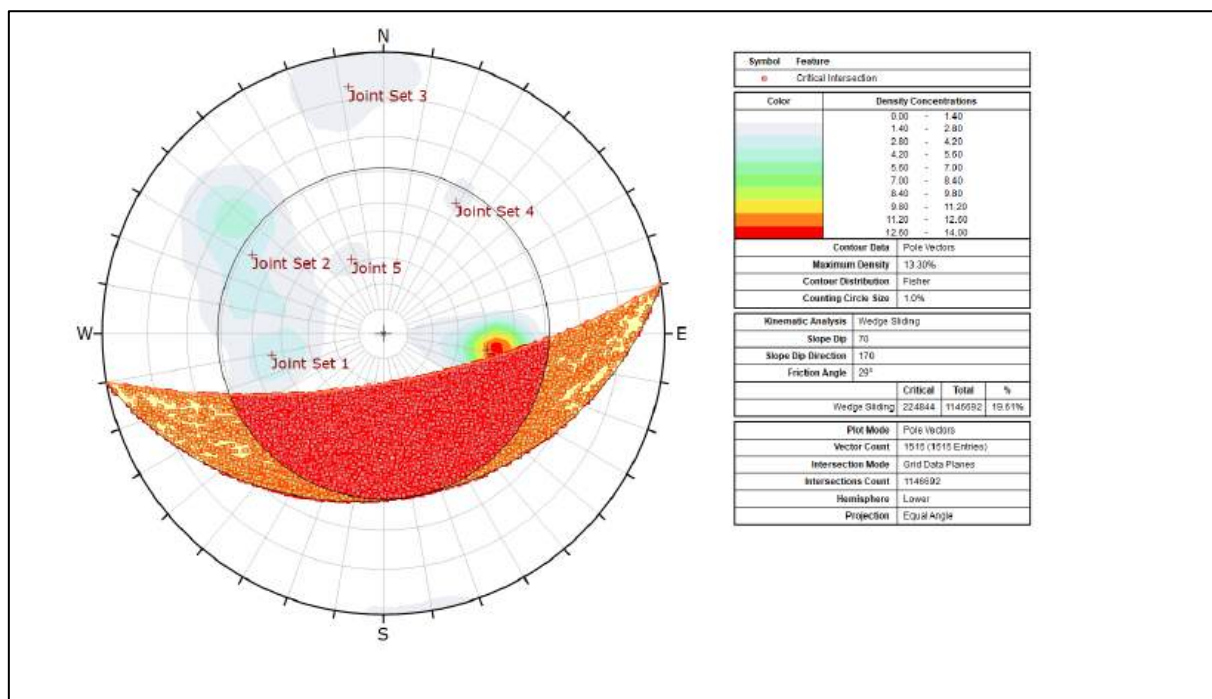


Figure 38: D 70 DD 170

Flexural Toppling:

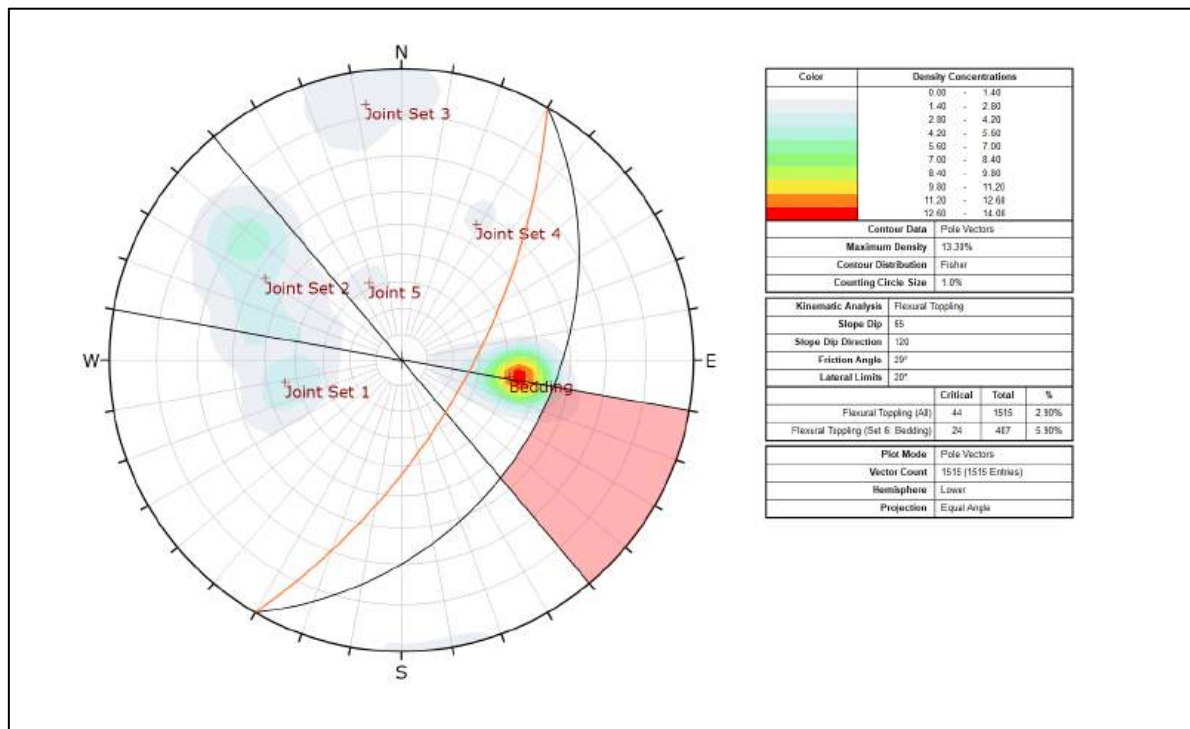


Figure 39: D 65 DD 120

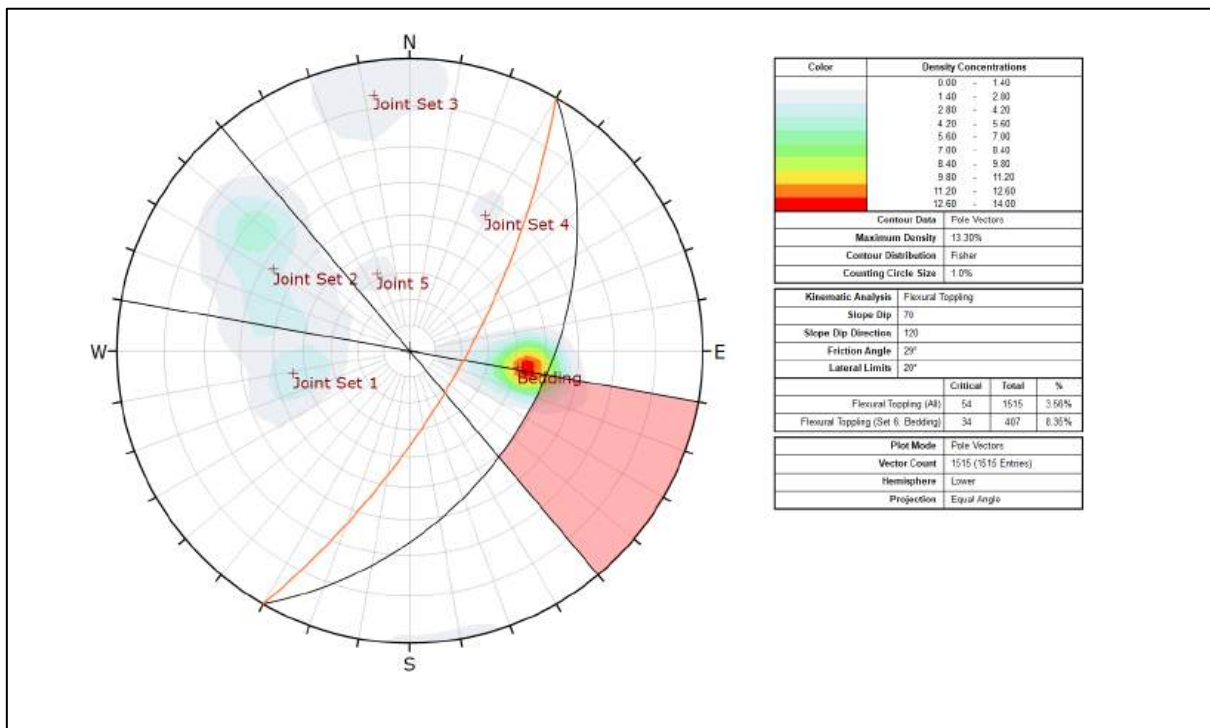


Figure 40: D 70 DD 120

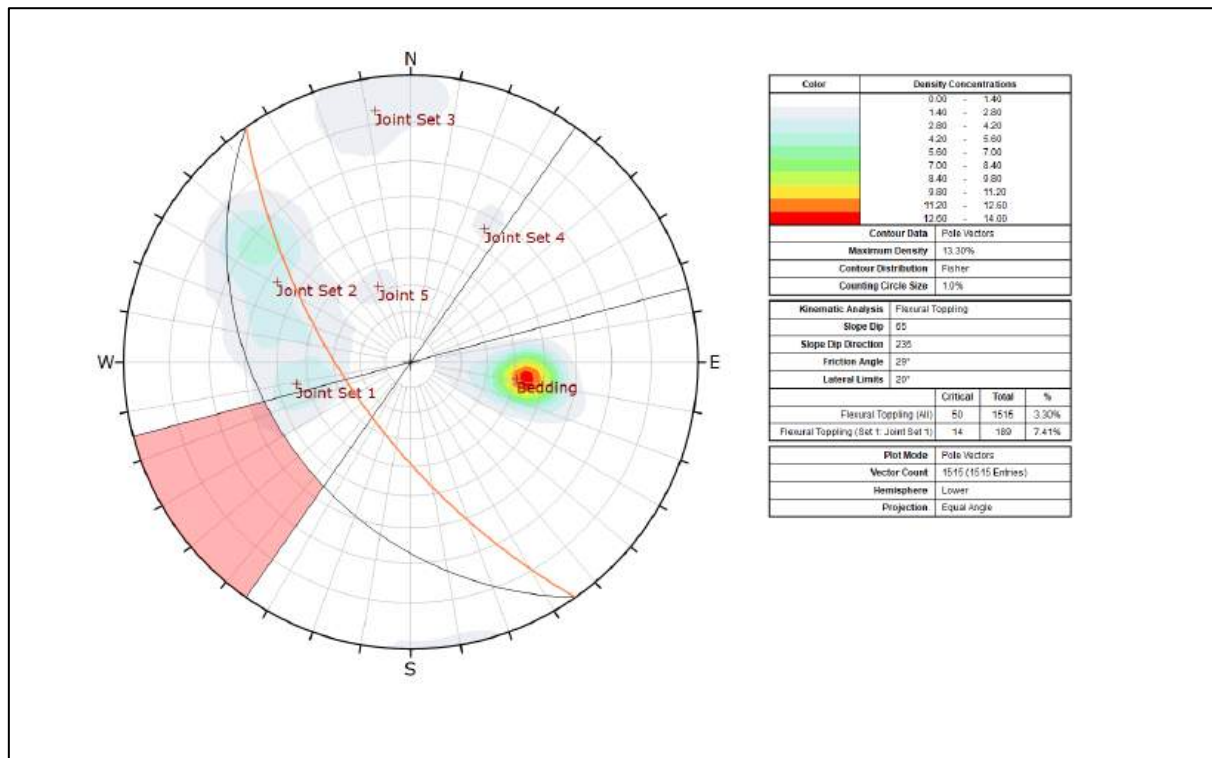


Figure 41: D 65 DD 235

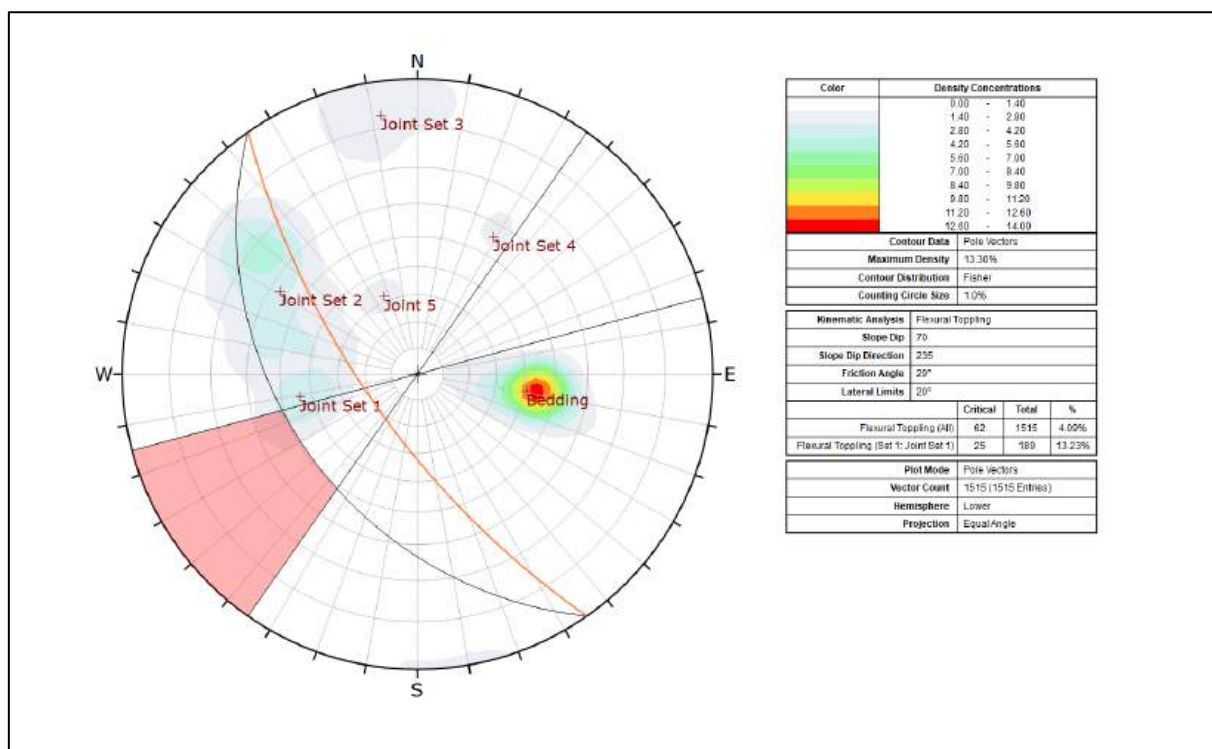


Figure 42: D 70 DD 235

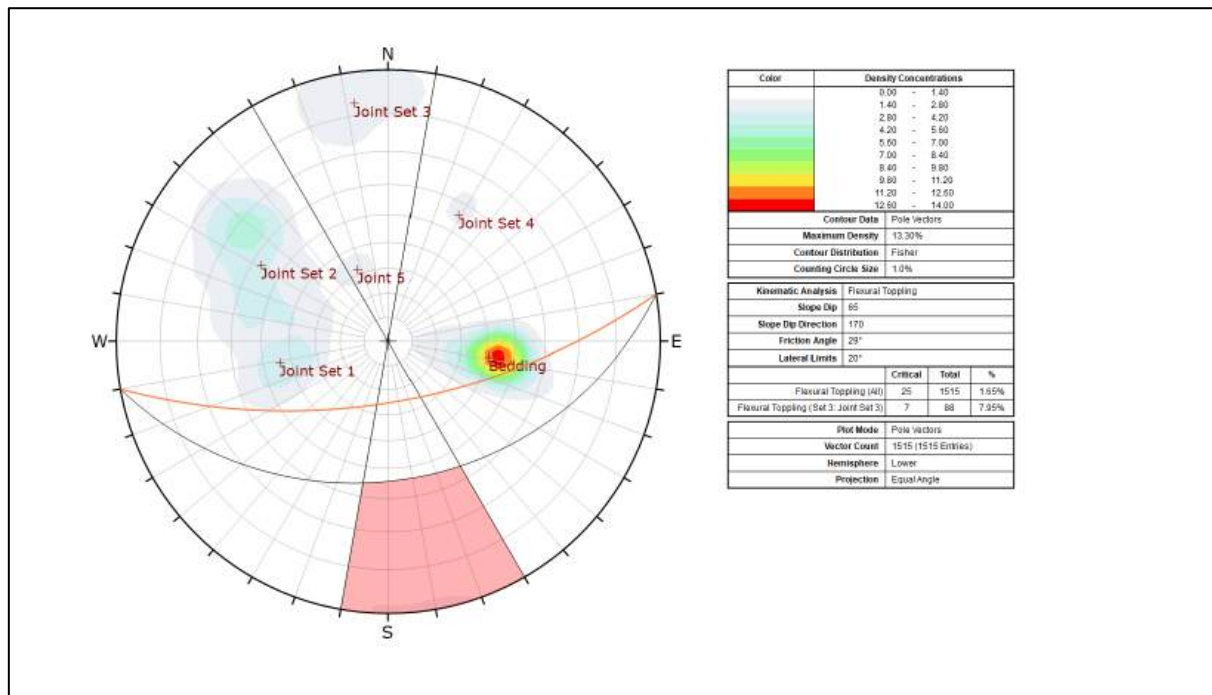


Figure 43: D 65 DD 170

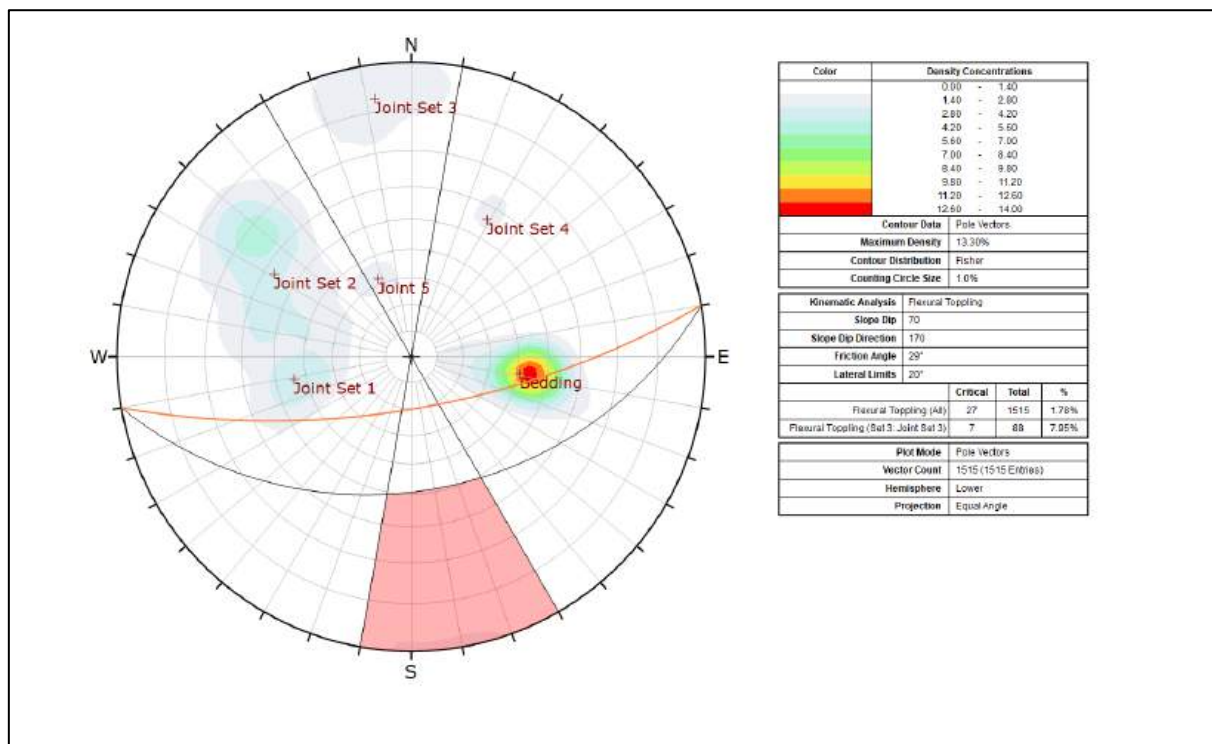


Figure 44: D 70 DD 170

Direct Toppling:

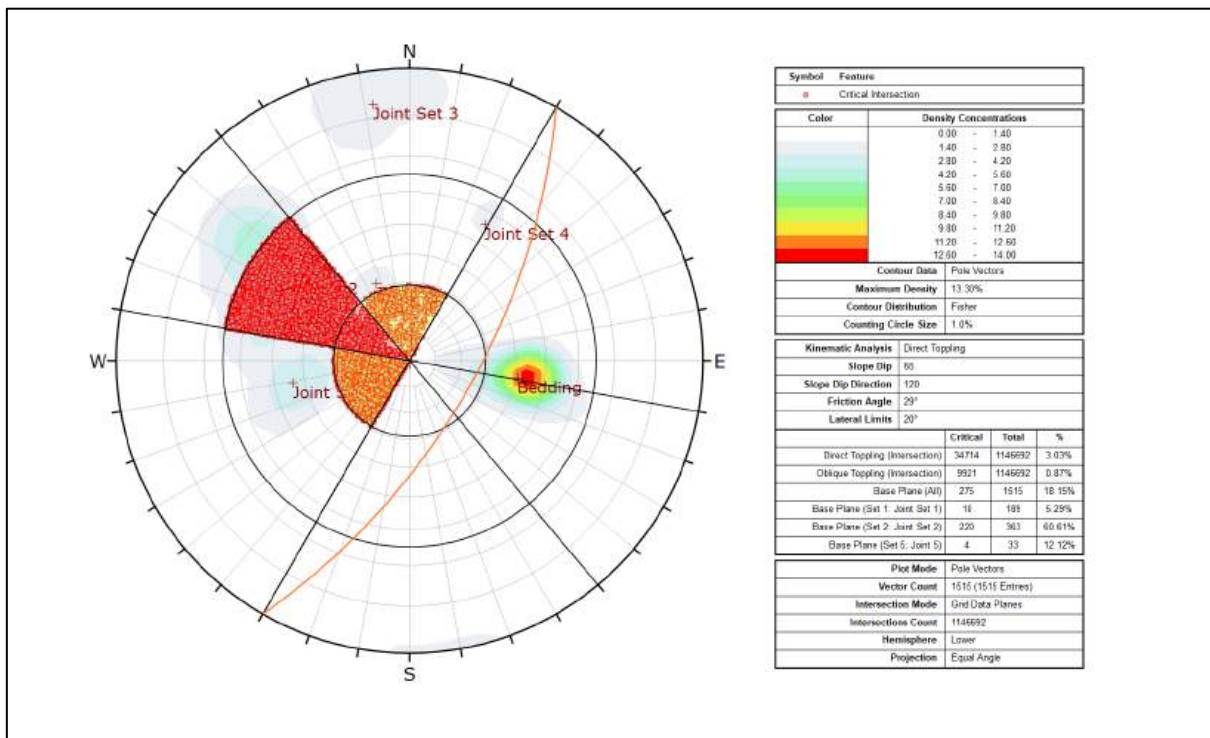


Figure 45: D 65 DD 120

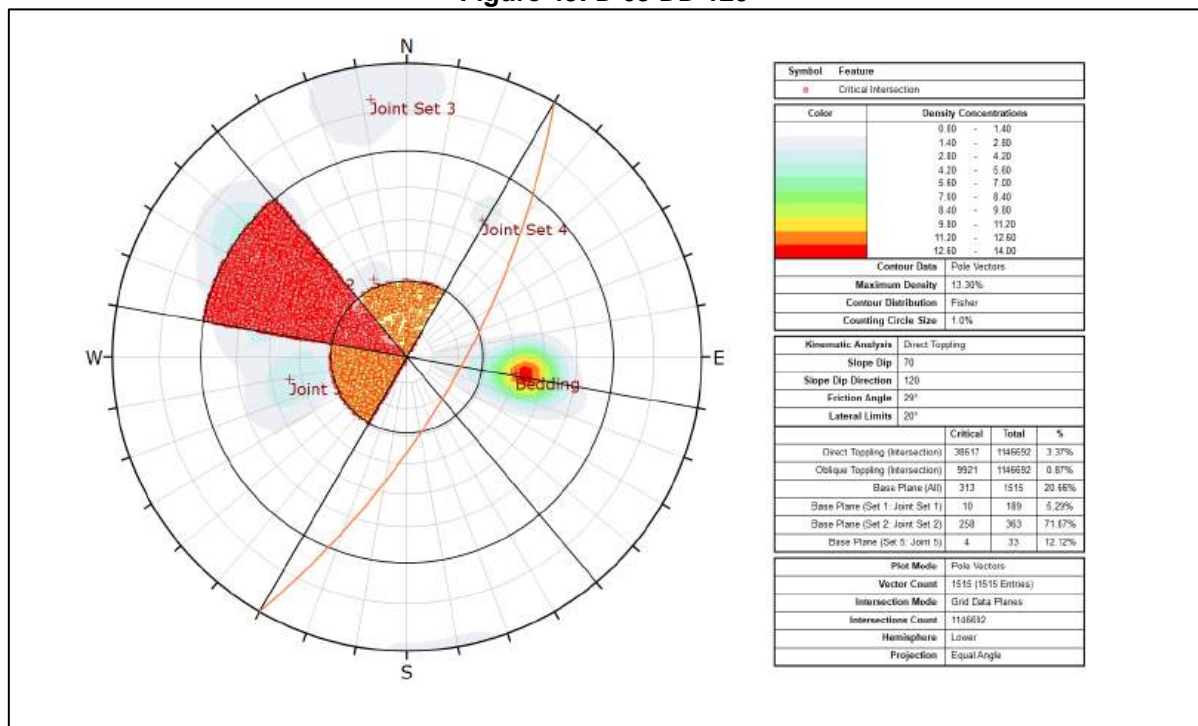


Figure 46: D 70 DD 120

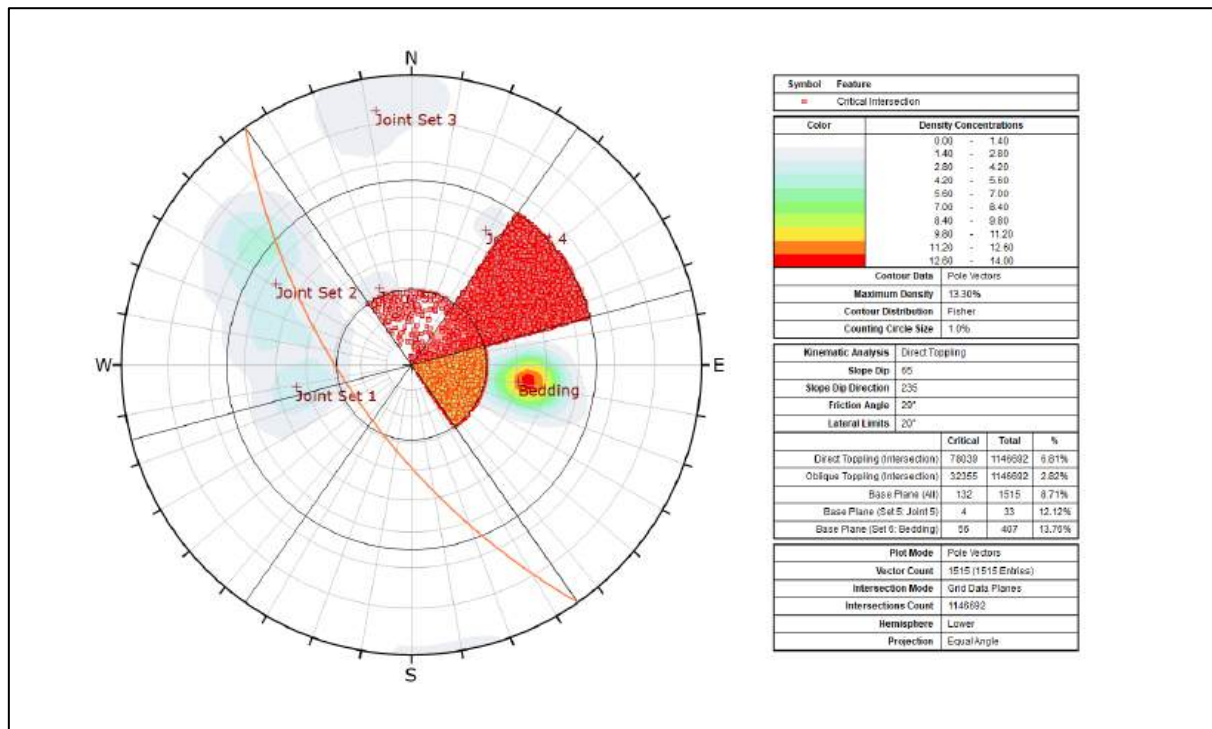


Figure 47: D 65 DD 235

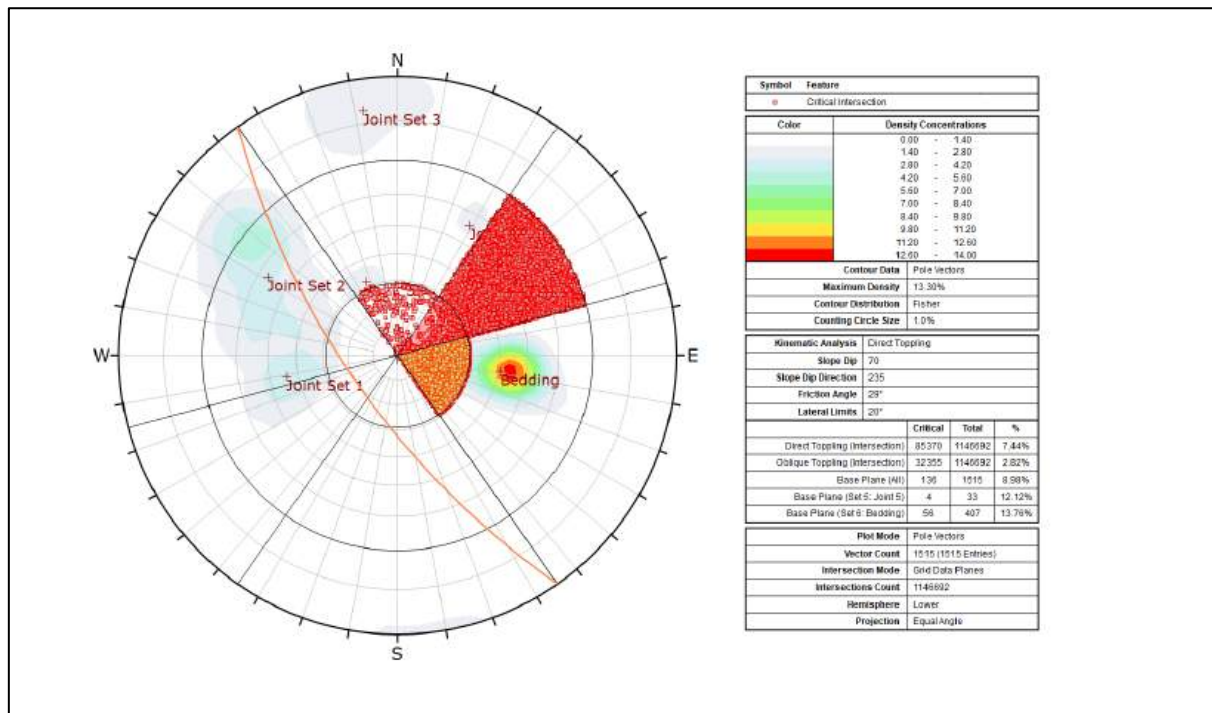


Figure 48: D 70 DD 235

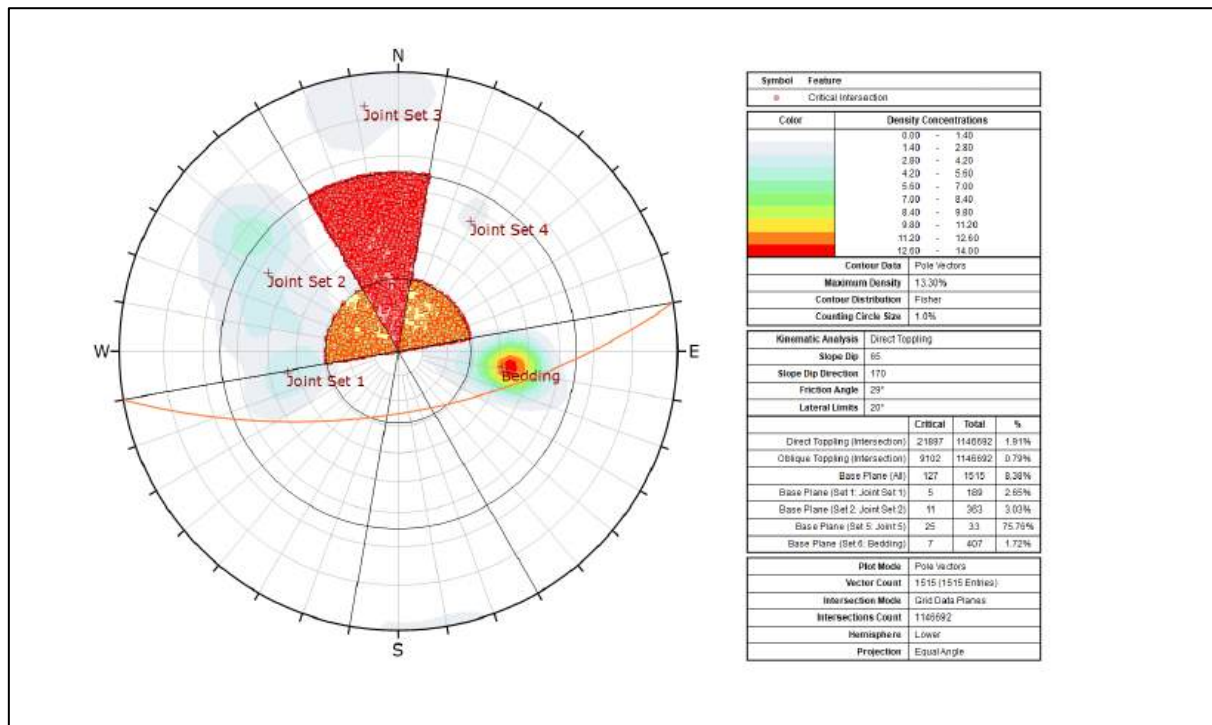


Figure 49: D 65 DD 170

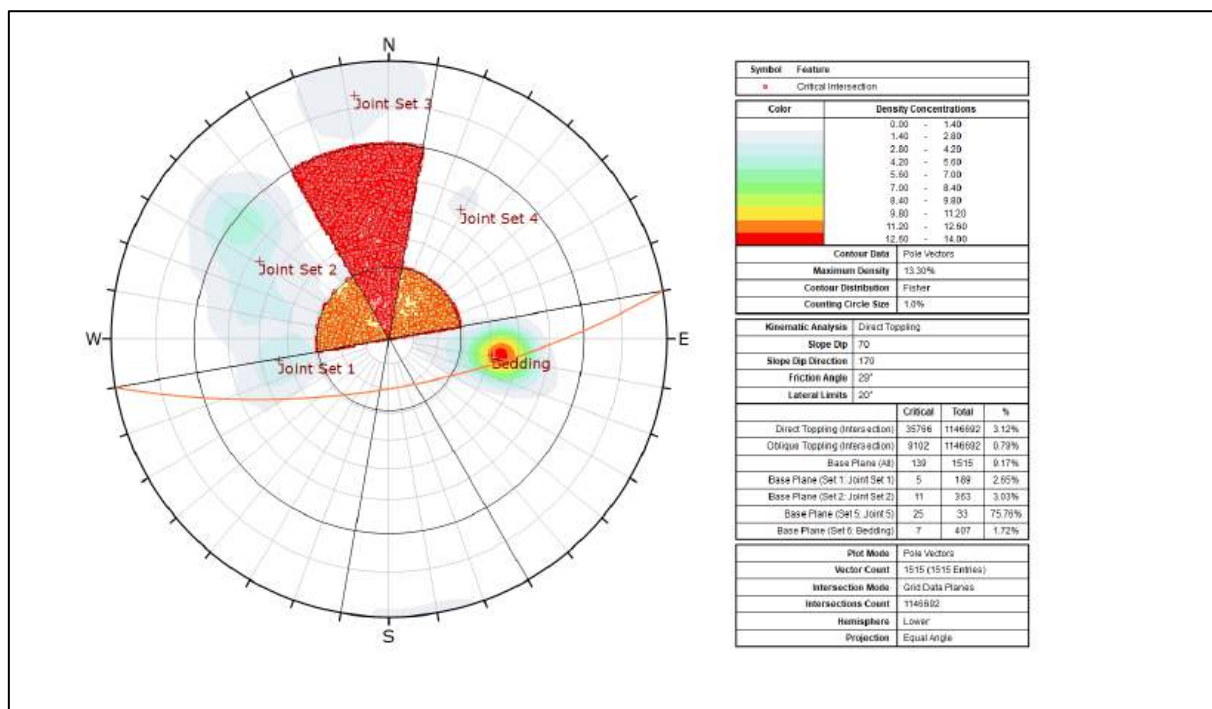


Figure 50: D 70 DD 170

Domain 3

Planar:

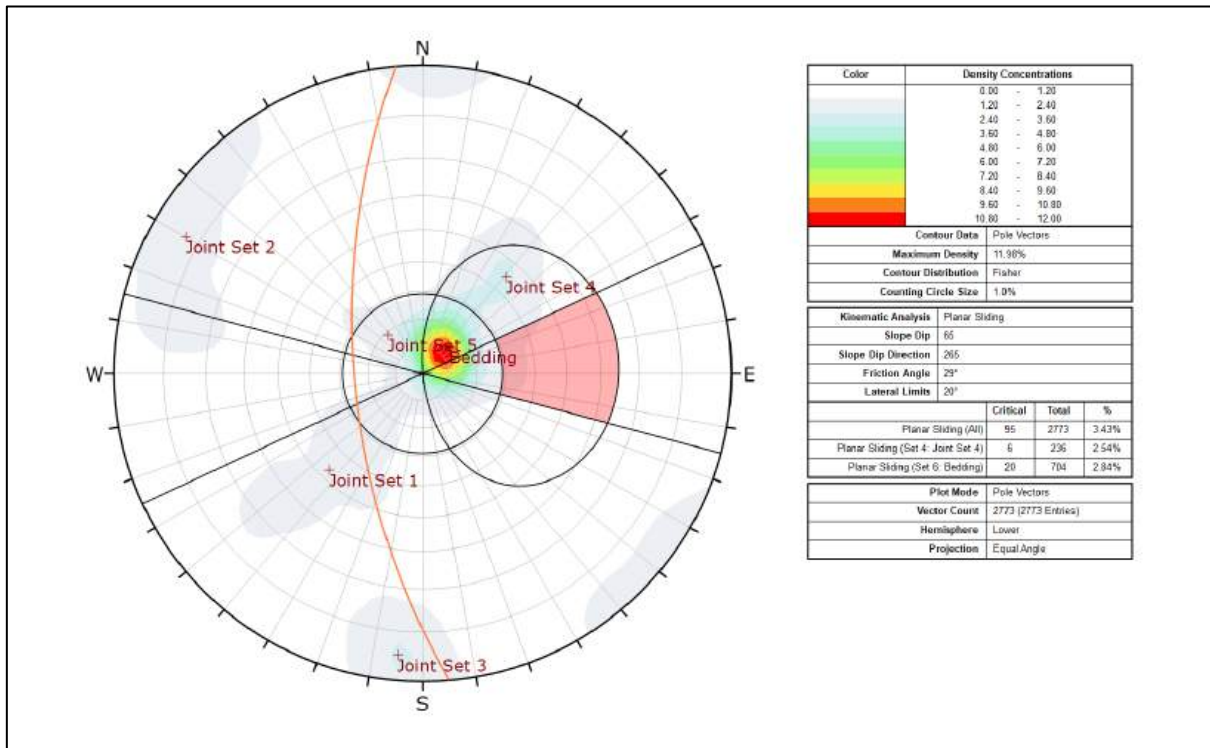


Figure 51: D 65 DD 265

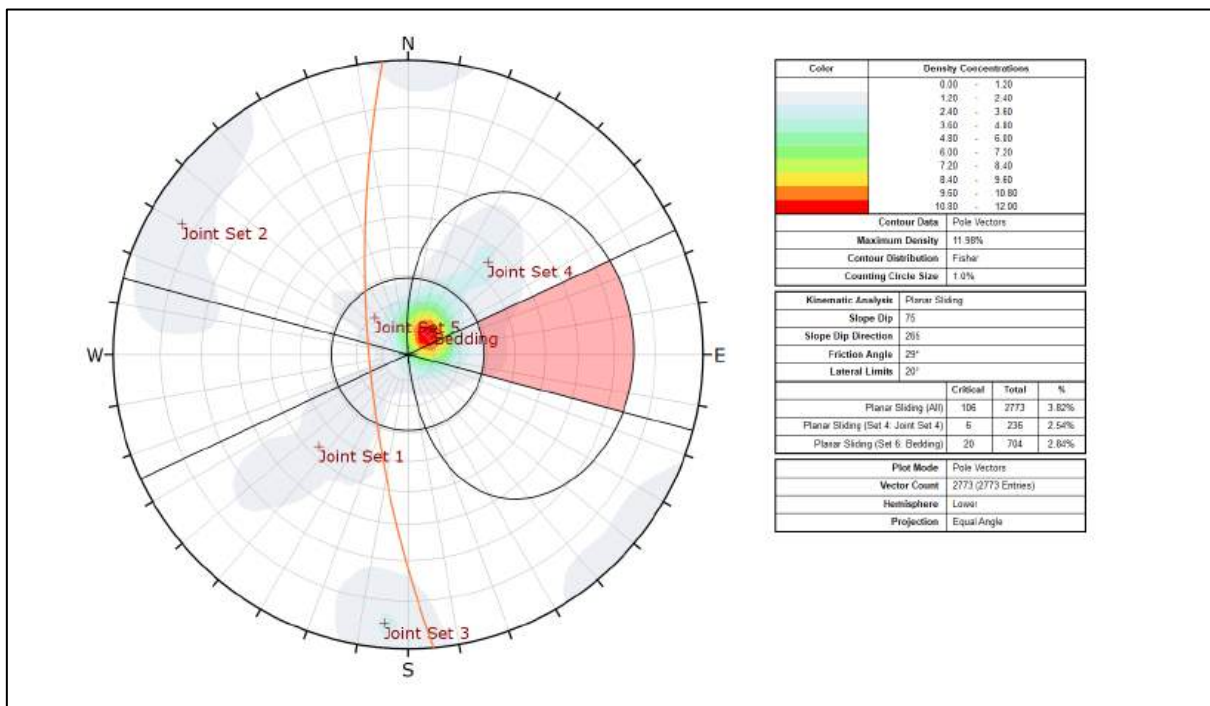


Figure 52: D 75 DD 265

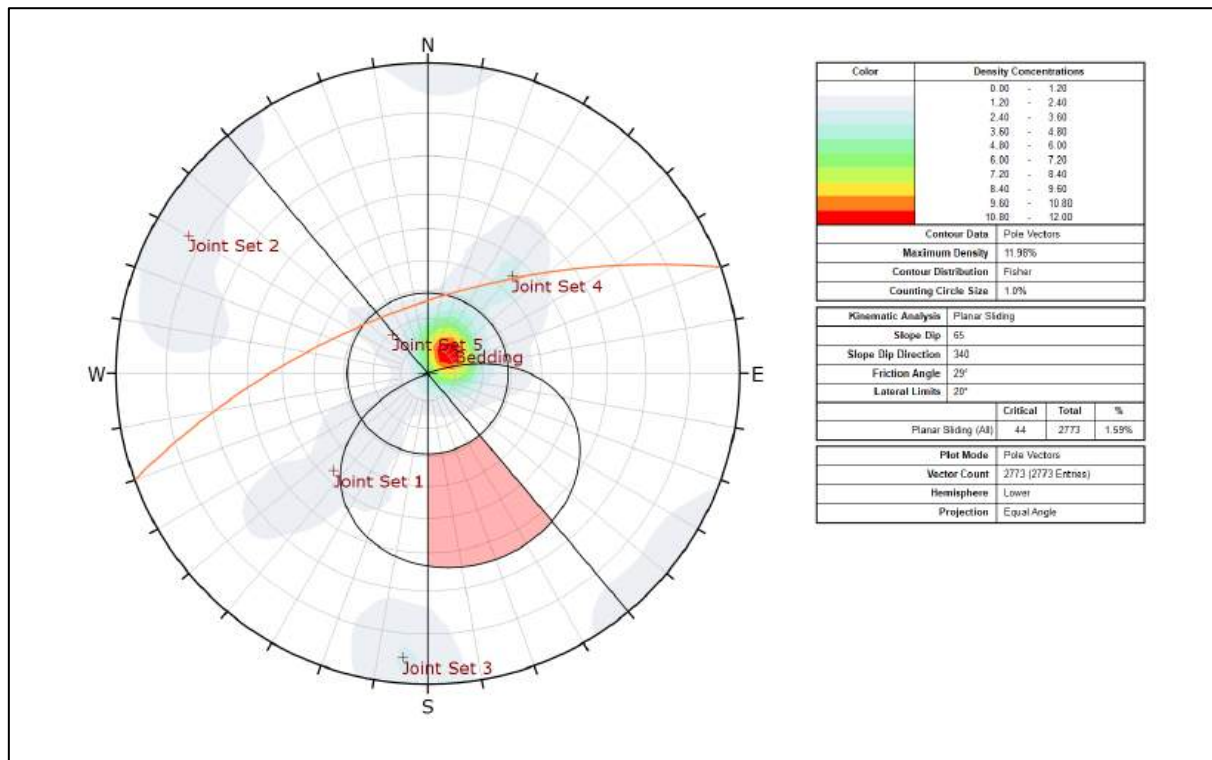


Figure 53: D 65 DD 340

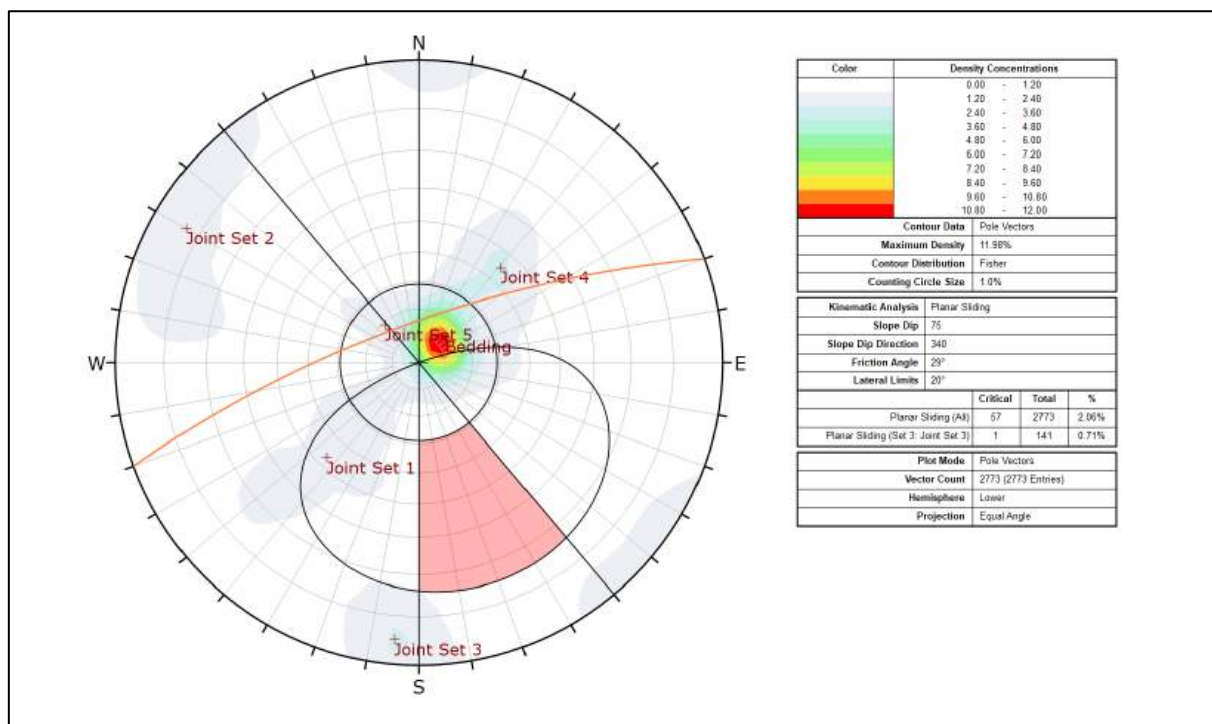


Figure 54: D 75 DD 340

Wedge:

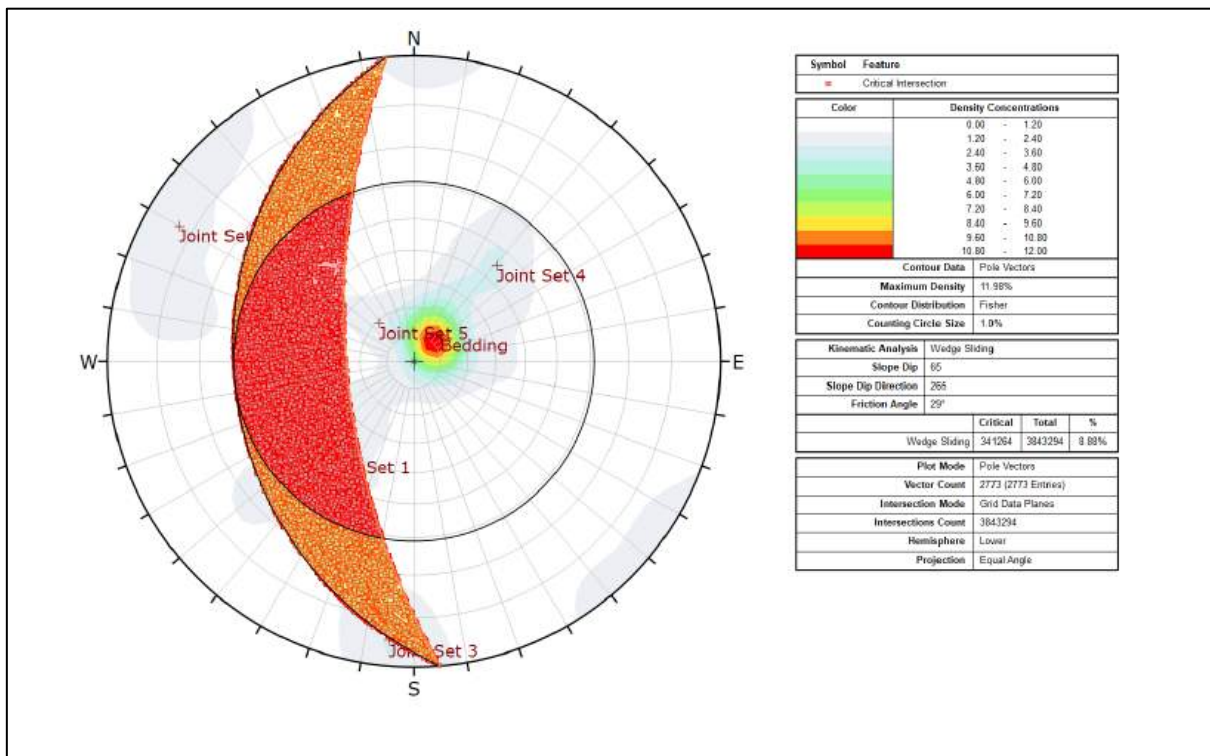


Figure 55: D 65 DD 265

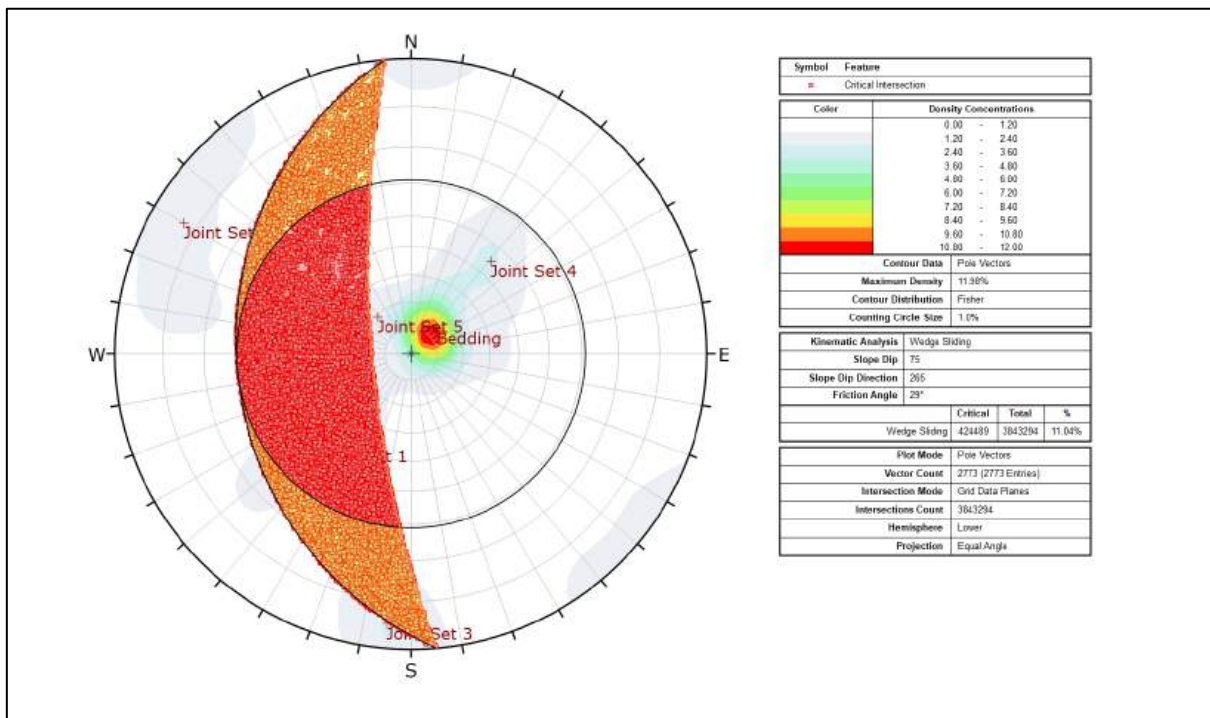


Figure 56: D 75 DD 265

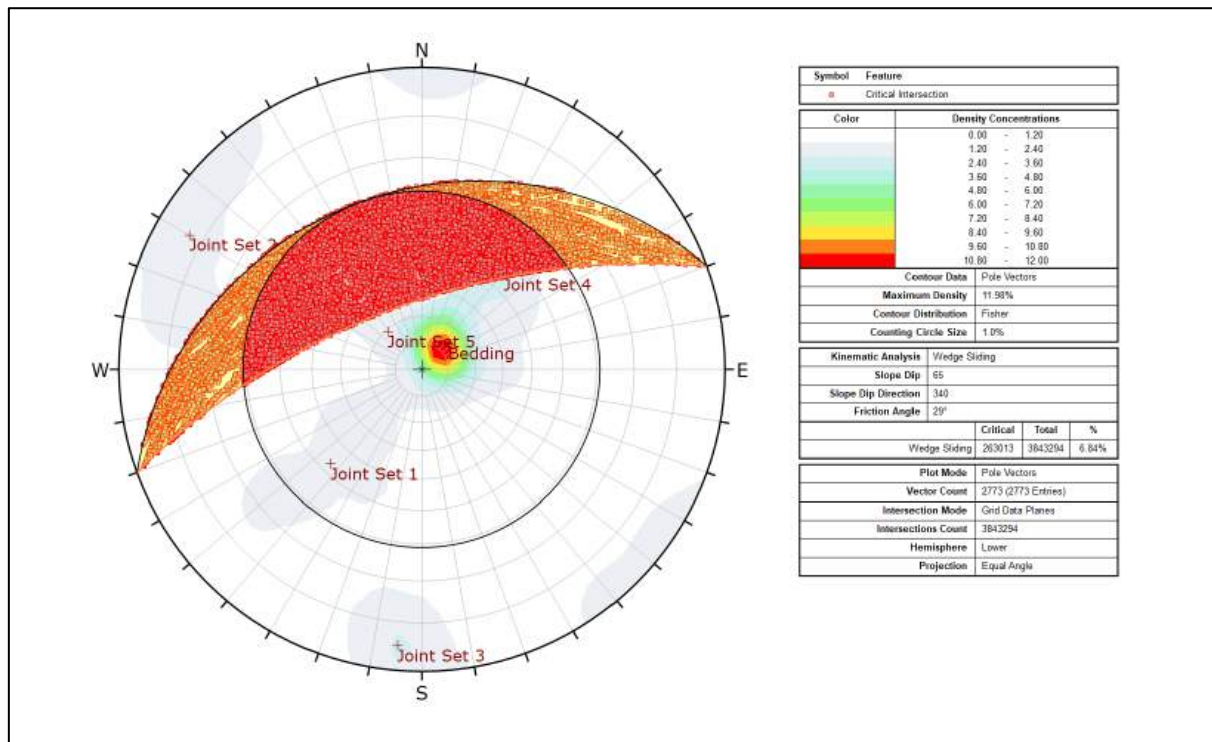


Figure 57: D 65 DD 340

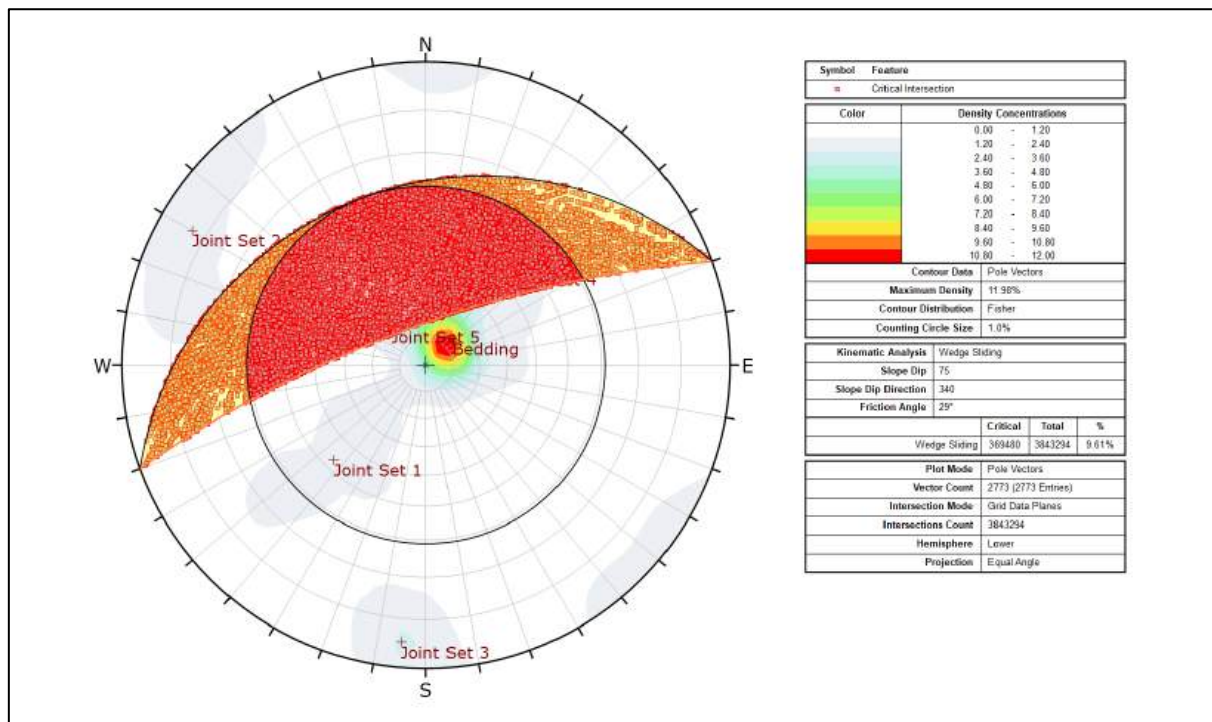


Figure 58: D 75 DD 340

Flexural Toppling:

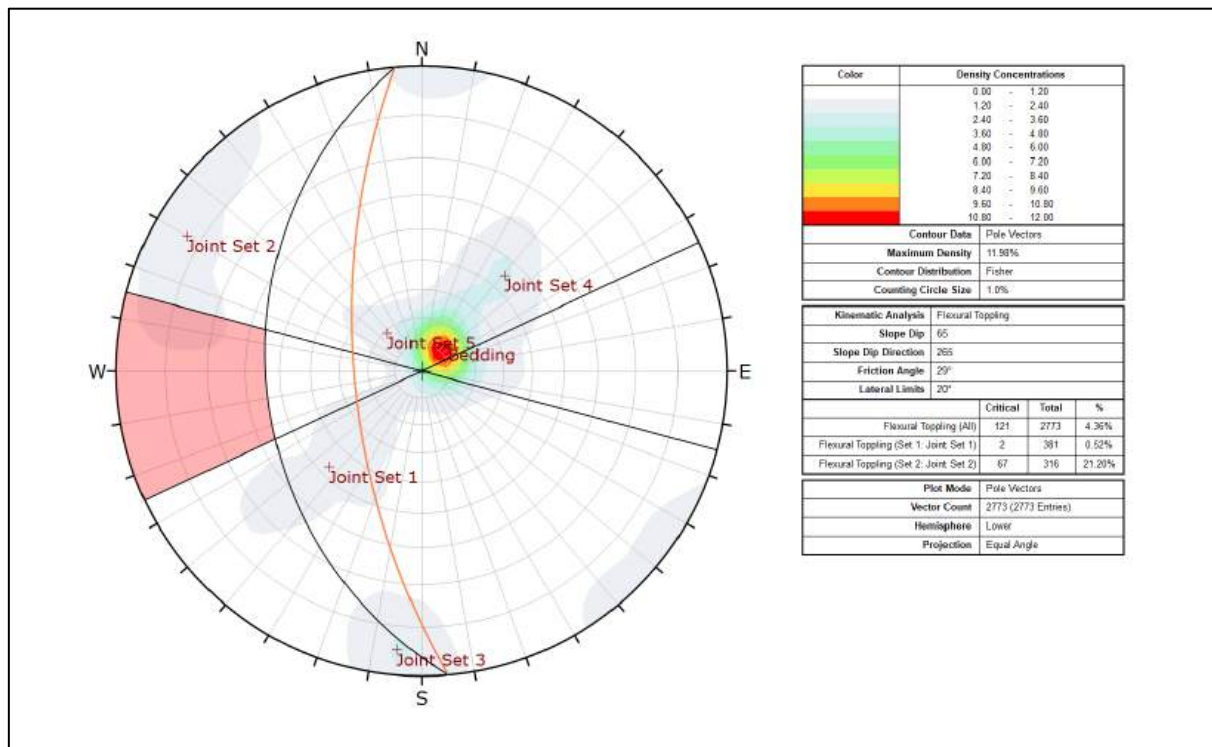


Figure 59: D 65 DD 265

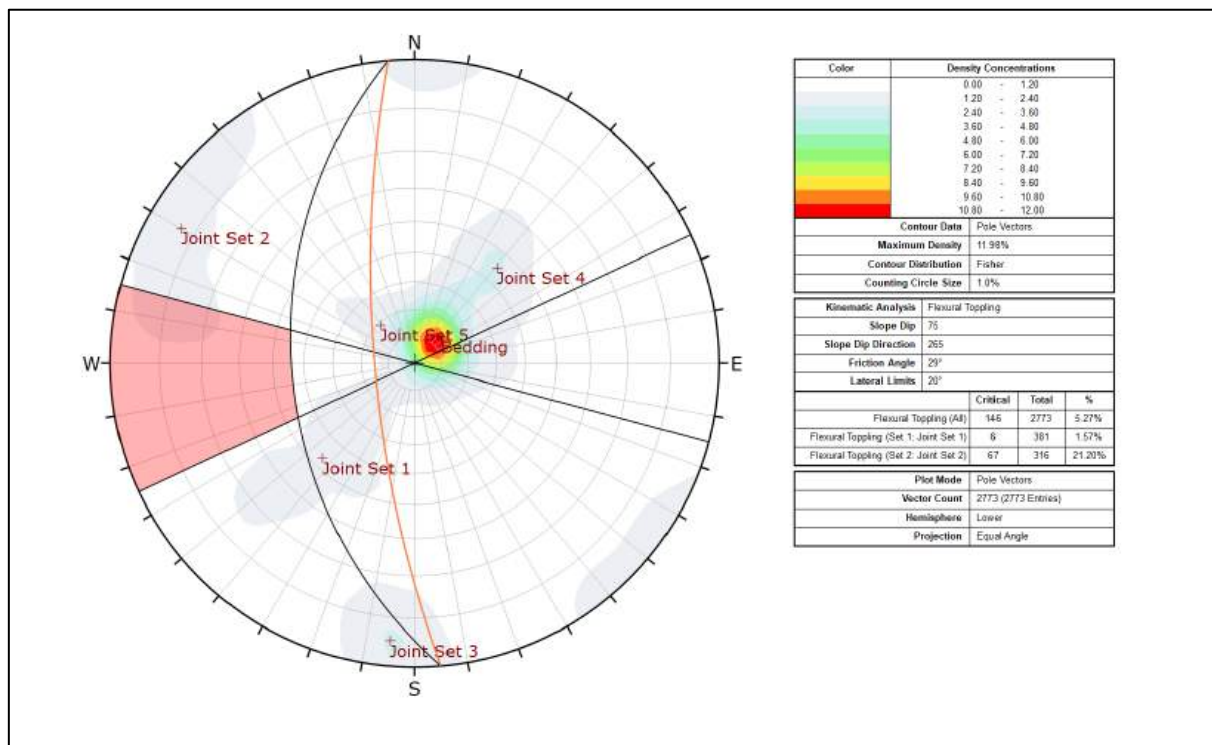


Figure 60: D 75 DD 265

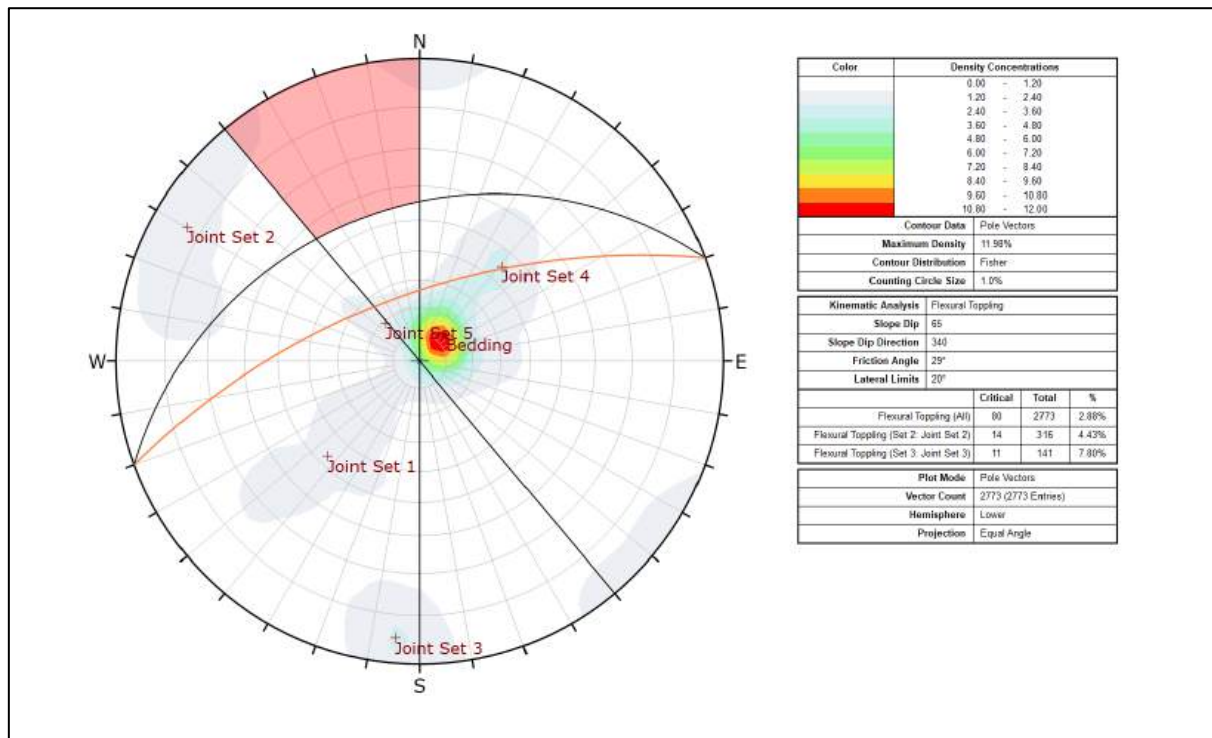


Figure 61 D 65 DD 340

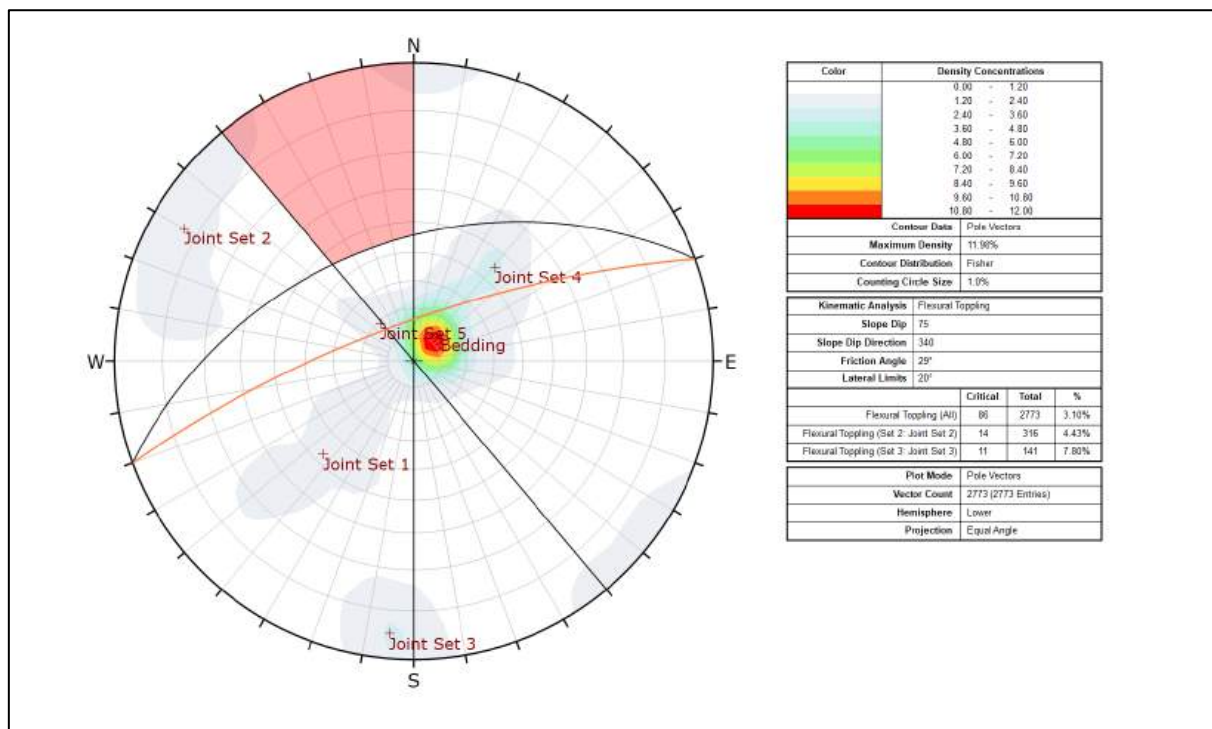


Figure 62: D 75 DD 340

Direct Toppling:

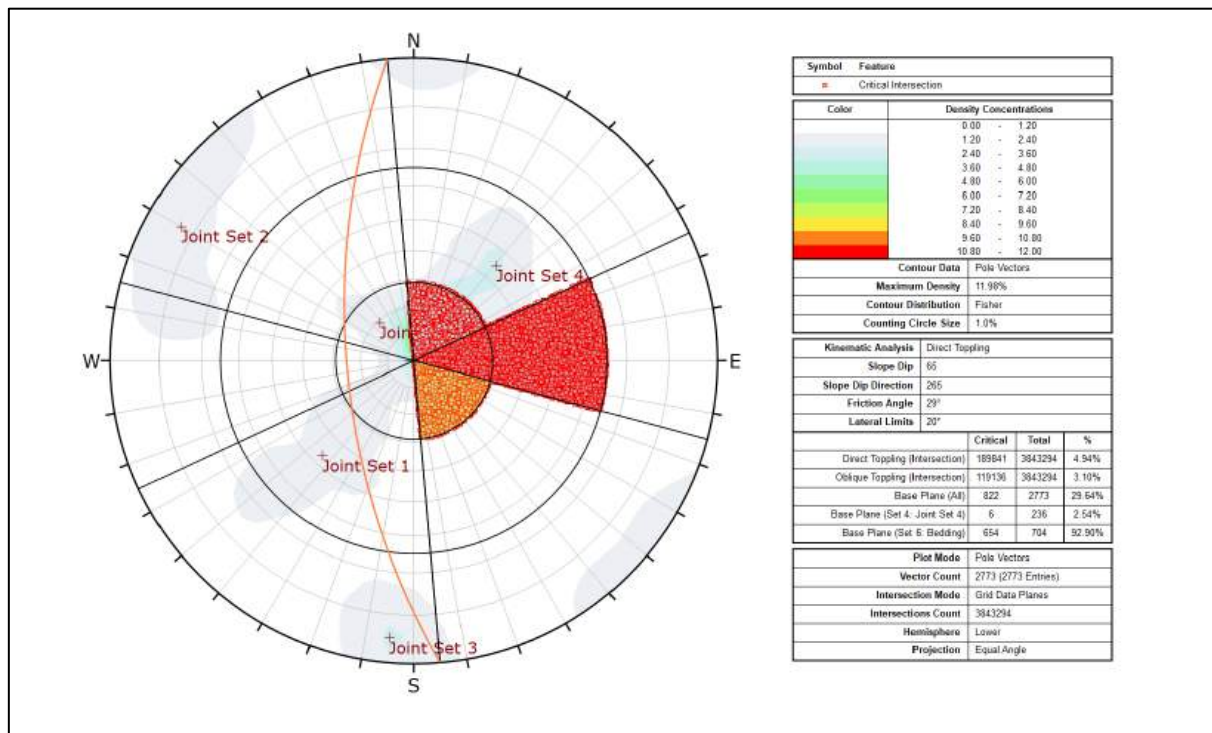


Figure 63: D 65 DD 265

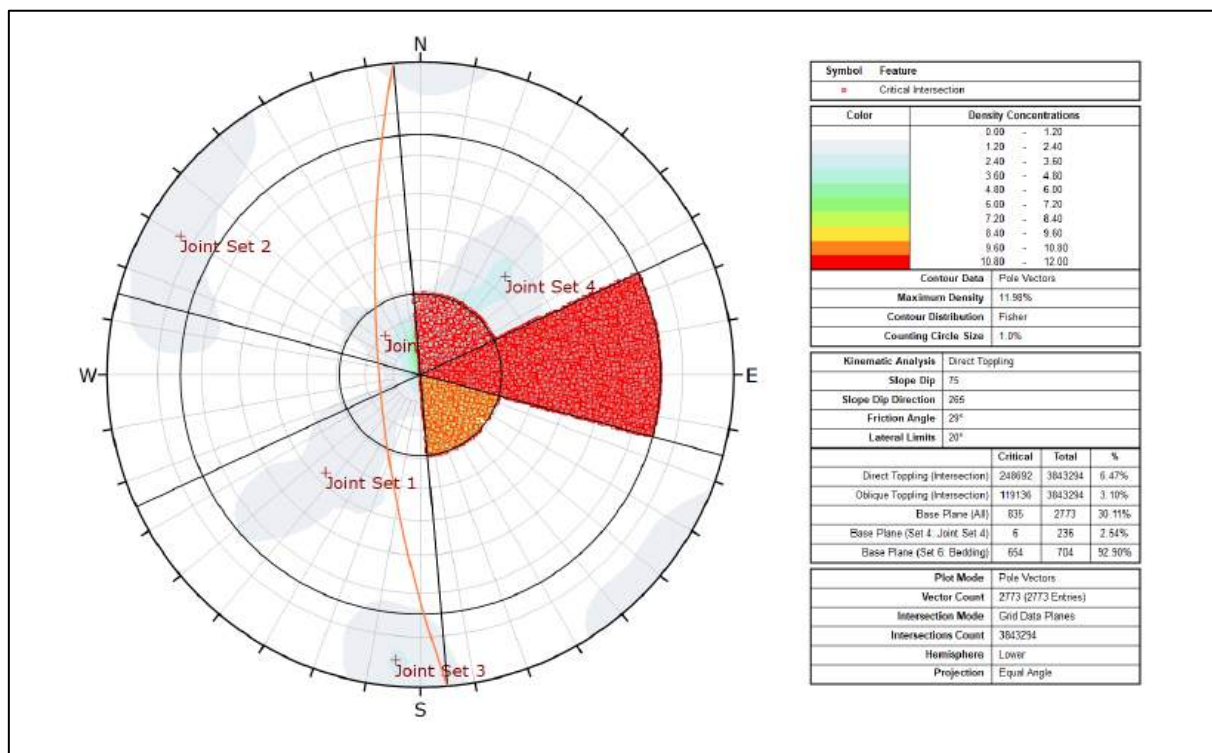


Figure 64: D 75 DD 265

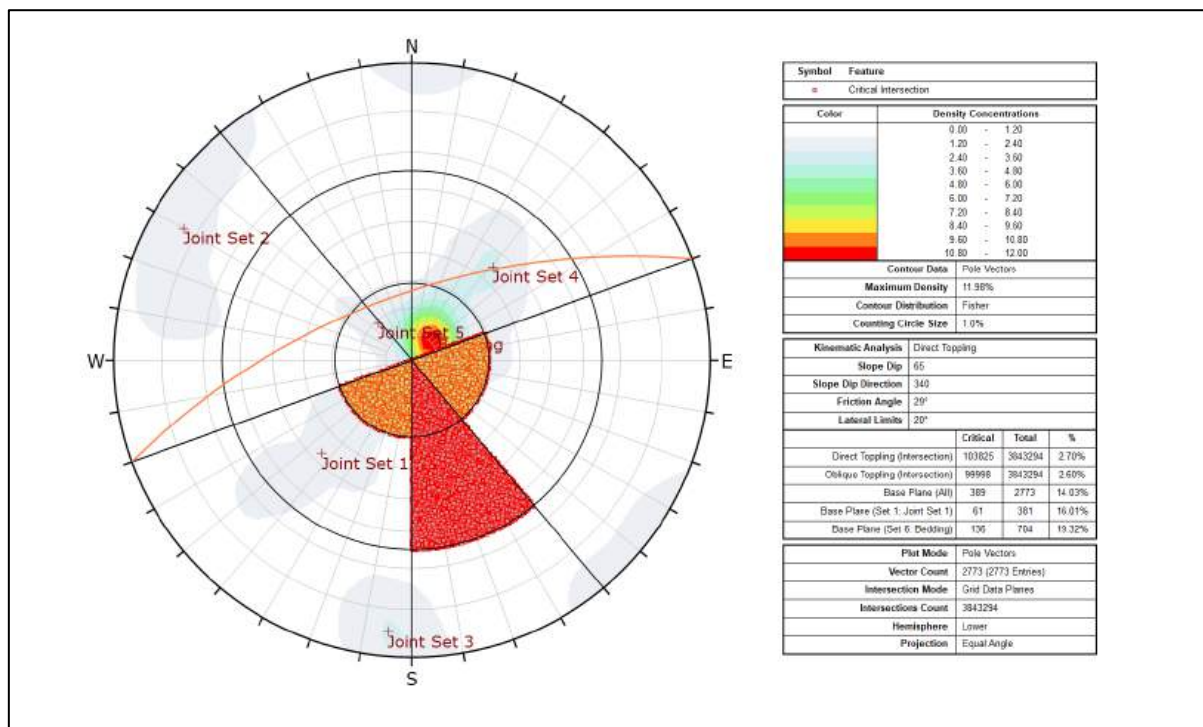


Figure 65: D 65 DD 340

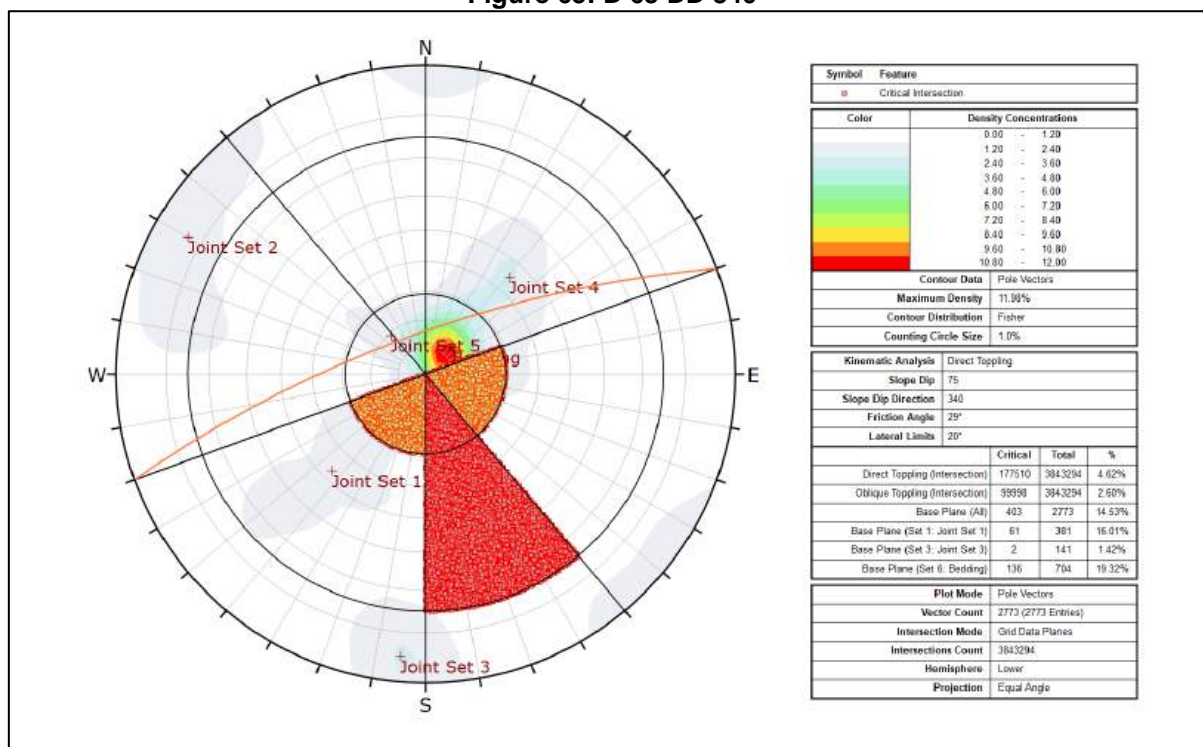


Figure 66: D 75 DD 340



Attachment 3: Stage 7 Proposed Activity Tables

Table 1: Proposed Activities – M45/7

Activity type	Mine activity reference	Approved Areas		
		Currently approved (ha)	Proposed (ha)	Total approved (ha)
Key mine activities				
Waste dump or overburden stockpile (class 1)	WRD 11	121.08	-0.16	120.92
Mining void (with a depth of at least 5 metres) - below ground water level	West Dome open pit	207.94	3.99	211.93
Other mine activities				
Borrow pit or shallow surface excavation (with a depth of less than 5 metres)		19.21	-1.55	17.66
Building (other than workshop) or camp site				
Topsoil stockpile				
Transport or service infrastructure corridor				
Waste dump or overburden stockpile (class 1)				
Other cleared land	Pit surrounds			
TOTAL ACTIVITY AREA		348.23	0.00	350.51