

# Oposura Scoping Study Nearing Completion

## **KEY POINTS:**

- Mining study with open pit optimisations and underground mine designs completed
- High grade massive sulphide mineralisation occurs near to surface; suitable for early exploitation by open pit mining
- Minimal mining capital required for development of open pits and underground stopes
- 95% of Year 1 production will exploit mineralisation classified as Indicated Resources

**Azure Minerals Limited** (ASX: **AZS**) (“Azure” or “the Company”) is pleased to report that the Scoping Study / Preliminary Economic Assessment (“PEA”) for its 100%-owned Oposura zinc-lead-silver project (“Oposura”) is progressing well and remains on track to be reported in the third quarter of 2018.

Key components of the PEA that have been completed to date include:

- Baseline environmental study
- Hydrology study
- Concentrate marketing study
- Mineral Resource estimate
- Mining study, including pit optimisations, underground mine designs, operating and capital cost estimates
- Metallurgical testwork
- Preliminary process flowsheet, design criteria and plant layout
- Infrastructure option study including power supply, water supply, communications, road access and accommodation

The detailed mineral processing and plant infrastructure study, which includes comprehensive process flowsheet, design criteria, plant layout, and operating and capital cost estimates, is nearing completion.

## **MINING STUDY SUMMARY**

The mining study has identified that low unit cost open pit and room and pillar underground extraction methods are applicable for the Oposura deposit.

Mine scheduling demonstrates that minimal mining capital will be required ahead of the development of the open pits and underground stopes.

## **MINERAL RESOURCE ESTIMATE**

The Company has published the following Mineral Resource estimate (Tables 1 & 2) for Oposura (for full details, refer to ASX announcement dated 4 July 2018):

<b>Table 1: Oposura Mineral Resource Estimate – by classification</b>					
	<b>Tonnes</b>	<b>Zn</b>	<b>Pb</b>	<b>Zn+Pb</b>	<b>Ag</b>
	<b>Mt</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>g/t</b>
<b>Indicated</b>	<b>2.1</b>	<b>5.3</b>	<b>2.9</b>	<b>8.2</b>	<b>17.2</b>
<b>Inferred</b>	<b>0.8</b>	<b>4.3</b>	<b>2.5</b>	<b>6.8</b>	<b>16.5</b>
<b>TOTAL</b>	<b>2.9</b>	<b>5.0</b>	<b>2.8</b>	<b>7.8</b>	<b>17.0</b>

<b>Table 2: Oposura Mineral Resource Estimate – by deposit</b>					
	<b>Tonnes</b>	<b>Zn</b>	<b>Pb</b>	<b>Zn+Pb</b>	<b>Ag</b>
	<b>Mt</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>g/t</b>
<b>West Zone</b>	<b>1.9</b>	<b>5.0</b>	<b>2.6</b>	<b>7.6</b>	<b>16.2</b>
<b>East Zone</b>	<b>1.0</b>	<b>4.9</b>	<b>3.2</b>	<b>8.1</b>	<b>18.5</b>
<b>TOTAL</b>	<b>2.9</b>	<b>5.0</b>	<b>2.8</b>	<b>7.8</b>	<b>17.0</b>

## **MINING STUDY**

The mining study comprising both open pit and underground mine design and sequencing has been undertaken by global mining consultancy CSA Global Pty Ltd in Perth, Western Australia.

Pit shell optimisations using Whittle software were undertaken on the East Zone and West Zone deposits as defined by the Mineral Resource. Optimum pit shells were selected when the estimated open pit mining costs exceeded (due to increasing open pit strip ratio) the estimated underground stoping cost.

When factoring in topography, together with grade and width characteristics of the mineralised zones, the mining study demonstrates that resource extraction and project economics are optimal with a single open pit on the East Zone and three open pits on the West Zone, followed by underground mining of both deposits.

The mining study indicates that high-grade mineralisation will be accessed in the first month of the open pit mining schedule from low strip ratio pits in both the East and West Zones. It is expected that minimal capital expenditure will be required for pre-stripping of the open pits due to the presence of significant quantities of near-surface mineralisation.

Optimum pit shells for both East and West Zones and the preliminary plant layout are shown in Figure 1. A different viewpoint of the East Zone optimum pit shell together with the preliminary plant layout and dry stacked tailings facility is shown in Figure 2.

Mining from the East and West Zone pit shells has been sequenced in stages to enhance project cashflow. The geometry of the topography above each deposit is conducive to low strip ratios and the early stages of each of the optimum pit shells involve very low strip ratios to access high-grade mineralisation. Open pit stages for East Zone are shown in Figure 3 and for West Zone in Figures 4 and 5, along with their respective underground room and pillar stope designs.

The optimum East Zone pit shell comprises approximately 65% of the East Zone resource and the optimum West Zone pit shells comprise approximately 25% of the West Zone resource. The remaining resources of each deposit are proposed to be exploited by underground mining methods.

The mining study has identified that in the first year, approximately 95% of the zinc and lead mineralisation mined is classified in the JORC Indicated Mineral Resource category. Approximately 83% of material mined in the first four years is classified in the JORC Indicated Mineral Resource category.

Underground mining of the mineralised zones is scheduled to commence as mining of the open pits nears completion. Access to most underground stoping blocks can be achieved within mineralisation and, if desired, stoping of mineralisation could commence immediately upon completion of each open pit. The underground stopes are designed to be accessed directly from the base of the optimum pit shells in both East and West Zones, and minimal capital development will be required to access the designed underground stopes.

Considering the flat-lying nature of the mineralisation, underground stoping is proposed to be carried out by the room and pillar mining method utilising mechanised drilling, loading and haulage equipment. When implemented, the room and pillar method will result in the creation of multiple mining faces across the West Zone and East Zone deposits, providing opportunities for concurrent exploitation. This, combined with the four open pits, provides exceptional optionality, scheduling flexibility and risk reduction for the proposed mining operation.

For underground mining, low in-situ rock stresses are expected due to the average depth of the resource being only approximately 70 metres below surface, with a maximum depth below surface of 140m. The average height of the designed stopes is approximately 5.0m, with a minimum mining height of 2.0m. Stopping blocks have been designed on a 10m by 10m pattern with 4m by 4m pillars. Final stope recovery is designed to be greater than 95% (recovery is currently 100% for rooms, 90% for pillars) with pillar recovery scheduled as the final mining phase. No filling will be required with the designed room and pillar stoping method.



Figure 1: East Zone and West Zone optimum open pit shells showing mineral resource block model with proposed processing plant and tailings storage facility – elevated view from the south





**Figure 2: East Zone optimum open pit shell with proposed processing plant and dry-stacked tailings facility - elevated view from the east**





**Figure 3: East Zone and West Zone optimum open pit shells showing mining blocks proposed for extraction by open pit and underground mining operations and section lines for Figures 4, 5 & 6 – elevated view from the southeast**

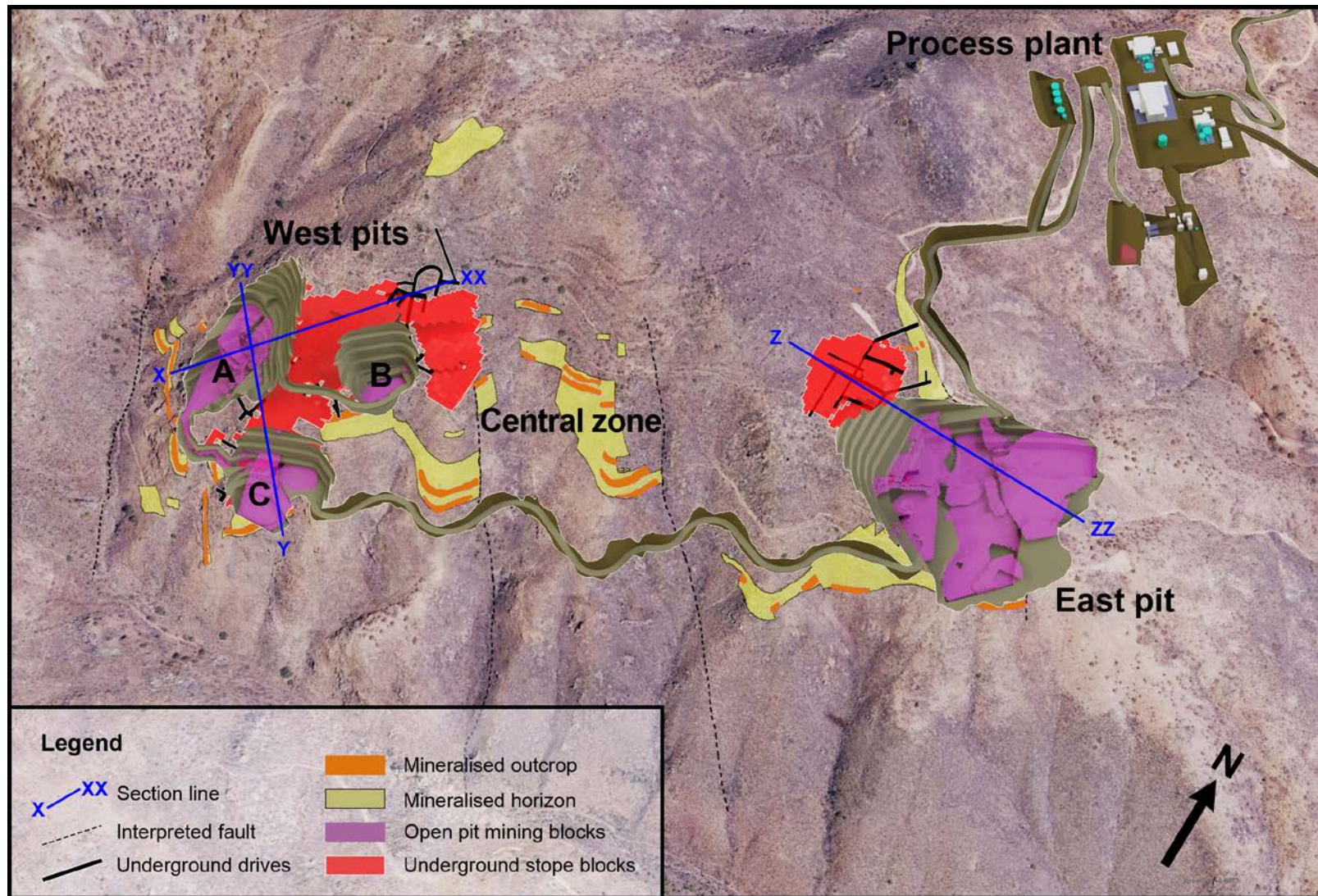
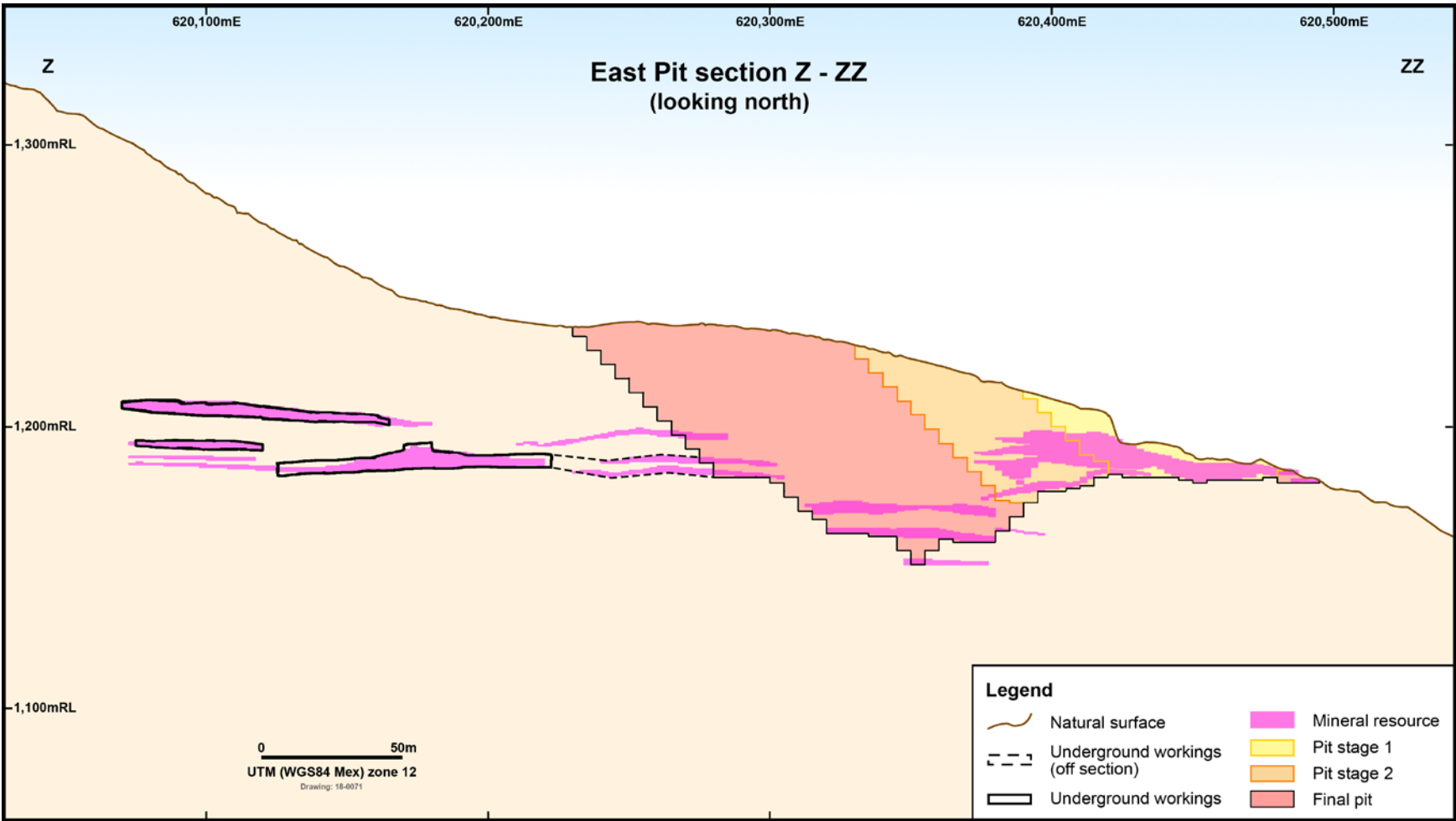
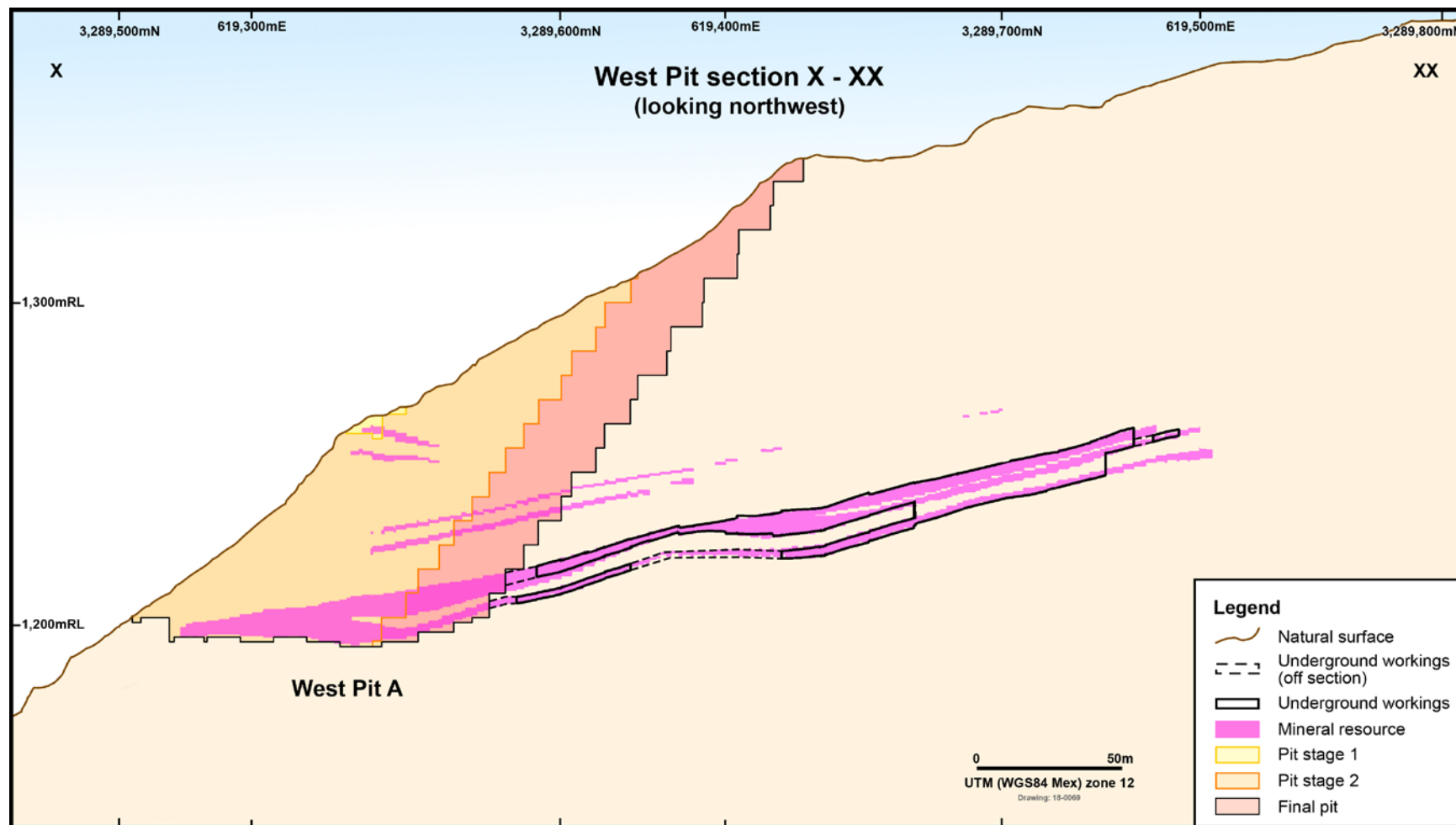


Figure 4: Section Z-ZZ through East Zone - Optimum open pit shell with proposed pit stages and underground room and pillar stopes



Pit wall angles are "apparent angles" due to the oblique alignment of the section line. Final overall pit wall angles have been modelled as 45°.

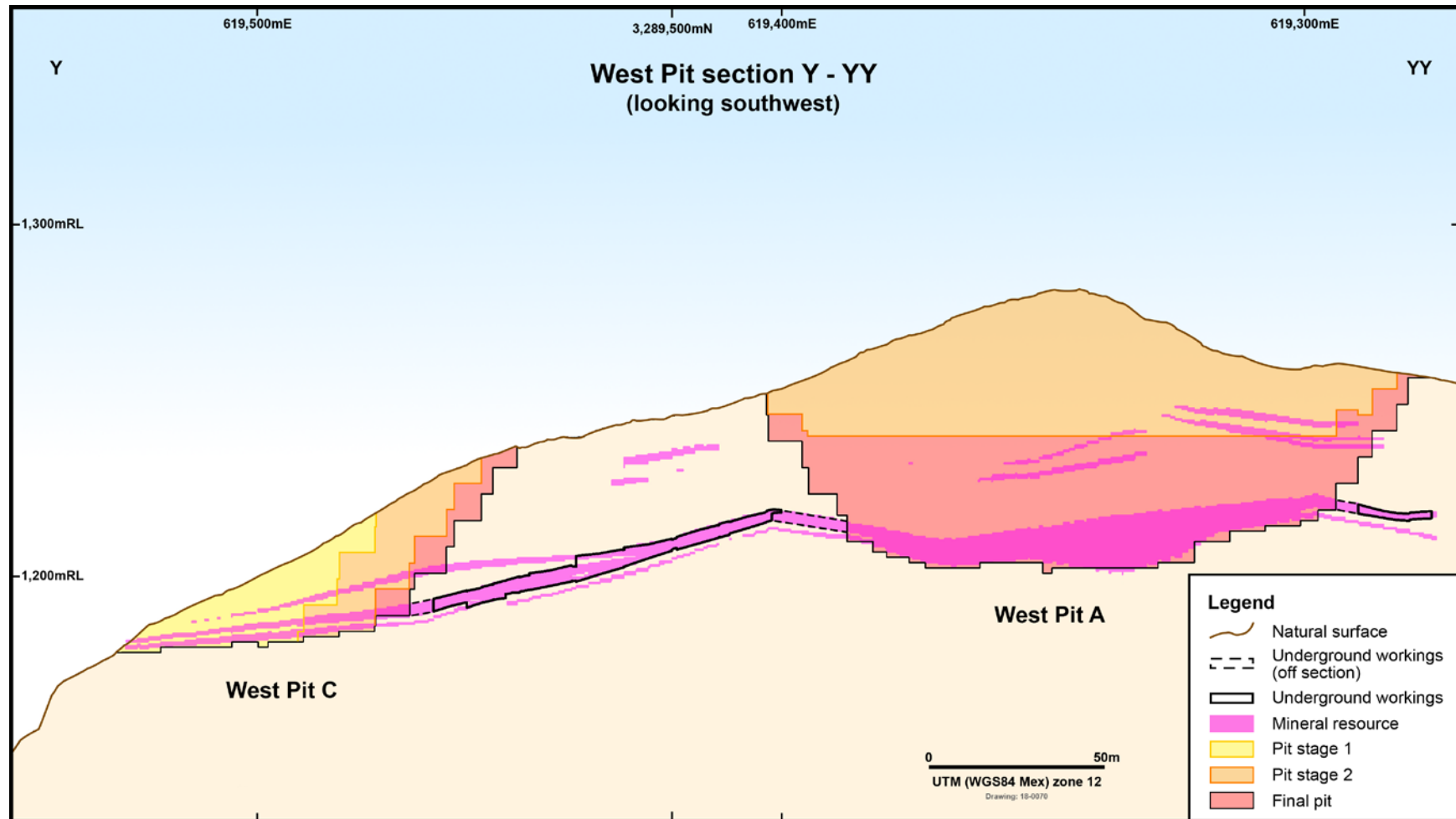
Figure 5: Section X-XX through West Zone: Optimum open pit shell (Pit A) with proposed pit stages and underground room and pillar stopes



Pit wall angles are “apparent angles” due to the oblique alignment of the section line. Final overall pit wall angles have been modelled as 45°.



**Figure 6: Section Y-YY through West Zone: Optimum open pit shells (Pits A & C) with proposed pit stages and underground room and pillar stopes**



Pit wall angles are “apparent angles” due to the oblique alignment of the section line. Final overall pit wall angles have been modelled as 45°.

**-ENDS-**

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**Competent Person Statements:**

*The information in this report that relates to Mineral Resources for the Oposura deposit is extracted from the report "Oposura Mineral Resource" created and released to the ASX on 4 July 2018 and is available to view on [www.asx.com.au](http://www.asx.com.au)*

*The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.*