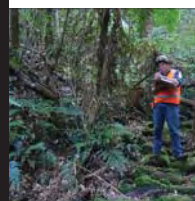
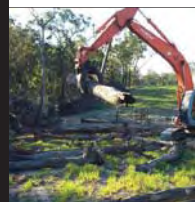


Appendix D
Legal Advice (Blake Dawson)



APPENDIX D

BY EMAIL

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Blake Dawson

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17 May 2010

Dear Brian

ROCGLLEN COAL MINE – PROPOSED s 75W MODIFICATION FOR THE HIGHWALL STABILISATION WORKS

Our reference
MPB 02 2014 7120

Partner
Mark Brennan
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mark.brennan
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1. Purpose of this letter

This letter is concerned with the proposed modifications to the Rocglen Coal Mine (**Proposed Modification**) as described in a document titled *Environmental Assessment – Rocglen Coal Mine Modification – Highwall Stabilisation Works* dated May 2010 (EA).

The Rocglen Coal Mine is operated pursuant to a Part 3A approval granted by the Minister for Planning on 15 April 2008 (**2008 Part 3A Approval**).

The purpose of this letter is to respond to your request for my opinion as to whether it would be within power for the Minister for Planning to approve the Proposed Modification pursuant to s 75W of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*.

2. Executive summary

My key conclusion is that there is no doubt that it is within power for the Minister for Planning to approve the Proposed Modification pursuant to s 75W of the EP&A Act.

3. What is contemplated by the Proposed Modification?

The need for the Proposed Modification arises from geological issues encountered during carrying out the mining operations authorised by the 2008 Part 3A Approval.

An overview description of the Proposed Modification is given at section 1.4 of the EA. It states:

1.4 Project Overview

The proposed project modification applies to unplanned emergency earthworks required to stabilise the highwall at Rocglen Coal Mine following slipping adjacent to a fault structure in the north eastern portion of the existing open cut pit. Following an assessment by a experienced geotechnical engineer, it has

been determined that the stabilisation works required to ensure the long-term stability and safety of the highwall are partially outside of the open cut limit approved under PA 06_0198.

The primary components of the proposed highwall stabilisation works at Rocglen are:

- Widening the face of the open cut, outside of the currently approved limit, to establish a highwall within competent material that will enable development of the pit in a safe and efficient manner; and
- Extraction of the additional overburden material from the fault zone and emplacement of it within the current area of disturbance to the east of the proposed stabilisation works.

The proposal will not involve any change to the current open cut mining methods, annual coal production rate, mine operating hours, coal handling and processing techniques, or workforce.

The cutback associated with the highwall stabilisation works is depicted by green hatching on Figures 2 and 3 of the EA.

I am instructed that the area of the proposed cutback is approximately 2.05ha. The area of the approved pit under the 2008 Part 3A Approval is approximately 114ha. Accordingly, the proposed cutback will expand the area already approved for open cut mining by approximately 1.8%.

In relation to the overburden generated by the pit cutback, section 4.4 of the EA states:

The additional overburden material to be extracted from around the fault zone is anticipated to amount to approximately one million bank cubic metres (Mbcm). . . it is proposed to emplace this material within the current area of disturbance to the north-east of the proposed stabilisation works. This area is currently utilised for overburden emplacement and subsoil stockpiling, as approved under PA 06_0198. . . Whitehaven's mining engineer contractor has determined that approximately 228,000 square metres is available within this area for emplacement of the additional overburden material. Allowing for swell, it is estimated that emplacement of the overburden will require a height increase within the nominated area of around 6 metres over what is currently there. Areas that are not currently used for overburden emplacement or subsoil stockpiling, but are within the nominated area, may give some opportunity to reduce the 6 metre height differential.

The land proposed for the highwall stabilisation works and the overburden emplacement have already been cleared pursuant to the 2008 Part 3A Approval. At section 6.0 of the EA it is relevantly stated:

While the works associated with the proposed highwall stabilisation are outside of the current approved open cut pit limit, they are contained entirely within the existing mine lease area (ML 1620) and previous disturbance associated with the mine development.

4. Section 75W – what does it provide?

Section 75W relevantly states:

75W(1) In this section:

"Minister's approval" means an approval to carry out a project under this Part, and includes an approval of a concept plan.

"modification of approval" means changing the terms of a Minister's approval, including:

- (a) revoking or varying a condition of the approval or imposing an additional condition of the approval, and
- (b) changing the terms of any determination made by the Minister under Division 3 in connection with the approval.

- (2) The proponent may request the Minister to modify the Minister's approval for a project. The Minister's approval for a modification is not required if the project as modified will be consistent with the existing approval under this Part.
- (3) The request for the Minister's approval is to be lodged with the Director-General. The Director-General may notify the proponent of environmental assessment requirements with respect to the proposed modification that the proponent must comply with before the matter will be considered by the Minister.
- (4) The Minister may modify the approval (with or without conditions) or disapprove of the modification.

5. What degree of modification is permitted by s 75W – the current case law?

The only judgment which has substantively considered the scope of s 75W is the decision of Biscoe J in *Williams v Minister for Planning & Ors* (LEC, 5 February 2009) (*Cowal Gold case*)¹.

The *Cowal Gold* case concerned an application under s 75W lodged with the Minister by Barrick Australia Ltd to modify its existing development consent for its Cowal Gold Mine. That development consent had been modified pursuant to s 96(1A) on five earlier occasions.

The objector brought the legal proceedings contending that Barrick's proposed changes to its Cowal Gold Mine were so significant that they were beyond the scope of s 75W.

One of the issues which had to be decided by Biscoe J, was the basis of comparison required by s 75W. Namely, is the modified approval to be compared with the original development consent or with the development consent as it currently exists. Biscoe J decided that it was the latter. His reasoning is contained at para 54 of his judgment where he states.

54. It is clear that "the approval" referred to in s 75W that may be modified is the approval, with any earlier modifications, as it stood at the time of the modification request, for it makes no sense to speak of modifying something that is not current. At times, the applicant's submissions invited comparison with the original development consent. The relevant comparison, in my view, is with the modified development consent as at the date of [Barrick's s 75W modification]. (My underlining).

As to the scope of change permitted by s 75W, the judge stated the following at paras 56-62:

... there is a qualification in s 96 which informs the meaning of the word "modified" as used therein: the consent authority must be satisfied that the development to which the consent as modified relates is "substantially the same" as the development already approved. That qualification is absent in s 75W ... This difference suggests that s 75W permits a modification which is not substantially the same as the development already approved. However, that is not the same as saying that s 75W permits a radical transformation.

... Take as an example, a request to "modify" the terms of this development consent by increasing the life of the mine's operation by 100 years, the area of the mine by 100 hectares and the production of ore one hundred fold. Such changes certainly would constitute a radical transformation of the terms of the existing development consent. A modified approval must of necessity change its predecessor in

¹ Barrick filed an appeal against the decision of Biscoe J. A judgment in the appeal proceedings was handed down by the Court of Appeal on 3 September 2009. The Court of Appeal upheld Barrick's appeal but did so without clarifying the scope of s 75W or determining whether Justice Biscoe's "radical transformation" test is the correct test for administering s 75W: *Barrick Australia Limited v Neville Williams & The Minister for Planning*.

some respects. However, I do not consider that the words "changing the terms" in the s 75W definition go so far as to contemplate a radical transformation. Accordingly, in my opinion, the modification of approval in s 75W means changing the terms of an existing approval without radical transformation.

.... The test of "radical transformation" calls for an evaluative judgment following consideration of the nature and extent of the proposed changes. The mine is already a major project in terms of the size of the area covered, the scope of the works and their duration. The proposed changes are a great expansion of important elements of the currently approved development. An additional 53 million tonnes of ore (up from 76Mt to 129Mt) is to be mined to increase gold production from 2.7Moz to an estimated 3.5Moz. Consequential very large increases in operational mine life (almost doubling), pit size (almost doubling), volume of mined waste rock, area of waste rock emplacements, tailings storage, low grade ore stockpile and run off seepage are required

....Over the proposed longer lifetime of the mine, almost double the amount of water will be used up from 30,000 megalitres to 55,485 megalitres.

.... Overall, in my opinion, the proposed changes, by reason of their nature and extent, are not merely substantial (which is beside the point) but amount to a radical transformation of the terms of the existing development consent. Accordingly, I uphold this challenge to [Barrick's s 75W application] [My underlining].

The relevant principles established by the judgment in the *Cowal Gold* case are:

- the comparative task under s 75W, involves an assessment of the proposed modified approval and the approval as it currently exists;
- s 75W permits a modification which is not substantially the same as the development already approved, however it does not authorise a modification which amounts to a "radical transformation";
- the test of "radical transformation" calls for an evaluative judgment following consideration of the nature and extent of the proposed changes.

The judgment does not provide material guidance on distinguishing when a proposed modification goes too far so as to constitute a "radical transformation". In this regard, the judgment stands for the principle that a mine expansion will constitute a "radical transformation" if it involves a 70% increase in ore mined, an increase in gold production by approximately 33%, an almost doubling in the operational mine life, an almost doubling in the pit size, and an almost doubling of the volume of water which will be used during the mine life.

6. Does the Proposed Modification breach the "radical transformation" test?

Section 75W requires a comparison between the Proposed Modification and the development authorised by the 2008 Part 3A Approval. This is a direct application of the law as stated by Biscoe J in the *Cowal Gold* case.

Based on the description contained in the EA, it appears that the following features of the Rocglen Coal Mine will remain unchanged:

- life of mine;
- open cut mining methods;
- annual coal production rate;
- mine operating hours;
- coal handling and processing techniques;

- workforce.

The variations introduced by the Proposed Modification appear to be confined to the carrying out of the proposed highwall stabilisation works and the overburden emplacement. Both will occur on land already disturbed pursuant to the 2008 Part 3A Approval.

The proposed expansion of the pit by approximately 2.05ha involves approximately a 1.8% increase in the approved pit size. In comparison, the proposed increase in the pit in the *Cowal Gold case* involved the approved pit "almost doubling". Other metrics which were regarded by the judge in the *Cowal Gold case* as being material were the proposed increase in mined ore which was to increase from 76Mt to 129Mt (an increase of 70%) and the volume of mined waste rock (which was to increase from 128Mt to 184Mt, an increase of 44%). Increases to the material to be mined at the Rocglen Coal Mine involve mine waste only. Accordingly there would be a 0% increase in Rocglen's equivalent to ore, ROM coal, and a proposed increase in overburden of approximately 1Mbcm.

Other aspects of the proposed modification of the Cowal Gold Mine which the judge identified as being material to his finding that the entirety of the changes amounted to a "radical transformation" were the increase in gold production, the almost doubling of the operational mine life and the increased area of waste rock emplacements, tailings storage and ore stockpile. In comparison, the Proposed Modifications to the Rocglen Coal Mine involve no increase in life of mine ROM coal, no increase in the life of mine, and no changes to out of pit storages other than the proposed increase in height of part of the overburden emplacement area by approximately 6m.

There is no question that when the Proposed Modifications to the Rocglen Coal Mine are compared in relative terms to the modifications considered by Biscoe J in the *Cowal Gold case*, the Proposed Modification is far more modest.

An assessment of the nature and extent of the proposed changes involved with the Proposed Modification indicates that some of the changes may be described as material, but they fall well short of constituting what could be described as a "radical transformation".

According to the *Macquarie Dictionary*, "radical" means:

1. Going to the root or origin; fundamental; a radical change.
2. Thoroughgoing or extreme, esp. toward reform.

From the same source, "transform" means:

1. To change in form; change to something of a different form; metamorphose.
2. To change in appearance, condition, nature or character, esp. completely or extensively.

In my opinion, on no view of the Proposed Modification could the changes proposed be said to amount to a "radical transformation" of the terms of the 2008 Part 3A Approval.

7. Conclusion

For the reasons discussed in section 6 of this letter, I am of the view that there is no doubt that it is within power for the Minister for Planning to approve the Proposed Modification pursuant to s 75W of the EP&A Act.

If you have any questions in relation to any aspect of this advice, please do not hesitate to contact me.

Yours sincerely

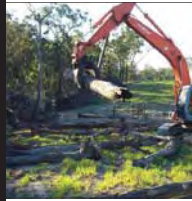
A handwritten signature in black ink, appearing to be 'Mark Brennan', with a long horizontal line extending to the right from the end of the signature.

Mark Brennan
Partner
T 61 2 9258 6072
mark.brennan@blakedawson.com

Appendix E

Geotechnical Report

(GE Holt & Associates Pty Ltd, October 2009)



APPENDIX E

29 October 2009

Mr Tony Heinrich
Project Manager
Rocglen Coal Mine
P.O. Box 600
Gunnedah N.S.W. 2380

Dear Mr Heinrich

Re: Cracking Behind Eastern Highwall at Rocglen Open Cut

This letter follows from inspection of the open cut on 19 January 2010. The purpose of the inspection was to assess the condition of the eastern side wall of the pit in the vicinity of the fault (reported in October 2009 following an inspection of the pit on 28 October 2009). An inspection was requested after a period of very heavy rainfall earlier in January that resulted in excessive quantities of water flowing over the side wall and through the faulted region. This caused additional slip on and around the fault structure.

The two telling features of the site are shown in Figures 1 and 2.

We predicted in our October report there was a likely rapid dip reversal in the strata that was connecting with the faulting to provide the required slip surface. Figure 1 shows that this is the case. The vertical dip of strata against the fault, coupled with the known position of the Belmont Seam further to the east suggest the fault is a thrust fault located beneath the Belmont Seam, but then suddenly turns up into a near-vertical fault. The result of this is that there appears to be a fault zone east of the mapped fault line where there is no sound rock from the surface down to the Belmont Seam. A borehole located just east of the fault apparently found no solid rock, and no coal. It may have been drilled in the fault zone.

This has significant impact for developing a safe, stable side wall to the pit as it advances to the north.

Given the 120m depth of the pit it is not recommended to develop a side wall in the fault zone as it is likely to collapse. This is evident from the collapse of the upper part of the side wall – shown in Figure 2.

The wall will thus need to be cut back beyond the fault zone containing deeply weathered and brecciated rock in order to develop a stable wall. This may require an alteration to the existing MOP Line as indicated in Figure 3, supplied by MMG.



Figure 1: Advancing highwall showing turning up of bedding against fault .



Figure 2: Sidewall of pit showing slumped strata in front of fault

The problem from a stability viewpoint is where to position the sidewall because of the extent of the brecciated and deeply weathered rock in the fault zone.

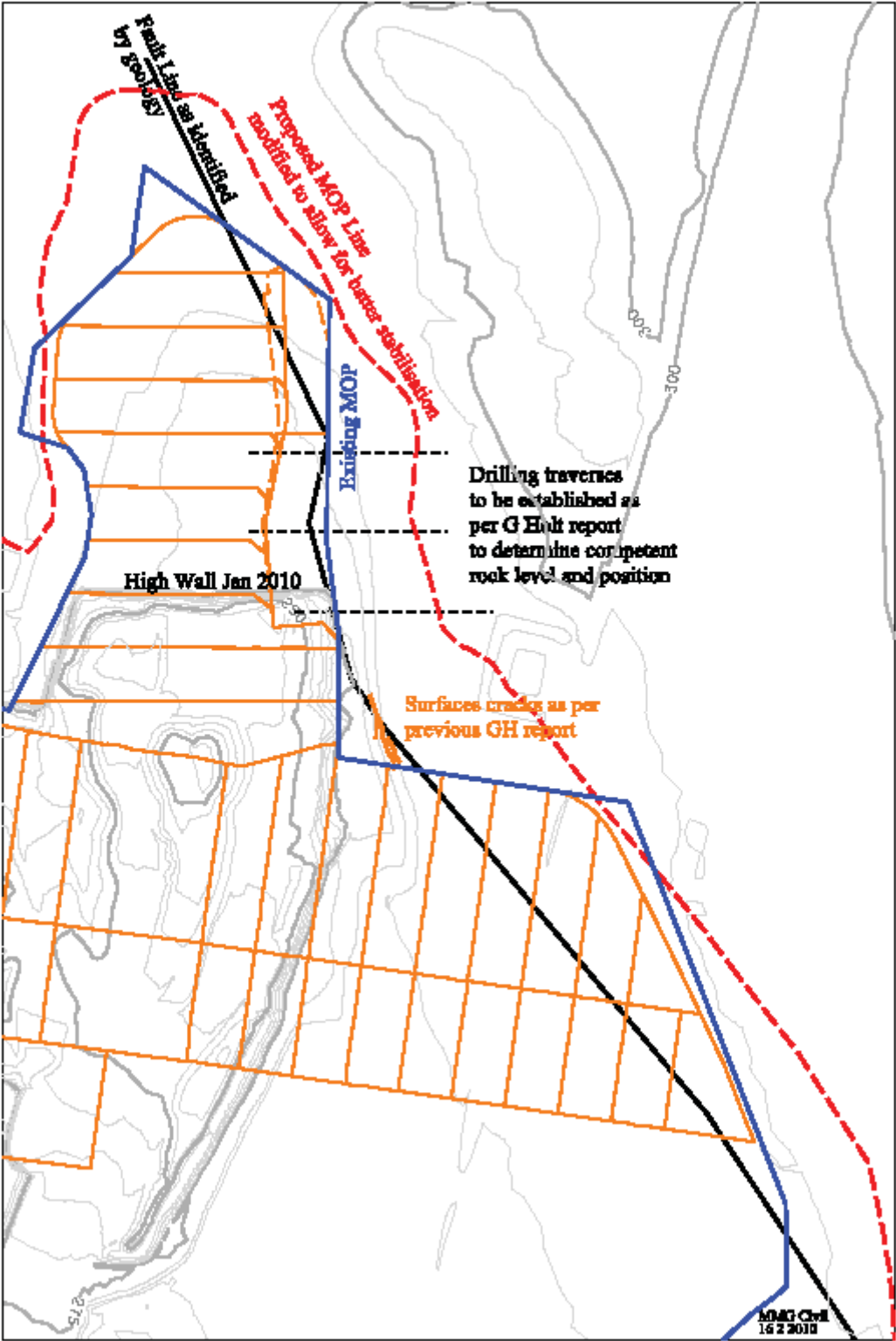


Figure 3: Plan supplied by MMG indicating possible modified MOP Line and scout drilling for fault zone

The side wall should have regular benches, as per existing design, in fresh rock, which appears to commence a short distance above the Upper Rocglen Seam. The upper face in normally weathered strata should be cut back at 45⁰ as is the present design profile.

The one difficulty with setting a new sidewall location is the brecciated zone of rock associated with the thrust fault. If this is a few metres deeper than the normal depth of weathering, it could be included in an upper cut back face. However if it is 10's of metres deeper, a second 45⁰ face with bench would need to be developed above fresh rock faces.

It is thus important to locate the extent of the fault zone. A suggested method is to drill say three lines of holes east of the known fault line to locate the "normal" strata sequence, particularly fresh rock at the proposed pit floor. Figure 3 shows three suggested lines.

Once there is more certainty about the location of sound strata a normal slope profile can then be fitted and the pit outline re-defined.

A future issue will be how to tackle the mine operation in the future southeast area, as it is evident there will be a zone lacking coal around the fault. This zone will also be unstable. Modification to mining blocks may also be necessary at the northern limit of the pit, where the fault intersects mining blocks.

Yours Faithfully

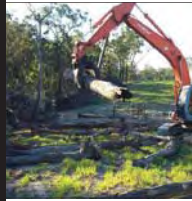
A handwritten signature in cursive script that reads "Graham Holt".

Graham Holt CPEng CP(Geol)
Principal Geotechnical Engineer

Appendix F

Geotechnical Report

(GE Holt & Associates Pty Ltd, May 2010)



APPENDIX F

4 May 2010

Mr Tony Heinrich
Project Manager
Rocglen Coal Mine
P.O. Box 600
Gunnedah N.S.W. 2380

Dear Mr Heinrich

Re: Stability of Eastern Highwall

The purpose of this geotechnical report is to assess the proposed highwall design for the Eastern Highwall of the Rocglen Open Cut. It follows from a meeting held at Rocglen on 28 April to discuss aspects of the design of the eastern highwall that needs to extend beyond the currently approved disturbance limit in order to develop a safe and stable wall.

In October 2009 the eastern highwall intersected a thrust fault that rises steeply from the east, forcing the east dipping strata into a vertical position. The thrust zone is relatively wide, and has resulted in deeper weathering of the strata and significant strength reduction in the weathered rock affected by the thrust.

The thrust was partially located by closely spaced drillholes that have detected both the deeper weathering and thick coal indicative of the upturned Belmont Seam, the lowest seam mined. The approximate location of the upturned Belmont Seam is shown in Figure 1 as a pink line. The thrust zone appears to have variable thickness and variable strike. It may also contain more than one fault.

In order to extract the coal contained in the Belmont Seam it will be necessary to **push the highwall further to the east to develop a stable highwall in deeply weathered and fault affected strata.**

The stabilisation of the wall at the site of the initial fault intersection is the subject of earlier reporting. The work proved that it is possible to **buttress the thrust zone and maintain a stable face.** Using this as a guide a method of operation has been developed to advance the pit in a safe manner. The method of operation is integrated with the slope design to provide a plan for a safe and stable operation.

It is clear that the thrust will sometimes intersect the eastern highwall at an oblique angle and at other times will be parallel to the highwall. This means that the wall design will need to vary according to conditions encountered. This is shown in the two profiles prepared by MMG for the Rocglen Open Cut. These are shown in Figures 2 and 3.

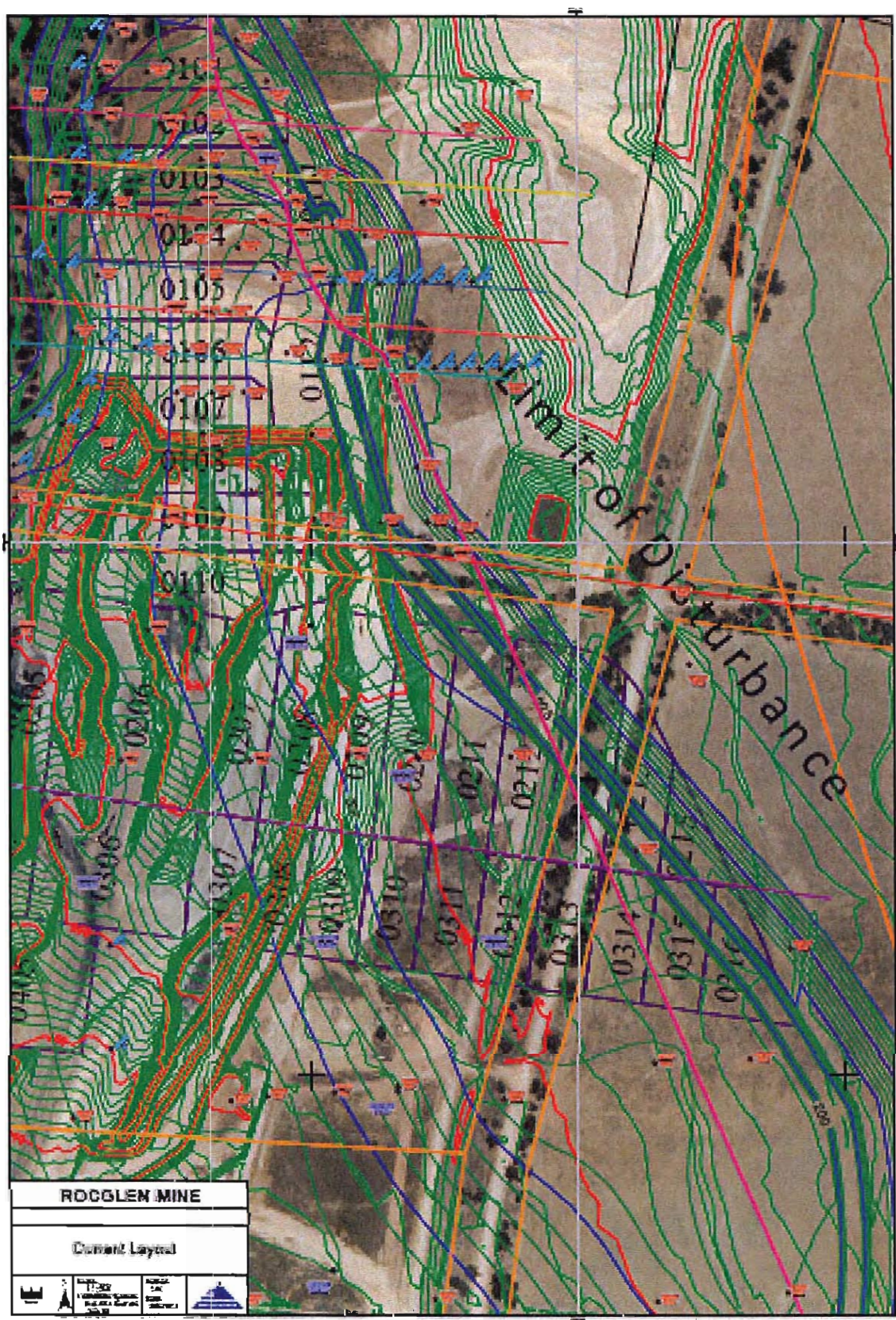


Figure 1: Current Layout of the Rocglen Open Cut showing the approximate line of upturned Belmont Seam overlaid on the existing pit layout.

There are two parts to the revised highwall design. The upper part of the wall will be in weathered and fault-affected strata, which is of relatively low strength. The highwall will need to be flattened with face slopes of 45° with a 15m wide bench approximately half way down the face in order to develop stability. Overall thickness of the weathered zone is not expected to exceed 50m. If the face height exceeds 50m it may become necessary to incorporate an additional catch bench so sufficient room is recommended inside the disturbance limit.

Fault affected strata will be exposed only in the upper face. This is so a bench 15m wide can be developed at the top of fresh rock between the western limit of the thrust fault zone and the floor of the upturned Belmont Seam. The bench will act as a catch bench as well as a buttress between the fault zone and the Belmont Seam. This buttress rock will be the Belmont Seam floor which is a strong conglomerate.

The lower part of the wall will be in fresh strata of higher strength. This part of the highwall can be developed at a much steeper angle to maintain stability. Where the strength of the Belmont Seam floor permits the lower face can be the seam/floor contact. This is shown in Figure 2.

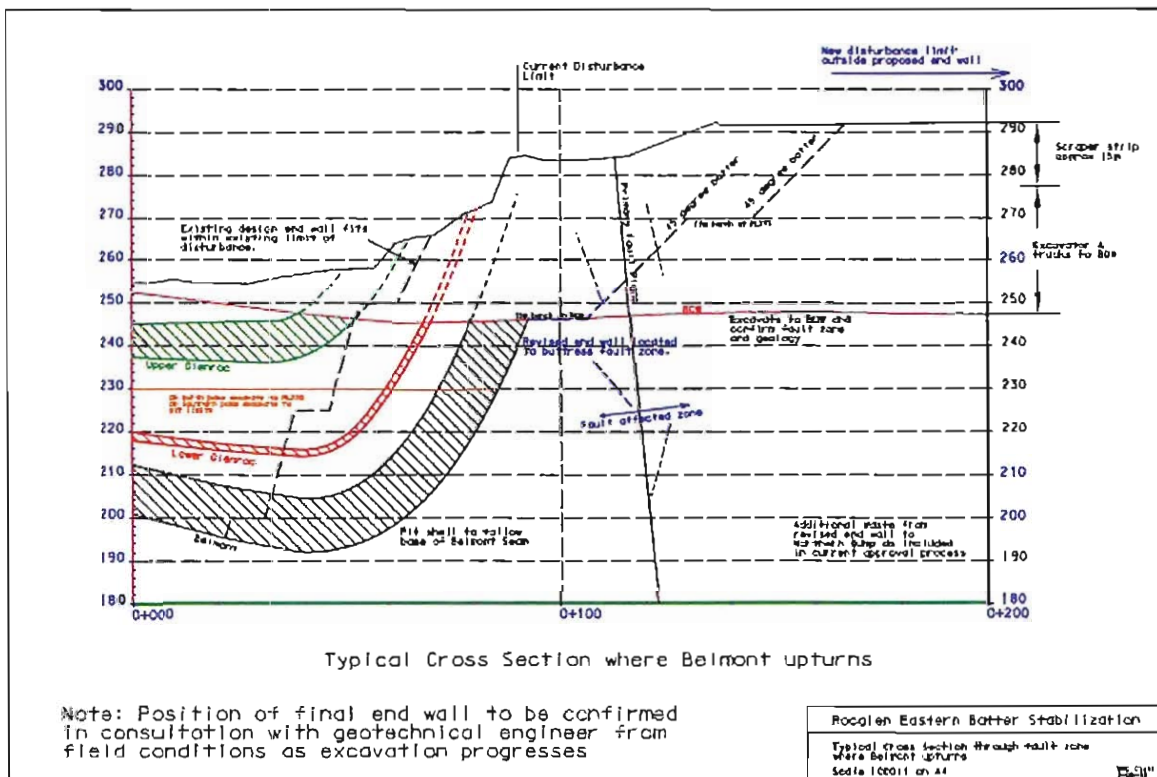


Figure 2: Proposed highwall profile where Belmont Seam is uncovered and has turned up nearly vertical

If the floor strata prove to be too friable for a single sloping face then there is room to provide a 5m catch bench in the face.

Also, on reaching competent rock and the Belmont Seam has not upturned, then the face can be benched with faces 15° off vertical (Maximum verticality) with heights in the range 25m to 30m. This is shown in

Figure 3. In this situation the fault zone is either through the upper weathered material or buttressed behind competent rock.

This situation is unlikely since the upturned seam is planned to be the ultimate eastern limit of the pit, but it may happen further south where the pit widens, and the pit has a temporary highwall prior to moving to the east.

The geological advice at this stage is that the thrust fault extends the full limit of the pit on its eastern side. Another key element in development of a safe and stable highwall is accurate location of the thrust zone.

The approximate position is now known, but its accurate location is necessary to be able to develop the crest of the highwall in its correct location. This will be achieved by the method of mining the deposit.

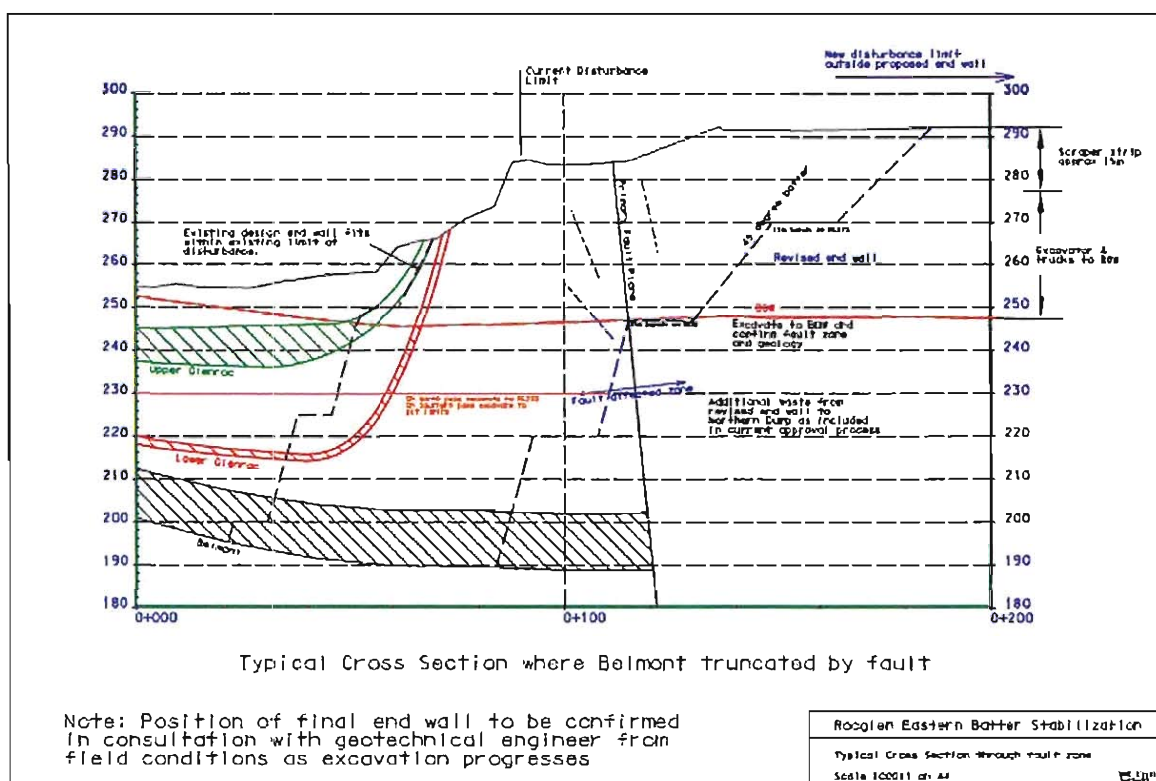


Figure 3: Proposed wall profile where Belmont Seam is cut off by thrust fault.

It is intended to advance mining from the present north face to the north along the western side of the pit at a depth limit of approximately RL230 and use this development to approach the upturned Belmont Seam to the east by widening out the pit as conditions allow. There may be a need to widen the pit to develop sufficient working room if the structure of the fault zone alters.

The mining limit on the eastern side will be determined by the location of the Belmont Seam as it is exposed and geotechnical advice during development. This is when the final wall profile will be developed through weathered, and/or faulted material. The pit would then retreat south using the location of the Belmont Seam as a guide to the final crest location.

The retreat south would be in narrow width strips so that only limited section of the final highwall face is developed and exposed at any time. Spoil will be hauled back to buttress the face where coal has been worked out.

The mining process will be subject to regular stability review to ensure safe working.

The Factor of Safety of the proposed wall profile has been checked using the Galena Program, which is a Method of Slices program incorporating a Spencer-Wright analysis to allow for non-circular failure surfaces. Figure 4 shows the model develops a minimum Factor of Safety of 1.1 for the weathered strata section of the proposed wall profile using cohesion of 50kPa and Friction Angle of 19° for the weathered rock mass. The wall profile used in the model is as shown in Figure 2.

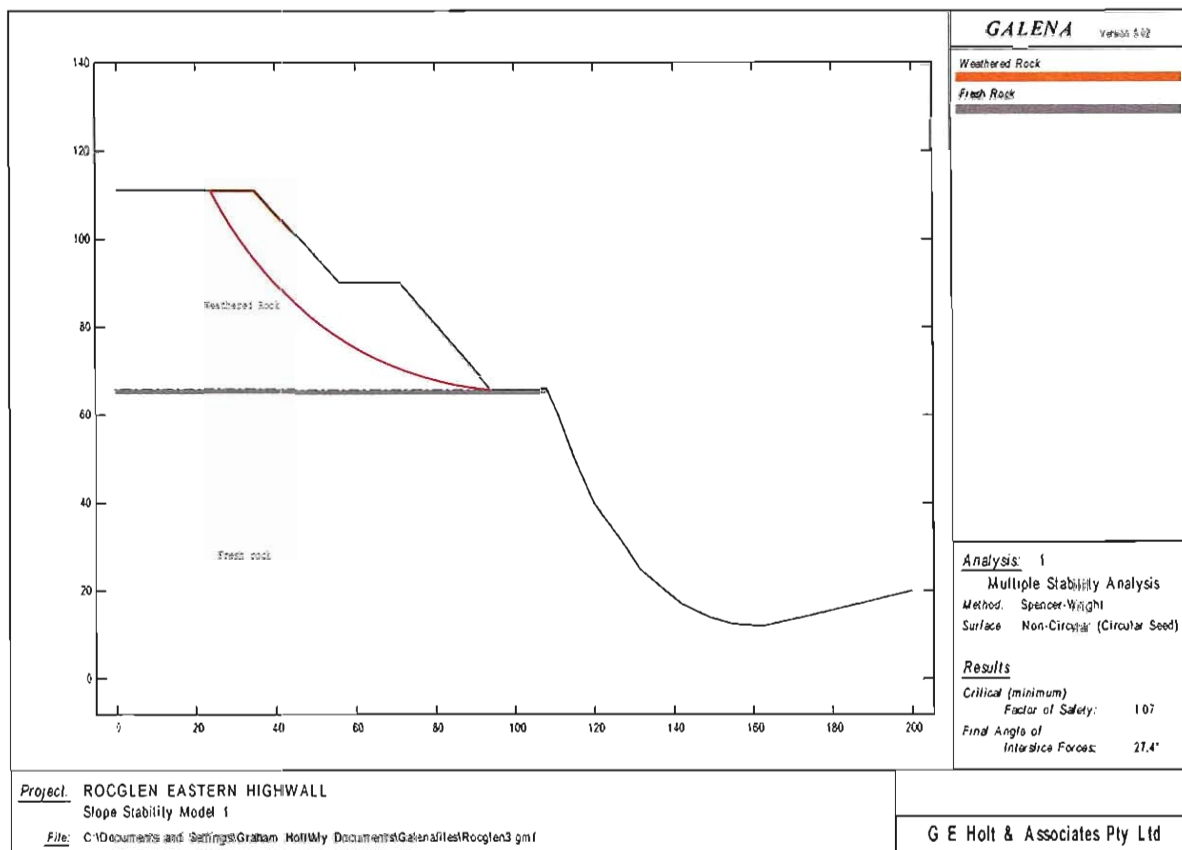


Figure 4: Factor of Safety model for limiting stability case.

When the potential failure surfaces are developed to the pit bottom the Factor of Safety increases to 1.6.

This model result is shown in Figure 5. This demonstrates the effectiveness of competent rock in the lower part of the face in maintaining face stability.

The limiting Factor of Safety however is 1.1 for the upper weathered/faulted part of the face.

This is considered satisfactory for the "short term". The reason is that the model assumes an infinitely long face and in reality only a limited length of face will be developed at a time.

The buttress effect of hauled-back spoil against the face behind a working strip, and non-excavated strata ahead of any mining strip will materially assist face stability.

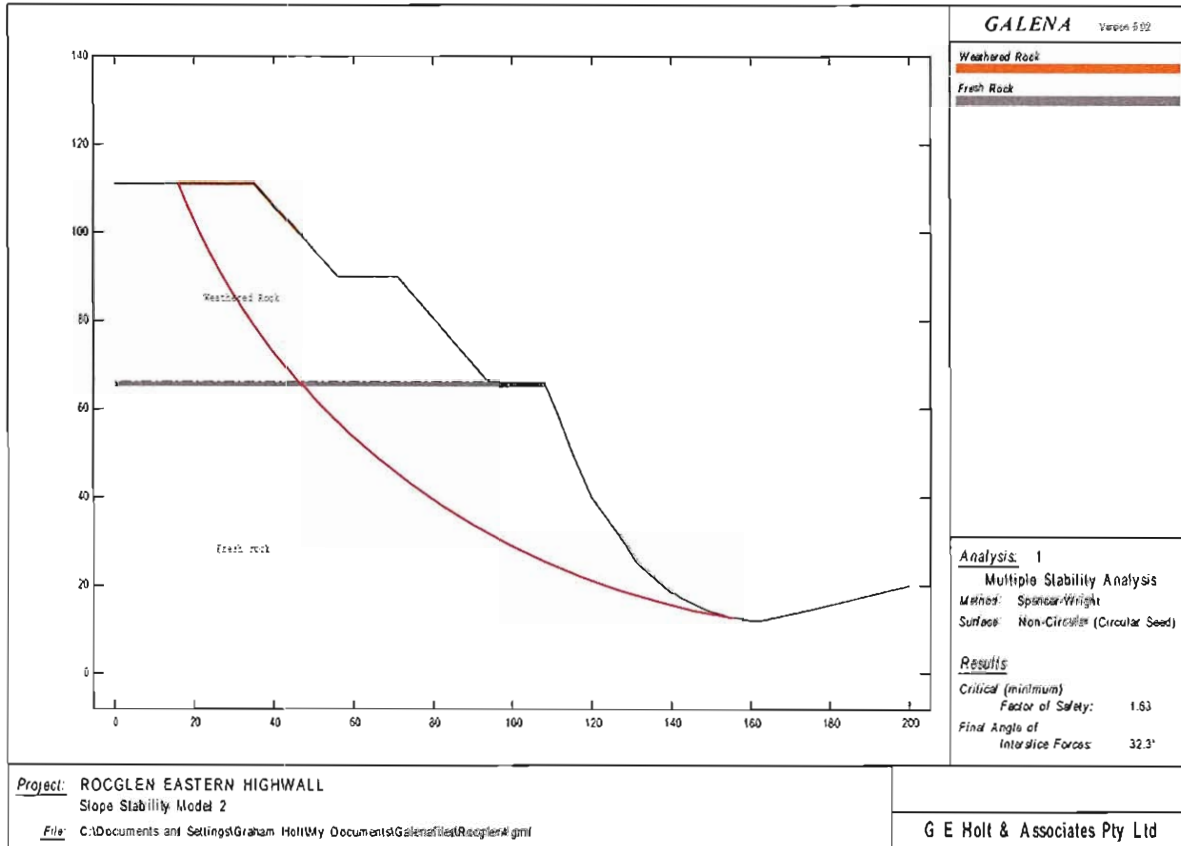


Figure 5: Factor of Safety model for entire face.

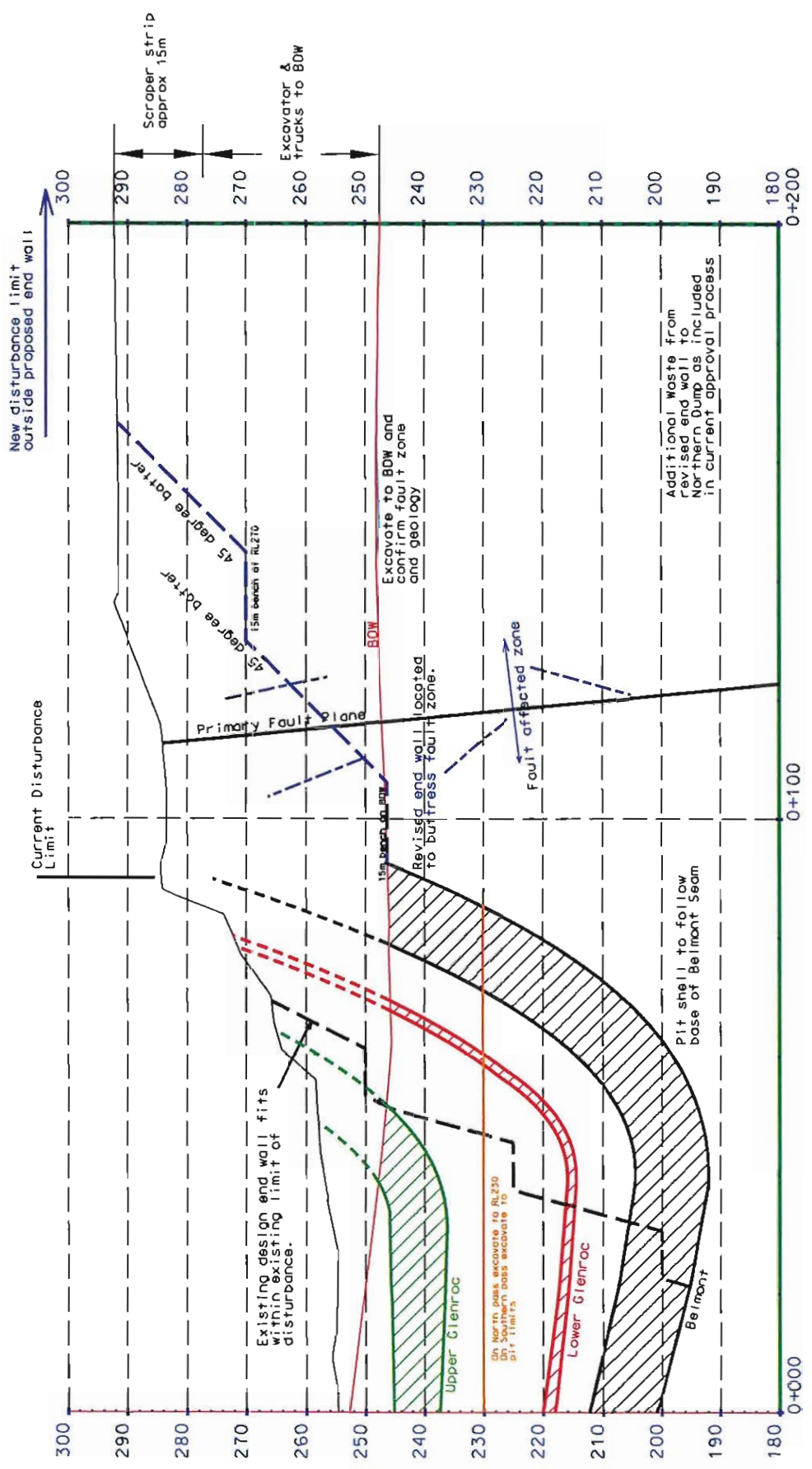
It is understood that regular geotechnical assessment of face conditions will be incorporated into the slope stability plan.

In conclusion it is considered the combination of advance/retreat and variable face design, according to geological conditions encountered, will ensure stable working conditions. There needs to be sufficient room inside the amended limit of disturbance line to allow for any modifications to the highwall to counter unknown adverse conditions.

Yours Faithfully

Graham Holt

Graham Holt CPEng CP(Geol)
 Principal Geotechnical Engineer

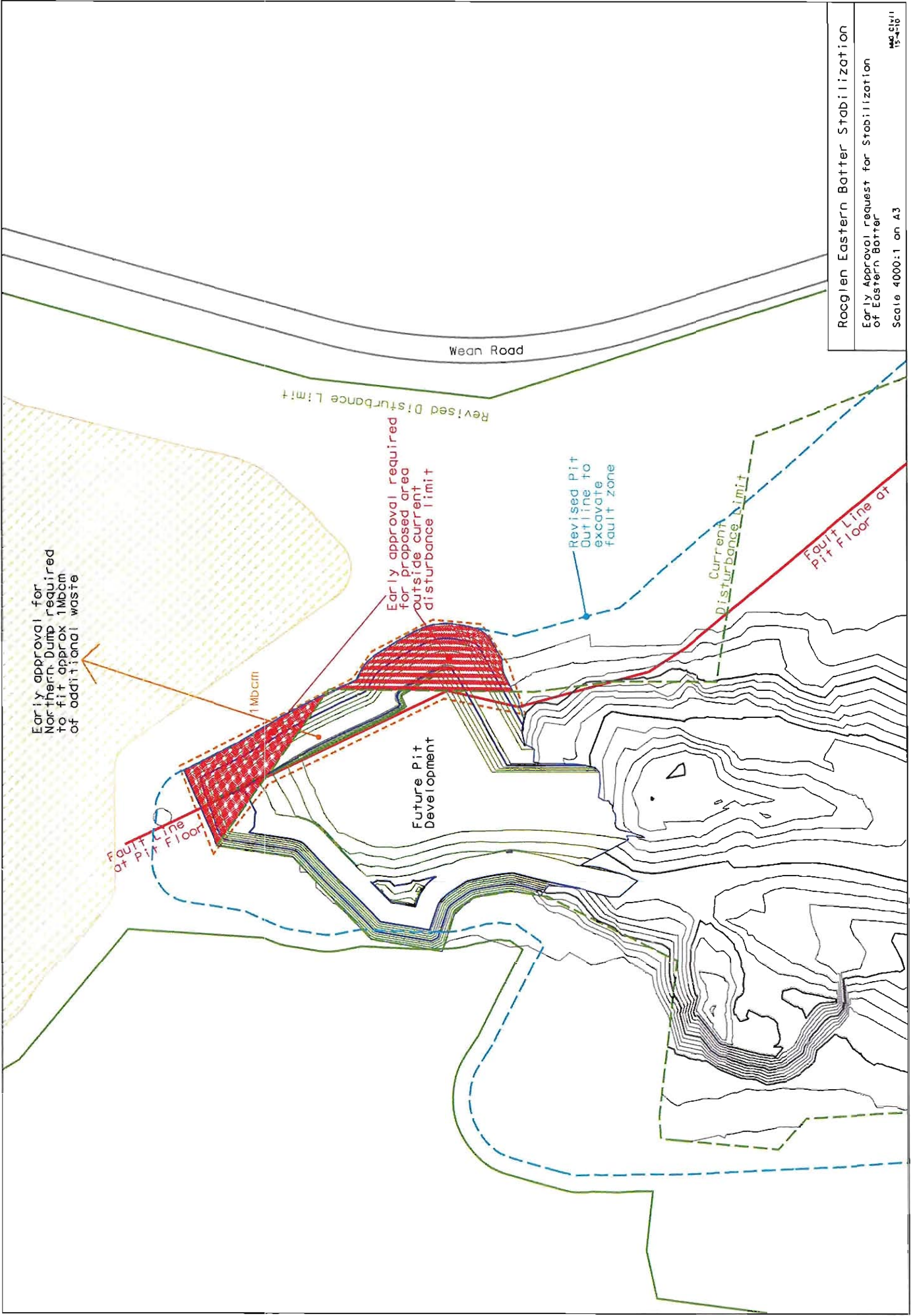


Typical Cross Section where Belmont upturns

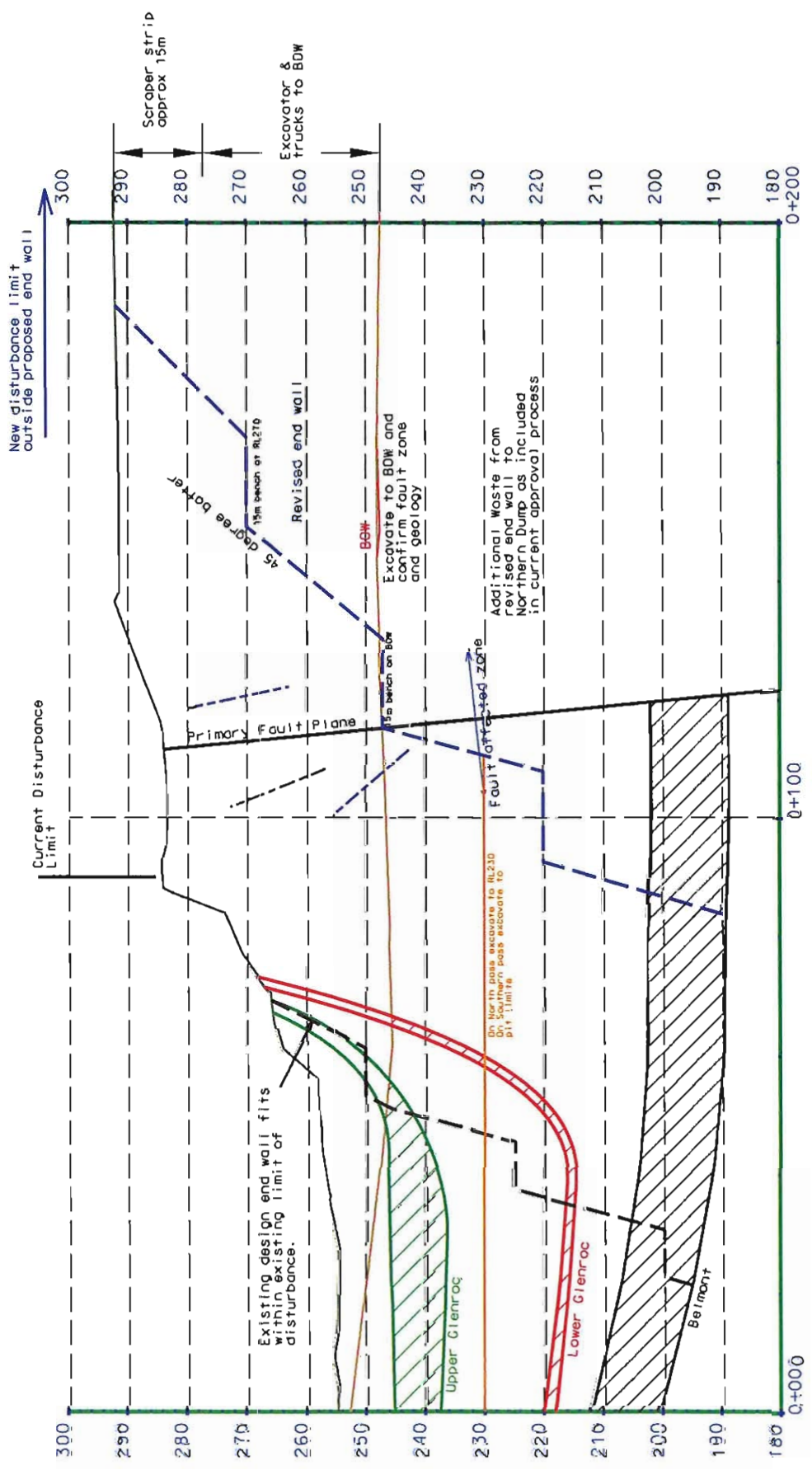
Note: Position of final end wall to be confirmed in consultation with geotechnical engineer from field conditions as excavation progresses

Rocglen Eastern Batter Stabilization
Typical Cross Section through fault zone where Belmont upturns
Scale 1000:1 on A4

MAC CIVIL
3-04-10



Roclien Eastern Batter Stabilization
 Early Approval request for Stabilization
 of Eastern Batter
 Scale 4000:1 on A3
 Mag Civil
 15-4-16



Typical Cross Section where Belmont truncated by fault

Note: Position of final end wall to be confirmed in consultation with geotechnical engineer from field conditions as excavation progresses