PRIMARY GOLD

Appendix J - Waste Rock Dump Design

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Rustlers Roost and Quest 29 Open-Cut Mine Redevelopment

Supplementary Environmental Impact Statement (EIS)

Appendix J – Waste Rock Dump Design

Prepared pursuant to the Environment Protection Act 2019

September 2022

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1. WRD Design, Construction, Waste Capping and Topsoiling

1.1 Rustlers Roost Introduction

This section provides a description of the Waste Rock Dump (WRD) design, construction method, final waste capping of the WRD and Tailings Storage Facility (TSF), including the topsoiling of the WRDs and TSF.

The WRDs are in two separate locations due to:

- A buried gas pipeline to be positioned between the two WRDs; and
- The South WRD having limited area to contain all of the waste, thus necessitating a second WRD.

The primary aim of construction and capping is to encapsulate any Potentially Acid Forming (PAF) material in Non-Acid Forming (NAF) oxide material.

Figure 1-1 identifies the location of the two Rustlers Roost WRDs, the proposed gas pipeline, Rustlers Roost proposed pit and the processing plant area.

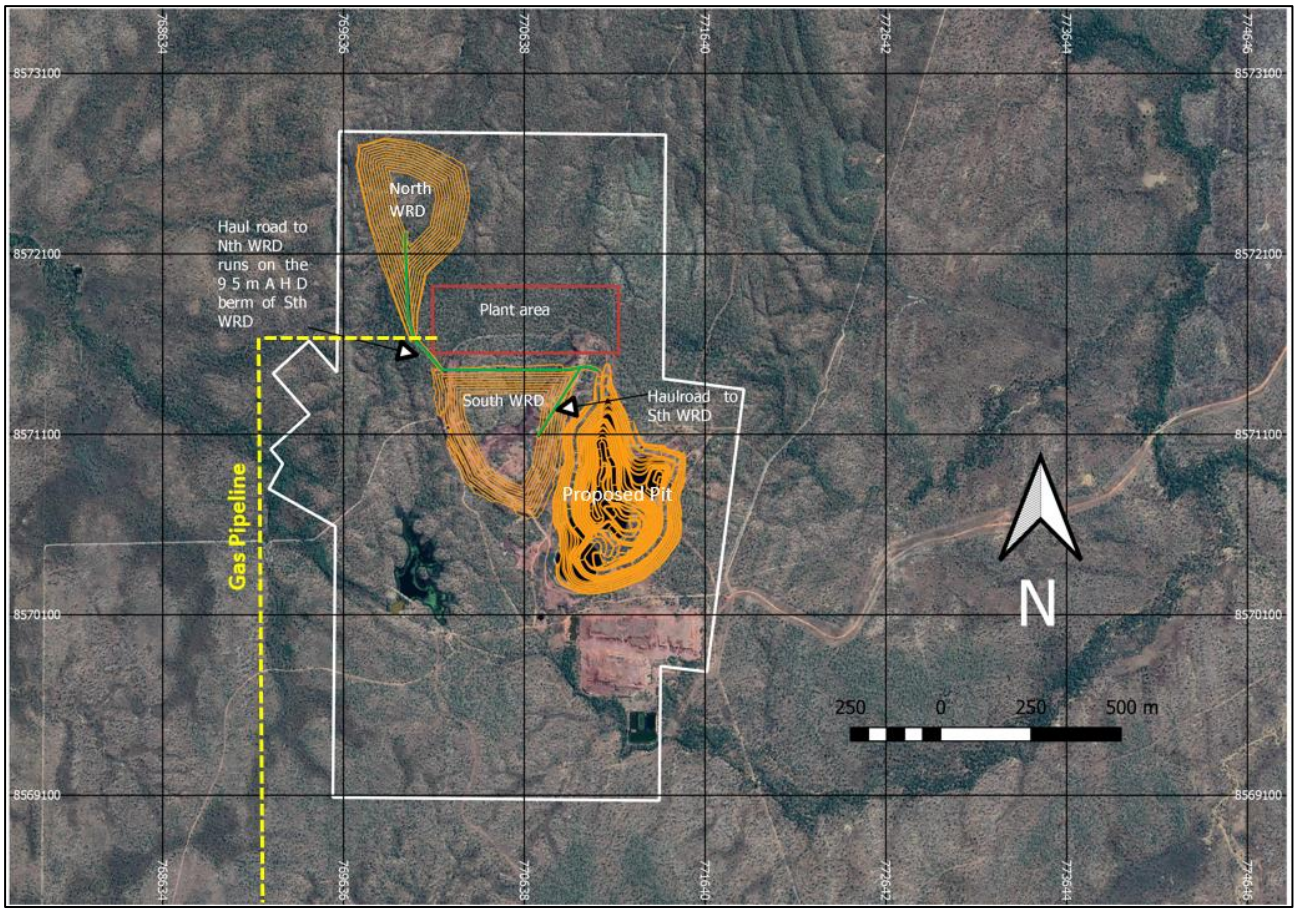

Figure 1-1 Rustlers Roost WRD locations

The sources of construction material for the WRDs are also sources for the TSF. Table 1-1 summarises all construction material sources and the destinations.

Table 1-1 Construction Material Source and Destination

Material Source	Quantity (Mlcm)	Destination				Total (Mlcm)
		North WRD[1]	South WRD[1]	TSF Walls	TSF Top Capping	
Historic Leach Pad	3.40	0	0	1.50	1.90	**3.40**
Historic WRD	1.75	0.17	0.17	1.41	0	**1.75**
Main Pit	10.30	6.50	3.80	0	0	**10.30**
TSF Floor	2.99	0	0	2.99	0	**2.44**
Total	**18.44**	**6.67**	**3.97**	**5.90**	**1.9**	**18.44**

1 – Including for base and capping

1.1.1 Schedule of Rustlers Roost WRD Construction

Table 1-2 details the quantity of tonnes and million loose cubic metres (Mlcm) contained in the Rustlers Roost pit that need to be placed on the WRDs.

Table 1-2 Material Weathering Tonnage and Loose Cubic Metres

Item	Oxide	Transitional	Fresh	Total
Material Mt	20.7	9.0	26.7	**56.4**
Material Mlcm	10.3	4.2	12.1	**26.7**

The scheduling of earth movement is determined by the vertical progression of the open pit mining. Generally oxide material is mined first followed by transitional and fresh material. Stage mining is employed to reduce the strip ratio and minimise upfront expenditure. Also some oxide material is left for later stages of the pit to be mined in future years to allow encapsulation of the fresh sulfidic (PAF) material to limit temporary storage and double handling of material.

Sulfide material, generally transitional and fresh material, are placed in a trapezoidal shaped prism in the WRD. In this report these are termed “zones”.

Below is an isometric of the North WRD and South WRD zones of Sulfidic (PAF) material. The colours indicate separate zones not degrees of PAF.

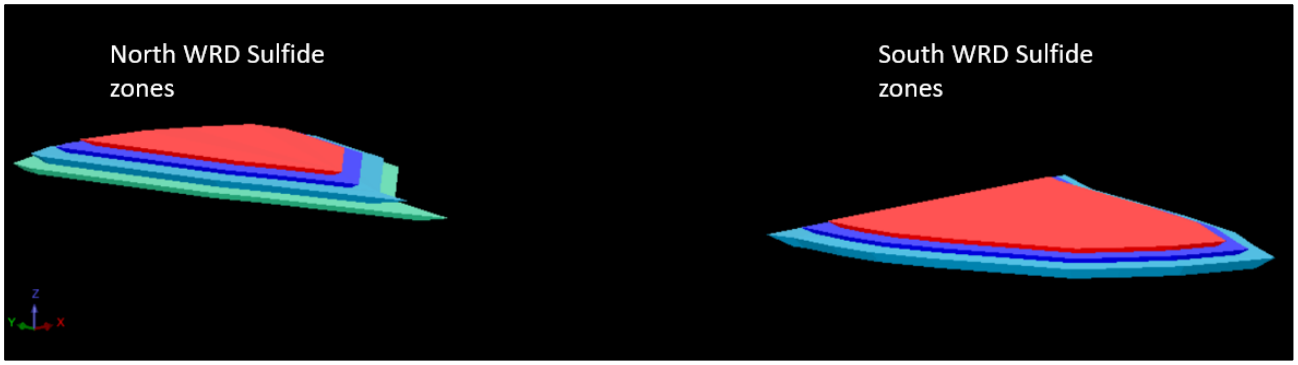

Figure 1-2 Isometric of the Rustlers Roost Sulfide waste material zones

Oxide material is mined first and is placed on the outer walls of the WRDs. This forms a donut shape. Sulfide (PAF) material is placed into the centre of the WRD. Below is the annual schedule of waste material movement to the Rustlers Roost WRDs. Note the unit is loose cubic metres, which accounts for swell after the material has been excavated.

Annual Waste Loose Cubic Metre Dumping Schedule - Rustlers Roost

North Waste Dump ox cladding	Top m AMD	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Yr8	Yr9	Yr10	
130	135	-	-	-	-	-	-	-	-	-	148,428	
125	130	-	-	-	-	-	-	25,825	-	-	-	
120	125	-	-	-	-	-	-	230,317	-	-	-	
115	120	-	-	-	-	-	-	66,431	-	-	-	
110	115	-	-	318,151	-	-	-	-	-	-	-	
105	110	-	-	82,837	-	-	-	-	-	-	-	
100	105	-	206,750	174,593	-	-	-	-	-	-	-	
95	100	-	531,532	-	-	-	-	-	-	-	-	
90	95	-	492,200	-	-	-	-	-	-	-	-	
85	90	335,876	321,356	-	-	-	-	-	-	-	-	
80	85	1,510,685	-	-	-	-	-	-	-	-	-	
75	80	1,334,226	-	-	-	-	-	-	-	-	-	
70	75	679,851	-	-	-	-	-	-	-	-	-	
65	70	217,090	-	-	-	-	-	-	-	-	-	
60	65	3,763	-	-	-	-	-	-	-	-	-	
	sub total	4,077,728	1,551,838	575,581	-	-	-	322,573	-	-	148,428	6,676,148

North Waste sulpfide core	Top m AMD	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Yr8	Yr9	Yr10	
130	135	-	-	-	-	-	-	-	-	-	-	
125	130	-	-	-	-	-	-	-	-	227,418	13,228	
120	125	-	-	-	-	-	-	-	360,604	-	-	
115	120	-	-	-	-	-	-	602,232	-	-	-	
110	115	-	-	-	-	-	-	542,237	-	-	-	
105	110	-	-	-	-	-	398,836	478,802	-	-	-	
100	105	-	-	-	-	-	816,627	-	-	-	-	
95	100	-	-	-	-	-	743,804	-	-	-	-	
90	95	-	-	-	-	1,001,677	105,571	-	-	-	-	
85	90	-	836,988	199,885	-	-	-	-	-	-	-	
80	85	65,758	329,892	-	-	-	-	-	-	-	-	
75	80	-	-	-	-	-	-	-	-	-	-	
70	75	-	-	-	-	-	-	-	-	-	-	
65	70	-	-	-	-	-	-	-	-	-	-	
60	65	-	-	-	-	-	-	-	-	-	-	
	sub total	65,758	1,166,880	199,885	-	1,001,677	2,064,838	1,623,272	360,604	227,418	13,228	6,723,558

South Waste Dump ox cladding	Top m AMD	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Yr8	Yr9	Yr10	
130	135	-	-	-	-	-	-	-	-	-	100,000	
125	130	-	-	-	-	-	36,804	-	-	-	-	
120	125	-	2,187	-	-	-	333,019	-	-	-	-	
115	120	-	91,302	-	-	-	-	-	-	-	-	
110	115	435,793	-	-	-	-	-	-	-	-	-	
105	110	102,285	-	-	-	-	-	-	-	-	-	
100	105	111,697	-	-	-	-	-	-	-	-	-	
95	100	160,000	-	-	-	-	-	-	-	-	-	
90	95	140,000	-	-	-	-	-	-	-	-	-	
85	90	1,017,521	-	-	-	-	-	-	-	-	-	fill north end old WRD
80	85	838,696	-	-	-	-	-	-	-	-	-	fill north end old WRD
75	80	498,976	-	-	-	-	-	-	-	-	-	fill north end old WRD
70	75	102,553	-	-	-	-	-	-	-	-	-	fill north end old WRD
65	70	230	-	-	-	-	-	-	-	-	-	fill north end old WRD
60	65	-	-	-	-	-	-	-	-	-	-	fill north end old WRD
	sub total	3,407,751	93,489	-	-	-	369,823	-	-	-	100,000	3,971,063

South Waste sulpfide core	Top m AMD	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Yr8	Yr9	Yr10	
130	135	-	-	-	-	-	-	-	-	-	-	
125	130	-	-	-	-	-	-	-	-	242,063	36,373	
120	125	-	-	-	-	-	-	-	280,346	619,438	-	
115	120	-	-	-	-	-	-	155,685	1,097,733	-	-	
110	115	-	-	-	19,713	1,143,626	-	-	-	-	-	
105	110	-	-	-	1,625,421	-	-	-	-	-	-	
100	105	-	-	527,458	1,021,278	-	-	-	-	-	-	
95	100	-	-	1,313,947	-	-	-	-	-	-	-	
90	95	340,577	607,620	285,538	-	-	-	-	-	-	-	
85	90	-	-	-	-	-	-	-	-	-	-	
80	85	-	-	-	-	-	-	-	-	-	-	
75	80	-	-	-	-	-	-	-	-	-	-	
70	75	-	-	-	-	-	-	-	-	-	-	
65	70	-	-	-	-	-	-	-	-	-	-	
60	65	-	-	-	-	-	-	-	-	-	-	
	sub total	340,577	607,620	2,126,943	2,666,411	1,143,626	-	155,685	1,378,079	861,501	36,373	9,316,817

Total loose cubic metre (LCM)	Total	7,891,814	3,419,827	2,902,409	2,666,411	2,145,303	2,434,661	2,101,530	1,738,684	1,088,919	298,030	26,687,586

Figure 1-3 Annual Material Movement to the Rustlers Roost WRDs

1.1.2 Construction WRD Design

The construction WRD is the transitional shape of the WRD while it is being constructed. The height between working benches is 10 m, the width of the berms is 17 m, and the batter angle is 32 degrees.

The 10 m bench height will be constructed by three lifts of close packed paddock dumping of the oxide material at the outer edge of the WRD and then dozing the truck dumps flat. The internal sulfide zone material will also be paddock dumped and dozed flat. This will be equivalent to constructing the 10 m benches in nominal three separate 3.3 m lifts.

Figure 1-4 presents a diagram of close packed paddock dumping.

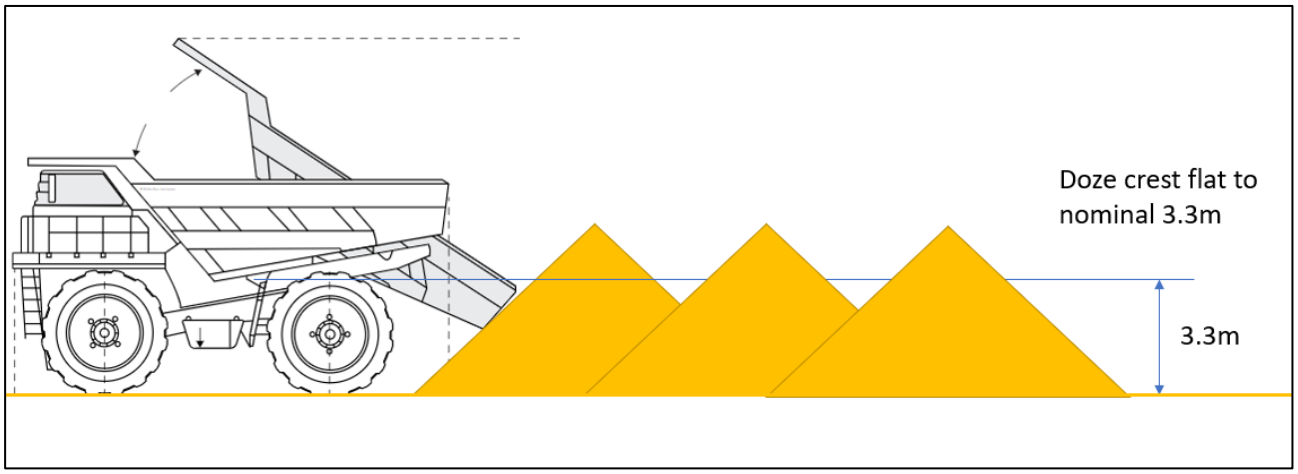

Figure 1-4 Diagram of Close Packed Paddock Dumping

The top of each nominal 3.3 m lift will be flattened and compacted by a dozer first and then by wheel compaction by the mine dump trucks when the next lift is being constructed.

Figure 1-5 provides a section of the construction WRD dimensions.

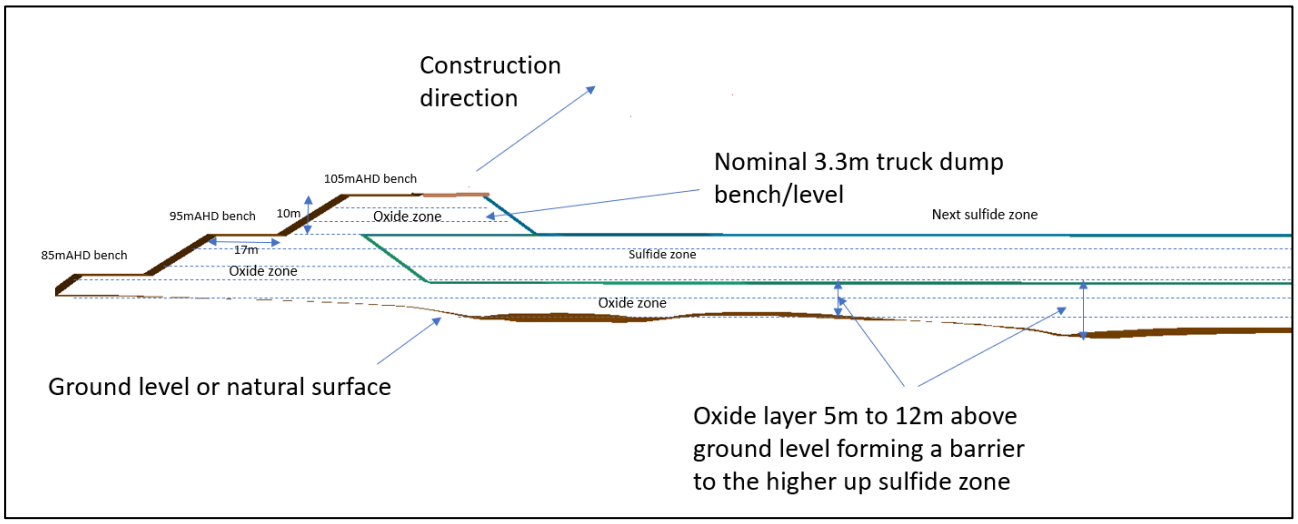

Figure 1-5 Example of the Dimensions of the Construction WRD Design

Figure 1-6 below shows the progress of building the North WRD at the end of year 1.

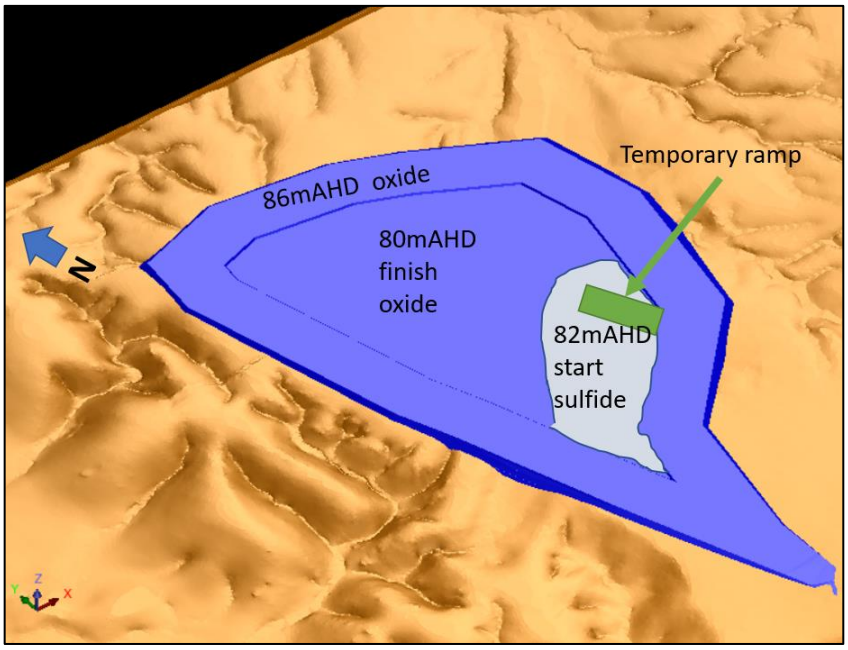

Figure 1-6 North WRD at the End of Year 1

By the end of year 1, oxide has been used to build the base of the WRD from ground level (average 74 m AHD) to the 80 m AHD level. The outer oxide edges of the WRD are at the 86 m AHD level.

Sulfide waste starts to be placed in the middle of the donut starting above the 80 m AHD level. A temporary ramp/road allows access to truck to dump waste in the internal part of the donut.

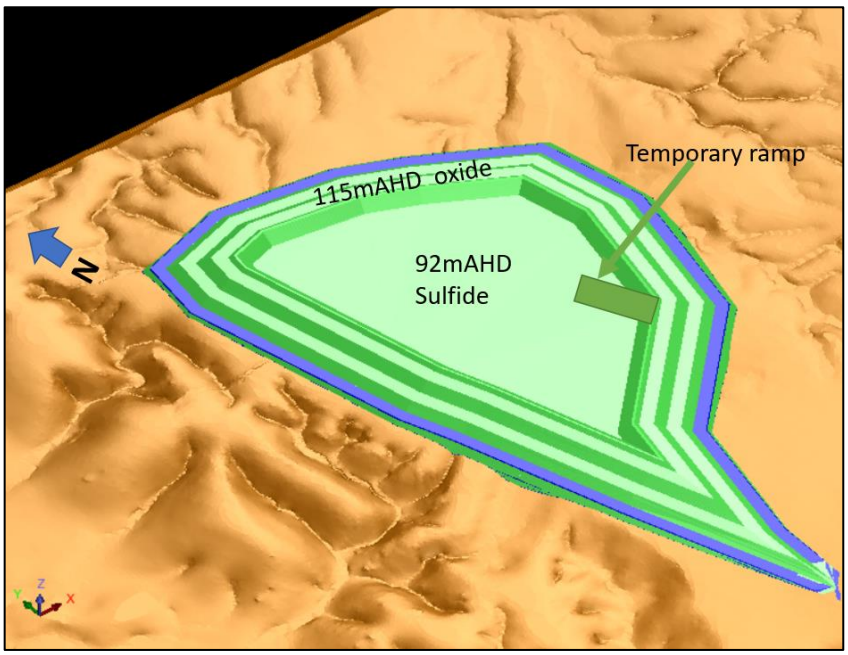

Figure 1-7 North WRD at the End of Year 5

At the end of year 5, the outer oxide edge of the WRD has risen to 115 m AHD. The Sulfide core is at 92 m AHD. A temporary ramp/road allow access to truck to dump waste in the internal part of the donut.

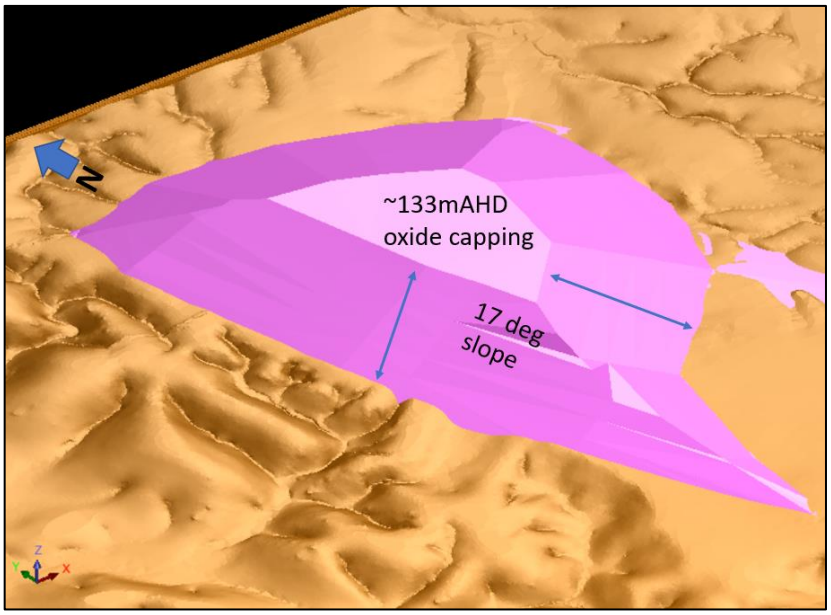

Figure 1-8 North WRD at the End of Year 10 – Life of Mine

In year 10, the mine will be completed and a 5 m thick oxide layer will be placed on top of the WRD compacted in 1 m lifts. The sides of the WRD will be dozed to 17 degrees. Topsoil will be spread over the WRD to a nominal thickness of 0.2 m.

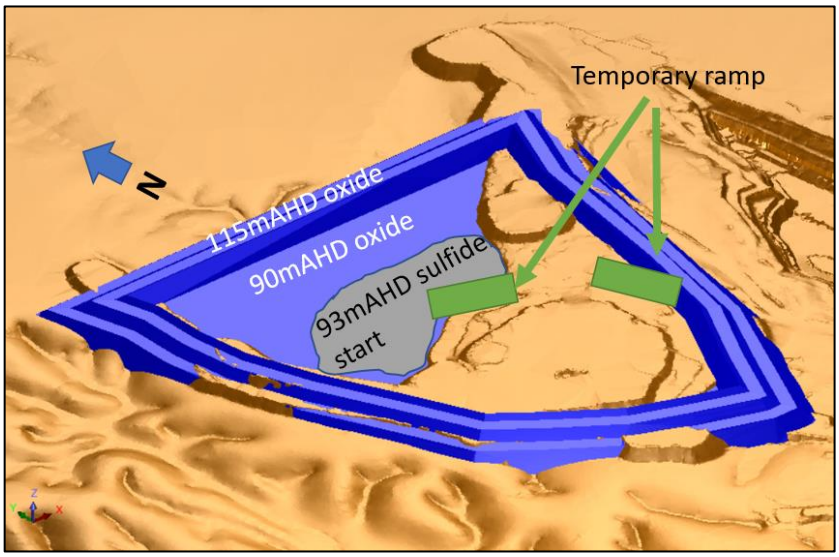

Figure 1-9 South WRD at the End of Year 1

The south WRD outer oxide donut will be at 115 mAMD by the end of year 1. The oxide base from ground surface (75 mAMD) in the north end of the South WRD will be filled up to 90 mAMD. This will form an oxide base elevating the Sulfide material above any groundwater flow at the ground level and the WRD interface. Sulfide material will then be placed in the middle of the donut starting above the 90 mAMD level. A temporary ramp/road allow access to truck to dump waste in the internal part of the donut.

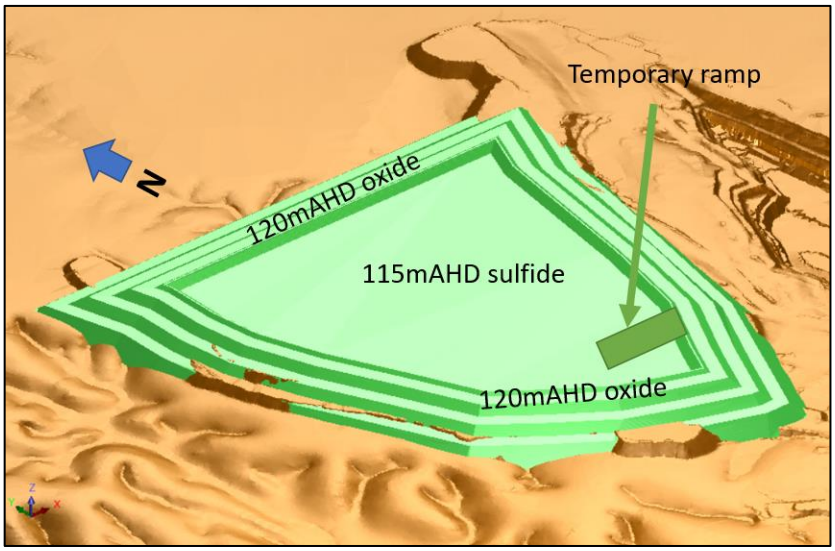

Figure 1-10 South WRD at the End of Year 5

At the end of year 5, the oxide outer wall will be at 120 mAMD level. The Sulfide material in the middle of the donut will be at 115 mAMD. A temporary ramp/road allow access to truck to dump waste in the internal part of the donut.

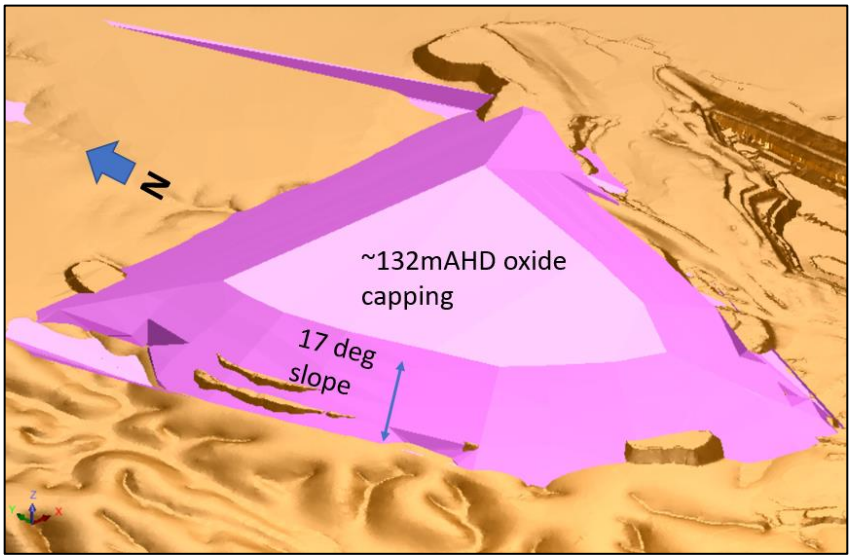

Figure 1-11 South WRD at the end of year10 LOM

In year 10, the mine will be completed and a 5 m thick oxide layer will be placed on top of the WRD compacted in 1 m lifts. The sides of the WRD will be dozed to 17 degrees and topsoil will be spread over the WRD to a nominal thickness of 0.2 m.

1.1.3 Final Slope Design for Rehabilitation

After the mining of the pit has been completed the final slope design will be implemented.

The process will be as follows:

- Relocate stored waste cladding to the top of the WRDs; approximately 5 m thick, compacted every 1 m lift;
- Shape the final surface of the top cladding into a slight dome shape to prevent water collecting on the top of the WRD, facilitate runoff and limit seepage;
- Doze the outer walls of the WRD to a 17 degree overall slope (1 in 3.2);
- Spread topsoil over the final slope to a nominal thickness of 0.2 m;
- Create rock lined drainage trenches to capture runoff water and slow the velocity of water running down the 17 degree slope to prevent erosion; and
- Seed the surface of the WRDs with low level native shrubs and grasses.

Figure 1-12 presents a section through the South WRD (as an example) showing encapsulated Sulfide zones in the WRD. Note the oxide waste covers the top Sulfide zone by a 5 metre thickness.

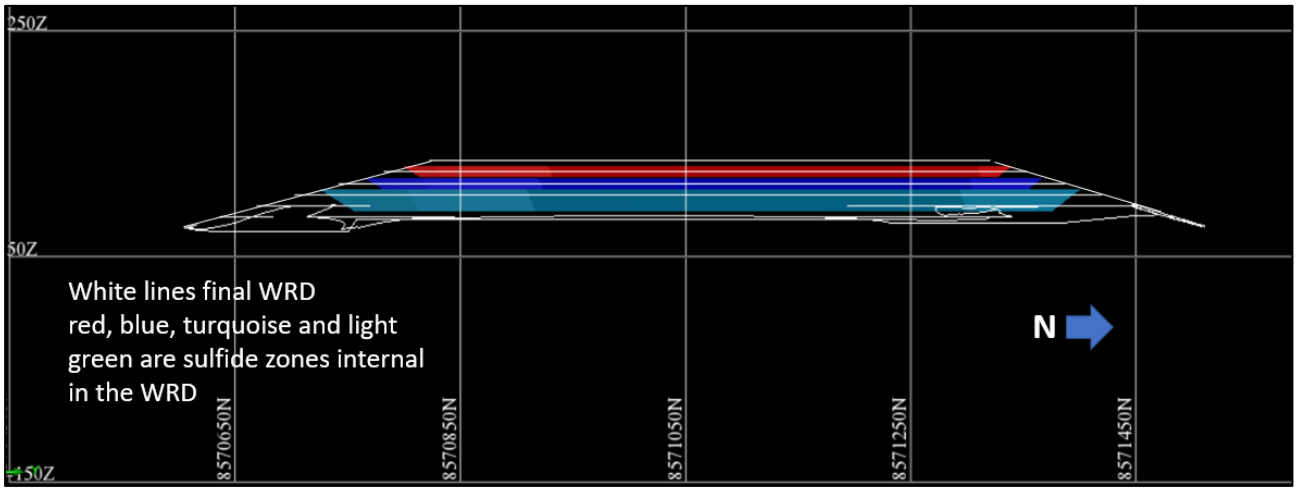

Figure 1-12 Section of the South WRD Showing Encapsulated Sulfide Zones Within the WRD

Figure 1-13 shows a plan of the two WRDs at Rustlers Roost with the internal zones.

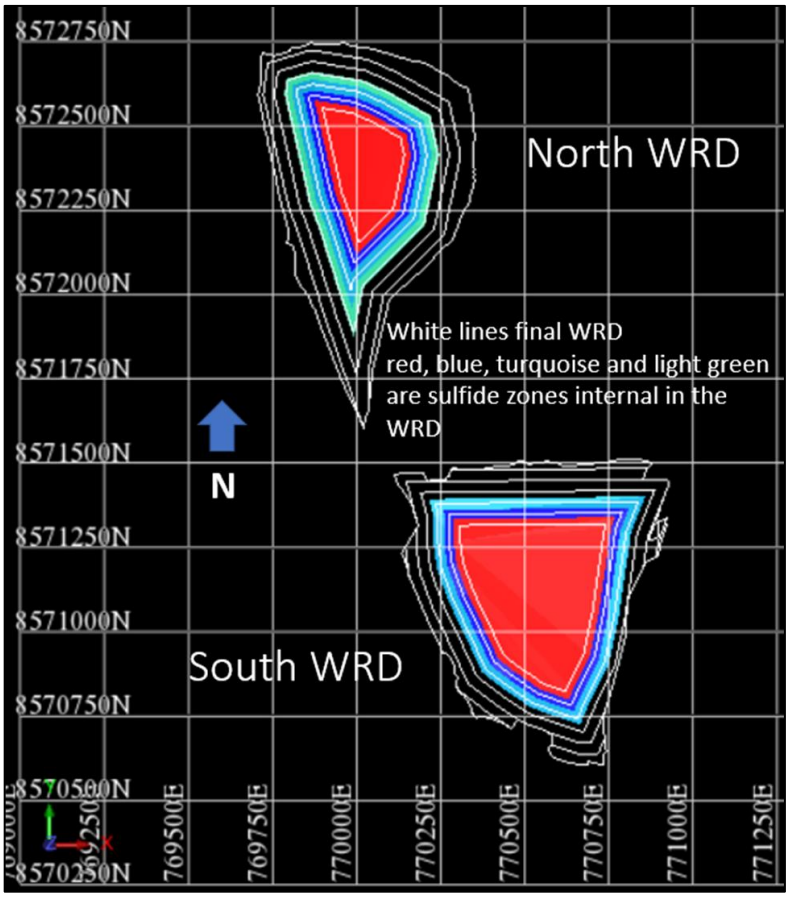

Figure 1-13 Plan of the WRDs Showing the Encapsulated Sulfide Zones

Once the WRD has been completed the outer walls of the WRDs will be pushed down by a bulldozer to form a 17 degree slope.

Below is a section through the North dump showing the jagged Construction WRD and the smooth Final Slope Design.

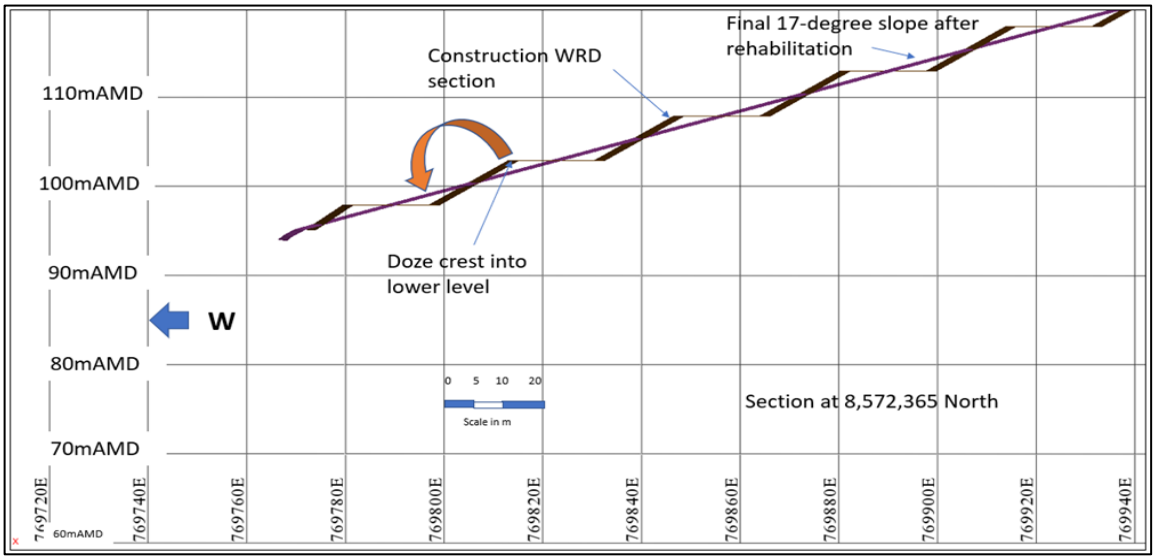

Figure 1-14 Cross section comparing Construction profile with the Final slope profile

After the Final slope is created the slope will be covered with 0.2m of topsoil. The topsoil will be relocated from the topsoil stockpile at the base of the WRD.

1.1.4 Topsoil Rustlers Roost

Topsoil will be stripped from various areas at the same time mining and construction of the TSF starts. The table below details the topsoil area and lcm volume to be stripped to a nominal 0.5 m depth.

Table 1-3 Topsoil Areas and Loose Cubic Metre Volumes

Topsoil Source	Area m^2	Harvested (lcm)
North WRD	406,120	203,060
Process Plant	381,100	190,550
Mobile Equipment Area	60,000	30,000
Admin Office	4,244	2,122
Annie Okaley Area	61,776	30,888
TSF Area	2,541,477	1,270,739
Old WRD Area	193,621	96,810
Pit 1 Area	87,455	43,727
Pit 2 Area	37,140	18,870
Pit 3 Area	184,709	92,354
Total	**3,957,640**	**1,978,820**

Figure 1-15 shows the location of the topsoil areas for stripping (yellow) and the topsoil stockpile areas (red).

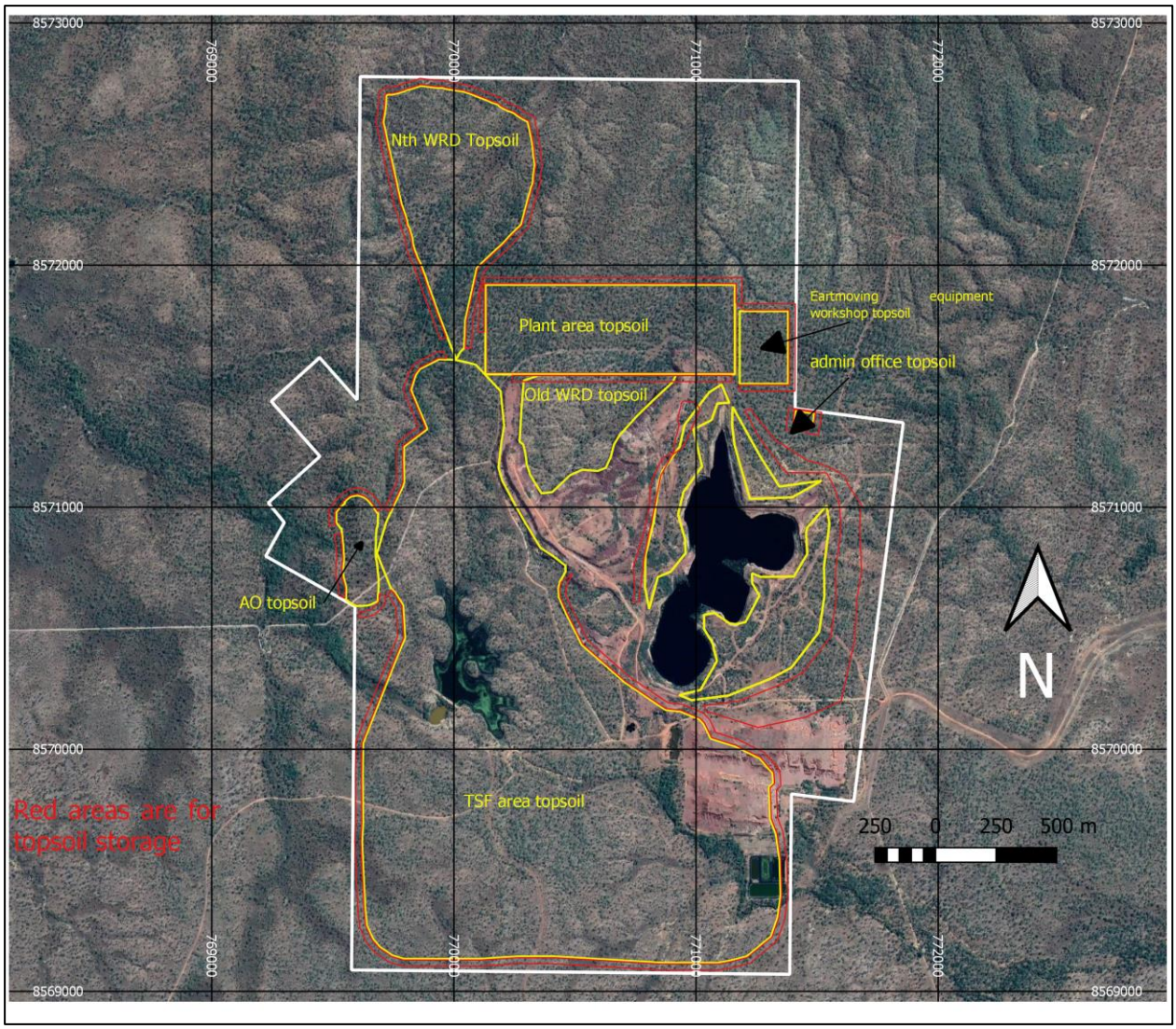

Figure 1-15 Location Plan of Topsoil Stripping and Storage

In the Figure 1-15 yellow areas are topsoil stripping. Red areas are for topsoil storage. Storage of topsoil is mainly around the area stripped for topsoil as it is more practical to utilise during rehabilitation.

Total area for stockpiles is 687,587 m^2. Height of the topsoil stockpiles is nominally 3.0 m.

Table 1-4 presents the harvested topsoil volumes (Mlcm) and redistributed locations and volumes.

TOPSOIL SOURCE											
Area source, stripped	**Total Mlcm**	**Yr1**	**Yr2**	**Yr3**	**Yr4**	**Yr5**	**Yr6**	**Yr7**	**Yr8**	**Yr9**	**Yr10**
TSF topsoil 0.5m source	**1.27**	1.27	-	-	-	-	-	-	-	-	-
Topsoil from RR pit area 0.5											
area1	**0.04**	0.04	-	-	-	-	-	-	-	-	-
area2	**0.02**	0.02	-	-	-	-	-	-	-	-	-
area3	**0.09**	0.09	-	-	-	-	-	-	-	-	-
Old dump area	**0.10**	0.10	-	-	-	-	-	-	-	-	-
Nth WRD topsoil	**0.20**	0.20	-	-	-	-	-	-	-	-	-
AO area	-	0.03	-	-	-	-	-	-	-	-	-
Total Topsoil sources Mlcm	**1.98**	**1.98**	-	-	-	-	-	-	-	-	-
TOPSOIL DESTINATION											
TSF	**1.18**	-	-	-	-	-	-	-	-	**0.39**	**0.79**
Nth WRD	**0.08**	-	-	-	-	-	-	-	-	**0.02**	**0.06**
Sth WRD	**0.08**	-	-	-	-	-	-	-	-	**0.02**	**0.06**
AO	**0.01**	-	**0.01**	-	-	-	-	-	-	-	-
Misc. disturbed areas	**0.62**	-	-	-	-	-	-	-	-	**0.28**	**0.34**
Total	**1.98**	-	**0.01**	-	-	-	-	-	-	**0.71**	**1.25**

Table 1-4 Topsoil Stripping and Redeployment

1.1.5 Drainage Rustlers Roost WRD

After the WRDs are dozed to 17 degrees (1 in 3.2) and topsoiled, a dozer will corner tip "V" drains into the walls to:

- Capture and slow down water flow on the slopes to prevent erosion; and
- Direct water along the rock lined drains to ground level and drain away from the WRDs.

Figure 1-16 presents the location of rock lined drainage trenches on the WRDs for water control.

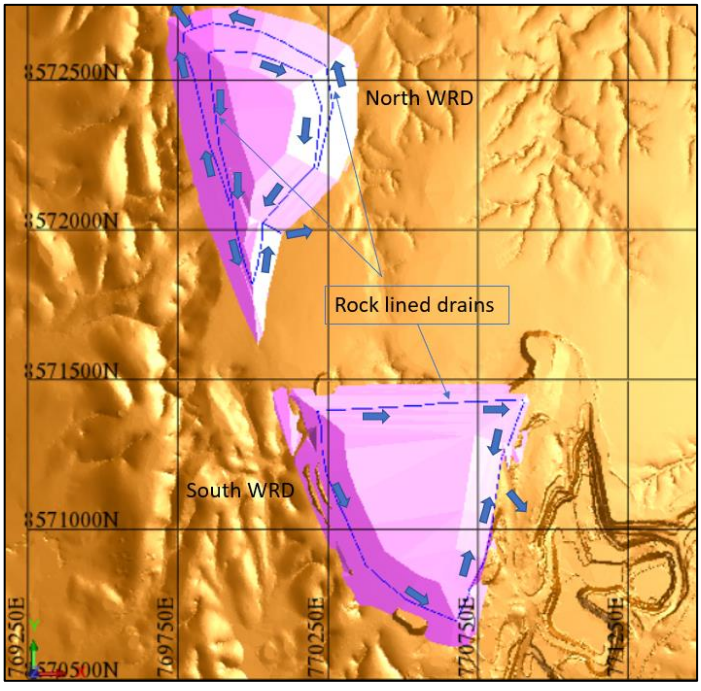

Figure 1-16 Rock Lined Drainage Trenches on the WRDs

The fall in the trenches varies between 1 in 30 to 1 in 90 depending on the length of the trench.

1.2 Quest 29 Introduction

The Quest 29 mine is a series of five open pits. Quest29 is approximately 10 km east of Rustlers Roost and connected via a haul road.

The figure below is a location plan of the Quest 29 pits and WRD.

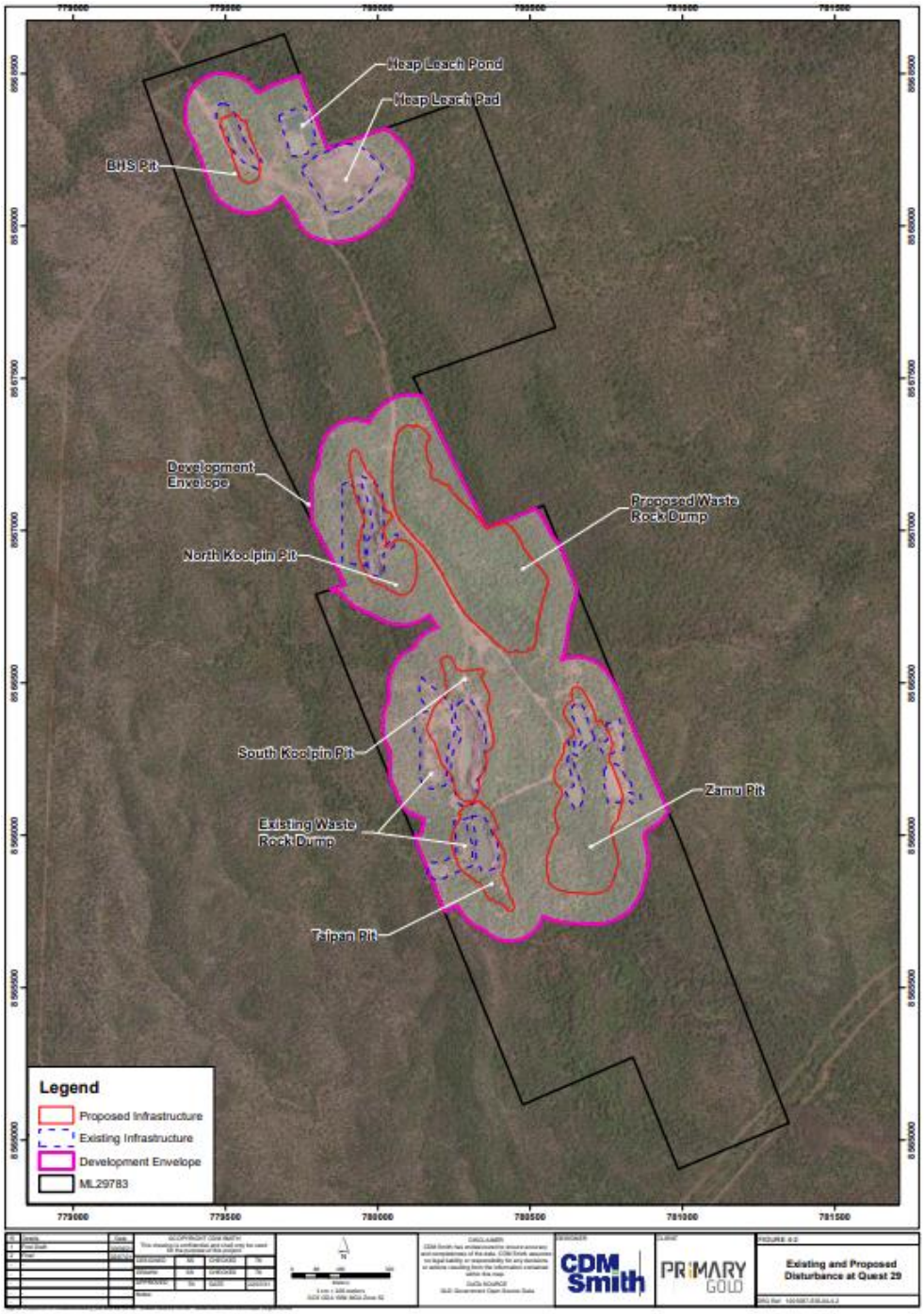

Figure 1-17 Location Plan of Quest 29 Pits and WRD

Note the WRD is constrained by the mining tenement on the eastern edge and there the boundary has been designed to align.

1.2.1 Schedule of Quest29 WRD Construction

The overview schedule of mining is that Zamu pit is mined first which will be the source of all the waste material for the WRD. The other pits will be backfilled into Zamu and Taipan.

Figure 1-4 presents the total waste tonnes and volume in LCM at the Quest 29 pits.

Table 1-5 Quest 29 Waste Tonnes and Volume

Item	Oxide	Transitional	Fresh	Total
Quest29 M tonnes	**4.6**	**2.8**	**4.7**	**12.1**
Quest29 volume (Mlcm)	**2.3**	**1.4**	**2.4**	**6.1**

Below is a mining schedule of Zamu pit with the first pit to be mined and the only pit to be suppling waste to the WRD.

As a subtotal of all the waste materials; the WRD and the south end of Zamu pit contains 4.1 million lcm of the total 6.1 million lcm waste material (66%).

Table 1-6 Waste Mined Out of Zamu Pit

Zamu Pit			Mth1	Mth2	Mth3	Mth4	Mth5	Mth6	Mth7	Mth8	
Pit	lcm oxide swell 1.2	remaining									
500.0 -> 505.0	18,000	-	18,000								
495.0 -> 500.0	146,550	-	146,550								
490.0 -> 495.0	541,530	-	270,765	270,765							
485.0 -> 490.0	368,280	-		110,000	258,280						
480.0 -> 485.0	18,210	-			-	18,210					
	Total oxide		**435,315**	**380,765**	**258,280**	**18,210**	**-**	**-**	**-**	**-**	**1,092,570**
Pit	lcm sulfide swell 1.2										
500.0 -> 505.0		-									
495.0 -> 500.0		-									
490.0 -> 495.0	1,350	-	1,350								
485.0 -> 490.0	116,670	-	116,670								
480.0 -> 485.0	422,430	-		140,000	282,430						
475.0 -> 480.0	399,660	-				399,660					
470.0 -> 475.0	360,060	-				132,130	227,930				
465.0 -> 470.0	772,500	-					322,070	450,430			
460.0 -> 465.0	255,150	-						99,570	155,580		
455.0 -> 460.0	213,180	-							213,180		
450.0 -> 455.0	164,040	-							164,040		
445.0 -> 450.0	112,920	-								112,920	
440.0 -> 445.0	82,560	-								82,560	
435.0 -> 440.0	51,900	-								51,900	
430.0 -> 435.0	20,970	-								20,970	
425.0 -> 430.0	7,290	-								7,290	
1,092,570	**total sulfide**		**118,020**	**140,000**	**282,430**	**531,790**	**550,000**	**550,000**	**532,800**	**275,640**	**2,980,680**
2,980,680	**total all**		**553,335**	**520,765**	**540,710**	**550,000**	**550,000**	**550,000**	**532,800**	**275,640**	**4,073,250**

Figure 1-6 identifies the estimated waste quantities to be placed on the WRD and the south end of Zamu pit (near end of mining).

Table 1-7 Waste Placement of Zamu Pit on the WRD and Bottom of the South End of Zamu Pit

Oxide base	height of WRD				Mth1	Mth2	Mth3	Mth4	Mth5	Mth6	Mth7	Mth8	
From	To		remaining room										
0	5	1,326	-	0	1,326								
5	10	11,090		-	11,090								
10	15	55,371		-	55,371								
15	20	150,627		-	150,627								
20	25	199,535		0	199,535								
25	30	198,770		0		84,180	114,590						
30	35	137,585	-	0				80,000	57,585				
35	40	90,489		0						90,489			
40	45	48,449		0							48,449		
45	50	1,199	-	0							1,199		
50	55												
55	60												
60	65												
65	70												
				Sub total	**417,949**	**84,180**	**114,590**	**80,000**	**57,585**	**90,489**	**49,648**	**-**	**894,441**
to 35m	Oxide clad												
From	To												
0	5	-	-										
5	10	765		-	765								
10	15	5,169		-	5,169								
15	20	14,193		-			14,193						
20	25	20,678		-			-	20,678					
25	30	20,856		-					20,856				
30	35	20,485		-						20,485			
35	40	-	-										
40	45												
45	50												
50	55												
55	60												
60	65												
				Sub total	**5,934**	**-**	**14,193**	**20,678**	**20,856**	**20,485**	**-**	**-**	**82,146**
Nth	Oxide clad												
From	To												
0	5	-	-										
5	10	-	-										
10	15	-	-										
15	20	-	-										
20	25	-	-										
25	30	-	-										
30	35	-	-										
35	40	27,646		-						27,646			
40	45	12,960		-							12,960		
45	50	27,619		-							27,619		
50	55												
55	60												
60	65												
65	70												
				Sub total	**-**	**-**	**-**	**-**	**-**	**27,646**	**40,579**	**-**	**68,225**
Sth	Oxide clad												
From	To												
0	5	-	-										
5	10	-	-										
10	15	-	-										
15	20	-	-										
20	25	-	-										
25	30	-	-										
30	35	-	-										
35	40	-	-										
40	45	-	-										
45	50	14,546		-							14,546		
50	55	11,900		-							11,900		
55	60	8,885		-								8,885	
60	65	3,376		-								3,376	
65	70	9,051		-								9,051	
				Sub total	**-**	**-**	**-**	**-**	**-**	**-**	**26,446**	**21,312**	**47,758**
Oxide total					**423,883**	**84,180**	**128,783**	**100,678**	**78,441**	**138,620**	**116,673**	**21,312**	**1,092,570**
Sulfide													
From	To												
0	5	17,001		-	17,001								
5	10	140,698		-	101,019	39,679							
10	15	286,223		-		100,321	185,902						
15	20	328,193		-				328,193					
20	25	319,428		-				300,125	19,303				
25	30	302,669		-					302,669				
30	35	292,204		-						292,204			
35	40	240,838		-						240,838			
40	45	178,503		-							178,503		
45	50	109,506		-							109,506		
50	55	48,944		-								48,944	
55	60	21,798		-								21,798	
60	65	3,249		-								3,249	
65	70												
				Sub total	**118,020**	**140,000**	**185,902**	**628,318**	**321,972**	**533,042**	**288,009**	**73,991**	**2,289,254**
South end of Zamu backfill										**200,000**	**200,000**	**291,426**	**691,426**
Sulfide total					**118,020**	**140,000**	**185,902**	**628,318**	**321,972**	**733,042**	**488,009**	**365,417**	**2,980,680**

Figure 1-18 presents a diagram of Zamu pit with the lower south area for Sulfide water storage near the end of the pits life. The south end is mined faster than the north end so waste from the north end can be stored in the pit.

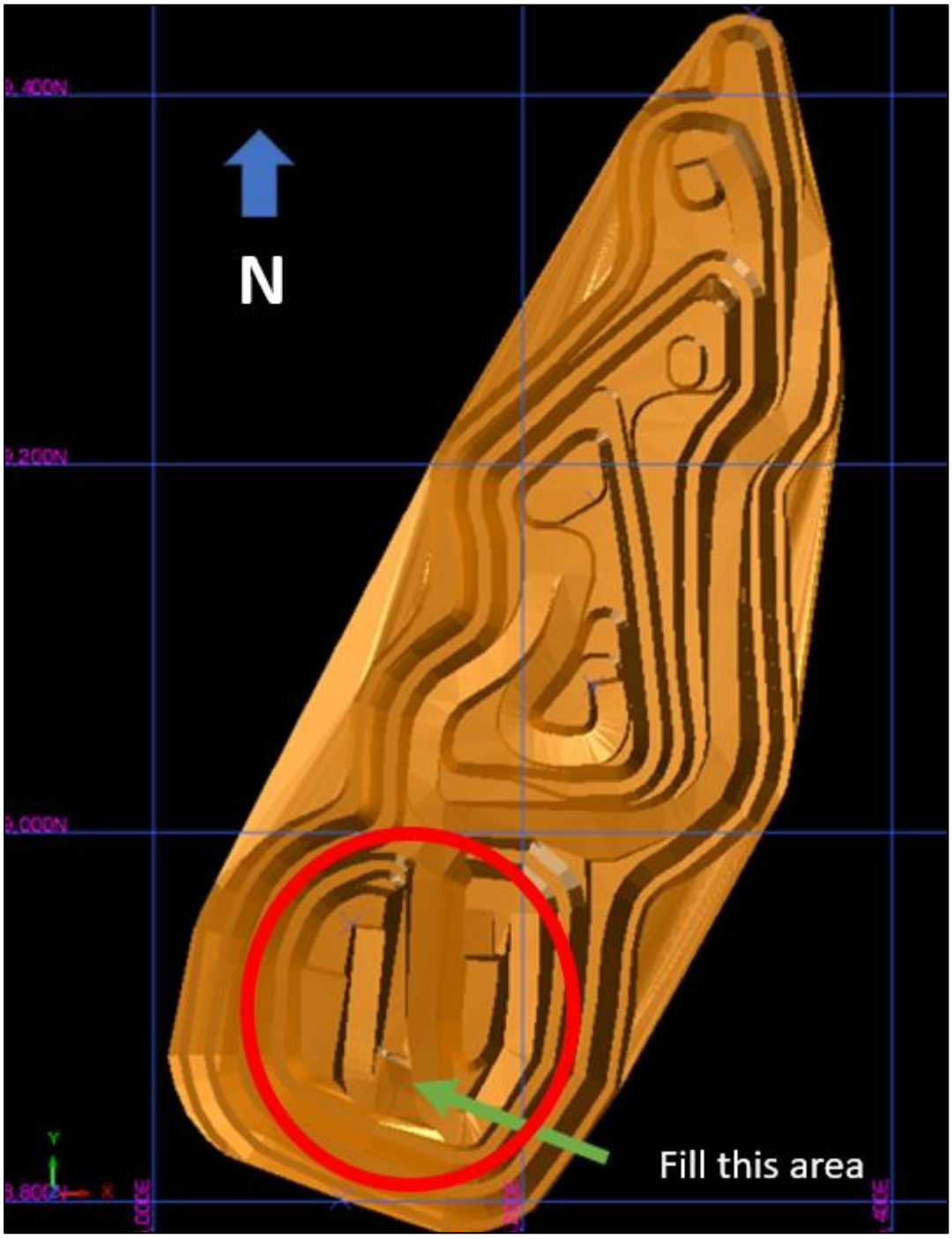

Figure 1-18 Waste Storage Area in Zamu Pit for Sulfide Material

1.2.2 Construction Quest 29 WRD

The Quest 29 WRD will be constructed in five stages. Oxide material will encapsulate the inner core of sulfide material. The WRD will be built in 3.3 m levels by close packed paddock dumping as described in section 1.1.2 above.

Due to the short life of construction the 3.3 m lifts will be placed in a rough 17 degree step formation that will require minimal dozing when the WRD is complete. Figure 1-19 shows a schematic section of the WRD slope during construction.

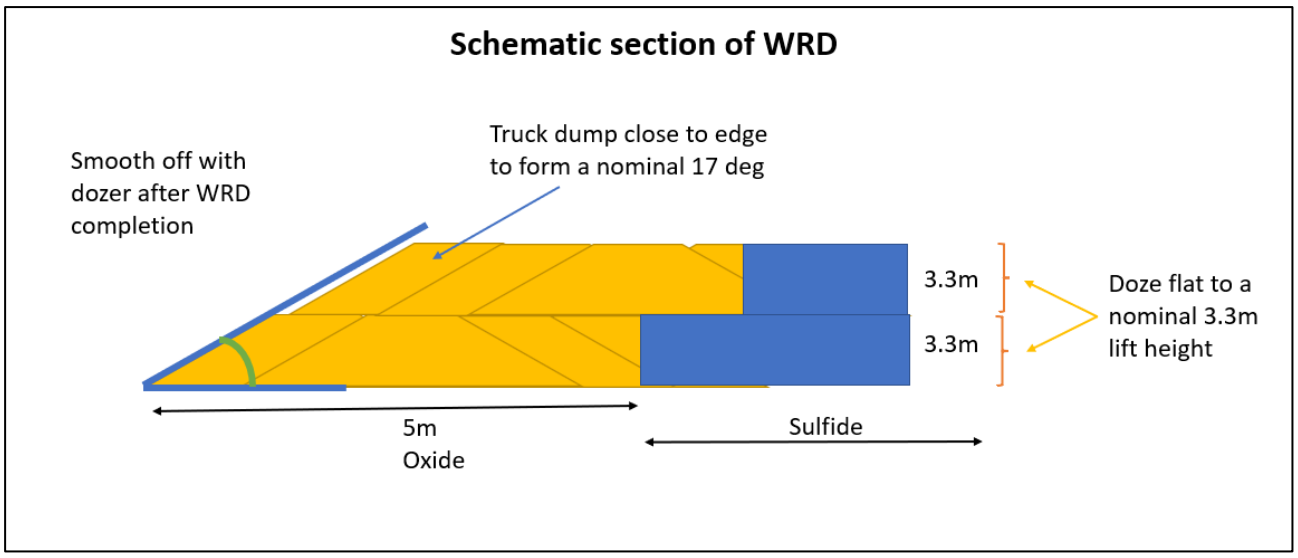

Figure 1-19 Section of the WRD Construction

Key features of the Quest 29 WRD are as follows:

- Nominally five metre thick oxide base traveling up the slope of the hill on which the WRD is situated (Figure 1-20). This covers both the base and east side of the WRD;
- Five metre thick outer oxide cladding on the west of the WRD up to the 35 m AHD level. Primarily covering south, west and north side of the WRD;
- Five metre thick outer oxide cladding from 35 m AHD to 45 m AHD; all sides of the WRD (Figure 1-22);
- Five metre thick North crown of the WRD all sides of the WRD (Figure 1-23); and
- Five metre thick South crown of WRD all sides of the WRD (Figure 1-23).

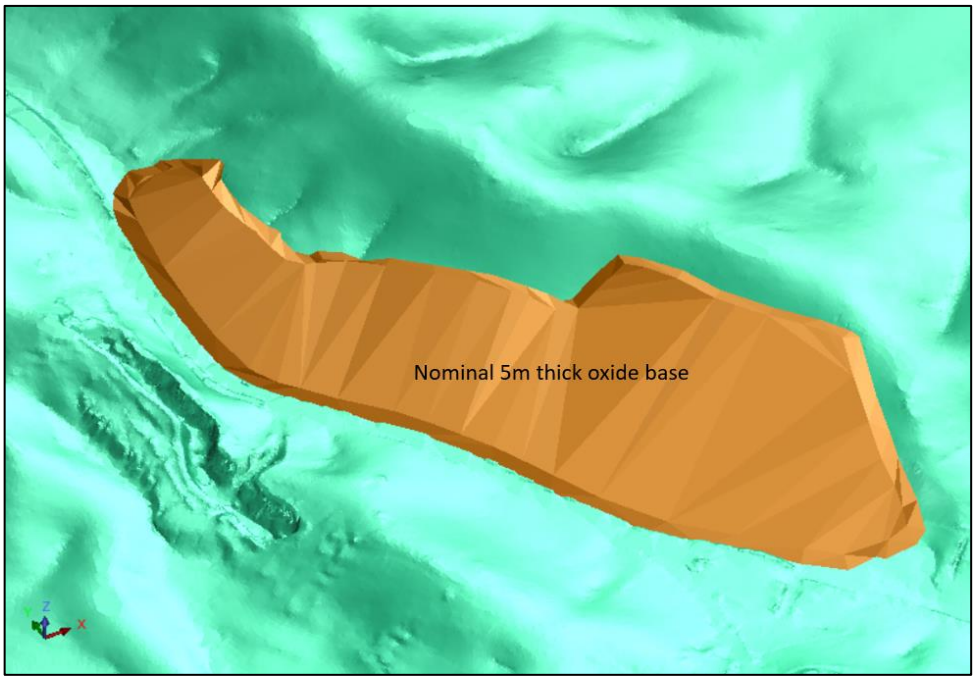

Figure 1-20 Base Oxide Component Running up the Hill Slope - Full Extent

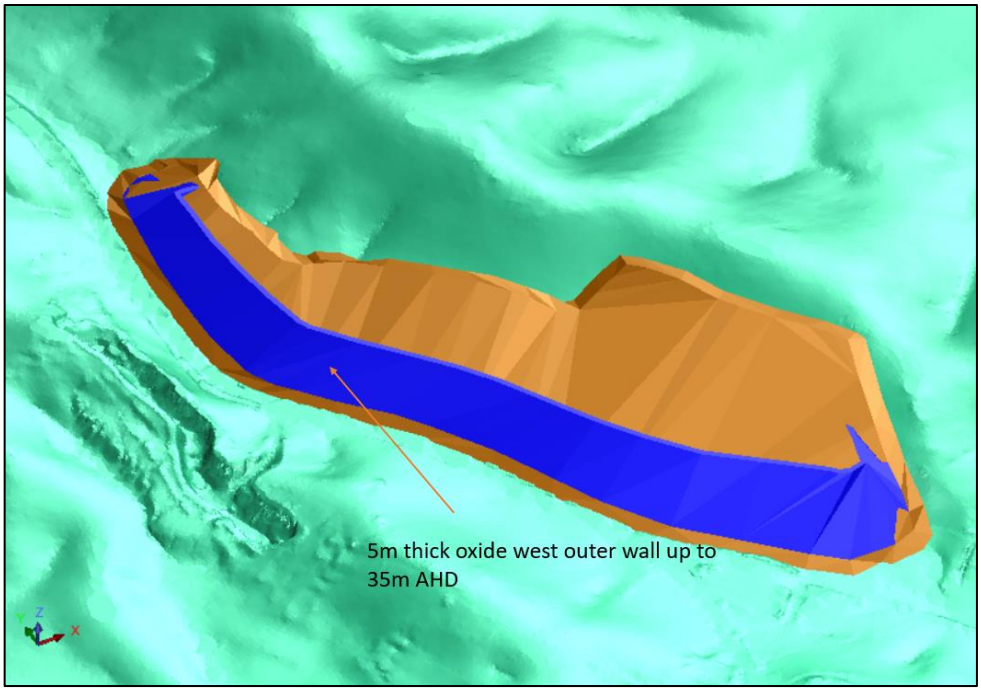

Figure 1-21 Oxide Component Between 12 m AHD and 35 m AHD

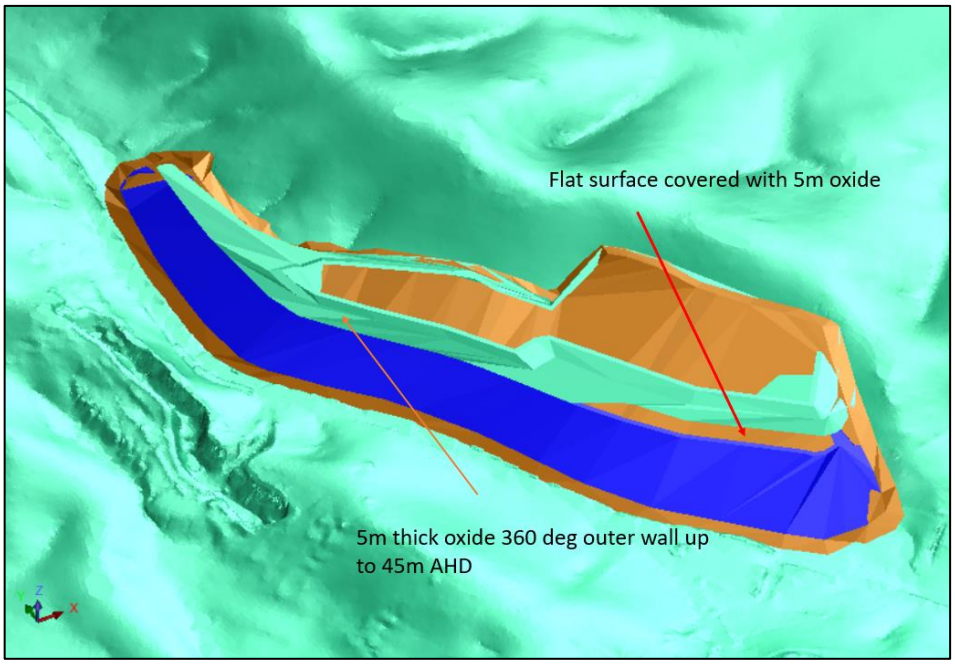

Figure 1-22 Oxide Component Between 35 m AHD and 45 m AHD

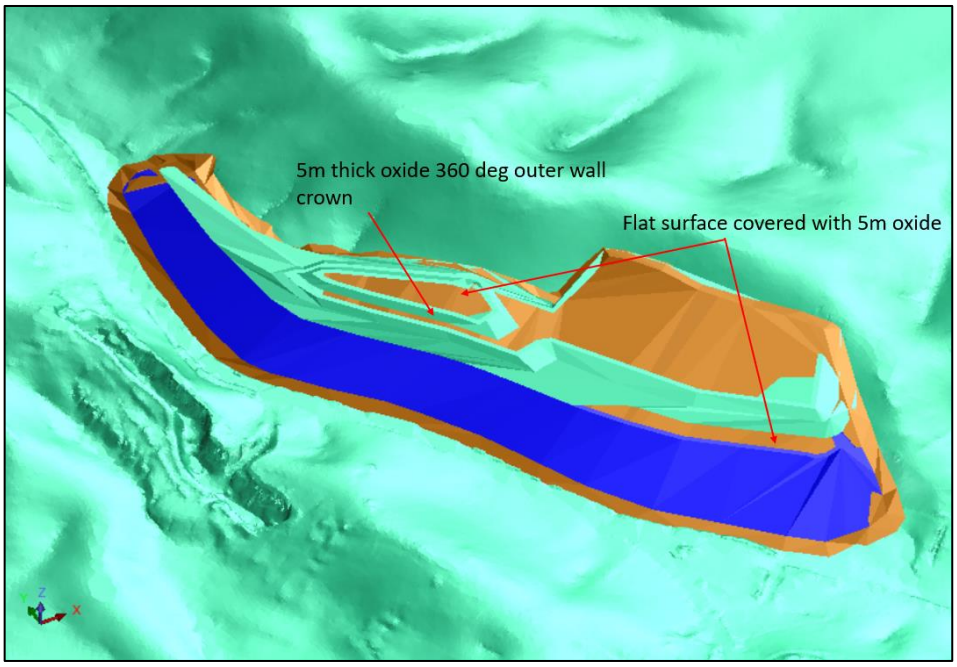

Figure 1-23 North Crown Oxide Component

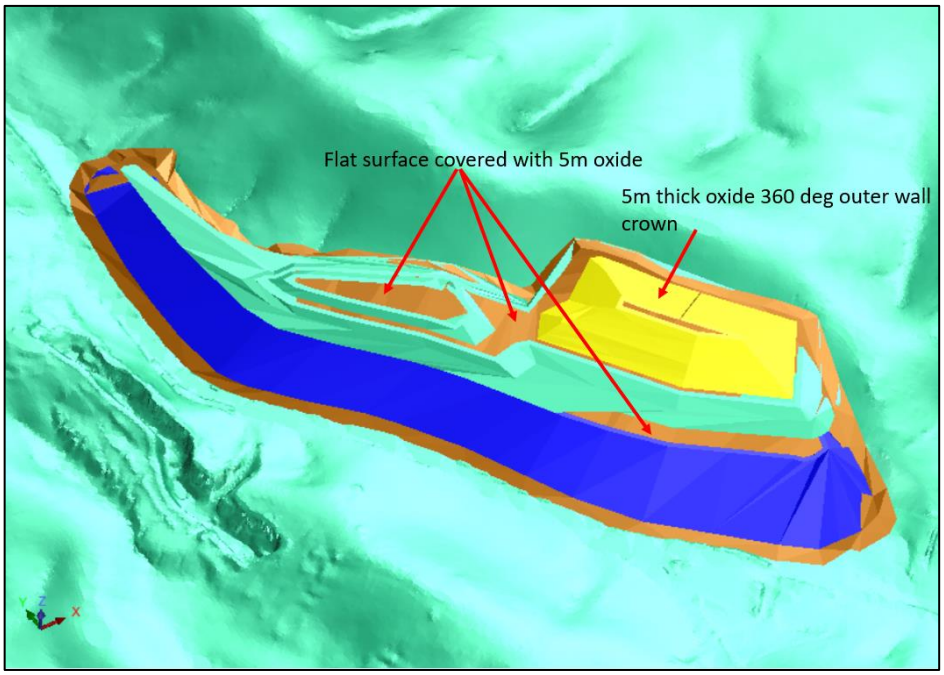

Figure 1-24 All Oxide Components of the WRD

1.2.3 Three Month Snapshot of WRD Construction and Final WRD Landform

Figure 1-25 presents the original surface level prior to construction of the Quest 29 WRD.

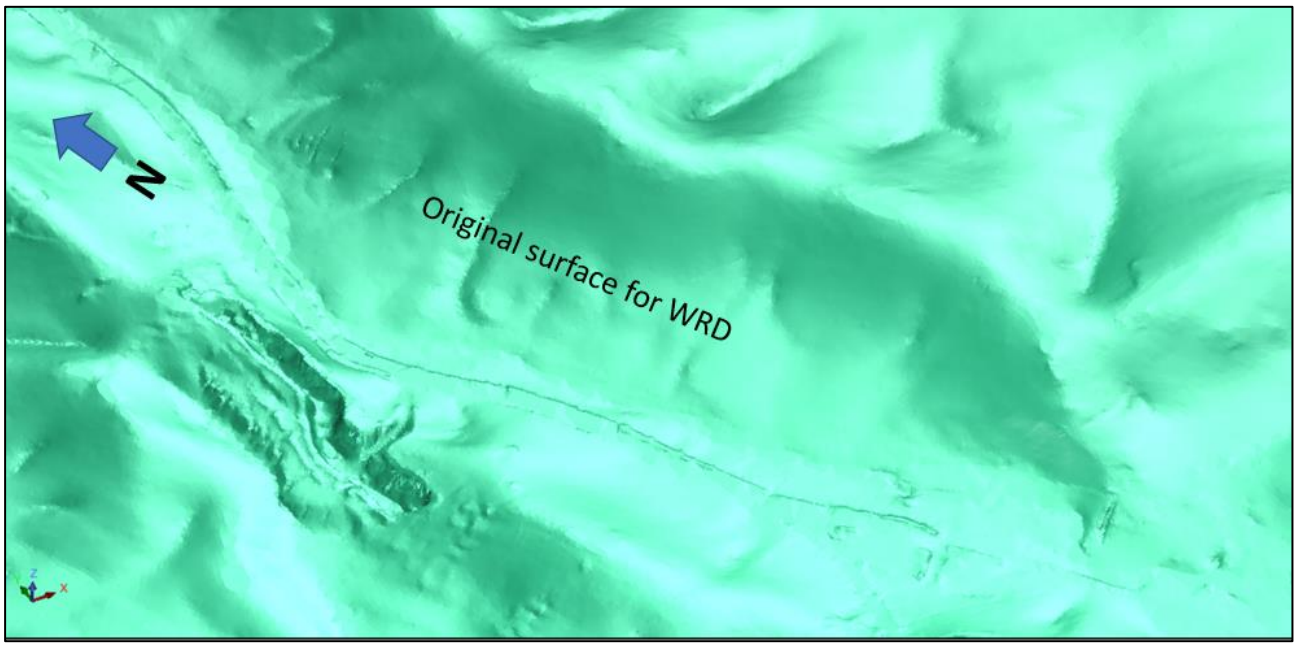

Figure 1-25 WRD area before construction of the WRD

The base oxide layer is bult upslope in a nominal 5 m thickness (dependent on the natural surface). The natural slope is 6 to 8 degrees or 1 in 9 to 1 in 6.6. This slope is easily worked on by mining equipment.

Figure 1-26 presents the WRD construction of the base oxide layer. It forms the base and the eastern wall. The top working surface is 30 to 40 m wide which is sufficient for a truck and dozer to work on while the base progresses up the

slope of the hill. The nominal thickness of each layer on the top working level while being constructed is 0.5 m which would give sufficient compaction of the oxide via truck wheel compaction. Figure 1-27 shows the end of the three month WRD construction period with Sulfide (PAF) material coloured red. Oxide outer wall is coloured blue. Figure 1-27 presents the final WRD landform with 17 degree slopes.

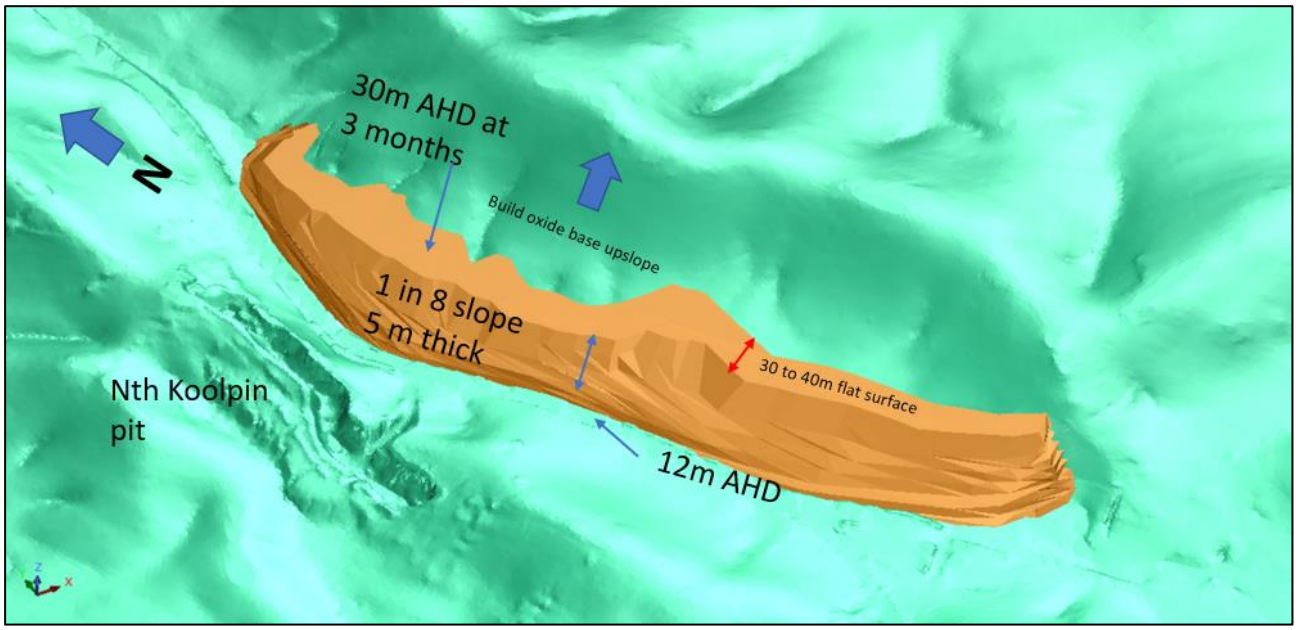

Figure 1-26 The Oxide Base Layer Showing Working Top Surface of 30 m to 40 m Width

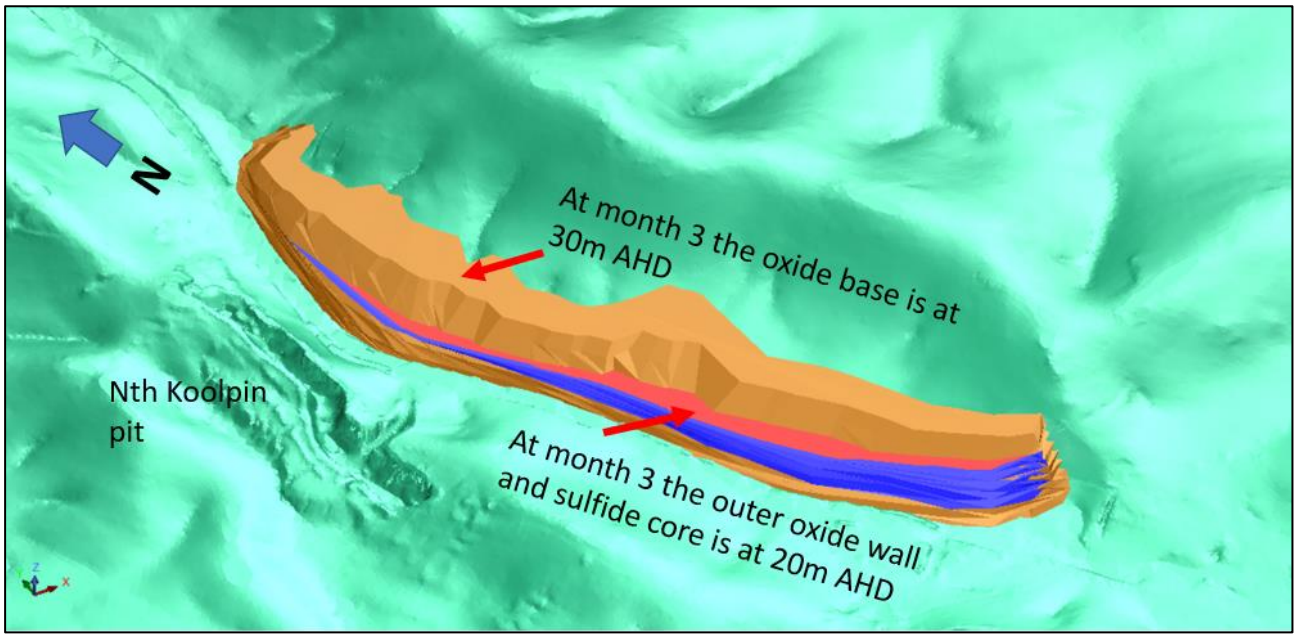

Figure 1-27 End of 3 Month Period of WRD Construction

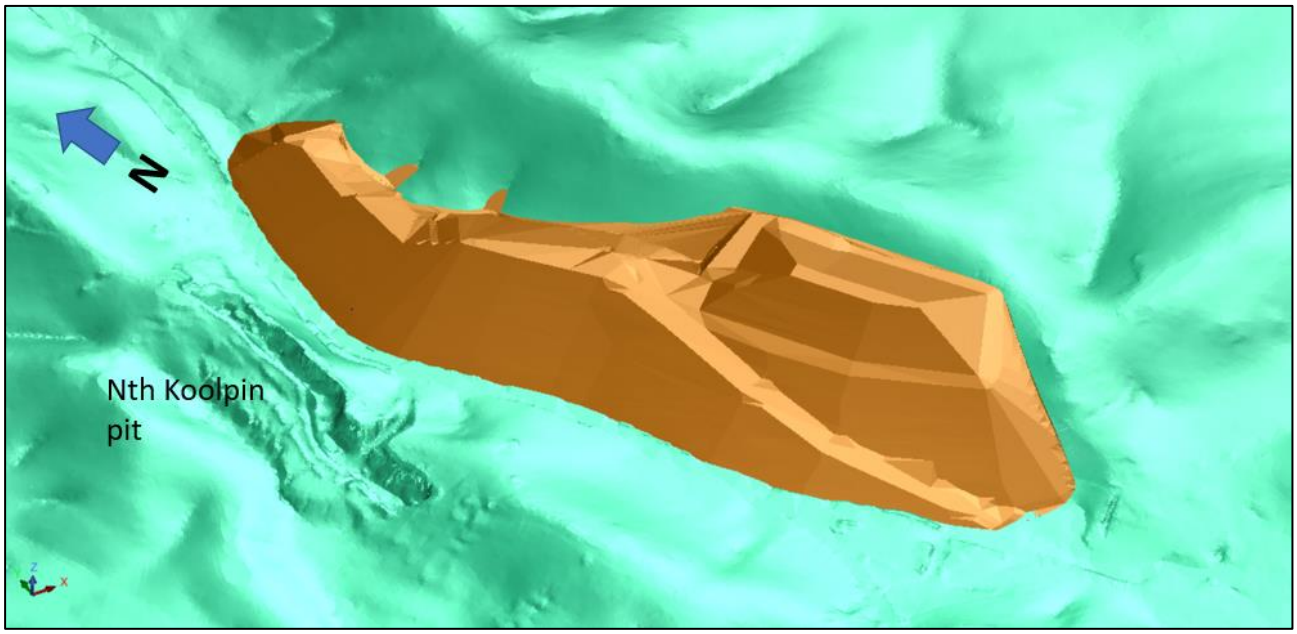

Figure 1-28 WRD Final Landform with 17 Degree Slopes

1.2.4 Topsoil

Topsoil will be stripped from the WRD area to a depth of 0.5 m and stockpiled around the around the edge of the stripped area for future rehabilitation purposes.

The topsoil on the cutbacks of each pit will be stripped out to a depth of 0.5 m and stockpiled around the perimeter of each pit for future rehabilitation.

1.2.5 Drainage Quest 29 WRD

After the WRDs are dozed to 17 degrees (1 in 3.2) and topsoiled, a dozer will corner tip “V” drains into the walls to:

- Capture and slow down water flow on the slopes to prevent erosion; and
- Direct water along the rock lined drains to ground level and drain away from the WRDs.