



Northwest

ASX RELEASE

24 July 2012

Mining Study produces strong results for the Blue Spec Shear Gold-Antimony Project

Northwest Resources Limited (ASX: NWR, “Northwest” or “the Company”) is pleased to report the results of a detailed Mining Study which clearly demonstrates the high potential for a substantial high-grade underground mining operation at the Company’s flagship Blue Spec Shear Gold-Antimony Project.

Northwest’s vision for the Blue Spec Shear Gold-Antimony Project is to bring the Blue Spec and Gold Spec deposits into production in 2013 as a high-grade narrow vein underground mining operation producing a gold enriched antimony concentrate for direct sale and to expand the project through the discovery of additional high-grade deposits along the shear zone.

Highlights

- Mine design and scheduling indicates that over 1.0 Mt of ore can be mined from a combined Blue Spec-Gold Spec operation at a diluted head grade of 11.1g/t gold and 1.0% antimony.
- Total gold and antimony production in concentrate over the initial 5 year project life is estimated at 347,000oz gold and 7,500t antimony.
- Average annual gold production estimated at 75,000-80,000oz in concentrate in years 2-5.
- Milling capacity optimised at 250,000tpa.
- Mechanised mining and a simplified cut & fill mining method will maximise ore extraction.
- The Mining Study identified the high likelihood of increasing the size of the mining inventory and extending the initial 5 year project life.

The Mining Study has confirmed the viability of Northwest’s plans to concurrently develop the Blue Spec and Gold Spec deposits as high-grade underground mines by way of separate declines from surface.

Mr John Merity, Northwest's Managing Director commented:

"The completion of the Mining Study and the flotation testwork results from the ongoing Metallurgical Study are key milestones for the project and Northwest. The results of the Mining Study confirm Northwest's belief that the planned Blue Spec-Gold Spec underground mining operation can be a substantial, low risk and low cost operation."

Background

A major contributor to the closure of the Blue Spec and Gold Spec mines in 1978 and 1991 respectively, in addition to poor metallurgical recoveries, was the relatively small scale of production at the individual mines notwithstanding that historical ore reserves grading in excess of one ounce per tonne gold were defined at the deposits at different times during their operations.

During operation under different owners, both Blue Spec and Gold Spec suffered critical production constraints resulting from small shaft access, no mechanisation and lack of capital of private syndicate operators. Significantly, Blue Spec and Gold Spec have never been operated concurrently, despite being less than 900m apart.

Northwest's plan to concurrently develop Blue Spec and Gold Spec by way of separate declines from surface using modern mechanised mining methods successfully employed at other Western Australian high grade narrow vein underground gold mines is a low risk approach aimed at delivering the production scale and operational flexibility lacking in the past.

Antimony market

Antimony is a minor metal with a wide variety of industrial uses. Its main use is in flame retardants in the construction industry and in children's clothing.

Demand for antimony trioxide (the main commercial form of antimony production) has grown consistently over the last decade and is forecast to reach 250,000 TPA in 2016. By contrast, there has been a significant decline in Chinese antimony mine supply over the last decade and a large proportion of Chinese antimony production (the world's largest producer) is already dependent on imported concentrates.

As a result, the price of antimony metal has risen from around US\$2,000/t in 2004 to US\$13,000/t today and is forecast to reach over US\$20,000/t in the medium term as the market supply deficit continues and widens. PwC has valued the current world antimony at \$1.8 billion annually.

Mining Study scope and Blue Spec-Gold Spec base case mining scenario

Underground mining specialists Red Rock Engineering Pty Limited were engaged by Northwest to carry out the Mining Study, working with Northwest's experienced team. The Mining Study considered the key areas of study for an underground development of the Blue Spec and Gold Spec deposits and evaluated various options for:

1. mine design;
2. mine scheduling;
3. development rates;
4. mining method; and
5. production scheduling.

Key risks were identified in the Mining Study as were opportunities to increase the size of the mining inventory and extend the initial 5 year project life through depth extensions to both Blue Spec and Gold Spec and in-fill drilling of the current Mineral Resources.

The Mining Study produced preferred options for each area of study and enabled Northwest to define a base case mining scenario for the combined Blue Spec and Gold Spec deposits which clearly demonstrates the high potential for a substantial high-grade underground mining operation.

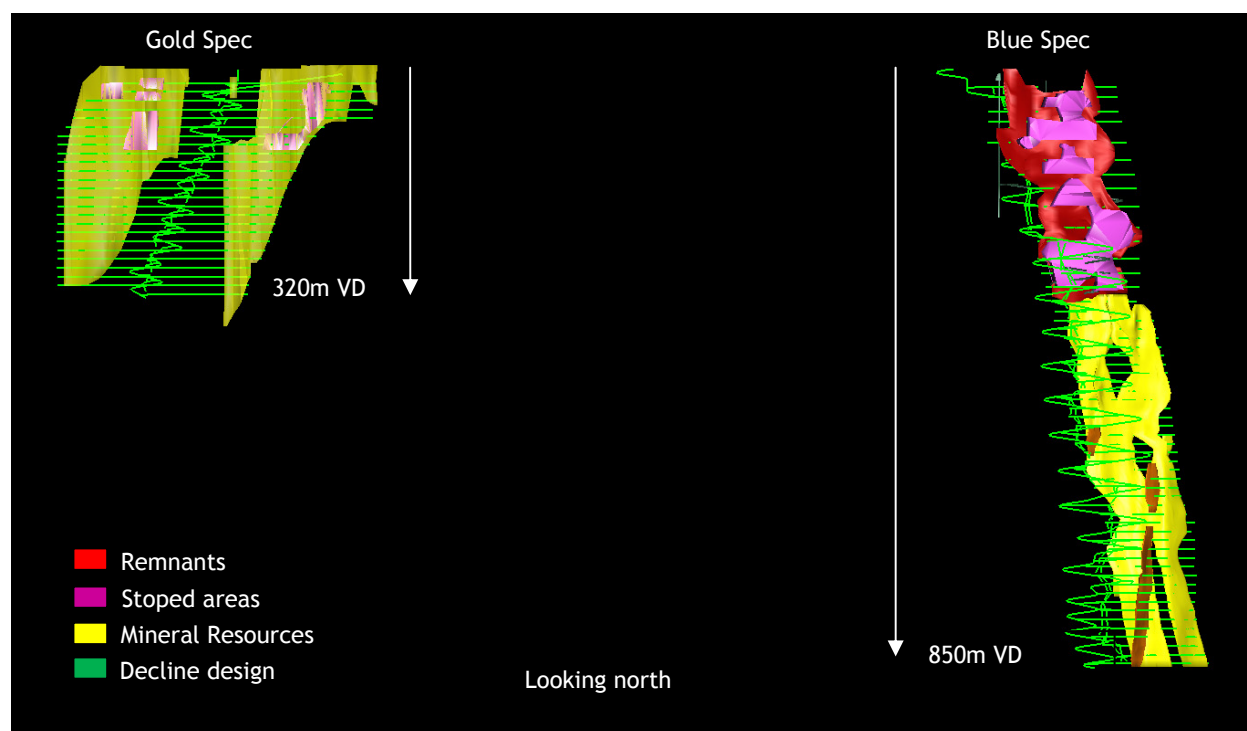
Under Northwest's base case mining scenario:

- the Blue Spec and Golden Spec gold-antimony deposits will be developed concurrently by way of industry standard 5.0m x 5.5m, 1 in 7 declines;
- mechanised narrow vein mining adopting a modified cut and fill method will be utilised;
- the mine plan is limited to the current Mineral Resource estimates for Blue Spec and Gold Spec but also includes extraction of a conservative amount of the remnants estimated remaining in the historical levels of Blue Spec (surface to 320m VD) (the **Blue Spec Remnants**); and
- the Blue Spec Remnants are scheduled to be mined prior to accessing the Blue Spec Mineral Resource below of the current workings.

Importantly, the Mining Study did not rely upon further increases to the resource base at Blue Spec and Gold Spec through depth extensions to the current Mineral Resources which are open at depth or new discoveries between Blue Spec and Gold Sec or along the 14kms of the shear zone.

Based on initial testwork results from Northwest's Metallurgical Study the Mining Study assumed that ore mined from Blue Spec and Gold Spec would be processed on site through a gravity/flotation treatment plant to produce a high-grade gold-antimony (Au-Sb) concentrate for direct sale with average flotation recoveries to concentrate of 94% for gold and 75% for antimony (taking into the account the lower recoveries of antimony in the Blue Spec Remnants).

Figure 1: Decline design at Blue Spec and Gold Spec



A summary of the findings of the Mining Study is set out below and more information on the study areas is contained in the Appendix to this release.

Mining Study results

The key parameters of the base case mining scenario evaluated by the Mining Study are as follows:

Mine life:	5 years
Total mined:	1.0 Mt
Mined head grade	11.1g/t gold (Au) 1.0% antimony (Sb)
Total metal production in concentrate:	347,000oz Au 7,500t Sb
Mill capacity:	250,000 tpa
Total underground development:	28,700m

Mining and capital development

Total development mining:	481,000t 6.3g/t Au 0.6% Sb
Total remnant mining:	252,000t 11.5g/t Au 1.4% Sb
Total stoping:	296,000t 18.6g/t Au 1.3% Sb
Capital development:	13,000m
Normal development:	13,400m
Rehabilitation development:	2,300m

The Mining Study is intended to give shareholders and potential investors an indication of the scope and magnitude of the planned Blue Spec-Golden Spec operation. It is not intended to forecast future revenue or operating results.

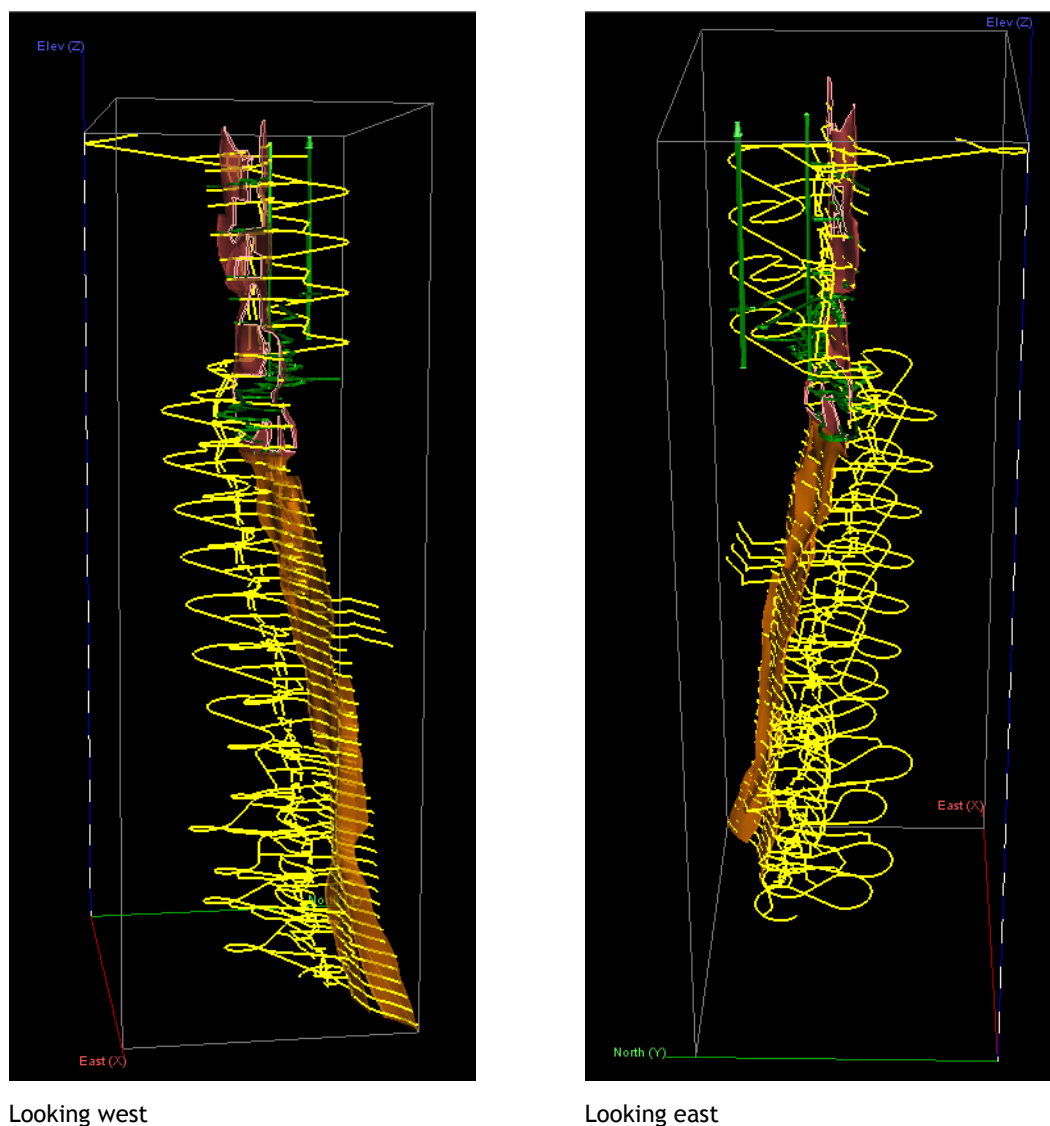
The Mining Study relies on certain key assumptions appropriate at this level of study which are discussed below. There are also a number of risks inherent in a project at this stage of development and study which are also discussed below. Shareholders and potential investors are cautioned to place the outcomes of the Mining Study in the context of these assumptions and risks.

Summary of Mining Study evaluation

1. Underground mine design

The mine design incorporated detailed planning of access, declines, level development, ventilation and second means of egress. At Blue Spec primary access will be by way of a decline located to the west of the ore shoot and development will be towards the east for the entire length of the ore shoot (Figure 2).

Figure 2: Decline design at Blue Spec



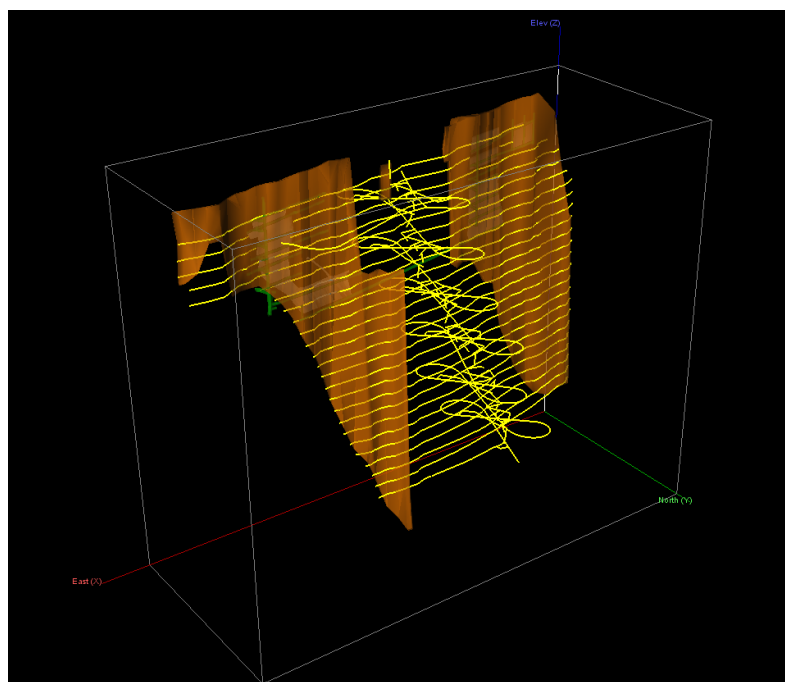
For Gold Spec, the decline will be situated in the barren zone between the two ore shoots, out to the extremities (Figure 3). Both declines will be standard 5.0m x 5.5m, 1 in 7 declines, suitable for 40t trucks.

2. Mine scheduling

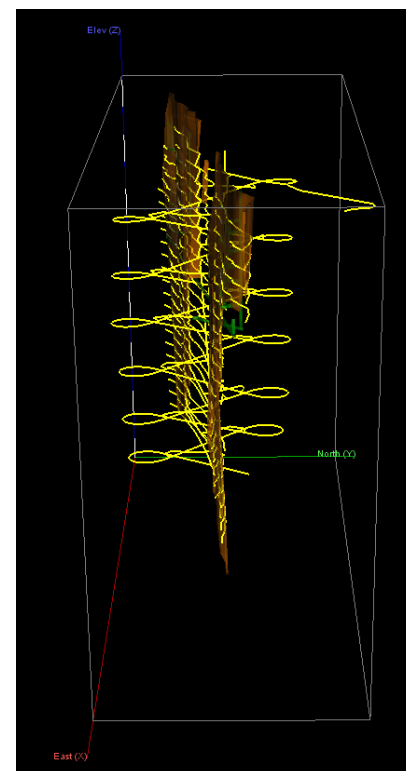
The primary considerations in developing the mine schedule are minimising the amount of capital development required to access the ore in line with the mining method, maintaining a sustainable production rate and minimising overall costs (reduced time to reduce large fixed cost component).

Scheduling will push both declines concurrently, with the Gold Spec decline focussed on reaching the levels below old workings (while mining some ore from the upper areas on the way) while the Blue Spec decline will focus on mining remnants until production commences from development at Gold Spec. The proposed mine scheduling is graphically represented in Figure 4. It is important to note that both Blue Spec and Gold Spec are open at depth.

Figure 3: Decline design at Gold Spec



Looking south



Looking west

3. Development rates

The rate of development has been based on the lower end of industry standards for similar ore bodies to Blue Spec and Gold Spec. Initial decline advance has been restricted to 200m per month per jumbo, with the rate increasing up to 300m per month when additional headings become available.

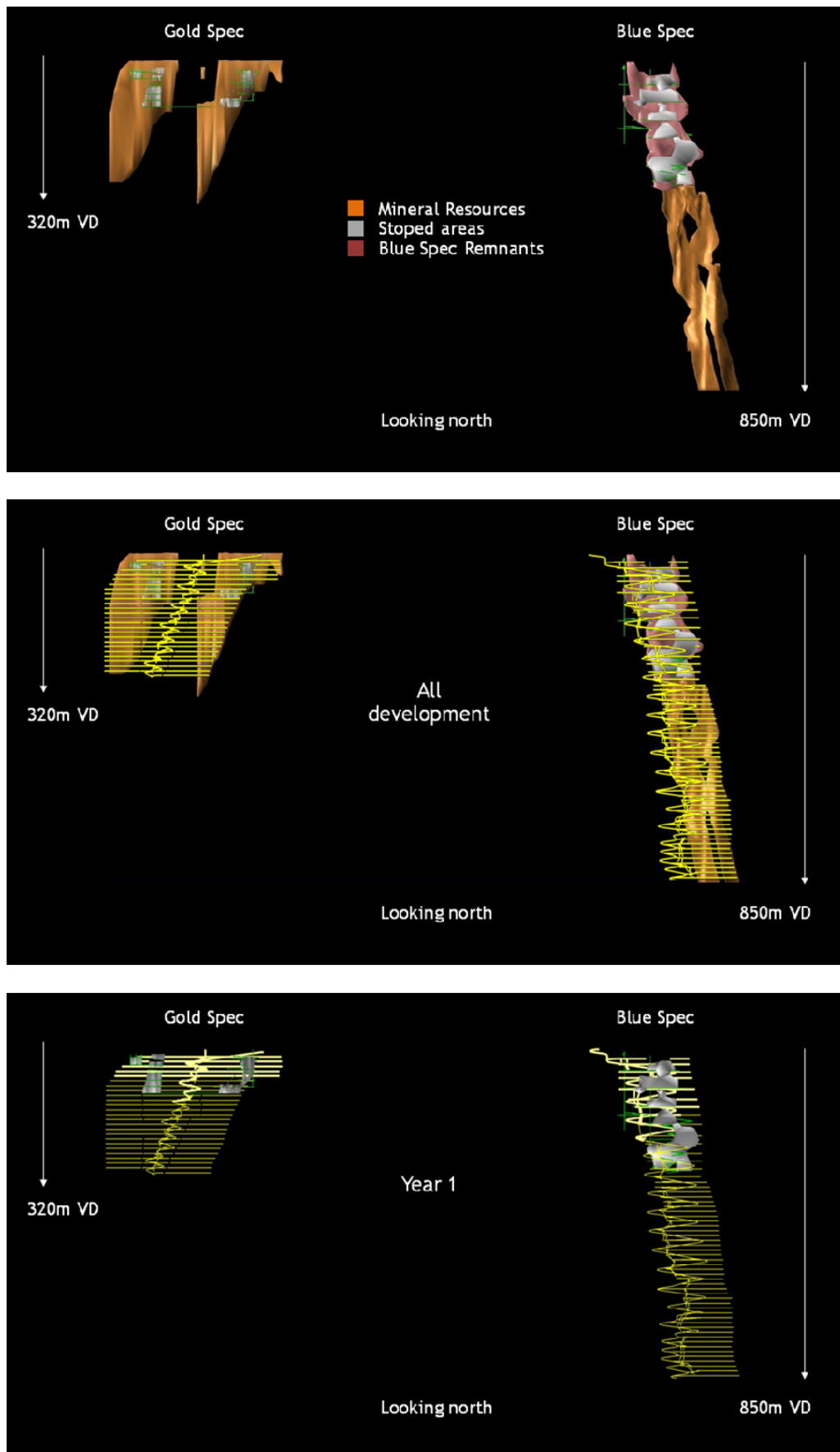
4. Mining method

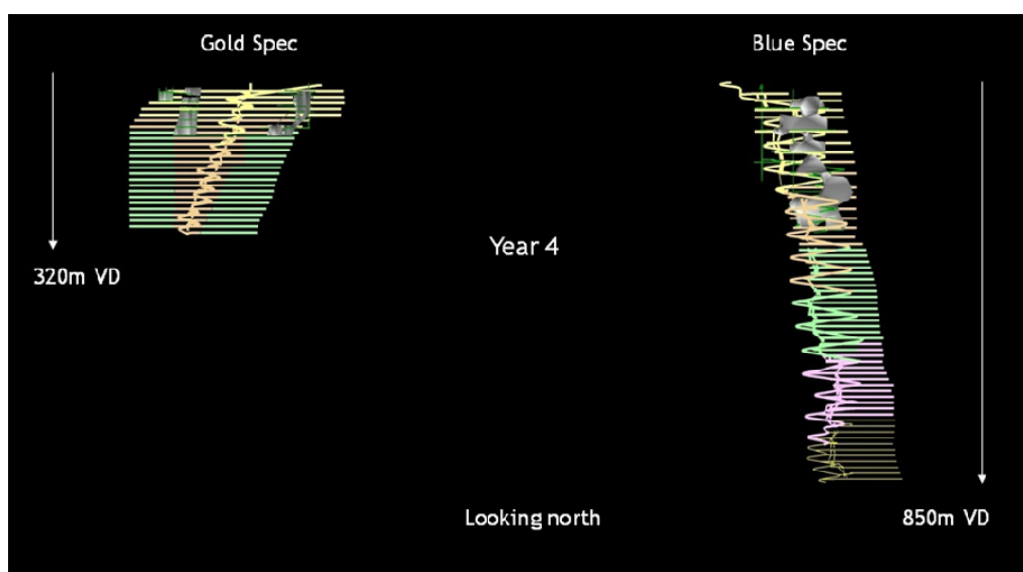
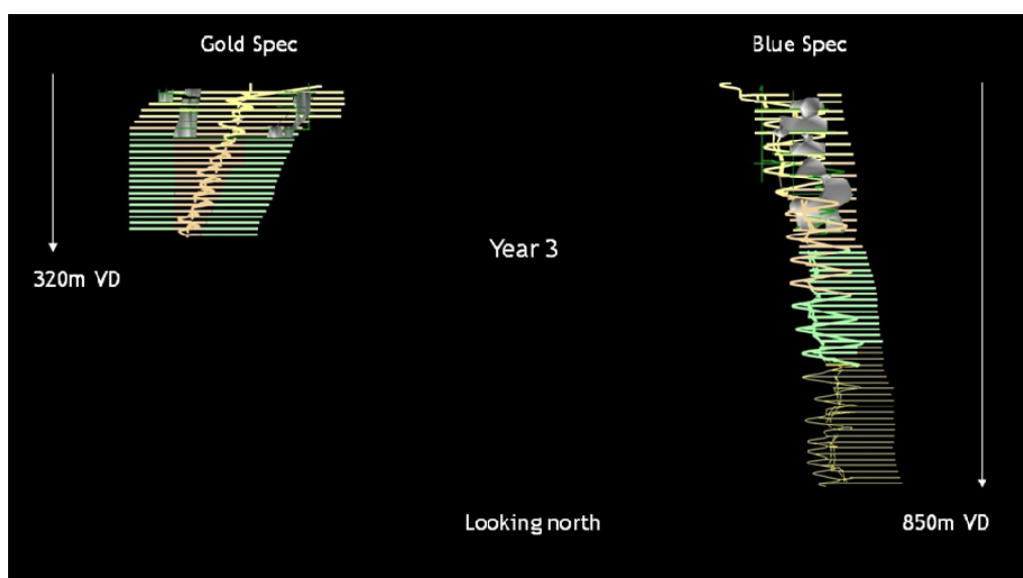
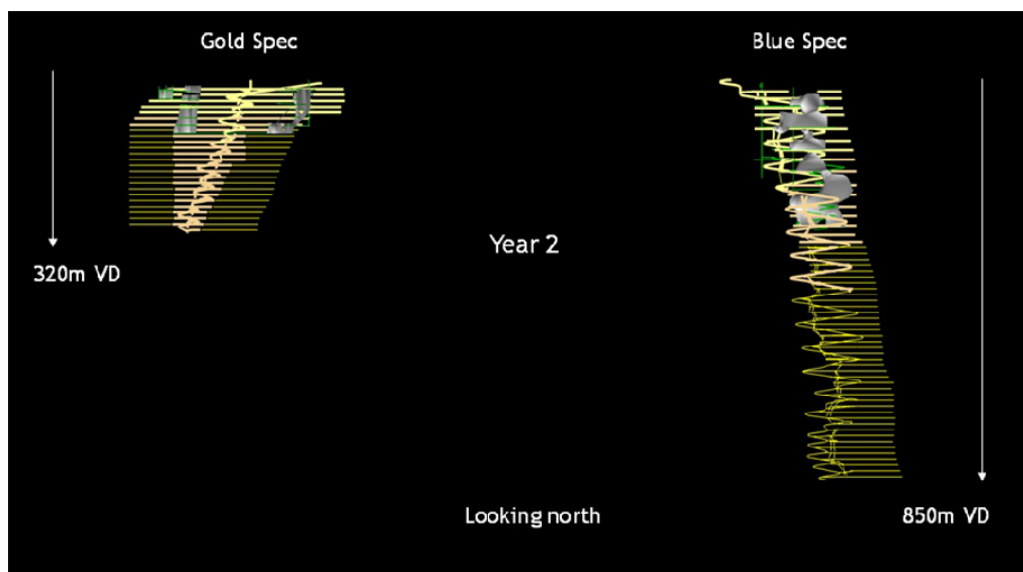
The major considerations in determining the mining method are total ore extraction, cost and dilution. In addition, having a mining method that is relatively simple and repetitive is considered important as this allows for efficiency gains with time.

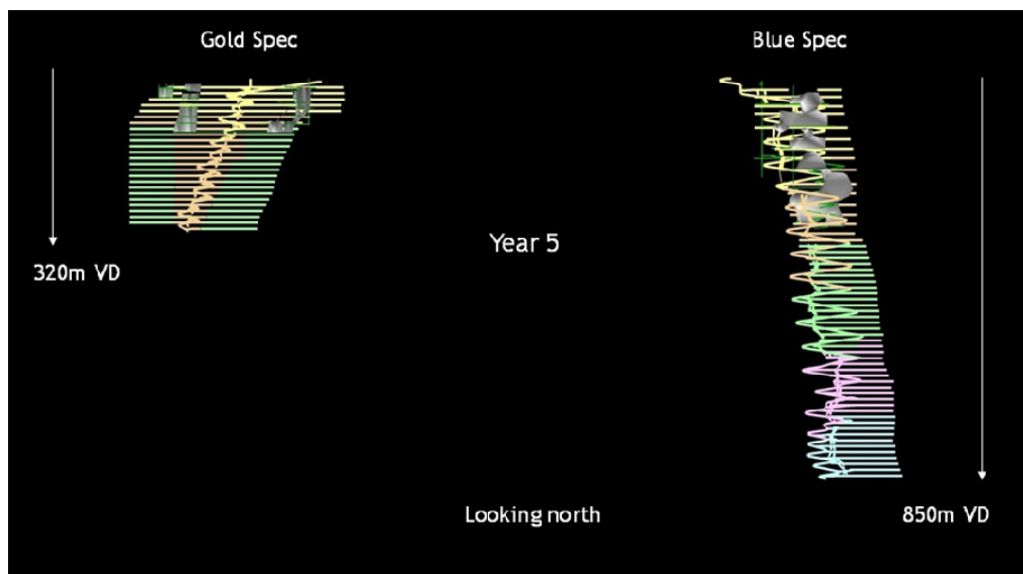
The only method that can achieve 100% extraction of the ore over the depth and strike of Blue Spec and Gold Spec is a variation of cut and fill (C&F) stoping. Various C&F stoping methods were considered before determining a preferred method of development at vertical intervals of 12.5m (floor to floor) by drives 3.5m wide and 4.5m high with the remaining 8m of ore between the levels to be mined by a long-hole retreat method, at a minimum mining width of 1.2m.

All indications are that ground conditions at both Blue Spec and Gold Spec will be good to favourable.

Figure 4: Blue Spec and Golden Spec mine development schedule







5. Production Schedule

Similarly to the development schedule, a conservative approach has been taken with the development of the production schedule. Production rates, along with the associated activities such as drilling and backfill have been based on the lower end of industry standards and will allow for increased flexibility in equipment utilisation and extraction sequencing.

Key assumptions used in the Mining Study

The nature of the Blue Spec and Gold Spec ore bodies with their demonstrated plunge continuity, well understood mineralogy and extensive production history at both deposits (in particular the records of Anglo American which operated the Blue Spec mine in the 1970's) provided Northwest with the confidence in the ore bodies to undertake the detailed underground development design and mine planning incorporated in the Mining Study.

The key assumption underpinning the Mining Study production targets is that the tonnage and grade estimates of the Inferred Mineral Resources for Blue Spec and Gold Spec (Table 1) and the low range tonnage and grade estimate for the Blue Spec Remnants (the historical levels of Blue Spec from surface to 320m VD and which is an exploration target and not a Mineral Resource) (Table 2) are realised in a mining scenario.

The proportions of the Mining Study production targets for total contained ounces of gold which are based on Indicated Mineral Resources, Inferred Mineral Resources and the Blue Spec Remnants are graphically represented in Figure 5.

Table 1: Mineral Resource estimate for Blue Spec and Gold Spec

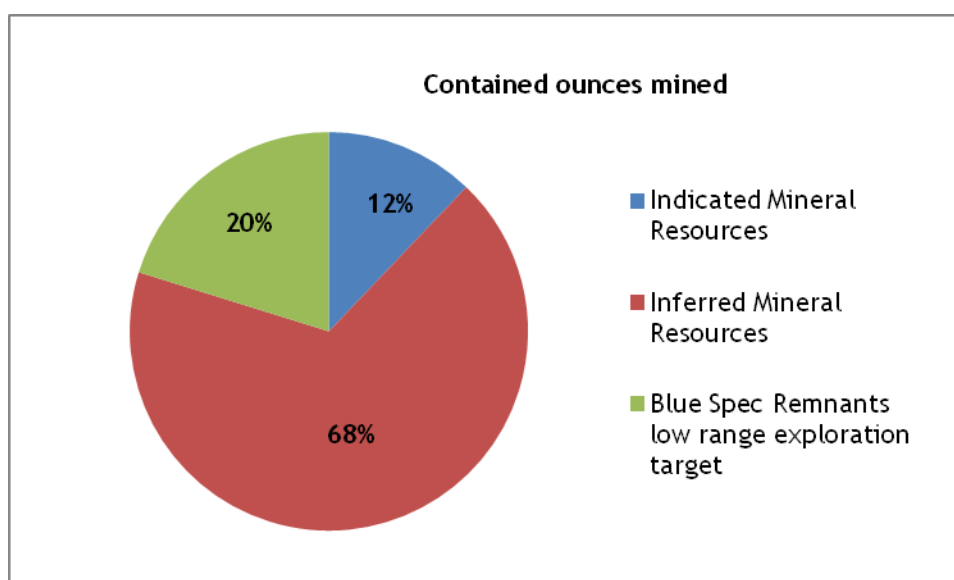
Deposit	Category	Tonnes	Grade Au g/t	Contained Au oz	Grade Sb %	Contained Sb tonnes
Blue Spec 3.0g/t Au cut-off	Indicated	16,000	52.3	26,900	4.9	800
	Inferred	307,000	22.9	226,000	1.6	4,800
	Total	323,000	24.3	252,900	1.7	5,600
Gold Spec 0.5g/t Au cut-off	Indicated	148,000	3.8	18,100	0.4	600
	Inferred	175,000	10.2	57,400	1.0	1,700
	Total	323,000	7.3	75,500	0.7	2,300
Total Blue Spec & Gold Spec		646,000	15.8	328,400	1.2	7,900

Differences may occur due to rounding

Table 2: Blue Spec Remnants exploration target

Exploration Target	Tonnage Range	Grade Au g/t Range	Contained Au oz Range	Grade Sb % Range	Contained Sb tonnes Range
Blue Spec Remnants	156,000 - 205,000	10.3 - 18.0	52,000 - 118,000	1.7 - 2.0	2,600 - 4,100

Figure 5: Total contained ounces of gold based on Indicated and Inferred Mineral Resources and the Blue Spec Remnants exploration target



Mining studies based on Inferred Mineral Resources and exploration targets are not unusual for ore bodies similar to Blue Spec and Gold Spec (steeply dipping, narrow, high grade deposits) as the cost of drilling required to bring the Mineral Resources to the highest JORC Code confidence levels of Measured and Indicated increases dramatically with depth. For Blue Spec and Gold Spec, the cost is further increased by prior mining (to depths of 120m VD at Gold Spec and 320m VD at Blue Spec).

Northwest's drilling programmes to date have successfully focussed on confirming the continuity of the structures and grade at both Blue Spec and Gold Spec, rather than density of drilling data to enable the estimate of a Measured and Indicated Mineral Resource / Ore Reserve. This density of drilling required to define a Measured & Indicated Mineral Resource will be achieved from underground drilling during operations, using much shorter and less expensive holes.

Key risks in the Mining Study

The key risk associated with achieving the production targets in the Mining Study is the reliance in the study on the tonnage and grade estimates of the Inferred Mineral Resources for Blue Spec and Gold Spec and the low range tonnage and grade estimate for the Blue Spec Remnants exploration target for the purposes of mine scheduling, development design and production scheduling.

Inferred Mineral Resources

Inferred Mineral Resource estimates have a lower level of geological confidence under the JORC Code compared with Indicated and Measured Mineral Resources which respectively have reasonable and high levels of confidence.

Northwest considers that the risk that the Inferred Mineral Resources at Blue Spec and Gold Spec will not convert to Measured and Indicated Mineral Resources with additional infill drilling from underground is low given the nature of the ore bodies and their mining history.

However, it is important to note that Inferred Mineral Resource estimates on which the Mining Study is largely based have a low level of geological confidence and there remains uncertainty whether further exploration will result in the determination of Indicated or Measured Mineral Resources and the realisation of Northwest's production targets based on the Inferred Mineral Resource.

Blue Spec Remnants

The Blue Spec Remnants is an exploration target and the tonnage and grade estimate for the Blue Spec Remnants is not a Mineral Resource estimate under the JORC Code. The Blue Spec Remnants tonnes and grade estimate are non JORC compliant due to the lack of QA/QC on underground face assay data and the inability to confirm collar positions for historical drilling. To bring this mineralised material up to meet JORC Mineral Resource criteria would require extensive drilling at a high cost.

The tonnage estimate for the Blue Spec Remnants is based on a physical, structural, pre-mined model created from the geological information available and then depleted for actual historical mining. The depletion will tend to err on the side of conservatism due to the way it has been estimated. It has been confirmed that there are at least three sub-parallel structures in the area which overlap. Depleting the pre-mined model used survey long sections and it is often unclear which structure has been mined from this information. Therefore, where the structures overlapped in the range of a stope confirmed to be mined by the survey long section, all structures were depleted indiscriminately by a process termed "cookie cutting" and this tends to underestimate the ore remaining as in most, if not all cases, only one structure was mined.

In addition, the tonnage estimates for the Blue Spec Remnants were further factored down in order to allow for deterioration of ground conditions and additional mining losses around old stopes. Further downward adjustments were made to the estimate of tonnes and grade to allow for dilution and the fact that the previous mining "high graded" their efforts in an attempt to maximise cash.

The grade estimate for Blue Spec Remnants is based on the continuity of grade throughout the previous mining cycles (which has been further confirmed by resource drilling below the old workings and the drilling to obtain the metallurgical test sample in the remnant zone) plus the continuity of the structures. The grade estimate for the remnant zone is well below the Mineral Resource grade estimate for Blue Spec.

Notwithstanding the normal risks associated with mining remnants, Northwest considers that the conservative factoring down of estimated tonnage and grades in the Blue Spec Remnants means that the risk of not achieving the production targets based on the Blue Sec Remnants tonnage and grade estimate is relatively low.

However, it is important to note that the tonnage and grade estimate for the Blue Spec Remnants on which the Mining Study production targets are partly derived are conceptual in nature. There has been insufficient exploration to determine a Mineral Resource for the Blue Spec Remnants and it is uncertain if further exploration will result in the determination of a Mineral Resource and the realisation of the production targets based on the Blue Spec Remnants.

Opportunities identified in the Mining Study

The current Mineral Resource estimate at Blue Spec-Gold Spec is 646,000t @ 15.8g/t Au and 1.2% Sb for 328,000oz Au and 7,900t Sb. The estimate is constrained to the extent of the current drilling which itself has been limited by the cost of drilling the steeply dipping ore bodies from surface.

Northwest believes that there are clear opportunities to increase the size and grade of the resource base at Blue Spec and Gold Spec.

Blue Spec

At Blue Spec, there is an opportunity to extend the depth of the deposit to at least the 1,000m VD level with drilling from underground during operations. Blue Spec shows excellent plunge continuity and is open below the currently defined 850m VD level.

Northwest also considers that there is an opportunity to increase average gold and antimony grades of the Lower Zone of Blue Spec (440m-850m VD) with further drilling from underground. The Blue Spec Mineral Resource has been divided into an Upper Zone (320m-440m VD) and a Lower Zone (440m-850m VD) based on drilling density and metal content. The Upper Zone has greater drilling density than the Lower Zone.

The gold and antimony grades of the Inferred Mineral Resource in the Lower Zone (17.5g/t Au and 1.4% Sb) are significantly below both the Indicated & Inferred Mineral Resource for the Upper Zone (42.5g/t Au and 2.6% Sb) and the ore reserve defined by Anglo American over the 190-310m VD levels (43.3g/t Au and 4.6% Sb).

Northwest believes that there is no mineralogical or structural reason for the significantly lower gold and antimony grades in the Lower Zone. Rather, Northwest considers that the Lower Zone grades are a function of lower drilling density in a variable high grade ore body.

Northwest is confident that underground drilling during operations to improve the Mineral Resource classification of the Lower Zone has the potential to push the Lower Zone gold and antimony grade significantly higher towards the grades reported in the Upper Zone. Diamond drilling of the Lower Zone has recorded some very significant intersections, including 2.5m @ 156.2 g/t Au & 14.7% Sb from 715m down-hole.

Gold Spec

At Gold Spec, there is an opportunity to extend the depth of the deposit to at least the 640m VD level with drilling from underground during operations. Gold Spec shows excellent plunge continuity and is open below the currently defined 320m VD level. Blue Spec has been defined down to the 850m VD level.

Northwest also considers there is also an opportunity to increase average gold and antimony grades of Gold Spec with further drilling from underground targeted at the high grade zones directly beneath the historical workings.

The Indicated & Inferred Mineral Resource grade at Gold Spec is 7.3g/t Au and 0.7% Sb which has been influenced by the inclusion of near surface low grade material around the old workings. The Mineral Resource estimate below the old workings exhibits significantly higher gold and antimony grades.

Northwest is confident that underground drilling during operations to improve the Mineral Resource classification of Gold Spec has the potential to push the overall gold grade higher towards the ore reserve grades reported by Chase-Minproc for the east shoot of Gold Spec (33.7g/t Au and 1.8% Sb).

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Competent Person Statements

The information in this announcement relating to Exploration Results and Mineral Resources is based on information compiled by Mr. Charles Gillman (MAIG) who is a full-time employee of Northwest and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves” (2004 JORC Code). Mr. Gillman consents to the inclusion in this announcement of the material based on his information in the form and context in which it appears.

The information in this announcement relating to production targets is based on information compiled by Mr. Allan King (AusIMM). Mr. King is a full-time employee of the Company and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 JORC Code. Mr. King consents to the inclusion in this announcement of the material based on his information in the form and context in which it appears.

Forward looking statements

Certain statements in this announcement, including statements regarding estimates, projections and assumptions in respect of gold and antimony production, mineral resources, anticipated grades and recovery rates and mineralisation targets constitute forward-looking statements. Forward-looking statements are necessarily based upon a number of estimates and assumptions related to future business, technical economic, market, political, social and other conditions that, while considered reasonable by the Company, are inherently subject to significant uncertainties and contingencies. Many known and unknown factors could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements. Readers are cautioned that forward looking statements are not guarantees of future performance.

APPENDIX

1. Underground mine design
2. Mine scheduling
3. Development rates
4. Mining method
5. Production scheduling

1. Underground mine design

The mine design component of the Mining Study included detailed planning of access, declines, level development, ventilation and second means of egress.

At Blue Spec primary access will be by way of a decline located to the west of the ore shoot and development will be towards the east for the entire length of the ore shoot. For Gold Spec, the decline will be situated in the barren zone between the two ore shoots, out to the extremities. Both declines will be standard 5.0m x 5.5m, 1 in 7 declines, suitable for 40t trucks.

Due to the nature of the host rock, topography and the depth of oxidation, the portals for each decline are planned to be relatively small and extend 16m below surface RL.

Underground development will be undertaken with standard, 2-boom jumbo's, capable of drilling 3.5m rounds plus installing bolts and mesh as they advance. A third, backup jumbo will also be available that will be capable of drilling longer cable bolt holes as required (plus production drilling for stoping).

All capital development and ore loading will be carried out utilising an Elphinstone R1700 loader. Ore development will be 3.5m wide, by 4.5m high and ore headings will be bogged using an Elphinstone R1500 loader (or similar). This equipment selection is based on their reliability, efficiency and overall cost effectiveness. Production drilling will be by a spare two boom jumbo that will be fitted with an interchangeable rod-handler.

2. Mine scheduling

The mine schedule has been developed after consideration of several factors. The primary considerations included minimising the amount of capital development required to access the ore in line with the mining method, maintaining a sustainable production rate and minimising overall costs (reduced time to reduce large fixed cost component). The strategy is to push both declines concurrently, with Gold Spec focussed on reaching the levels below old workings (while mining some ore from the upper areas on the way) while Blue Spec will have a slightly higher focus on mining remnants until production commences from development at Gold Spec.

- Portal/box cut development for both portals will be completed in the first 2 months of the project.
- The portal at Gold Spec will enable access into ore almost immediately and establishment of rehabilitation development on ore will be concurrent with decline development, commencing in month 3.
- Development at Blue Spec will also commence in month 3 but it will take until month 7 before rehabilitation development will commence. This is due to the top section of the ore at Blue Spec being previously mined via open pit and the likely rock damage surrounding the pit.

- Production from levels of Gold Spec above existing workings is predicted to commence during month 3 and continue until month 18 while production from the Blue Spec Remnants is expected to commence during month 7 and continue until month 28.
- Development of the ore below existing workings will commence at Gold Spec in month 11 with stoping planned to commence in month 47. The delay in commencing stoping is in line with the strategy of getting the highest grade gold material to the mill first but reducing fixed cost expenditure.
- Ore development at Blue Spec below existing workings is scheduled to commence during month 17 and continue through to month 37. Stoping in this area is scheduled to commence month 25 and continue through to month 59 (end of current mine life).
- The production mix between Blue Spec and Gold Spec has been adjusted to ensure that extraction of the current mining inventory at both deposits is completed at the same time in month 59.

3. Development rates

The rate of development has been based on the lower end of industry standards for similar ore bodies in order to allow for the remote nature of the site and the potential for skill shortages impacting performance. The initial decline advance has been restricted to 200m per month per jumbo, with the rate increasing up to 300m per month when additional headings become available.

The development schedule in Figure 2 also shows meters for rehabilitation which are an allowance for re-entering old workings to access ore left from previous operations. The meters from this do push the average up but it is assumed that the third jumbo would be utilised in this area. There is a likelihood that the scheduled development rate will be exceeded, reducing overall costs and bringing forward production but this has not been factored in.

4. Mining method

There were three major considerations in determining the mining method, being total ore extraction, cost and dilution. In addition to these factors, having a mining method that was relatively simple and repetitive was considered important as this allows for efficiency gains with time. It was also decided that any mining method must be mechanised as far as possible due to the risks associated with the shortage of required air-leg miner skills and the higher perceived risk in this method of mining.

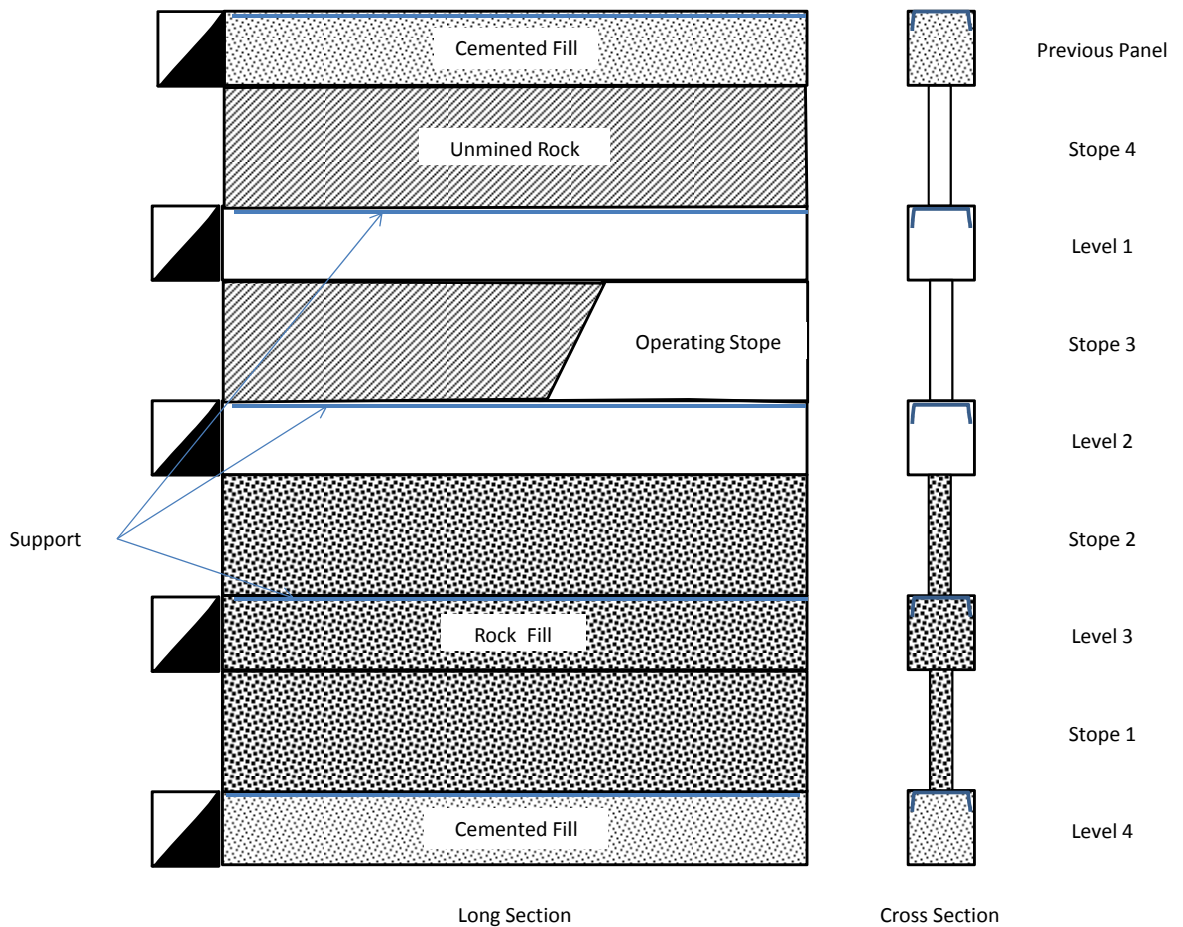
The Mineral Resource estimates clearly shows that the Blue Spec and Gold Spec ore is of very high grade and therefore, high value. Consequently, the prime consideration of any potential method must be to maximise extraction. The only method that can achieve 100% extraction of the ore over this depth and strike is

a variation of cut and fill (C&F) stoping. Therefore, the mining method chosen is a hybrid mechanised, narrow vein, cut and fill method.

The ore will be developed at a vertical interval of 12.5m (floor to floor) by drives 3.5m wide and 4.5m high. The remaining 8m of ore between the levels will be mined by a long-hole retreat method, at a minimum mining width of 1.2m. This width can be achieved because of the greatly improved drill accuracy when drilling short holes.

Stoping will be carried out in panels of four to six consecutive levels in a bottom up fashion. The bottom level of the panel is mined and filled with a mix of rock and cemented tails to form a pillar that will enable mining 100% of the panel below. Once the first level is mined using a long-hole retreat method and remote loaders, it is filled and the second level is then mined from the top of the fill. Stoping will progress in this fashion until reaching the cemented fill of the bottom level of the panel above (see Figure 6). This last section of stoping is usually left unfilled unless hydraulic fill is available. The use of hydraulic fill is still to be evaluated.

Figure 6: Proposed stoping method for Blue Spec-Gold Spec

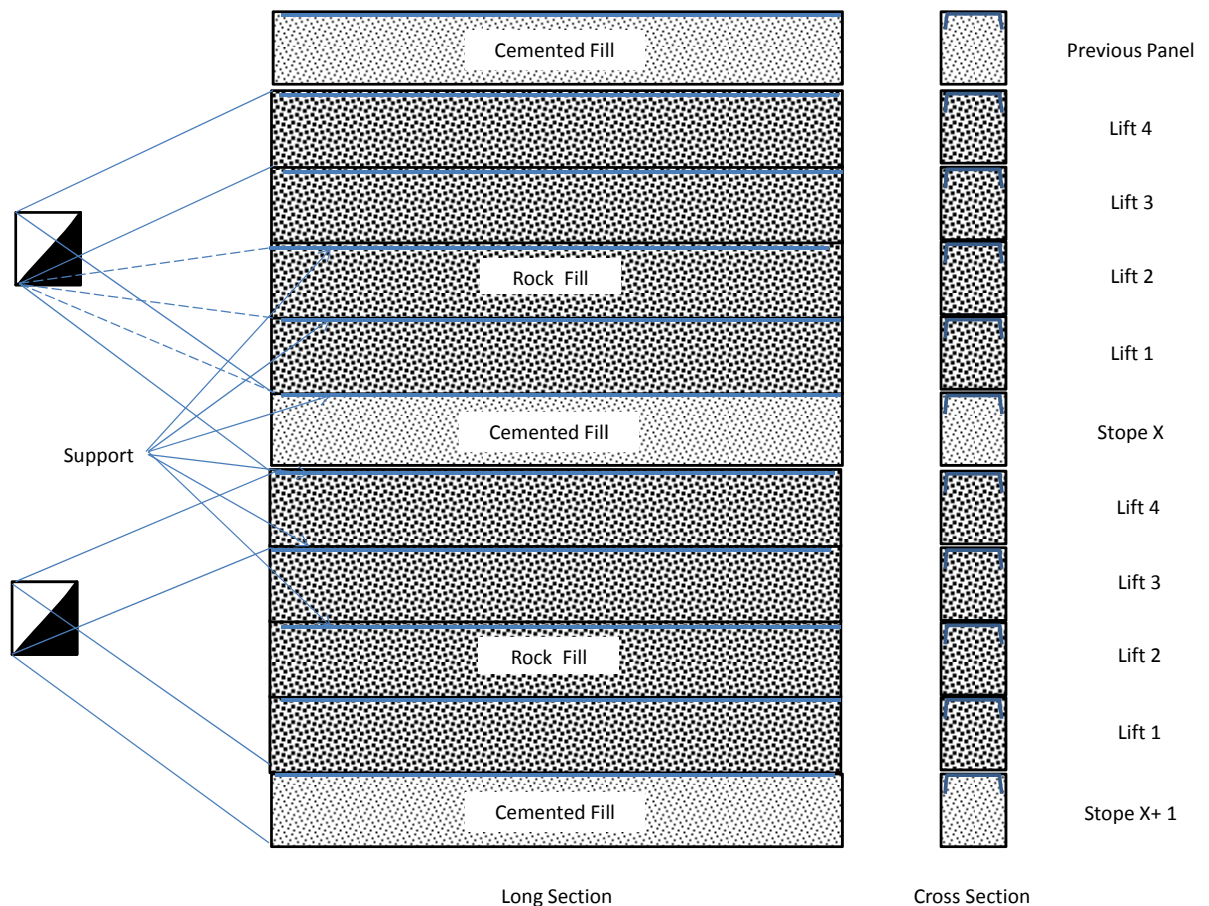


Other variations of C&F stoping considered included:

- A more traditional flat-back mechanised C&F stoping using up and down footwall ramps (see Figure 4). In this method, the base level is developed to a standard height (4.5m) through to the end of the ore and then the jumbo returns to the start of the drive and mines a further 4.5m of height but only bogging enough ore to gain access back to the face to drill the next round (from on top of the broken ore). This then continues through to the end of the existing drive, at which time all of the broken ore is removed, leaving a void 9.0m high. The stope is then filled to a height of 4.5m with cemented fill in the initial lift as a minimum or rock fill for subsequent lifts and the process repeated.

This variation was rejected because, even though it achieves 100% extraction, it requires that the entire ore body be mined to the minimum width for the jumbo and that every lift be supported (bolt and mesh as a minimum) so that the ore can be bogged (i.e. high dilution and high cost).

Figure 7: Traditional flat-back mechanised C&F stoping



- Long - Hole stoping with rock fill using 25m level intervals (similar to the proposed method but with 25m (floor to floor) level intervals). Experience has shown that for narrow stoping requirements, the larger level intervals causes problems with blasting due to blast hole deviation, resulting in dilution, damage to walls and an increased risk for remote loaders when bogging ore. History has also show that, while the ore-body at Blue Spec is continuous down plunge, there are a number of splays and localised deviations in strike and dip. Increasing the height of stoping panels increases the chance of ore losses due to localised changes to ore dimensions

Another factor is dilution. Although this method does include significant amounts of dilution from the development phase, the shorter production drill holes will allow for far superior control of drill direction and therefore stope dilution will be minimised. In areas where dilution will become excessive due to the ore narrowing, the development can change to a resuing method.

All indications are that ground conditions at both Blue Spec and Gold Spec will be good to favourable, with some localised fretting or unravelling occurring. It is considered that standard split bolts and mesh with cable bolts in wider areas and at development junctions will be satisfactory support. However, as the mine advances deeper, the stresses will increase and abutment stresses become more of an issue.

The development of the orebody from one end and mining by retreat back to an end access removes the “shrinking pillar” stress increases that result from central access (retreating from both sides back to a central access causes problems when the two retreating stopes get close as the pillar between them gets smaller and more highly stressed).

5. Production Schedule

Similarly to the development schedule, a conservative approach has been taken with the development of the production schedule. Production rates, along with the associated activities such as drilling and backfill have been based on the lower end of industry standards and will allow for increased flexibility in equipment utilisation and extraction sequencing (more than 4 levels per stoping block is more readily achievable with a faster mining rate). The production schedule is graphically represented in Figure 5 below.

One aspect of the production schedule which will be considered further relates to the proposed sequencing of the extraction of ore from Gold Spec. In accordance with the strategy to ensure the highest grade gold material is prioritised for milling, stoping of Gold Spec below existing workings is currently planned to commence in month 47. However, Northwest’s Metallurgical Study suggests that although Gold Spec has a lower gold grade estimate than Blue Spec, testwork suggests that it may have preferential metallurgical characteristics which would warrant blending the Gold Spec material earlier rather than holding it until end of project. The next phase of study will address this opportunity after more detailed metallurgical and off-take partner requirement information has been obtained.